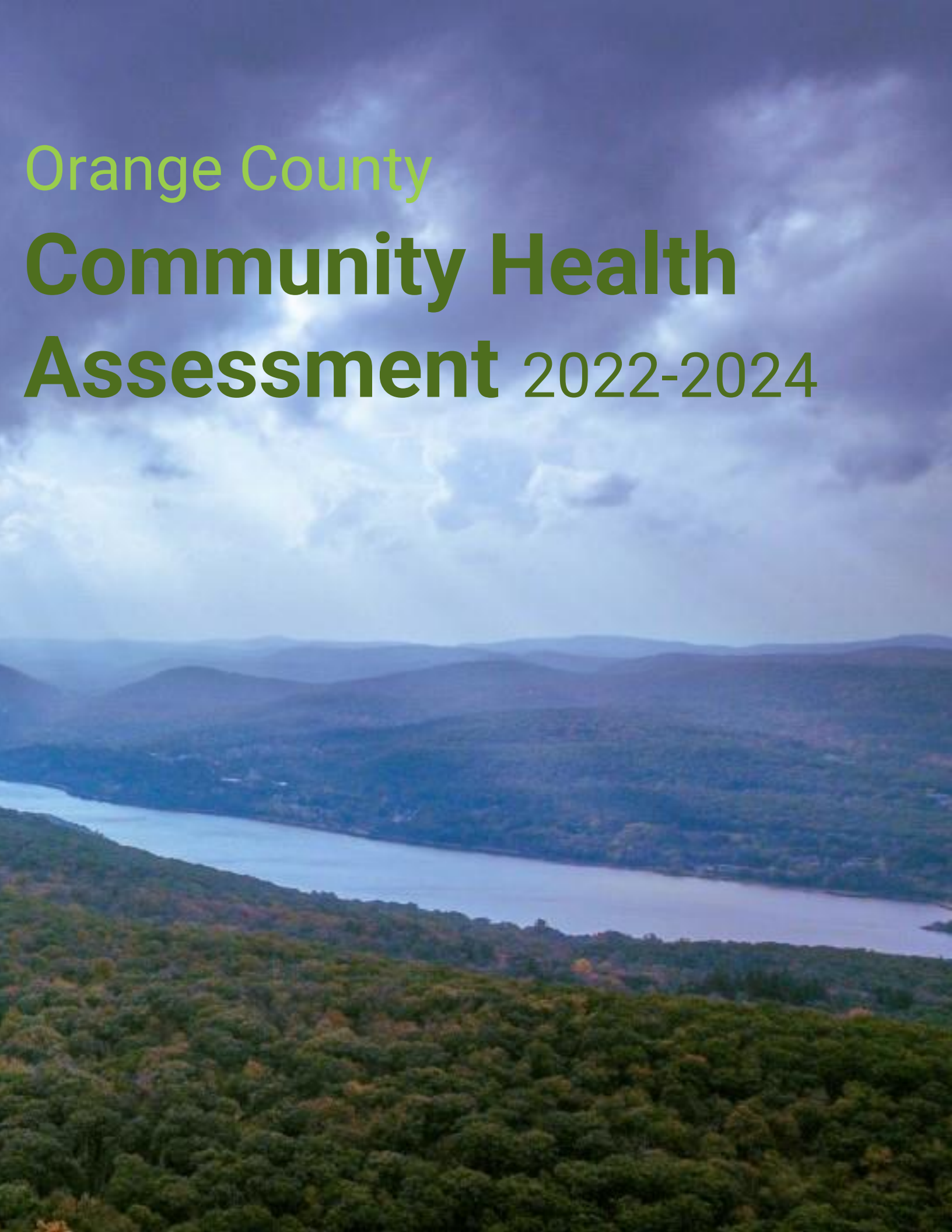

Orange County

Community Health Assessment 2022-2024

ACKNOWLEDGMENTS

The Orange County Department of Health (OCDOH) would like to acknowledge and thank the many individuals, groups, and community members who assisted in the preparation and development of the 2022-2024 Community Health Assessment (CHA). Whether you completed a survey, attended a focus group, invited OCDOH to your community event or place of business, or helped to spread the word about our survey and data collection efforts, your collaboration has made this assessment possible.

The 2022-2024 CHA process and report was coordinated by Jackie Lawler, MPH, CPH, Director of Epidemiology and Public Health Planning. The report was compiled and reviewed by Orange County Department of Epidemiology and Public Health Planning staff. Special thanks to:

Barbara Demundo, *Bon Secours Hospital and St. Anthony's Community Hospital*

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Orange County Department of Planning

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

Garnet Health
MEDICAL CENTER

Montefiore | St. Luke's Cornwall

WMC Health | Bon Secours Community Hospital
Westchester Medical Center Health Network

WMC Health | St. Anthony Community Hospital
Westchester Medical Center Health Network

LETTER FROM THE COMMISIONER OF HEALTH

Public health thrives in partnership. As a pediatrician, I first encountered the Orange County Health Department through collaborations around issues such as infectious disease and nutrition. Now, as Health Commissioner, I am honored to share the outcome of another collaboration. The Orange County Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP) are the results of data and insights from community members and contributors across multiple sectors over the past three years.

Much of the data for this recent cycle comes from 2017 to 2019 and will not include the effects of COVID-19. However, the past three years shined a light on some of the health challenges residents faced even before the pandemic. Preventive appointments such as prenatal visits and cancer screenings, already hindered by cost, travel, and time requirements, became harder to schedule and attend. Across the country, long-standing struggles with mental health and substance use worsened, while the services that provide help were strained. Many seniors and residents with disabilities or chronic health issues became more isolated and vulnerable to health threats. Difficulties affording housing and nutritious food were exacerbated and persist. The challenges and priorities outlined in this CHA and CHIP are a recognition that a strong and healthy community, while not immune from crisis, is best able to weather the next unexpected storm.

There is other critical information that you won't find in graphs on these pages – the way the past few years revealed Orange County's strengths. The County's diversity, community connections, and culture of collaboration improved people's health and saved lives. Neighbors gave their own time and supplies to help each other. Municipalities shared resources and ideas for what worked. Community organizations, schools, healthcare providers, religious groups, businesses, public officials, and more cooperated within old and new relationships for the sake of the residents they serve. These efforts demonstrated that, while Orange County has many assets, its greatest strength is truly its people.

We have a lot of work to do to give everyone the opportunity to be as healthy as possible. This will require strengthening not only healthcare, but also mental health, nutrition, housing availability, transportation, substance abuse treatment, and community safety. But now we have better tools. The collaborations built over the past several years, and those we continue to strengthen through projects like this CHA and CHIP, are the key to a healthy Orange County.

Thank you, to everyone who has joined us in this work so far. We cannot do it without you. And I invite everyone invested in the health of our community, whether new partners, community organizations, or individuals, to contact us to share your ideas, concerns, and gifts. I can't wait to see what we can build together!

In public health, we value our community partners, but our most important partner is our community. We are grateful to be working alongside the residents of Orange County in the journey toward health.

Dr. Alicia Pointer, DO, MPH, FAAP

DATA NOTES

Each table or figure includes footnotes to ensure complete understanding of the data. Data sources and links are also listed so that the reader may further investigate if desired.

American Community Survey (ACS): Following pandemic-related data collection disruptions, the Census Bureau revised its methodology to reduce nonresponse bias in data collected in 2020. After evaluating the effectiveness of this methodology, the Census Bureau determined the standard, full suite of 2016-2020 ACS 5-year data are fit for public release. The revised methodology improves the 2020 weighted survey responses by comparing characteristics for responding and nonresponding households using administrative, third-party, and decennial census data. This provides key insight into how those who participated may be different than those who did not and allowed an adjustment to make the data more representative of the entire population. The resulting 2020 input data were then integrated with the inputs from 2016, 2017, 2018, and 2019 (processed using standard ACS methodology) to produce the 5-year data products. Orange County's 2020 ACS 5-Year Population Estimate is 382,077.

Crude Rate versus Age-Adjusted Rate: A crude rate is defined as the total number of cases or disease events divided by the total population. The age-adjusted rates are rates that would have existed if the population under study had the same age distribution as the "standard" population. Therefore, they are summary measures adjusted for differences in age distributions. Age-adjusted rates are used when available and are calculated using the US 2000 standard population.[1]

International Classification of Diseases: In 2015 the Department of Health and Human Services mandated those entities using ICD-9 codes transition to ICD-10 codes. Comparisons between data before and after 2015 cannot be made due to the many differences in the updated ICD-10-CM code set.

Morbidity and Mortality: Morbidity measures illness and 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.

New York State excluding New York City (NYS excl NYC): The population of NYC is not similar to that of the Mid-Hudson Region or Orange County. Therefore, comparing rates/percentages of counties to NYS excluding NYC, rather than to the whole of NYS, provides a more meaningful comparison. When possible, measures for both NYS and NYS excluding NYC are provided. When NYS excluding NYC data are not available comparisons should be made with caution.

Rate: A rate is a measure of the frequency of an event in a defined population over a specified period of time. In the context of health, rates put disease frequency in the perspective of the population size and allow for comparability across location, time, or groups of different population sizes.

[1] United States Census Bureau, 2022, https://www.census.gov/newsroom/press-releases/2022/acs-5-year-estimates.html, accessed October 2022

Suppressed and Unstable Data: Some rates/percentages based on small numbers are suppressed because they do not meet the criteria for confidentiality (notated by "s"). Other rates/percentages based on small numbers are presented but are not considered reliable since they can fluctuate greatly over time. These measures are indicated as unstable due to a small numerator (notated by "*").

Three-Year Rate versus Single-Year Rate: When possible, rates are based on a three-year average rather than a single-year estimate to provide a more reliable comparison. Using a three-year average smooths out the data over multiple years, making it easier to interpret data with a high degree of year-to-year fluctuation. When three-year averages are used in graphs and tables, the middle year of the range is posted. For example, if the single year written is 2008, the three-year average would be from 2007-2009.

EXECUTIVE SUMMARY

WHAT IS A COMMUNITY HEALTH ASSESSMENT AND COMMUNITY HEALTH IMPROVEMENT PLAN?

The Community Health Assessment (CHA) describes the overall health of the community by presenting information on health status, factors that influence health, and community needs and assets. The CHA is a foundational essential service of local public health departments to assess and monitor health and to identify target populations that may be at increased risk of poor health outcomes. Through systematic, comprehensive data analysis, the CHA identifies key health priorities as outlined by the New York State Department of Health's (NYSDOH) Prevention Agenda. The Community Health Improvement Plan (CHIP) is the long-term systemic effort to improve resident health by addressing the public health priorities identified in the CHA. Creating the CHA and CHIP is a collaborative process between the local health department (LHD) and key, diverse stakeholders in the community, including the area hospitals, to coordinate efforts, establish priorities, and combine resources to guide health promotion strategies.

WHAT DOES THE CHA/CHIP PROCESS LOOK LIKE?

The Orange County Department of Health (OCDOH) used the Mobilizing for Action through Planning and Partnerships (MAPP) framework to develop its 2022-2024 CHA and CHIP. MAPP is a "community-driven strategic planning process for improving community health," which engages all sectors of the community in gathering data, prioritizing health issues in the community, and identifying resources to address these issues. The MAPP process involves six phases: (1) Organize for Success/Partnership Development, (2) Visioning, (3) The Assessments, (4) Strategic Issues, (5) Goals/Strategies, (6) Action Cycle.

To assess the needs of Orange County residents and select Prevention Agenda priorities, there was extensive review and analysis of data from four major assessments including the Community Health Status Assessment, Community Themes and Strengths Assessment, Forces of Change Assessment, and Local Public Health System Assessment. These assessments interpreted and analyzed data from sources including but not limited to: American Community Survey, Behaviors Risk Factor Surveillance System, numerous sources from the NYSDOH Prevention Agenda Dashboards and Community Health Indicator Reports, Map the Meal Gap, New York State Education Department, National Cancer Institute, New York State Communicable Disease Annual Reports, New York State Division of Criminal Justice, Orange County Medical Examiner's Office, and the US Census Bureau. The selection of priority areas is also informed by residents' insight on community strengths, where to focus resources to improve quality of life, and top health issues of concern. Multiple opportunities were provided for residents to share their input, including surveys, community listening sessions, community partner focus group discussions, and the Orange County Public Health Summit.

WHAT WERE THE MAJOR HEALTH ISSUES?

Overall, the identified areas of concern include chronic diseases, mental health, substance use disorders, sexually transmitted infections, vaccine-preventable illnesses, and maternal and infant health. Heart disease and cancer are the leading causes of death and premature death (death before age 75) in Orange County by a large margin. Premature death for those less than 65 and 75 years of age is worse in the county than in New York State (NYS) [see Figure 10, Figure 11]. Disparities among racial and ethnic lines, as well as in areas that are socioeconomically disadvantaged, have also increased. Obesity is a leading contributor to these top causes of

death, as well as cancer, diabetes, stroke, and hypertension, all of which can lead to premature death. Orange County's age-adjusted all cancer mortality is higher than NYS based on the latest available data [see Figure 64]. Over the past ten years, the rates of obesity have continually grown, as well as the subsequent morbidity of cardiovascular disease (CVD), prediabetes, and hypertension.

The COVID-19 pandemic exacerbated many of the underlying factors that have a profound impact on health such as poverty, food insecurity, education, housing, and access to care including health insurance. This impact disproportionately affected residents with a lower household income, renters, racial and ethnic minorities, and other disenfranchised groups. For example, 43% of respondents with less than $25k in yearly income reported that their ability to afford housing worsened over the course of the COVID-19 pandemic, compared to 23% of all Orange County respondents [see Figure 180]. Further, 37% of renters in Orange County reported that their ability to obtain affordable, nutritious food worsened over the course of the COVID-19 pandemic, compared to only 20% of homeowners [see page 255].

Although strides were made prior to the pandemic in addressing substance use in Orange County, these external stressors contribute to poor mental health, and substance use has risen in the past two years. Overdose deaths in the county have increased steadily over time and age-adjusted rates are still higher in Orange County compared to NYS excluding NYC [see Figure 125].

Other health areas where Orange County is worse than NYS or worsening since the last assessment include:

- Premature deaths (before age 65 years), particularly inequities among non-Hispanic Black and Hispanic residents
- STIs including early syphilis, gonorrhea, and chlamydia
- Infant mortality among non-Hispanic Black women and Hispanic women
- Premature births among non-Hispanic Black women
- Adults receiving colorectal cancer screening
- Cancer mortality including all cancer, female breast cancer, and colorectal cancer
- Childhood immunization rates among children 24 to 35 months of age
- Unemployment rate
- Overdose deaths involving any opioid
- Gross rent as a percentage of household income: occupied units paying rent 30% or more

Through the "Community Asset Survey," Orange County residents provided their feedback on community strengths, where to focus resources to improve quality of life, and top health issues in their communities. The top strengths identified were low crime and safe neighborhoods, access to good education, and parks and recreation [see Figure 160]. Residents felt that to improve quality of life, a greater focus should be placed on improving jobs and economy, increasing access to basic healthcare, improving public transportation, and increasing availability of more affordable housing [see Figure 161]. The health issues that residents identified as the most concerning were drug use (prescription and illegal), mental health (depression, anxiety, stress), and aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.) [see Figure 162]. Other discussions with community members highlighted a recurring problem of a disconnect between providers and the community [see page 295].

WHAT PRIORITY AREAS WERE CHOSEN?

Out of all the health issues reviewed in the MAPP process, the two overarching priority areas chosen were **Prevent Chronic Disease** and **Promote Well-Being and Prevent Mental Health and Substance Use Disorders.**

Within the priority area of **Prevent Chronic Disease,** the following focus areas and goals were chosen (*numbers corresponding to the New York State Prevention Agenda*):

Focus Area 1: Healthy Eating and Food Security

Goal 1.1 Increase access to healthy and affordable foods and beverages

Goal 1.3 Increase food security

Focus Area 4: Preventative Care and Management

Goal 4.1 Increase cancer screening rates for breast, cervical, and colorectal cancer

Within the priority area of **Promote Well-Being and Prevent Mental Health and Substance Use Disorders,** the following focus areas and goals were chosen (*numbers corresponding to the New York State Prevention Agenda*):

Focus Area 2: Mental and Substance Use Disorders Prevention

Goal 2.2. Prevent Opioid and other Substance Misuse and Deaths

WHAT STRATEGIES ARE BEING IMPLEMENTED TO ADDRESS THE PRIORITY AREAS?

The CHIP outlines evidence-based strategies that will be used to address the chosen priority areas, including goals, objectives, evidence-based interventions, responsible partners, a timeframe for completion, evaluation measures, and both short-term and long-term outcome measures. Each priority area has a corresponding workgroup co-led by OCDOH and area hospital staff to ensure that each strategy is executed. See the following table for a summary of CHIP focus areas and evidence-based strategies:

CHIP Focus Area	Evidence-Based Strategies
Healthy Eating and Food Security	• Screen for food insecurity; facilitate and actively support referrals* • Connect and enroll families and individuals in any eligible nutrition and community programs* • Increase availability of affordable healthy foods, especially in communities with limited access through sustaining OCDOH funded farm markets*^
Preventative Care and Management	• Remove structural barriers to cancer screening by working with employers to provide employees with paid leave or the option to use flex time for cancer screenings* • Remove structural barriers to cancer screening by increasing primary care provider connections* • Remove economic barriers to cancer screening by ensuring access to health insurance*
Mental and Substance Use Disorders Prevention	• Increase the availability of/access and linkages to medications for opioid use disorder (MOUD) including Buprenorphine • Increase the availability of access to MOUD including Buprenorphine • Promote and support the expansion of the Peer RX application for peer referrals at the emergency department • Establish additional permanent safe disposal sites for prescription drugs and distribution of Naloxone boxes

**: Strategies that address disparities: person with low socioeconomic status (SES) and concentrated in areas with minority majorities*
^: Not all hospitals are participating in this strategy

ORANGE COUNTY DEPARTMENT OF HEALTH

HISTORY

The Orange County Department of Health (OCDOH) was formed in 1969 as a full-service department in a chartered county with legislative oversight and an advisory Board of Health. The Department operates under the NYS Public Health Code and Titles 10 and 6 of the Official Compilation of Codes, Rules, and Regulations of the State of New York. Prior to 1969, public health services were provided through the New York State Department of Health (NYSDOH) district office in Middletown, which also served Sullivan and Putnam Counties and the City of Beacon in Dutchess County. In the 1960s, NYSDOH encouraged the creation of county health departments in counties with a population base of 100,000 or more to better meet resident needs. NYSDOH and the public health offices in the county's cities initially provided staff for the newly formed Orange County Department of Health.

MISSION

The mission of the Department of Health is to monitor and protect the health of residents of Orange County, to prevent disease and disability, provide education regarding healthy living, and assure healthy environmental conditions.

SCOPE OF SERVICES

The Department provides public health services countywide. Outreach, prevention, education, and intervention services are strategically located in communities of high need. OCDOH consists of nine main divisions: Administration, Community Health Outreach, Early Intervention Services, Emergency Preparedness, Environmental Health, Epidemiology and Public Health Planning, Health Equity, the Medical Examiner's Office, and Public Health Nursing.

Overall direction and leadership for the Department is led by the Commissioner of Health and Deputy Commissioners of Health. Alicia Pointer, DO, MPH, FAAP, is the 11th and current Commissioner of Health for Orange County. She was appointed to serve as the OCDOH Commissioner in September 2022 and was formerly a practicing Orange County pediatrician. OCDOH has two Deputy Commissioners: Lisa Lahiff, JD, MHA, and Steve Valdez, MA.

The Division of Community Health Outreach (CHO) is led by director Jill Boyd and has offices in Newburgh, Goshen, Middletown, and Port Jervis. CHO provides outreach, information, and referrals to individuals at high risk of contracting chronic or communicable diseases or requiring management of acute or chronic health conditions. CHO consists of many programs that provide resources and education to the communities they serve and target different public health issues to improve health and quality of life. These programs include:

- Lead Poisoning Prevention, Healthy Neighborhoods, and Childhood Lead Poisoning Prevention Programs, collectively known as Lead Safe Orange, monitor the results of mandatory childhood lead poisoning testing, provide case management for lead poisoned children, and identify and address potential lead hazards. Lead Safe Orange targets areas in the cities of Newburgh, Middletown, and Port Jervis that are at high risk of lead hazards and meets residents directly in their homes to provide education and inspections to reduce lead exposure.

- Lyme Disease and West Nile Virus Prevention Program focuses on reducing the incidence of Lyme and West Nile in Orange County by working with the public and healthcare providers to provide educational materials and tick removal kits. Staff are also able to assist in identifying ticks that potentially carry Lyme disease and provide referrals for Lyme disease diagnosis and treatment.
- The Maternal Infant Community Health Collaborative operates in Monroe, Newburgh, New Windsor, Middletown, Port Jervis, and Town of Wallkill, and aims to improve maternal and infant health outcomes through individual-level needs assessments, case coordination, and referrals for high-need women and their infants. Community involvement, both by staff and the women they serve, is also prioritized to promote policy change and community-level health interventions.
- Migrant Health Services, a collaborative between OCDOH, Hudson Valley Migrant Health Program, PathStone, and NYS Department of Labor, provides education and outreach to migrant farm workers to reduce the spread of communicable diseases and improve occupational health.
- Public Health Education works with hospitals, healthcare providers, schools, businesses, local coalitions and agencies, local media, and the public to provide education on current health topics and disseminate public health messages.
- Adolescent Tobacco Use Prevention Act, Comprehensive Tobacco Prevention and Control, Tobacco 21, and Tobacco Free Schools Programs provide services to eliminate the use of tobacco products, particularly among the youth population, and prevent the long-term health consequences that can result from tobacco use.
- Creating Healthy Schools and Communities is a five-year grant focused on increasing opportunities for physical activity and improved nutrition in high-need communities in New York State. In Orange County, the grant is administered in Middletown, Newburgh, Port Jervis, Highland Falls, Valley Central, and Minisink. The program aims to implement food service guidelines with worksites and community settings; improve policies, practices, and environments for physical activity and nutrition in early care and education (ECE) settings and schools; and implement community planning and active transportation interventions in municipalities to increase safe and accessible physical activity.
- COVID Response to Health Equity is a two-year federal program to support improvements in the access to, quality of, and understanding of health care to eliminate health disparities and improve health outcomes in the target areas of Newburgh, Middletown, and the surrounding areas. The program targets racial and ethnic minority populations who are at the highest risk for health disparities and aims to expand and strengthen public health messaging regarding the importance of COVID-19 testing, following public health prevention measures, and registering for vaccinations.

The Division of Early Intervention Services (EIS) is led by director Sandra Brownsey, MS, CAS, and has offices in Goshen and Newburgh. EIS provides services to children with developmental delays, learning disabilities, or other special health care needs from birth through age five. Services provided to the community include speech therapy, occupational therapy, physical therapy, social work, special-instruction, parent-child groups, and group developmental programs. Due to the COVID-19 pandemic, many services are now available virtually; however, families are provided with transportation to and from their services as needed. EIS is a recipient of the Children and Youth with Special Health Care Needs (CYSHCN) grant which allows them to assist families of children with a developmental or medical diagnosis with costs that are not covered by health insurance.

Taina Lopez is the Director of Public Health Emergency Response and is located in the Goshen office. The division is responsible for preparing and responding to public health emergencies. Emergency Preparedness works

closely with the Medical Reserve Corps and county, state, and regional agencies to coordinate responses to natural disasters and emergencies. Most recently, Emergency Preparedness coordinated the distribution of masks, gloves, and other personal protective equipment during the COVID-19 pandemic, acted as the liaison between the Department of Emergency Services and OCDOH, and assisted with COVID-19 vaccine PODs.

The Division of Environmental Health is led by Principal Public Health Engineer Steven Gagnon, PE, MPH, who supervises the Bureau of Sanitary Engineering, and Principal Public Health Sanitarian Timothy Gaeta, who supervises the Bureau of Sanitary Control. Environmental Health is responsible for enforcing New York State Sanitary Code to prevent and control environmental threats to public health. The Bureau of Sanitary Engineering directly monitors over 250 public water supply systems and conducts reviews of plans for new and modified public water supply systems; sewage disposal systems for realty subdivisions, food service, and temporary residence operations; water treatment systems for non-public water supply systems; and newly constructed swimming pools. Sanitary Engineering staff collects about 125 routine coliform samples per month to ensure community water system compliance, as well as additional samples collected during sanitary surveys of water systems and for further monitoring of positive samples. The Bureau of Sanitary Control inspects over 1,500 food service operations, including restaurants, school lunch programs, mobile food establishments, temporary food service operations, and vending machines, to maintain proper sanitary conditions. Additionally, Sanitary Control inspects temporary residences, children's camps, farm labor camps, public pools, bathing beaches, mobile home parks, recreational parks and campsites, public functions, and agricultural fairs for clean water, proper sewage disposal, and general safety and sanitation for residents visiting or living at these facilities. Sanitary Control staff is also responsible for following up on reports of public health nuisances made by county residents, such as rodent or insect infestations and improper sewage disposal, enforcing the New York State Clean Indoor Air Act, processing specimens for rabies testing at NYSDOH's Rabies Laboratory, and evaluating homes of children with high blood lead levels.

The Division of Epidemiology and Public Health Planning is led by director Jacqueline Lawler, MPH, and has offices in Goshen and Newburgh. Epidemiology is responsible for assessing and monitoring the population health status and needs of the county, investigating and addressing health problems affecting residents, providing communication and education to various audiences with various levels of health literacy, and improving public health functions through ongoing evaluation and continuous quality improvement. Epidemiology staff collaborates with community stakeholders to provide education and coordinate efforts and resources for disease surveillance.

Barbara Clifford is the Director of Health Equity and is located in the Newburgh office. Health Equity is responsible for implementing strategies and policies that help eliminate health disparities among racial, ethnic, and socioeconomic minorities in Orange County. Health Equity works to distribute health literature to health professionals, community organizations, and residents at community events and meetings to ensure that information and resources are reaching target populations.

The Medical Examiner's (ME) Office is led by Medical Examiner Jennifer Roman, DO, and has an office in Goshen. The ME Office investigates sudden, unexpected, and unnatural fatalities to ensure accurate cause and manner of death certification. The ME Office works with LiveOn NY to facilitate tissue retrieval from decedents for potentially lifesaving research and transplantation. They also assist the District Attorney's Office to review cases and testimonies for grand jury and trial, work with federal organization High Intensity Drug Trafficking Areas to provide information about evidence found with drug-related deaths, and collaborate with the Sheriff's Drug Task Force and the Hudson Valley Crime Analysis Center to report potential drug overdoses.

The Division of Public Health Nursing is led by director Heather Boss, RN, BSN, and has offices in Goshen, Middletown, and Newburgh. The division conducts investigations into communicable and vaccine-preventable diseases and serves residents aged two months and older through programs focused on communicable disease, immunization, sexually transmitted infections (STIs), and tuberculosis (TB). Public Health Nursing runs child immunization clinics for all recommended vaccines, as well as adult travel immunization clinics and seasonal flu shot clinics. Child immunization clinics are available at no charge for children under 18 years and for specific vaccines for high school students aged 19 years and older. Nursing staff also runs monthly TB testing clinics and conducts follow-up into suspected and confirmed TB cases, including contact investigations, administration of anti-TB medication, and regular monitoring of patients. The Public Health Nursing STI program offers free testing and treatment of STIs. A voluntary service is also offered to assist patients diagnosed with an STI in notifying partners that were potentially exposed to reduce the risk of transmission.

MAPP OVERVIEW

The Orange County Department of Health (OCDOH) used the Mobilizing for Action through Planning and Partnerships (MAPP) framework to develop its 2022-2024 Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP). The National Association of County and City Health Officials (NACCHO) defines MAPP as a "community-driven strategic planning process for improving community health," which engages all sectors of the community in gathering data, prioritizing health issues in the community, and identifying resources to address these issues. The MAPP process involves six phases and four assessments, outlined in the graphic below.[2]

The remainder of this document will discuss the execution of the MAPP framework in Orange County and the issues identified through the framework to inform the CHIP. It will then outline the interventions selected to address these issues, which are based on the 2019-2024 New York State Prevention Agenda (NYSPA).

[2] National Association of County and City Health Officials, 2022, https://www.naccho.org/programs/public-health-infrastructure/performance-improvement/community-health-assessment/mapp, accessed October 2022

PREVENTION AGENDA

NYSPA, developed by the New York State Department of Health (NYSDOH) in 2008, is the health improvement plan for the NYS blueprint for state and local health departments to improve the health of all residents. A main strategy of the Prevention Agenda (PA) is to promote health equity across all populations who experience health disparities. Health behaviors, access to care, and social determinants of health are important factors to achieving well-being and quality of life. The 2019-2024 PA is the third cycle for the statewide initiative.

The PA has five priority areas with specific action plans developed for each area. The five priority areas include: Prevent Chronic Diseases; Promote a Healthy and Safe Environment; Promote Healthy Women, Infants and Children; Promote Well-Being and Prevent Mental and Substance Use Disorders; and Prevent Communicable Diseases.

COMMUNITY HEALTH ASSESSMENT

The CHA is a foundational and essential service of local public health departments to assess and monitor population health status, factors that influence health, and community needs and assets. CHAs are conducted every three years and describe the health of a community. Data is obtained from a variety of local, state, and federal data sources to ensure a complete picture is presented. With a comprehensive review of the community's health, this data can be used to identify populations at increased risk of poor health outcomes. This document is the basis for public health planning, program development, policy changes, coordination of community resources, funding applications, and new ways to collaboratively use community assets. Once completed, the information is shared with residents and community partners to start conversations and develop plans for improving the health of the community.

COMMUNITY HEALTH NEEDS ASSESSMENT AND COMMUNITY SERVICE PLAN

Hospitals that are considered charitable organizations must meet general requirements for tax exemption under Section 501(c)(3) and Revenue Ruling 69-545PDF. In order to be treated as an organization described in Section 501(c)(3), they must meet requirements under Section 501(r) on a facility-by-facility basis, including completing a Community Health Needs Assessment (CHNA) and a Community Service Plan (CSP) every three years.[3]

Through the CHNA, CHA, and partnership with the LHDs, the hospitals develop a CSP. The CSP, like the CHIP, develops and implements effective approaches to health promotion and disease prevention at the community level. The plan involves the use of evidence-based programs that target health areas identified in the CHNA that are of particular concern to their hospital service areas. For those hospitals that partner with the local health departments, these areas are of concern to the greater county or regional efforts.

COMMUNITY HEALTH IMPROVEMENT PLAN

The CHIP is a strategic approach to developing plans targeted to issues that were identified in the CHA. The purpose of a CHIP is to describe how the local public health system, led by the LHDs and hospitals, will work together to improve the health of their residents. The document sets priorities, identifies programs and policies to

[3] US Department of the Treasury: Internal Revenue Service, 2022, https://www.irs.gov/charities-non-profits/community-health-needs-assessment-for-charitable-hospital-organizations-section-501r3, accessed September 2022

be implemented, outlines roles and responsibilities of partners, directs use of assets, and sets strategic goals that can be measured. The CHIP is a community driven process.

PARTNERSHIP

The local public health system in Orange County has vast experience with assessing health and developing partnerships to advance the health of their communities. The OCDOH utilizes the CHA and CHIP process to work with a network of partners and stakeholders focused on health improvement. Collaboration ensures that this process is dynamic and evolves with what is occurring within the communities. Engaging residents is key to understanding, supporting, and implementing strategies and ensuring successful outcomes.

SOCIAL DETERMINANTS OF HEALTH AND HEALTH EQUITY

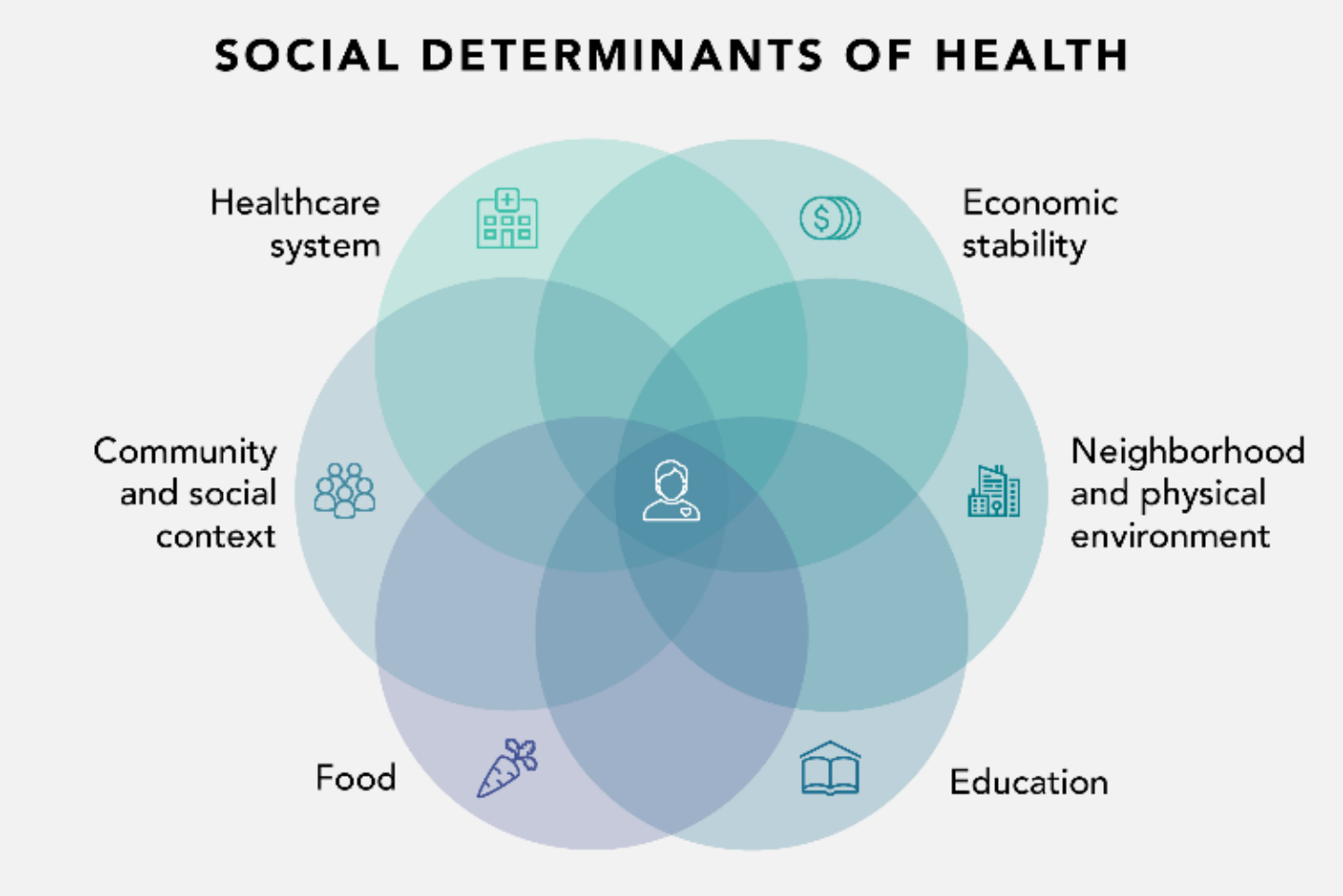
The mission of health equity is to ensure that all individuals have opportunities to reach their best quality of health based on their needs, regardless of social determinants. Social determinants of health (SDOH) are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.[4]

The SDOH can be grouped into six domains:

- Economic Stability: The connection between the financial resources people have – income, cost of living, and their socioeconomic status – and their health. This includes key issues such as poverty, employment, food security, and housing stability.
- Neighborhood and Physical Environment: The connection between where a person lives – housing, neighborhood, and environment – and their health and wellbeing. This includes topics like quality of housing, access to transportation, availability of healthy foods, air and water quality, and neighborhood crime and violence.
- Education: The connection of education access and quality to health and wellbeing. This domain includes key issues such as early childhood education and development, educational attainment, graduating from high school, enrollment in higher education, and language and literacy.
- Food: The connection between access to and affordability of healthy food and health. Some communities have limited access to affordable, healthy food options, resulting in food insecurity, which can lead to or complicate existing health issues.
- Community and Social Context: The connection between characteristics of the contexts within which people live, learn, work, and play and their health and wellbeing. This includes topics like cohesion within a community, civic participation, discrimination, conditions in the workplace, and incarceration.
- Healthcare System: The connection between the healthcare system, including people's access to and understanding of health services, and their own health. This domain includes key issues such as healthcare availability and quality, access to healthcare, access to primary care, health insurance coverage, and health literacy.

Each of these domains directly influences health and life quality. By improving the conditions in which people live and work, individuals will have improved quality of health and being.

[4] Healthy People 2030, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://health.gov/healthypeople/priority-areas/social-determinants-health, accessed September 2022



Source: Becker's Hospital Review, Uncovering social determinants of health in your HER data, 2019
https://www.beckershospitalreview.com/hospital-physician-relationships/uncovering-social-determinants-of-health-in-your-ehr-data.html

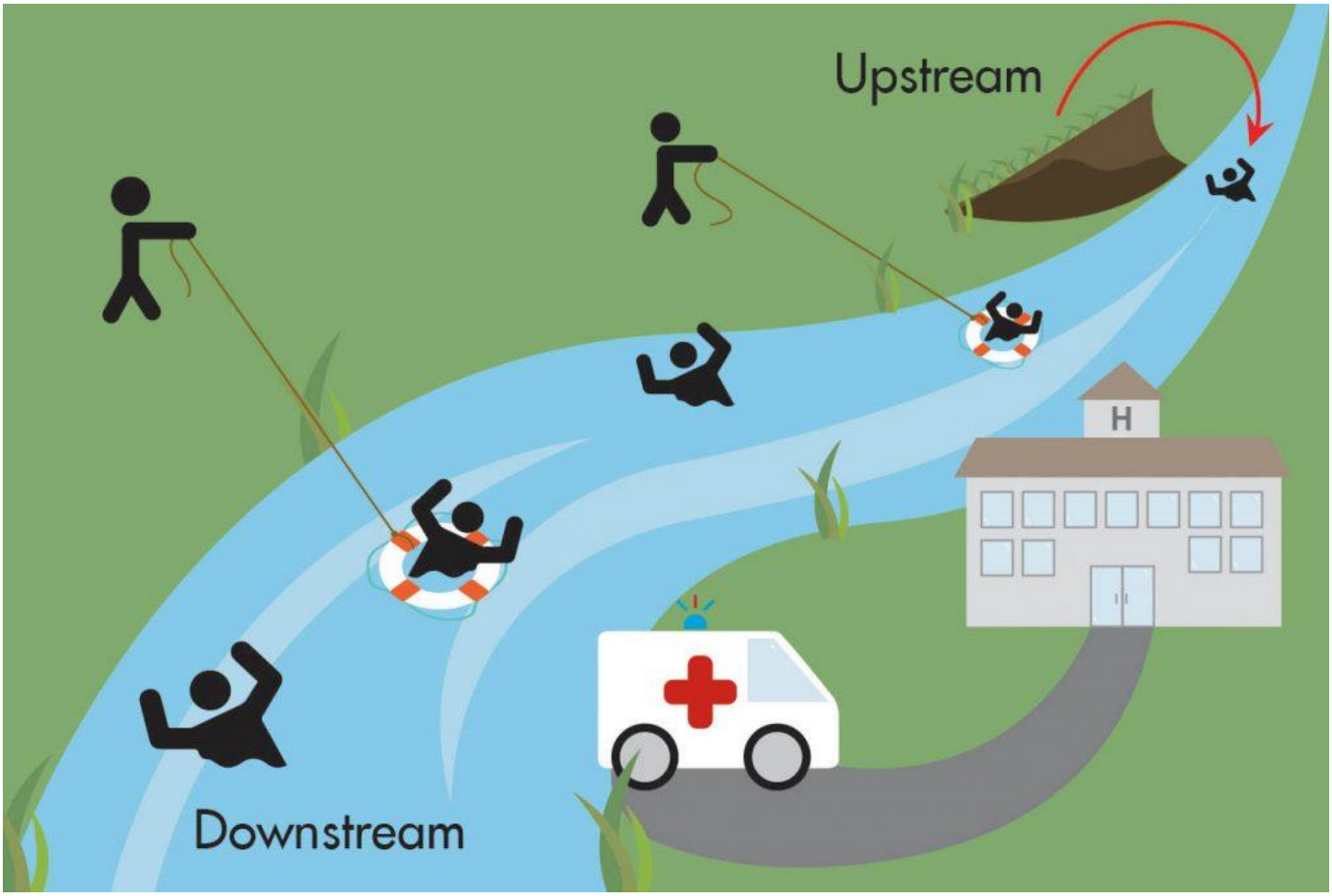
Much of the current policy surrounding reducing health inequities in the United States (US) focuses on downstream efforts such as improving healthcare access, coverage, and quality. However, evidence suggests that as important as medical care is, it is a relatively small contributor to overall health and well-being.[5] Most health problems occur long before people access their healthcare provider and are shaped by the SDOH. Therefore, effective efforts to improve health and reduce gaps in health must focus on the upstream social, economic, environmental, and structural determinants of health, including social disadvantage, risk exposure, and social inequities.[6] Such upstream efforts may include improving safe housing, transportation, neighborhoods, education, job opportunities, and income, as well as reducing racism, discrimination, and violence.[7]

[5] Journal of Public Health Management and Practice, 2008, https://journals.lww.com/jphmp/Fulltext/2008/11001/Moving_Upstream__How_Interventions_That_Address.4.aspx, accessed September 2022

[6] RAND Social Determinants of Health Interest Group, 2015, https://www.resourcebasket.org/wp-content/uploads/2019/01/upstream.pdf, accessed September 2022

[7] Healthy People 2030, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://health.gov/healthypeople/priority-areas/social-determinants-health, accessed September 2022

The graphic below provides a visual representation of downstream versus upstream solutions. In this image, individuals have fallen into a stream of water, and efforts are being made downstream to fish people out (analogous to treating individuals at a healthcare facility after they have fallen ill). However, a more effective approach would involve moving upstream to prevent them from falling into the water in the first place (in the context of health, this includes addressing the social, economic, environmental, and structural determinants of health). The OCDOH targets upstream problems by using the SDOH when creating programs, policies, and partnerships to improve individuals' and the community's health and to improve health equity through each of its divisions. OCDOH also has a Division of Health Equity dedicated to developing and implementing data-informed, evidence-based strategies to address health inequities from an upstream perspective.



Source: Public Health Santé publique Sudbury & Districts, 2015 Snapshot of Public Health: Chapleau Area, 2019
https://www.phsd.ca/about/annual-report/annual-report-2015/2015-snapshot-public-health-chapleau-area/

PHASE ONE: ORGANIZE FOR SUCCESS/PARTNERSHIP DEVELOPMENT

OVERVIEW

The first phase of the Mobilizing for Action through Planning and Partnerships (MAPP) process sets the stage for the entire strategic planning process. Developing the process and mobilizing partners allows for the organization of the planning process and implementation of each phase.

STRUCTURE

The local public health system in Orange County is comprised of a vast network of entities focused on contributing to the delivery of health services. All of these agencies contribute to the health and well-being of the Orange County community. They are integral to developing a robust and community-oriented health improvement plan. Each of these groups brings a unique perspective specific to the groups they serve but all focus on the goal of improving the health of Orange County residents. These partners provide input from the organization's perspective as well as represent their clients' perspectives. These relationships also provide opportunities to directly reach out to residents to ensure their opinions are also included in the process. Orange County Department of Health (OCDOH) partnered with a variety of coalitions and organizations to conduct the Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP), including but not limited to those listed below.

Coalitions: Agri-Business Child Development (ABCD) Head Start Advisory Board; Adolescent Substance Use and Prevention Coalition; Black and Latinx Coalition; Chamber of Commerce Health Means Business; Changing the Orange County Addiction Treatment Ecosystem; Council of Community Agencies; Ellenville Regional Rural Health Network Healthy Aging Partnership; For the Many Team Meeting; Helping to End Addiction Long-Term (HEALing) Study; Healthy Orange; Latinos Unidos; Medication Assisted Therapy Advisory Board; Newburgh Urban Farm and Food Institute; Office for Aging Advisory Board; Orange County Cancer Screening Collaborative; Orange County Complete Streets; Perinatal and Infant Community Health Collaborative; Regional Economic Community Action Program (RECAP) Head Start Health Services Advisory Committee; Resilience Project; System of Care Coalition; Welcome Orange; and Youth Bureau Advisory Board.

Partners: Access-Supports for Living; Action Towards Independence; Alcoholism and Drug Abuse Council (ADAC) of Orange County; Affinity by Molina; Alzheimer's Association; American Cancer Society; Bon Secours Health System; BOCES of Orange and Ulster Counties, Catholic Charities Community Services of Orange County; Catholic Charities of Orange, Sullivan, and Ulster; Child Care Resource and Referral (CCRR) Agencies; Centers for Disease Control and Prevention (CDC) Foundation; Children's Health Home of Upstate New York; CohnReznick LLP; Cornell Cooperative Extension; Cornerstone Family Healthcare; Department of Family Assistance; Dairy Farmers of America (DFA); Esopus Medical PC; Ezra Choilim Health Center; Garnet Health; Hudson River HealthCare; Independent Living Center of the Hudson Valley; Jewish Family Services of Orange County; Keller Army Community Hospital; Mid-America Apartment Communities (MAA); Medicaid; Mental Health Association (MHA) of Orange County; Maternal-Infant Services Network (MiSN); Comprehensive Adolescent Pregnancy Program (CAPP)/Youth Services; Montefiore St. Luke's Cornwall; New York State Department of Health (NYSDOH); OCDOH; Orange County Department of Mental Health; Orange County Department of Social Services; Orange County District Attorney; Orange County Government Executives Office; Orange County Grants Department; Orange County Legislature; Orange County Office for the Aging; Orange County Youth

Bureau; Oxford House Inc.; Planned Parenthood of Greater NY; Ramapo Catskill Library System; Richard C. Ward Addiction Treatment Center; Resource Recovery Center of Orange County; St. Anthony Community Hospital; Sun River Health; The Emerald Peek Rehabilitation and Nursing; Tri-County Community Partnership; United Healthcare; and United States Military Academy.

MEMBERSHIP AND LEADERSHIP STRUCTURE

As the lead agency designated by the NYSDOH, the OCDOH leads local efforts on the creation of the CHA and the development of a local CHIP. The hospitals and all the partners in the local public health system, as well as the residents, are engaged at various stages of the MAPP process. For each selected priority area, local agencies are selected to lead the committees to ensure that the outlined interventions are implemented, and progress is tracked.

PHASE TWO: VISIONING

OVERVIEW

The local public health system in Orange County has a long history of collaborating and partnering to improve the health of residents. The second phase allows the established partnership to develop a vision that can be shared throughout the community and a set of common values that can guide the planning process. This vision will provide focus, and the community and partnerships can work towards the shared goal. It can also help garner buy-in from the community and partners.

VISION STATEMENT

Collaboration and partnership will be the foundation leading Orange County residents to achieving their highest level of health and well-being.

COMMUNITY VALUES

Respect: A community where there is respect for all individuals and the environment. Individuals' differences are acknowledged and accepted.

Diversity and Tolerance: Understanding and respecting cultural differences so every individual can live their life to the fullest with equitable opportunity.

Healthy Lifestyle: Access to health care, healthy food, safe environments, and recreational activities for all individuals to achieve a healthy mind, body, and interpersonal relationships.

Access to Health Care: Affordable and accessible health care to improve the health and quality of life for all residents.

PHASE THREE: THE ASSESSMENTS

OVERVIEW

The third phase of the Mobilizing for Action through Planning and Partnerships (MAPP) process involves conducting four specific assessments and convening the local Public Health Summit. The data and information gathered in this phase paint a picture of the health status of Orange County. Using multiple sources of data from primary and secondary data sources provides a more complete assessment of the factors contributing to higher health risks and allows the local public health system to work collaboratively to make change.

The four MAPP Assessments include:

1 – Community Health Status Assessment
2 – Community Themes and Strengths Assessment
3 – Forces of Change Assessment
4 – Local Public Health System Assessment

COMMUNITY HEALTH STATUS ASSESSMENT

OVERVIEW

The Community Health Status Assessment (CHSA) is a data driven assessment that focuses on gathering and analyzing available data to describe the health status of Orange County residents. By compiling national, state, and local data, a more complete analysis can be made, and health disparities, trends, and gaps can be identified. This assessment aims to identify how healthy our residents are and what health disparities exist so that health improvements can be made.

SUMMARY FINDINGS

A comprehensive interpretation and analysis of data revealed the leading health issues of concern in Orange County. Heart disease and cancer are the leading causes of death and premature death (death before age 75) by a large margin. Premature death for those less than 65 years and less than 75 years in Orange County is worse than the New York State (NYS) rates based on the latest data available [see Figure 10, Figure 11]. Disparities among racial and ethnic lines, as well as in areas that are socioeconomically disadvantaged, have also increased.[8] Obesity is a leading contributor to these top causes of death, as well as cancer, diabetes, stroke, and hypertension, all of which can lead to premature death. Orange County's age-adjusted all cancer mortality is higher than NYS based on the latest available data [see Figure 61]. Over the past ten years, the rates of obesity have continually grown, as well as the subsequent morbidity of cardiovascular disease (CVD), prediabetes, and hypertension.

The COVID-19 pandemic exacerbated many of the underlying factors that have a profound impact on health such as poverty, food insecurity, education, housing, and access to care, including health insurance. Although strides were made prior to the pandemic in addressing substance use in Orange County, these external stressors contribute to poor mental health, and substance use has risen in the past two years. Overdose deaths in the

[8] America's Health Rankings, United Health Foundation, https://www.americashealthrankings.org/explore/annual/measure/YPLL_Disparity/state/ALL, accessed October 2022

county have increased steadily over time and age-adjusted rates are still higher in Orange County compared to NYS excluding New York City (NYC) [see Figure 125].

Other health areas where Orange County is worse than NYS or worsening since the last assessment include:

- Premature deaths (before age 65 years), particularly inequities among non-Hispanic Black and Hispanic residents
- STIs including early syphilis, gonorrhea, and chlamydia
- Infant mortality among non-Hispanic Black women and Hispanic women
- Premature births among non-Hispanic Black women
- Adults receiving colorectal cancer screening
- Cancer mortality including all cancer, female breast cancer, and colorectal cancer
- Childhood immunization rates among children 24 to 35 months of age
- Unemployment rate
- Overdose deaths involving any opioid
- Gross rent as a percentage of household income: occupied units paying rent greater than 30% of household income

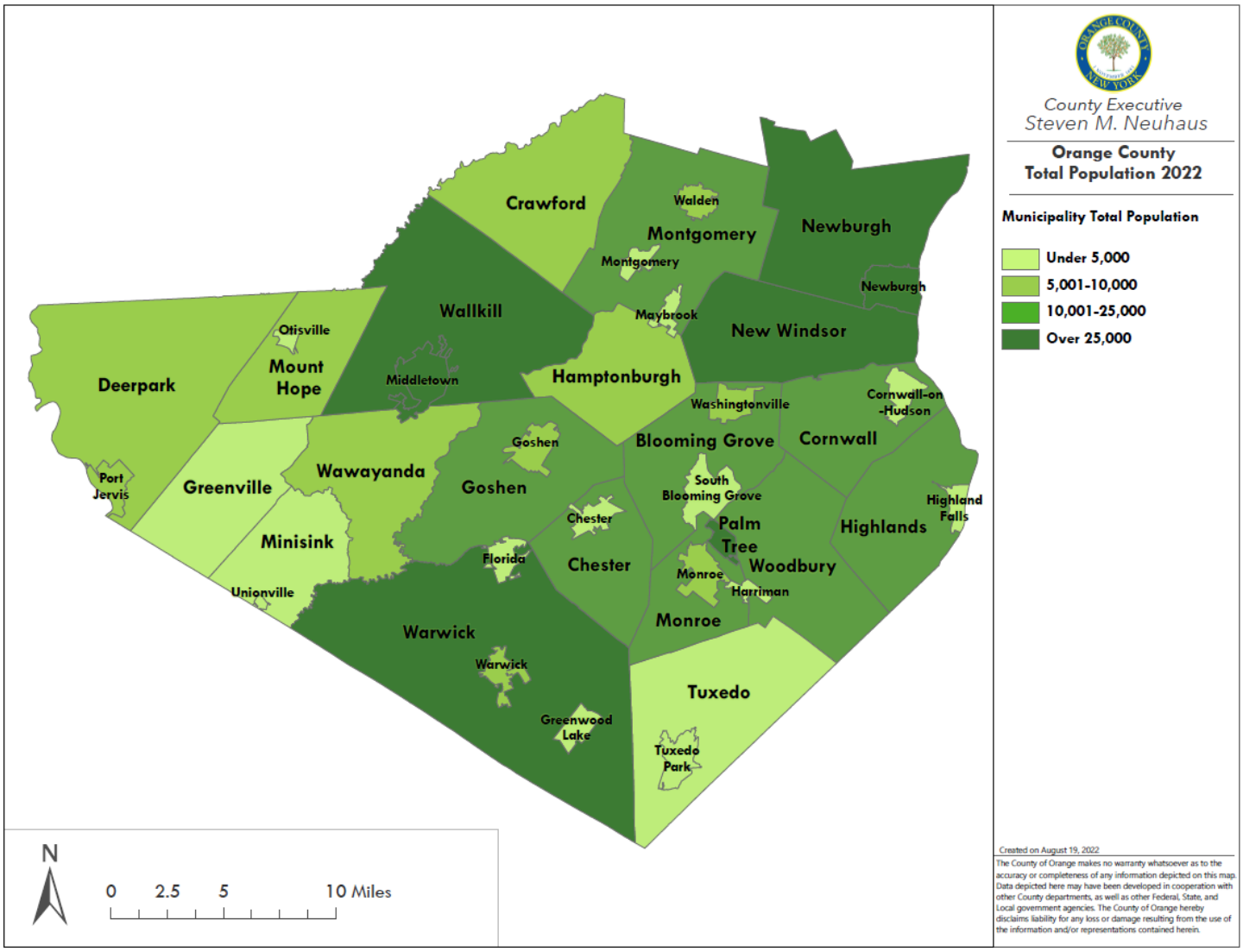
DEMOGRAPHICS AND MAPS

Orange County is located approximately 40 miles north of New York City (NYC). 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 (NYS) 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, 21 towns, and 19 villages. Approximately 17% 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 [see Figure 1].

The median age of residents in Orange County is 37 years. Within the county, median age varies greatly by municipality. The populations in Warwick and Tuxedo have the oldest median age, while Highlands and Palm Tree have the youngest [see Figure 2].

The percentage of homeowners and renters varies across the county. The areas with the lowest percentage of homeowners, and, therefore, the highest percentage of renters, include Port Jervis, Newburgh, Highlands, and Palm Tree. Greenville, Hamptonburgh, and Woodbury have the highest percentages of home ownership and lowest percentage of renters in the county [see Figure 3, Figure 4]. Units occupied by renters are more likely to have greater than one occupant per room than units occupied by owners. Among the major metropolitan areas in Orange County, the city of Newburgh has the highest percentage of renter-occupied units with more than one occupant per room (11%), and Port Jervis has the lowest (2%) [see Figure 5].

Figure 1



Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table S0101
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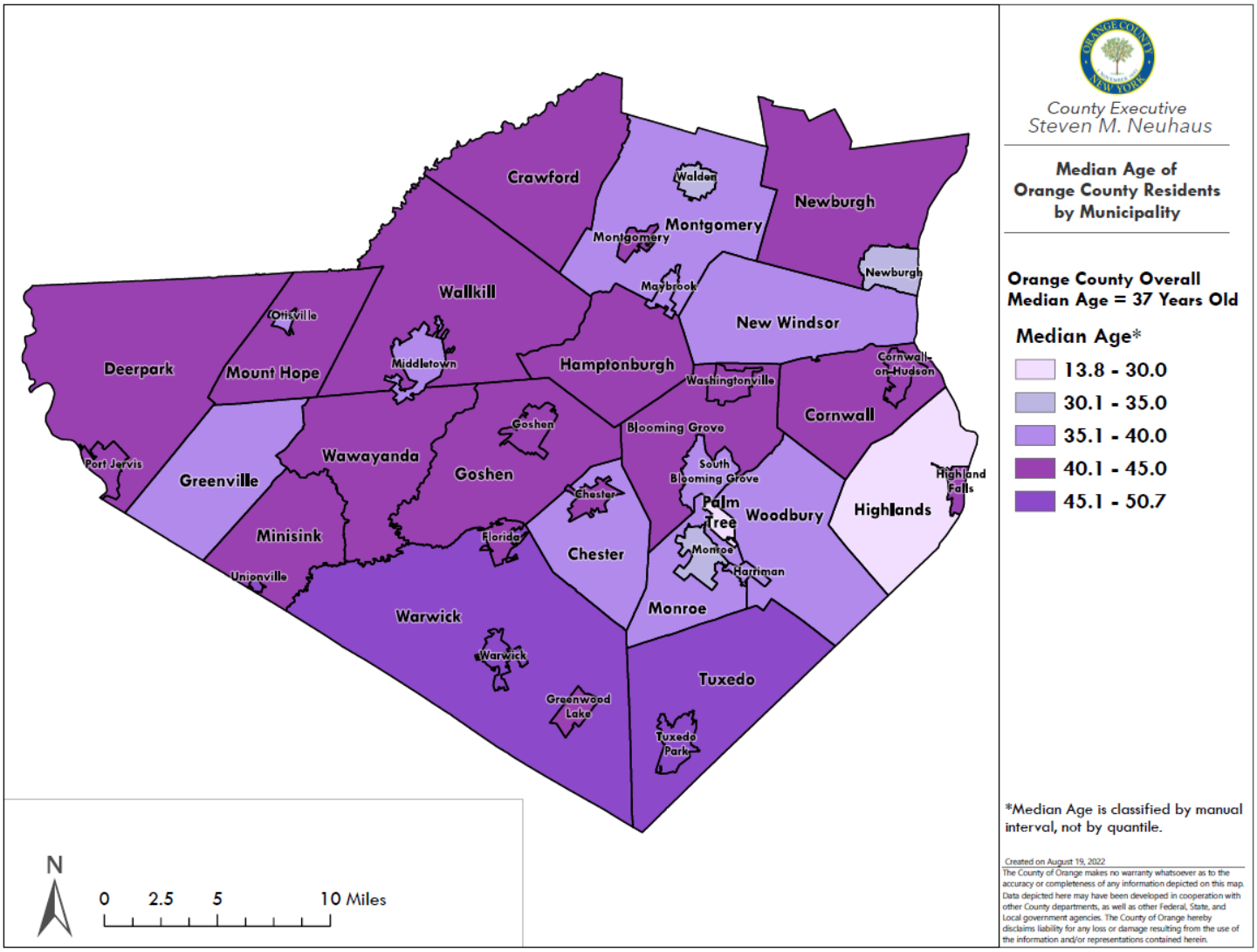
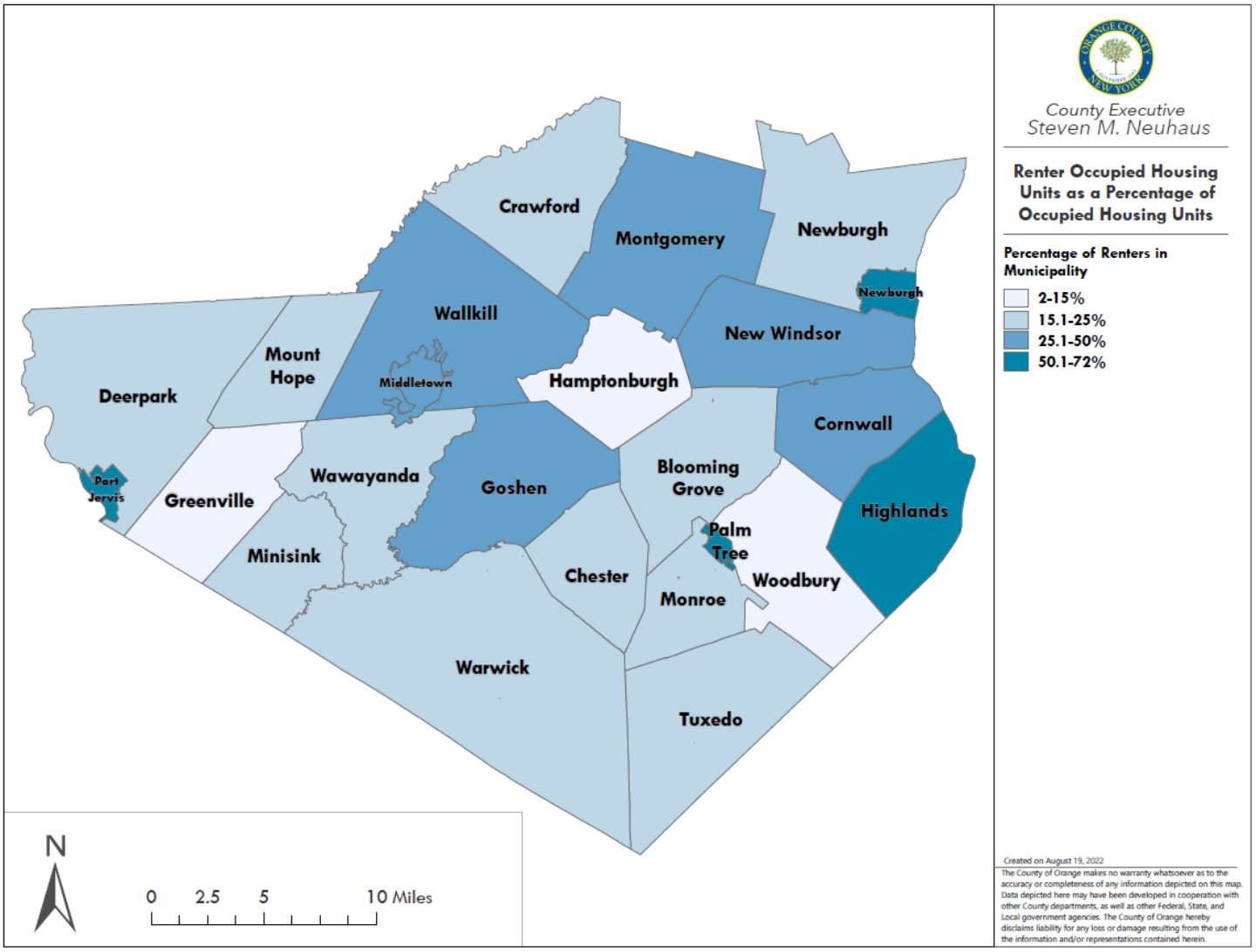
Figure 2



Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table S0101
https://data.census.gov/table?q=s0101&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750&tid=ACSST5Y2019.S0101

Figure 3



Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table DP04
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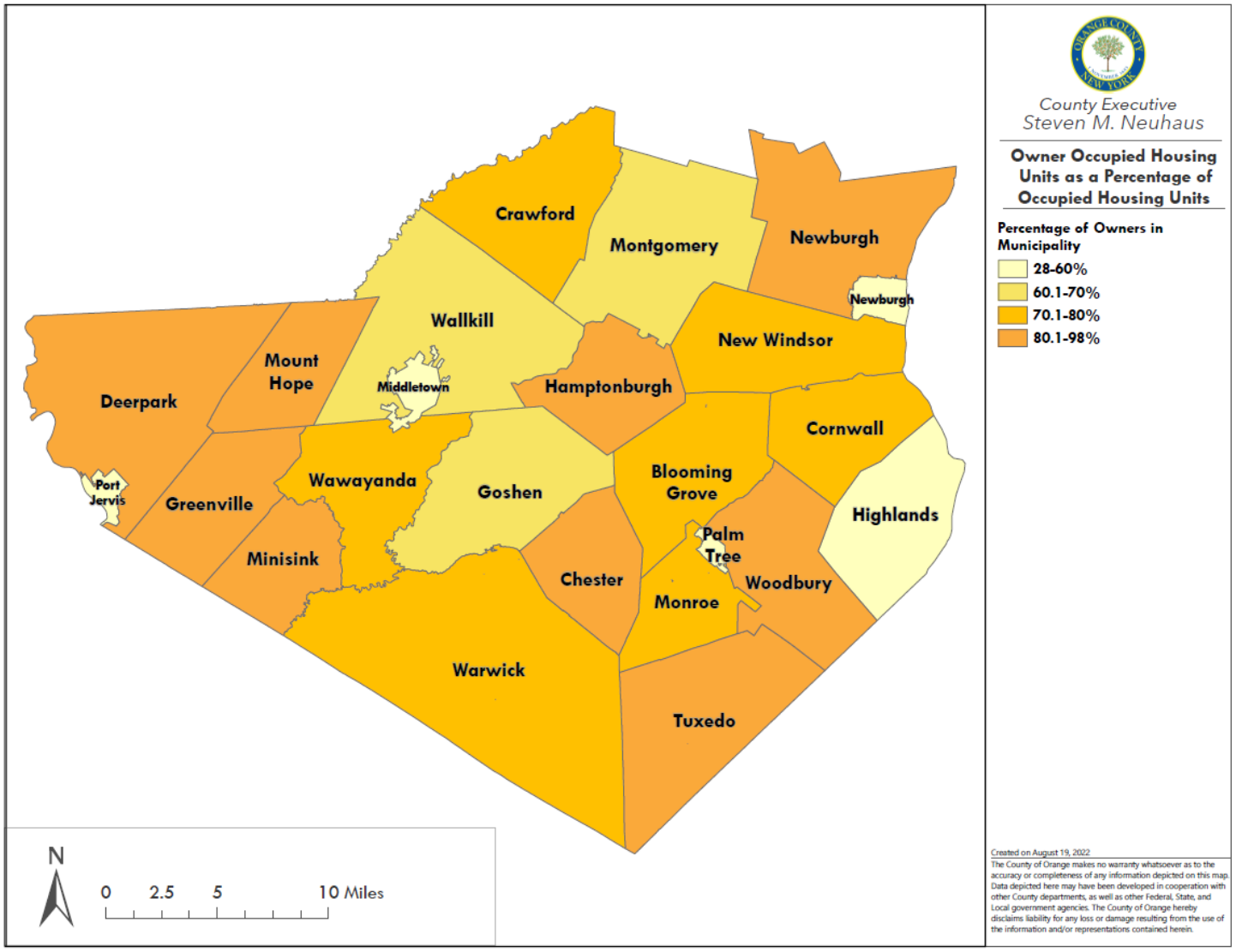
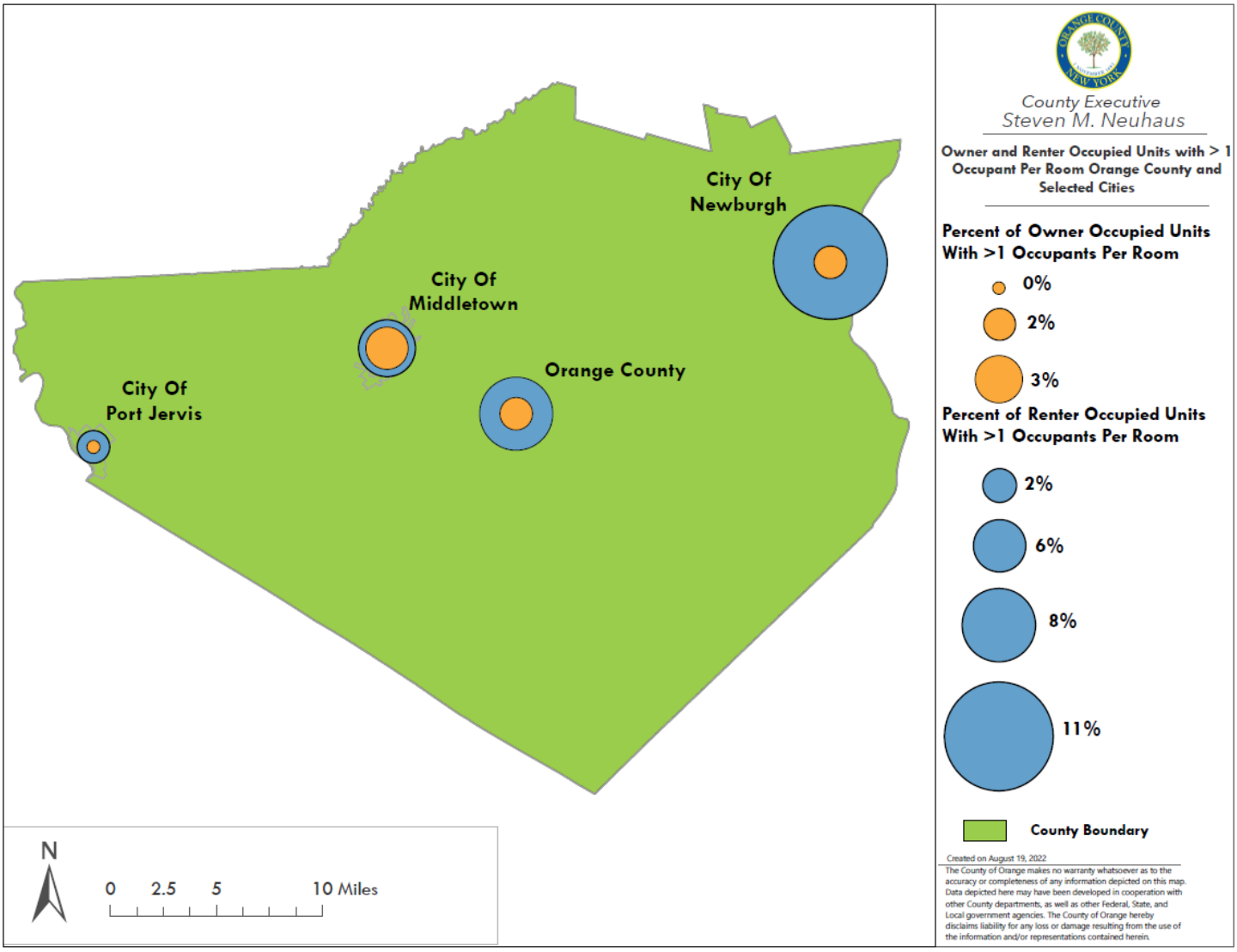
Figure 4



Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table DP04
https://data.census.gov/table?q=dp04&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750&tid=ACSDP5Y2019.DP04

Figure 5



Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table B25014 https://data.census.gov/table?q=b25014&g=0500000US36071_0600000US3607147042,3607150034,3607159388&tid=ACSDT5Y2019.B25014

Table 1

Orange County Demographic Summary by Municipality, 2015-2019 5-Year Population Estimates

Geographic Area	Population	Age				Gender		Median Age
	Total	0-17	18-24	25-64	65+	Male	Female	
Orange County	**380,085**	**97,292**	**40,018**	**190,824**	**51,951**	**190,453**	**189,632**	**37.0**
Blooming Grove town	17,606	4,199	1,933	9,334	2,140	8,996	8,610	40.5
South Blooming Grove village	3,148	860	319	1,436	533	1,642	1,506	37.2
Washingtonville village	5,746	1,292	771	2,882	801	2,889	2,857	41.4
Chester town	12,023	2,444	1,504	6,454	1,621	5,799	6,224	39.0
Chester village	4,011	654	485	2,280	592	1,811	2,200	40.1
Cornwall town	12,445	2,879	1,206	6,532	2,008	5,633	6,812	42.6
Cornwall-on-Hudson village	2,926	622	357	1,464	483	1,389	1,537	43.0
Crawford town	9,202	2,137	644	4,909	1,512	4,623	4,579	41.4
Deerpark town	7,742	1,518	517	4,341	1,366	3,773	3,969	44.6
Goshen town	13,991	2,746	1,245	7,154	2,846	7,387	6,604	43.9
Goshen village	5,344	1,083	451	2,631	1,179	2,486	2,858	43.0
Greenville town	4,689	1,178	410	2,596	505	2,170	2,519	36.8
Hamptonburgh town	5,516	1,374	701	2,674	767	2,818	2,698	40.9
Highlands town	12,165	2,738	3,597	4,907	923	7,045	5,120	23.5
Highland Falls village	3,841	791	318	1,609	520	1,950	1,891	41.7
Middletown city	27,963	6,956	2,841	14,279	3,887	13,584	14,379	35.6
Minisink town	4,492	1,196	486	2,187	623	2,263	2,229	40.5
Unionville village	524	107	49	234	134	229	295	45.6
Monroe town	19,799	5,363	2,041	10,368	2,027	9,906	9,893	36.1
Harriman village (total)*	3,007	886	242	1,610	269	1,524	1,483	35.2
Monroe village	8,586	2,600	755	4,483	748	4,267	4,319	32.7
Montgomery town	23,827	5,565	2,221	12,712	3,329	11,385	12,442	38.0
Maybrook village	3,511	653	382	2,041	435	1,601	1,910	37.7
Montgomery village	4,527	985	581	2,124	837	2,247	2,280	41.1
Walden village	6,724	1,941	763	3,482	538	3,247	3,477	34.2
Mount Hope town	6,731	1,224	545	4,156	806	4,067	2,664	42.0
Otisville village	1,238	316	98	673	151	594	644	38.9
Newburgh city	28,255	8,372	3,525	13,437	2,921	13,789	14,466	30.7
Newburgh town	30,095	6,020	2,294	17,535	5,056	14,899	16,006	42.4
New Windsor town	27,296	6,131	2,803	14,309	4,053	14,108	13,188	38.4
Palm Tree town	24,666	15,156	3,215	5,753	542	12,864	11,802	13.8
Kiryas Joel village	24,571	15,096	3,202	5,731	542	12,828	11,743	13.8
Port Jervis city	8,595	1,848	447	4,810	1,490	4,317	4,278	44.0
Tuxedo town	3,534	725	290	1,841	678	1,779	1,755	45.1
Tuxedo Park village	545	114	12	282	137	295	250	52.2
Wallkill town	28,588	6,181	2,834	14,962	4,611	14,293	14,295	40.8

Table 1 (Continued)

Geographic Area	Population	Age				Gender		Median Age
	Total	0-17	18-24	25-64	65+	Male	Female	
Warwick town	31,217	6,592	2,540	16,249	5,836	15,413	15,804	46.0
Florida village	2,866	700	175	1,531	460	1,409	1,457	41.7
Greenwood Lake village	3,091	574	242	1,826	449	1,668	1,423	43.6
Warwick village	6,769	1,480	346	3,264	1,679	3,128	3,641	46.0
Wawayanda town	7,268	1,763	966	3,589	950	3,542	3,726	40.3
Woodbury town	11,570	2,987	1,393	5,736	1,454	6,000	5,570	39.1
Woodbury village	10,810	2,754	1,333	5,347	1,376	5,636	5,174	40.0

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table S0101
https://data.census.gov/table?q=S0101&g=0500000US36071&tid=ACSST5Y2019.S0101

Table 2

Population of Orange County and Municipalities, 1970-2020

Geographic Area	Population					
	1970	1980	1990	2000	2010	2020
Orange County	**221,657**	**259,603**	**307,647**	**341,367**	**372,813**	**401,310**
Blooming Grove town	8,813	12,339	16,673	17,351	18,028	18,811
South Blooming Grove village	n/a	n/a	n/a	n/a	3,234	3,973
Washingtonville village	1,887	2,380	4,906	5,851	5,899	5,657
Chester town	4,767	6,850	9,138	12,140	11,981	12,646
Chester village	1,627	1,910	3,270	3,445	3,969	3,993
Cornwall town	9,672	10,774	11,270	12,307	12,646	12,884
Cornwall-on-Hudson village	3,131	3,164	3,093	3,058	3,018	3,075
Crawford town	3,896	4,910	6,394	7,875	9,316	9,130
Deerpark town	4,370	5,633	7,832	7,858	7,901	7,509
Goshen town	8,393	10,463	11,500	12,913	13,687	14,571
Goshen village	4,342	4,874	5,255	5,676	5,454	5,777
Greenville town	1,379	2,085	3,120	3,800	4,616	4,689
Hamptonburgh town	2,204	2,945	3,910	4,686	5,561	5,489
Highlands town	14,661	14,004	13,667	12,484	12,492	12,939
Highland Falls village	4,638	4,187	3,937	3,678	3,900	3,684
Middletown city	22,607	21,454	24,160	25,388	28,086	30,345
Minisink town	1,942	2,488	2,981	3,585	4,490	4,621
Unionville village	576	574	548	536	612	592
Monroe town	9,190	14,948	23,035	31,407	39,912	21,387
Harriman village (total)*	955	796	2,288	2,252	2,424	2,714
Monroe village	4,439	5,996	6,672	7,780	8,364	9,343

Table 2 (Continued)

Geographic Area	Population					
	1970	1980	1990	2000	2010	2020
Montgomery town	13,995	16,576	18,501	20,891	22,606	23,322
Maybrook village	1,536	2,007	2,802	3,084	2,958	3,150
Montgomery village	1,533	2,316	2,696	3,636	3,814	3,834
Walden village	5,277	5,659	5,836	6,164	6,978	6,818
Mount Hope town	2,966	4,398	5,971	6,639	7,018	6,537
Otisville village	933	953	1,078	989	1,068	989
Newburgh city	26,219	23,438	26,454	28,259	28,866	28,856
Newburgh town	21,593	22,747	24,058	27,568	29,801	31,985
New Windsor town	16,650	19,534	22,937	22,866	25,244	27,805
Palm Tree town	n/a	n/a	n/a	n/a	n/a	32,954
Kiryas Joel village	n/a	2,088	7,437	13,138	20,175	32,954
Port Jervis city	8,852	8,699	9,060	8,860	8,828	8,775
Tuxedo town	2,967	3,069	3,023	3,334	3,624	3,811
Tuxedo Park village	861	809	706	731	623	645
Wallkill town	11,518	20,481	23,016	24,659	27,426	30,486
Warwick town	16,956	20,976	27,193	30,764	32,065	32,027
Florida village	1,674	1,947	2,497	2,571	2,833	2,888
Greenwood Lake village	2,262	2,809	3,208	3,411	3,154	2,994
Warwick village	3,604	4,320	5,984	6,412	6,731	6,652
Wawayanda town	3,408	4,298	5,518	6,273	7,266	7,534
Woodbury town	4,639	6,494	8,236	9,460	11,353	12,197
Woodbury village	n/a	n/a	n/a	n/a	10,686	11,526

**: The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Village of Kiryas Joel was incorporated in 1977; Villages of South Blooming Grove and Woodbury were incorporated in 2006; Town of Palm Tree was incorporated in 2017 and made coterminous to the Village of Kiryas Joel thereafter. Prior to incorporation of Town of Palm Tree, the Village of Kiryas Joel was incorporated within the boundaries of the Town of Monroe.
Source: U.S. Census Bureau; 2020 Decennial Redistricting Data (PL 94-171), Table P1
https://data.census.gov/table?q=p1&g=0500000US36071

Table 3

Orange County Population Growth, 2000-2020						
Geographic Area	**Total Population**			**Percent Change**		
	2000	**2010**	**2020**	**2000-2010**	**2010-2020**	**2000-2020**
Orange County	**341,367**	**372,813**	**401,310**	**9.2%**	**7.6%**	**17.6%**
Blooming Grove town	17,351	18,028	18,811	3.9%	4.3%	8.4%
South Blooming Grove village	n/a	3,234	3,973	n/a	22.9%	n/a
Washingtonville village	5,851	5,899	5,657	0.8%	-4.1%	-3.3%
Chester town	12,140	11,981	12,646	-1.3%	5.6%	4.2%
Chester village	3,445	3,969	3,993	15.2%	0.6%	15.9%
Cornwall town	12,307	12,646	12,884	2.8%	1.9%	4.7%
Cornwall-on-Hudson village	3,058	3,018	3,075	-1.3%	1.9%	0.6%
Crawford town	7,875	9,316	9,130	18.3%	-2.0%	15.9%
Deerpark town	7,858	7,901	7,509	0.6%	-5.0%	-4.4%
Goshen town	12,913	13,687	14,571	6.0%	6.7%	12.8%
Goshen village	5,676	5,454	5,777	-3.9%	5.9%	1.8%
Greenville town	3,800	4,616	4,689	21.45%	1.6%	23.4%
Hamptonburgh town	4,686	5,561	5,489	18.7%	-1.3%	17.1%
Highlands town	12,484	12,492	12,939	0.1%	3.6%	3.6%
Highland Falls village	3,678	3,900	3,684	6.0%	-5.5%	0.2%
Middletown city	25,388	28,086	30,345	10.6%	8.0%	19.5%
Minisink town	3,585	4,490	4,621	25.2%	2.9%	28.9%
Unionville village	536	612	592	14.2%	-3.3%	10.5%
Monroe town	31,407	39,912	21,387	27.1%	-46.4%	-31.9%
Harriman village (total)*	2,252	2,424	2,714	7.6%	12.0%	20.5%
Monroe village	7,780	8,364	9,343	7.5%	11.7%	20.1%
Montgomery town	20,891	22,606	23,322	8.2%	3.2%	11.6%
Maybrook village	3,084	2,958	3,150	-4.1%	6.5%	2.1%
Montgomery village	3,636	3,814	3,834	4.9%	0.5%	5.5%
Walden village	6,164	6,978	6,818	13.2%	-2.3%	10.6%
Mount Hope town	6,639	7,018	6,537	5.7%	-6.9%	-1.5%
Otisville village	989	1,068	989	8.0%	-7.4%	0.0%
Newburgh city	28,259	28,866	28,856	2.2%	-0.03%	2.1%
Newburgh town	27,568	29,801	31,985	8.1%	7.3%	16.0%
New Windsor town	22,866	25,244	27,805	10.4%	10.1%	21.6%
Palm Tree town	n/a	n/a	32,954	n/a	n/a	n/a
Kiryas Joel village	13,138	20,175	32,954	53.6%	63.3%	150.8%
Port Jervis city	8,860	8,828	8,775	-0.4%	-0.6%	-1.0%
Tuxedo town	3,334	3,624	3,811	8.7%	5.2%	14.3%
Tuxedo Park village	731	623	645	-14.8%	3.5%	-11.8%
Wallkill town	24,659	27,426	30,486	11.2%	11.2%	23.6%

Table 3 (Continued)

Geographic Area	Total Population			Percent Change		
	2000	2010	2020	2000-2010	2010-2020	2000-2020
Warwick town	30,764	32,065	32,027	4.2%	-0.1%	4.1%
Florida village	2,571	2,833	2,888	10.2%	1.9%	12.3%
Greenwood Lake village	3,411	3,154	2,994	-7.5%	-5.1%	-12.2%
Warwick village	6,412	6,731	6,652	5.0%	-1.2%	3.7%
Wawayanda town	6,273	7,266	7,534	15.8%	3.7%	20.1%
Woodbury town	9,460	11,353	12,197	20.0%	7.4%	28.9%
Woodbury village	n/a	10,686	11,526	n/a	7.9%	n/a

**: The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Villages of South Blooming Grove and Woodbury were incorporated in 2006; Town of Palm Tree was incorporated in 2017 and made coterminous to the Village of Kiryas Joel thereafter. Prior to incorporation of Town of Palm Tree, the Village of Kiryas Joel was incorporated within the boundaries of the Town of Monroe.
Source: U.S. Census Bureau; 2020 Decennial Redistricting Data (PL 94-171), Table P1
https://data.census.gov/table?q=p1&g=0500000US36071

Table 4

Orange County Population by Gender and Age, 2015-2019 5-Year Population Estimates

Geographic Area	Total Population			Population >18			Population Age 15-44			Population 65+		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Orange County	**380,085**	**190,453**	**189,632**	**97,292**	**50,953**	**46,853**	**148,816**	**77,391**	**71,425**	**51,951**	**24,471**	**30,823**
Blooming Grove town	17,606	8,996	8,610	4,199	2,242	1,957	6,552	3,464	3,088	2,140	885	1,255
South Blooming Grove village	3,148	1,642	1,506	860	456	404	1,185	582	603	533	272	261
Washingtonville village	5,746	2,889	2,857	1,292	679	613	2,250	1,201	1,049	801	260	541
Chester town	12,023	5,799	6,224	2,444	1,111	1,333	4,934	2,526	2,408	1,621	636	985
Chester village	4,011	1,811	2,200	654	204	450	1,732	970	762	592	185	407
Cornwall town	12,445	5,633	6,812	2,879	1,307	1,572	4,454	2,048	2,406	2,008	834	1,174
Cornwall-on-Hudson village	2,926	1,389	1,537	622	280	342	1,118	537	581	483	209	274
Crawford town	9,202	4,623	4,579	2,137	1,123	1,014	3,367	1,707	1,660	1,512	809	703
Deerpark town	7,742	3,773	3,969	1,518	697	821	2,847	1,438	1,409	1,366	634	732
Goshen town	13,991	7,387	6,604	2,746	1,664	1,082	4,945	2,782	2,163	2,846	1,271	1,575
Goshen village	5,344	2,486	2,858	1,083	618	465	1,891	969	922	1,179	427	752
Greenville town	4,689	2,170	2,519	1,178	640	538	1,790	699	1,091	505	220	285
Hamptonburgh town	5,516	2,818	2,698	1,374	773	601	1,873	946	927	767	359	408
Highlands town	12,165	7,045	5,120	2,738	1,356	1,382	6,526	4,089	2,437	923	480	443
Highland Falls village	3,841	1,950	1,891	791	354	437	1,432	729	703	520	286	234
Middletown city	27,963	13,584	14,379	6,956	3,735	3,221	11,524	5,660	5,864	3,887	1,532	2,355
Minisink town	4,492	2,263	2,229	1,196	611	585	1,663	823	840	623	285	338
Unionville village	524	229	295	107	70	37	161	53	108	134	42	92
Monroe town	19,799	9,906	9,893	5,363	2,929	2,434	7,847	3,830	4,017	2,027	906	1,121
Harriman village (total)*	3,007	1,524	1,483	886	541	345	1,382	647	735	269	98	171
Monroe village	8,586	4,267	4,319	2,600	1,342	1,258	3,398	1,701	1,697	748	334	414

Table 4 (Continued)

Geographic Area	Total Population			Population >18			Population Age 15-44			Population 65+		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Montgomery town	23,827	11,385	12,442	5,565	2,534	3,031	9,224	4,542	4,682	3,329	1,411	1,918
Maybrook village	3,511	1,601	1,910	653	231	422	1,565	765	800	435	192	243
Montgomery village	4,527	2,247	2,280	985	480	505	1,512	927	585	837	286	551
Walden village	6,724	3,247	3,477	1,941	928	1,013	2,850	1,391	1,459	538	224	314
Mount Hope town	6,731	4,067	2,664	1,224	552	672	2,647	1,736	911	806	468	338
Otisville village	1,238	594	644	316	146	170	464	227	237	151	74	77
Newburgh city	28,255	13,789	14,466	8,372	4,432	3,940	12,047	5,743	6,304	2,921	1,304	1,617
Newburgh town	30,095	14,899	16,006	6,020	3,036	2,984	11,695	5,843	5,852	5,056	2,195	2,861
New Windsor town	27,296	14,108	13,188	6,131	3,382	2,749	10,773	5,973	4,800	4,053	1,774	2,279
Palm Tree town	24,666	12,864	11,802	15,156	7,765	7,391	9,907	5,370	4,537	542	238	304
Kiryas Joel village	24,571	12,828	11,743	15,096	7,740	7,356	9,894	5,370	4,524	542	238	304
Port Jervis city	8,595	4,317	4,278	1,848	1,055	793	2,915	1,534	1,381	1,490	652	838
Tuxedo town	3,534	1,779	1,755	725	440	285	1,222	650	572	678	318	360
Tuxedo Park village	545	295	250	114	69	45	105	64	41	137	71	66

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table S0101
https://data.census.gov/table?q=S0101&g=0500000US36071&tid=ACSST5Y2019.S0101

Table 5

Orange County Municipality Population by Race and Ethnicity, 2020

Geographic Area	Total Pop	White Alone	Black Alone	American Indian/ Alaska Native Alone	Asian Alone	Native Hawaiian /Pacific Islander Alone	Some Other Race Alone	Two or More Races	Hispanic or Latino	Not Hispanic or Latino
Orange County	**401,310**	**248,085**	**45,543**	**2,949**	**12,025**	**185**	**52,023**	**40,500**	**89,744**	**311,566**
Blooming Grove town	18,811	12,738	1,539	121	416	7	1,784	2,206	3,913	14,898
South Blooming Grove village	3,973	2,786	311	25	52	5	484	310	555	3,418
Washingtonville village	5,657	3,555	630	26	131	1	590	724	1,466	4,191
Chester town	12,646	8,574	1,188	53	513	2	984	1,332	2,446	10,200
Chester village	3,993	2,287	611	33	212	2	417	431	912	3,081
Cornwall town	12,884	10,225	466	37	412	5	585	1,154	1,664	11,220
Cornwall-on-Hudson village	3,075	2,598	82	9	51	3	65	267	277	2,798
Crawford town	9,130	7,187	390	38	152	1	439	923	1,370	7,760
Deerpark town	7,509	6,083	240	37	334	3	188	624	657	6,852
Goshen town	14,571	10,315	1,026	68	491	3	1,196	1,472	3,133	11,438
Goshen village	5,777	4,230	303	31	185	2	509	517	1,205	4,572
Greenville town	4,689	3,828	164	17	55	0	229	396	626	4,063
Hamptonburgh town	5,489	4,274	189	20	204	0	227	575	797	4,692

Table 5 (Continued)

Geographic Area	Total Pop	White Alone	Black Alone	American Indian/ Alaska Native Alone	Asian Alone	Native Hawaiian /Pacific Islander Alone	Some Other Race Alone	Two or More Races	Hispanic or Latino	Not Hispanic or Latino
Highlands town	12,939	8,655	1,435	137	613	31	893	1,175	2,066	10,873
Highland Falls village	3,684	2,100	561	54	110	3	441	415	947	2,737
Middletown city	30,345	9,983	7,116	424	1,165	14	7,284	4,359	13,243	17,102
Minisink town	4,621	3,829	177	8	49	0	188	370	618	4,003
Unionville village	592	505	27	0	4	0	23	33	53	539
Monroe town	21,387	13,246	1,685	137	1,221	6	2,833	2,259	5,342	16,045
Harriman village (total)*	2,714	1,247	495	9	258	5	364	336	783	1,931
Monroe village	9,343	5,528	699	64	530	0	1,544	978	2,790	6,553
Montgomery town	23,322	16,894	1,842	117	414	6	1,562	2,487	4,320	19,002
Maybrook village	3,150	1,930	461	11	43	0	286	419	803	2,347
Montgomery village	3,834	2,896	275	9	61	0	181	412	620	3,214
Walden village	6,818	4,533	680	55	130	5	588	827	1,596	5,222
Mount Hope town	6,537	4,474	824	28	312	0	387	512	1,143	5,394
Otisville village	969	719	52	3	72	0	34	89	159	810
Newburgh city	28,856	6,554	8,167	656	260	24	9,737	3,458	15,085	13,771
Newburgh town	31,985	19,719	4,462	281	948	5	3,084	3,486	7,066	24,919
New Windsor town	27,805	15,819	4,346	194	1,084	21	3,109	3,232	7,100	20,705
Palm Tree town	32,954	23,305	58	20	18	14	8,803	736	465	32,489
Kiryas Joel village	32,954	23,305	58	20	18	14	8,803	736	465	32,489
Port Jervis city	8,775	6,201	803	47	187	2	606	929	1,311	7,464
Tuxedo town	3,811	2,948	186	3	193	0	183	298	466	3,345
Tuxedo Park village	645	535	7	0	47	0	6	50	41	604
Wallkill town	30,486	14,858	6,244	250	1,320	16	4,025	3,773	8,492	21,994
Warwick town	32,027	25,384	1,377	141	643	7	1,643	2,832	4,429	27,598
Florida village	2,888	2,116	236	18	71	0	166	281	510	2,378
Greenwood Lake village	2,994	2,452	50	11	41	4	130	306	413	2,581
Warwick village	6,652	5,568	182	36	94	0	247	525	826	5,826
Wawayanda town	7,534	5,546	498	22	194	0	567	707	1,335	6,199
Woodbury town	12,197	7,446	1,121	93	827	18	1,487	1,205	2,657	9,540
Woodbury village	11,526	7,226	942	92	720	15	1,389	1,142	2,458	9,068

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Source: U.S. Census Bureau; 2020 Decennial Redistricting Data (PL94-171), Table P1
https://data.census.gov/table?q=p1&g=0500000US36071

Table 6

Demographic Profile of Public School Districts in Orange County, 2020-2021						
School District	Racial/ Ethnic Origin of Students Enrolled				Drop-Out and Four-Year Graduation Rate	
	Asian or Native Hawaiian/Pacific Islander # (%)	Non-Hispanic Black # (%)	Hispanic # (%)	Non-Hispanic White # (%)	Drop-Out # (%)	Four-Year Graduation Rate # (%)
Chester Union	47 (5%)	106 (11%)	331 (35%)	435 (46%)	1 (1%)	99 (95%)
Cornwall Central	170 (6%)	195 (6%)	647 (22%)	1,882 (63%)	7 (2%)	284 (96%)
Florida Union	22 (3%)	43 (6%)	217 (29%)	444 (60%)	2 (3%)	54 (90%)
Goshen Central	114 (4%)	138 (5%)	425 (15%)	2,092 (74%)	4 (2%)	220 (94%)
Greenwood Lake Union*	15 (3%)	11 (2%)	120 (27%)	284 (64%)	n/a	n/a
Highland Falls Central	11 (1%)	96 (10%)	255 (27%)	526 (56%)	7 (7%)	92 (86%)
Kiryas Joel Village*	0 (0%)	0 (0%)	0 (0%)	156 (100%)	2 (40%)	0 (0%)
Middletown City	204 (3%)	1,638 (23%)	4,259 (59%)	862 (12%)	44 (7%)	538 (88%)
Minisink Valley Central	73 (2%)	159 (5%)	649 (19%)	2,503 (74%)	6 (2%)	310 (93%)
Monroe-Woodbury Central	464 (7%)	624 (9%)	2,436 (37%)	2,911 (44%)	19 (3%)	580 (91%)
Newburgh City	247 (2%)	2,251 (21%)	5,946 (56%)	1,728 (16%)	85 (10%)	662 (76%)
Pine Bush	91 (2%)	462 (10%)	756 (16%)	3,304 (70%)	9 (2%)	407 (925)
Port Jervis City	41 (2%)	199 (8%)	432 (18%)	1,535 (64%)	15 (7%)	156 (77%)
Tuxedo Union	9 (4%)	21 (9%)	57 (25%)	134 (60%)	0 (0%)	16 (100%)
Valley Central (Montgomery)	65 (2%)	341 (8%)	1,072 (27%)	2,354 (58%)	12 (3%)	336 (91%)
Warwick Valley	81 (2%)	133 (4%)	589 (16%)	2,651 (74%)	1 (0%)	325 (96%)
Washingtonville	86 (2%)	352 (9%)	1,060 (28%)	2,117 (57%)	10 (3%)	326 (94%)

*: *Kiryas Joel Village and Greenwood Lake Union Free School Districts do not have high schools.*
Source: NYS Department of Education, 2021
https://data.nysed.gov/profile.php?county=44

Table 7

English Language Learners and Economically Disadvantaged Students by School District, Orange County, 2020-2021

School District	Total Students (#)	English Language Learners # (%)	Economically Disadvantaged # (%)
Chester Union	951	54 (6%)	365 (38%)
Cornwall Central	3,005	62 (2%)	709 (25%)
Florida Union	744	47 (6%)	260 (35%)
Goshen Central	2,823	118 (4%)	802 (28%)
Greenwood Lake Union	446	10 (2%)	138 (31%)
Highland Falls Central	940	63 (7%)	391 (42%)
Kiryas Joel Village	156	128 (82%)	131 (84%)
Middletown City	7,235	840 (12%)	5,453 (75%)
Minisink Valley Central	3,391	88 (3%)	1,050 (31%)
Monroe-Woodbury Central	6,658	413 (6%)	2,313 (35%)
Newburgh City	10,634	1,719 (16%)	6,710 (63%)
Pine Bush	4,715	159 (3%)	2,547 (54%)
Port Jervis City	2,393	35 (1%)	1,375 (57%)
Tuxedo Union	225	17 (8%)	68 (30%)
Valley Central (Montgomery)	3,195	90 (3%)	995 (31%)
Warwick Valley	3,578	55 (2%)	721 (20%)
Washingtonville	3,724	107 (3%)	1,171 (31%)

Note: Economically disadvantaged students are defined as those who participate in, or whose family participates in, economic assistance programs, such as free or reduced-price lunch, Social Security Insurance (SSI), food stamps, foster care, refugee assistance (cash or medical assistance), Earned Income Tax Credit (EITC), Home Energy Assistance Program (HEAP), Safety Net Assistance (SNA), Bureau of Indian Affairs (BIA), or Family Assistance: Temporary Assistance for Needy Families (TANF). If one student in a family is identified as low income, all students from that household (economic unit) may be identified as low income.

Source: NYS Department of Education, 2021

https://data.nysed.gov/profile.php?county=44

Table 8

Educational Attainment of Persons 25 and Over, Orange County, 2015-2019 5-Year Estimates

Geographic Area	Total Population Age 25+	Highest Level of Schooling Achieved													
		< 9th Grade		9-12th Grade, No Diploma		High School Graduate		Some College, No Degree		Associate Degree		Bachelor's Degree		Graduate/ Professional Degree	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
Orange County	242,775	8,694	3.6%	16,209	6.7%	71,028	29.3%	48,339	19.9%	24,870	10.2%	42,291	17.4%	31,344	12.9%
Blooming Grove town	11,474	226	2.0%	619	5.4%	3,144	27.4%	2,858	24.9%	1,091	9.5%	2,198	19.2%	1,338	11.7%
South Blooming Grove village	1,969	33	1.7%	114	5.8%	690	35.0%	496	25.2%	142	7.2%	274	13.9%	220	11.2%
Washingtonville village	3,683	93	2.5%	229	6.2%	958	26.0%	837	22.7%	444	12.1%	735	20.0%	387	10.5%
Chester town	8,075	160	2.0%	383	4.7%	2,053	25.4%	1,662	20.6%	977	12.1%	1,656	20.5%	1,184	14.7%
Chester village	2,872	119	4.1%	225	7.8%	901	31.4%	664	23.1%	223	7.8%	490	17.1%	250	8.7%
Cornwall town	8,540	129	1.5%	248	2.9%	1,679	19.7%	1,312	15.4%	841	9.8%	2,156	25.2%	2,175	25.5%
Cornwall-on-Hudson village	1,947	19	1.0%	51	2.6%	296	15.2%	337	17.3%	273	14.0%	520	26.7%	451	23.2%
Crawford town	6,421	112	1.7%	412	6.4%	2,093	32.6%	1,401	21.8%	704	11.0%	983	15.3%	716	11.2%
Deerpark town	5,707	136	2.4%	578	10.1%	2,382	41.7%	1,068	18.7%	681	11.9%	597	10.5%	265	4.6%
Goshen town	10,000	397	4.0%	728	7.3%	2,434	24.3%	1,686	16.9%	1,047	10.5%	2,118	21.2%	1,590	15.9%
Goshen village	3,810	170	4.5%	201	5.3%	858	22.5%	635	16.7%	386	10.1%	868	22.8%	692	18.2%
Greenville town	3,101	26	0.8%	88	2.8%	1,093	35.2%	682	22.0%	367	11.8%	453	14.6%	392	12.6%
Hamptonburgh town	3,441	85	2.5%	143	4.2%	1,012	29.4%	608	17.7%	337	9.8%	796	23.1%	460	13.4%
Highlands town	5,830	80	1.4%	260	4.5%	1,147	19.7%	825	14.2%	418	7.2%	1,369	23.5%	1,731	29.7%
Highland Falls village	2,732	45	1.6%	164	6.0%	724	26.5%	406	14.9%	196	7.2%	665	24.3%	532	19.5%
Middletown city	18,166	1,166	6.4%	1,607	8.8%	6,332	34.9%	3,877	21.3%	1,599	8.8%	2,071	11.4%	1,514	8.3%
Minisink town	2,810	53	1.9%	74	2.6%	833	29.6%	618	22.0%	267	9.5%	566	20.1%	399	14.2%
Unionville village	368	8	2.2%	15	4.1%	132	35.9%	51	13.9%	66	17.9%	52	14.1%	44	12.0%
Monroe town	12,395	536	4.3%	717	5.8%	2,790	22.5%	2,310	18.6%	1,139	9.2%	2,997	24.2%	1,906	15.4%
Harriman village (total)*	1,879	51	2.7%	88	4.7%	529	28.2%	343	18.3%	277	14.7%	428	22.8%	163	8.7%

Table 8 (Continued)

Geographic Area	Total Population Age 25+	Highest Level of Schooling Achieved													
		< 9th Grade		9-12th Grade, No Diploma		High School Graduate		Some College, No Degree		Associate Degree		Bachelor's Degree		Graduate/ Professional Degree	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
Monroe village	5,231	362	6.9%	369	7.1%	1,005	19.2%	837	16.0%	484	9.3%	1,386	26.5%	788	15.1%
Montgomery town	16,041	544	3.4%	821	5.1%	5,181	32.3%	3,212	20.0%	1,867	11.6%	2,549	15.9%	1,867	11.6%
Maybrook village	2,476	131	5.3%	139	5.6%	680	27.5%	585	23.6%	372	15.0%	403	16.3%	166	6.7%
Montgomery village	2,961	91	3.1%	171	5.8%	1,037	35.0%	550	18.6%	235	7.9%	599	20.2%	278	9.4%
Walden village	4,020	92	2.3%	318	7.9%	1,406	35.0%	791	19.7%	419	10.4%	473	11.8%	521	13.0%
Mount Hope town	4,962	182	3.7%	336	6.8%	1,682	33.9%	1,195	24.1%	545	11.0%	583	11.7%	439	8.8%
Otisville village	824	7	0.8%	71	8.6%	234	28.4%	178	21.6%	107	13.0%	135	16.4%	92	11.2%
Newburgh city	16,358	1,524	9.3%	2,381	14.6%	5,954	36.4%	2,570	15.7%	1,195	7.3%	1,470	9.0%	1,264	7.7%
Newburgh town	22,591	652	2.9%	1,117	4.9%	6,395	28.3%	4,799	21.2%	2,399	10.6%	4,134	18.3%	3,095	13.7%
New Windsor town	18,362	555	3.0%	722	3.9%	5,429	29.6%	3,681	20.0%	2,050	11.2%	3,542	19.3%	2,383	13.0%
Palm Tree town	6,295	361	5.7%	1,781	28.3%	2,701	42.9%	842	13.4%	249	4.0%	337	5.4%	24	0.4%
Kiryas Joel village	6,273	361	5.8%	1,781	28.4%	2,679	42.7%	842	13.4%	249	4.0%	337	5.4%	24	0.4%
Port Jervis city	6,300	294	4.7%	546	8.7%	2,333	37.0%	1,302	20.7%	461	7.3%	764	12.1%	600	9.5%
Tuxedo town	2,519	32	1.3%	52	2.1%	388	15.4%	393	15.6%	259	10.3%	876	34.8%	519	20.6%
Tuxedo Park village	419	10	2.4%	2	0.5%	25	6.0%	60	14.3%	13	3.1%	178	42.5%	131	31.3%
Wallkill town	19,573	837	4.3%	1,224	6.3%	5,773	29.5%	4,809	24.6%	2,558	13.1%	2,387	12.2%	1,985	10.1%
Warwick town	22,085	371	1.7%	950	4.3%	5,707	25.8%	4,324	19.6%	2,296	10.4%	4,975	22.5%	3,462	15.7%
Florida village	1,991	25	1.3%	71	3.6%	696	35.0%	486	24.4%	214	10.7%	325	16.3%	174	8.7%
Greenwood Lake village	2,275	71	3.1%	299	13.1%	583	25.6%	570	25.1%	291	12.8%	293	12.9%	168	7.4%
Warwick village	5,209	67	1.3%	264	5.1%	1,656	31.8%	945	18.1%	436	8.4%	926	17.8%	915	17.6%
Wawayanda town	4,539	73	1.6%	197	4.3%	1,173	25.8%	788	17.4%	616	13.6%	1,012	22.3%	680	15.0%
Woodbury town	7,190	163	2.3%	225	3.1%	1,320	18.4%	1,517	21.1%	907	12.6%	1,702	23.7%	1,356	18.9%
Woodbury village	6,723	136	2.0%	225	3.3%	1,231	18.3%	1,439	21.4%	795	11.8%	1,618	24.1%	1,279	19.0%

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*

Note: Town totals include village totals.

High school graduate includes those who have received a GED or other equivalent document.

Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table S1501

https://data.census.gov/table?q=S1501&g=0500000US36071&tid=ACSST5Y2019.S1501

Table 9

Household Median Income and Poverty Status by Municipality, 2015-2019 5-Year Estimates

Geographic Area	Total Households	Median Household Income	Households Below Federal Poverty Level		Households Below Local Poverty Level		Households with Income >$150,000		GINI Index
			#	%	#	%	#	%	
Orange County	**128,016**	**$79,944**	**20,271**	**15.8%**	**32,976**	**25.8%**	**26,250**	**20.5%**	**0.44**
Blooming Grove town	6,063	$97,479	795	13.1%	1,197	19.7%	1,577	26.0%	0.39
South Blooming Grove village	1,085	$83,664	187	17.2%	242	22.3%	201	18.5%	0.45
Washingtonville village	2,064	$86,116	358	17.3%	487	23.6%	513	24.9%	0.40
Chester town	4,011	$107,396	373	9.3%	754	18.8%	1,012	25.2%	0.44
Chester village	1,569	$73,582	327	20.8%	511	32.6%	211	13.4%	0.41
Cornwall town	4,601	$105,563	298	6.5%	662	14.4%	1,387	30.1%	0.41
Cornwall-on-Hudson village	1,090	$108,375	56	5.1%	147	13.5%	309	28.3%	0.36
Crawford town	3,221	$84,665	462	14.3%	653	20.3%	850	26.4%	0.40
Deerpark town	2,941	$56,365	604	20.5%	986	33.5%	231	7.9%	0.40
Goshen town	4,323	$103,796	561	13.0%	891	20.6%	1,298	30.0%	0.44
Goshen village	2,037	$82,019	388	19.0%	598	29.4%	475	23.3%	0.48
Greenville town	1,471	$113,087	130	8.8%	229	15.6%	453	30.8%	0.36
Hamptonburgh town	1,562	$112,297	110	7.0%	180	11.5%	568	36.4%	0.38
Highlands town	3,217	$98,022	220	6.8%	502	15.6%	774	24.1%	0.37
Highland Falls village	1,595	$86,750	152	9.5%	336	21.1%	320	20.1%	0.40
Middletown city	10,447	$55,245	2,440	23.4%	3,820	36.6%	1,203	11.5%	0.45
Minisink town	1,378	$89,615	155	11.2%	285	20.6%	286	20.8%	0.39
Unionville village	199	$74,583	29	14.6%	49	24.6%	20	10.1%	0.37
Monroe town	6,164	$108,246	438	7.1%	926	15.0%	1,919	31.1%	0.39
Harriman village (total)*	1,051	$74,435	99	9.4%	220	20.9%	169	16.1%	0.41
Monroe village	2,552	$117,639	147	5.8%	416	16.3%	853	33.4%	0.40
Montgomery town	8,224	$83,034	1,162	14.1%	1,937	23.6%	1,566	19.0%	0.42
Maybrook village	1,351	$75,302	233	17.2%	345	25.5%	181	13.4%	0.43
Montgomery village	1,622	$80,500	317	19.5%	486	30.0%	324	20.0%	0.45
Walden village	2,219	$74,107	278	12.5%	485	21.9%	350	15.8%	0.40
Mount Hope town	1,714	$89,153	177	10.3%	285	16.6%	362	21.1%	0.43
Otisville village	388	$78,125	53	13.7%	75	19.3%	59	15.2%	0.37
Newburgh city	9,967	$41,769	3,074	30.8%	4,726	47.4%	511	5.1%	0.46
Newburgh town	11,111	$91,596	1,146	10.3%	2,001	18.0%	2,477	22.3%	0.40
New Windsor town	9,893	$82,144	1,336	13.5%	2,481	25.0%	2,075	20.9%	0.42
Palm Tree town	4,180	$31,203	1,649	39.4%	2,428	58.1%	161	3.9%	0.49
Kiryas Joel village	4,169	$31,277	1,648	39.5%	2,417	58.0%	161	3.9%	0.49

Table 9 (Continued)

Geographic Area	Total Households	Median Household Income	Households Below Federal Poverty Level		Households Below Local Poverty Level		Households with Income >$150,000		GINI Index
			#	%	#	%	#	%	
Port Jervis city	3,713	$47,531	1,171	31.5%	1,710	46.1%	261	7.0%	0.48
Tuxedo town	1,398	$124,808	144	10.3%	270	19.3%	613	43.8%	0.48
Tuxedo Park village	222	$155,833	20	9.0%	31	13.9%	116	52.3%	0.59
Wallkill town	10,791	$69,952	1,867	17.3%	2,853	26.4%	1,746	16.2%	0.45
Warwick town	11,482	$106,011	1,140	9.9%	1,964	17.1%	3,352	29.2%	0.43
Florida village	1,038	$91,765	68	6.6%	112	10.8%	179	17.2%	0.32
Greenwood Lake village	1,238	$80,805	138	11.1%	227	18.3%	151	12.2%	0.32
Warwick village	2,996	$74,541	585	19.5%	902	30.1%	580	19.4%	0.41
Wawayanda town	2,487	$92,961	353	14.2%	643	25.9%	635	25.5%	0.43
Woodbury town	3,547	$128,364	230	6.5%	409	11.5%	1,193	33.6%	0.33
Woodbury village	3,328	$130,541	220	6.6%	377	11.3%	1,179	35.4%	0.32

**: The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
The "local poverty level" standard was initially developed by RECAP and is defined as 50% of the County median household income; in 2019, this was $39,972.
The federal poverty level is assumed to be a four-person household and is set at $25,750 for 2019.
The GINI Index of income inequality measures how wealth is concentrated in a location or group; a GINI Index of 0 represents perfect equality (everyone's income is exactly equal), and a GINI Index of 1 represents complete inequality (one person has all the wealth and others have nothing). The higher the GINI Index number, the more inequality is present.
Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table DP03
https://data.census.gov/table?q=dp03&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750&tid=ACSDP5Y2019.DP03

Table 10

Orange County Population Living in Poverty by Age Group									
Geographic Area	Total Population	Population Living in Poverty		Population Living in Poverty by Age Group					
		#	%	<18		18-64		65+	
				#	%	#	%	#	%
Orange County	**380,085**	**43,142**	**11.4%**	**17,281**	**18.1%**	**22,089**	**9.9%**	**3,772**	**7.5%**
Blooming Grove town	17,606	826	4.7%	218	5.2%	425	3.8%	183	8.5%
South Blooming Grove village	3,148	340	10.8%	121	14.1%	152	8.7%	67	12.6%
Washingtonville village	5,746	186	3.2%	19	1.5%	51	1.4%	116	14.5%
Chester town	12,023	581	4.8%	130	5.6%	360	4.5%	91	5.6%
Chester village	4,001	297	7.4%	83	12.9%	177	6.4%	37	6.3%
Cornwall town	12,445	418	3.4%	145	5.1%	193	2.6%	80	4.0%
Cornwall-on-Hudson village	2,926	100	3.4%	30	5.2%	64	3.5%	5	1.0%
Crawford town	9,202	742	8.1%	158	7.5%	417	7.5%	167	11.1%
Deerpark town	7,742	1,000	12.9%	117	8.6%	653	13.4%	230	16.8%
Goshen town	13,991	803	5.7%	146	5.6%	552	7.5%	105	4.6%
Goshen village	5,203	375	7.2%	88	8.4%	228	8.2%	59	4.3%
Greenville town	4,689	213	4.5%	5	0.4%	169	5.6%	39	8.1%
Hamptonburgh town	5,516	273	4.9%	80	5.8%	127	3.8%	66	9.9%
Highlands town	12,165	296	2.4%	0	0.0%	216	4.0%	80	8.7%
Highland Falls village	3,841	210	5.5%	0	0.0%	177	7.0%	33	6.3%
Middletown city	27,963	4,155	14.9%	1,461	21.4%	2,260	13.2%	434	11.4%
Minisink town	4,492	466	10.4%	266	18.9%	192	7.2%	8	1.3%
Unionville village	524	46	8.8%	30	28.0%	9	3.2%	7	5.2%
Monroe town	19,799	1,069	5.4%	252	4.7%	772	6.2%	45	2.2%
Harriman village (total)*	3,007	184	6.1%	84	9.5%	88	4.9%	12	4.5%
Monroe village	8,586	310	3.6%	71	2.9%	214	4.0%	25	3.4%
Montgomery town	23,827	1,643	6.9%	408	7.4%	1,011	6.7%	284	8.8%
Maybrook village	3,511	235	6.7%	13	2.0%	133	5.5%	89	20.5%
Montgomery village	4,527	178	3.9%	42	4.3%	116	4.3%	20	2.4%
Walden village	6,724	630	9.4%	210	10.9%	369	8.7%	51	9.8%
Mount Hope town	6,731	678	10.1%	355	29.1%	281	8.2%	42	5.7%
Otisville village	1,238	74	5.9%	21	6.7%	34	4.4%	19	12.6%
Newburgh city	28,255	6,935	24.5%	2,846	35.1%	3,733	22.9%	356	12.2%
Newburgh town	30,095	1,705	5.7%	412	7.0%	1,053	5.3%	240	4.9%
New Windsor town	27,296	1,663	6.1%	419	6.9%	899	5.3%	345	8.5%
Palm Tree town	24,666	11,019	44.7%	7,087	47.1%	3,869	44.2%	63	11.6%
Kiryas Joel village	24,571	10,936	44.5%	7,039	46.9%	3,834	43.9%	63	11.6%
Port Jervis city	8,595	1,945	22.6%	726	39.9%	1,120	21.4%	99	6.8%
Tuxedo town	3,534	352	9.9%	48	7.1%	226	10.6%	32	4.7%
Tuxedo Park village	545	34	6.2%	6	5.3%	20	6.8%	8	5.8%
Wallkill town	28,588	3,277	11.5%	984	16.4%	1,972	11.1%	321	7.2%

Table 10 (Continued)

Geographic Area	Total Population	Population Living in Poverty		Population Living in Poverty by Age Group					
		#	%	<18		18-64		65+	
				#	%	#	%	#	%
Warwick town	31,217	1,251	4.0%	157	2.4%	789	4.2%	305	5.3%
Florida village	2,866	91	3.2%	40	5.8%	41	2.4%	10	2.2%
Greenwood Lake village	3,091	104	3.4%	0	0.0%	104	5.3%	0	0.0%
Warwick village	6,785	341	5.0%	30	2.5%	222	6.0%	89	5.1%
Wawayanda town	7,268	828	11.4%	247	14.0%	537	11.8%	44	4.6%
Woodbury town	11,570	1,004	8.7%	534	18.1%	323	4.3%	113	7.8%
Woodbury village	10,810	941	8.7%	534	19.4%	294	4.4%	113	8.2%

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table B17001
https://data.census.gov/table?q=b17001&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750&tid=ACSDT5Y2019.B17001

Table 11

Orange County Housing Unit Ages by Municipality, 2015-2019 5-Year Estimates

Geographic Area	Total Housing Units	Year Structure Built						
		2010 or later	2000-2009	1990-1999	1980-1989	1970-1979	1950-1969	1949 or earlier
Orange County	**143,252**	**5,544**	**16,313**	**15,706**	**18,432**	**19,242**	**29,730**	**38,915**
Blooming Grove town	6,822	36	781	637	1,186	1,396	1,658	1,128
South Blooming Grove village	1,337	10	22	39	62	469	661	74
Washingtonville village	2,126	10	284	319	680	456	258	119
Chester town	4,397	63	495	778	957	620	885	599
Chester village	1,786	99	21	98	498	213	292	565
Cornwall town	5,094	148	391	522	463	531	1,212	1,827
Cornwall-on-Hudson village	1,151	21	16	68	65	40	230	711
Crawford town	3,494	61	611	671	667	407	348	729
Deerpark town	3,413	37	442	401	755	260	823	695
Goshen town	4,834	157	565	612	470	825	1,039	1,166
Goshen village	2,599	106	203	320	371	354	539	706
Greenville town	1,594	151	304	184	335	221	201	198
Hamptonburgh town	1,777	7	242	320	273	296	360	279
Highlands town	3,705	95	439	201	217	453	607	1,693
Highland Falls village	1,828	46	18	49	128	171	474	942
Middletown city	11,704	614	1,050	736	1,107	1,668	2,006	4,523
Minisink town	1,626	34	393	163	184	254	148	450
Unionville village	244	22	35	9	15	20	22	121

Table 11 (Continued)

Geographic Area	Total Housing Units	Year Structure Built						
		2010 or later	2000-2009	1990-1999	1980-1989	1970-1979	1950-1969	1949 or earlier
Monroe town	6,793	214	814	584	1,153	1,089	1,364	1,575
Harriman village (total)*	1,174	41	129	67	482	140	70	245
Monroe village	2,793	56	271	408	351	518	691	498
Montgomery town	9,074	449	1,002	913	1,044	1,239	1,742	2,685
Maybrook village	1,654	94	109	149	293	394	272	343
Montgomery village	1,723	45	281	351	183	310	167	386
Walden village	2,721	77	327	321	32	197	515	1,252
Mount Hope town	2,070	10	229	269	290	347	278	647
Otisville village	542	0	47	39	62	57	76	261
Newburgh city	12,204	54	189	263	329	937	2,306	8,126
Newburgh town	12,109	554	1,376	1,508	1,530	1,156	4,187	1,798
New Windsor town	10,660	639	1,451	1,088	1,682	1,612	2,894	1,294
Palm Tree town	4,443	865	1,337	1,066	740	286	45	104
Kiryas Joel village	4,443	865	1,337	1,066	740	286	45	104
Port Jervis city	4,265	17	223	219	166	222	718	2,700
Tuxedo town	1,636	18	233	196	103	197	267	622
Tuxedo Park village	373	7	17	2	21	24	15	287
Wallkill town	11,800	742	1,740	1,409	1,673	2,609	2,190	1,437
Warwick town	13,038	285	940	1,485	1,978	1,582	3,207	3,561
Florida village	1,085	65	31	147	143	148	261	290
Greenwood Lake village	1,487	0	0	0	98	137	672	580
Warwick village	3,084	220	341	326	504	353	307	1,033
Wawayanda town	2,718	187	418	311	408	431	447	516
Woodbury town	3,982	107	648	540	722	604	798	563
Woodbury village	3,760	102	609	512	716	564	771	486

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*

Note: Town totals include village totals.

Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table DP04
https://data.census.gov/table?q=dp04&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750&tid=ACSDP5Y2019.DP04

Table 12

Orange County Cars Available per Household by Municipality, 2015-2019 5-Year Estimates					
Geographic Area	**Total Households**	**Vehicles Available by Household**			
		0	**1**	**2**	**3+**
Orange County	**128,016**	**12,535**	**39,753**	**46,187**	**29,541**
Blooming Grove town	6,063	344	1,499	2,721	1,499
South Blooming Grove village	1,085	12	332	505	236
Washingtonville village	2,064	240	672	913	324
Chester town	4,011	245	996	1,580	1,190
Chester village	1,569	186	527	483	373
Cornwall town	4,601	185	1,396	1,798	1,222
Cornwall-on-Hudson village	1,090	22	315	571	182
Crawford town	3,221	135	729	1,275	1,082
Deerpark town	2,941	172	986	1,082	701
Goshen town	4,323	359	1,146	1,470	1,348
Goshen village	2,037	242	709	680	406
Greenville town	1,471	10	275	639	547
Hamptonburgh town	1,562	5	217	675	665
Highlands town	3,217	176	1,042	1,537	462
Highland Falls village	1,595	154	669	484	288
Middletown city	10,447	1,612	4,081	3,129	1,625
Minisink town	1,378	0	268	585	525
Unionville village	199	0	63	81	55
Monroe town	6,164	480	1,628	2,465	1,591
Harriman village (total)*	1,051	54	409	468	120
Monroe village	2,552	317	677	934	624
Montgomery town	8,224	407	2,616	3,200	2,001
Maybrook village	1,351	101	575	397	278
Montgomery village	1,622	80	657	605	280
Walden village	2,219	132	724	1,005	358
Mount Hope town	1,714	28	326	696	664
Otisville village	388	8	91	188	101
Newburgh city	9,967	3,196	4,074	1,966	731
Newburgh town	11,111	413	2,840	4,404	3,454
New Windsor town	9,893	658	3,195	3,819	2,221
Palm Tree town	4,180	1,871	2,202	92	15
Kiryas Joel village	4,169	1,871	2,191	92	15
Port Jervis city	3,713	618	1,610	1,193	292
Tuxedo town	1,398	62	409	565	362
Tuxedo Park village	222	0	65	92	65
Wallkill town	10,791	743	3,576	4,097	2,345

Table 12 (Continued)

Geographic Area	Total Households	Vehicles Available by Household			
		0	1	2	3+
Warwick town	11,482	579	3,278	4,638	3,127
Florida village	1,038	47	242	477	272
Greenwood Lake village	1,238	12	381	655	190
Warwick village	2,996	274	1,230	1,002	490
Wawayanda town	2,487	136	567	1,054	730
Woodbury town	3,547	101	797	1,507	1,142
Woodbury village	3,328	90	758	1,365	1,115

*: *The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table S2504
https://data.census.gov/table?q=s2504&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750

Table 13

Orange County Households Without Internet Service by Municipality			
Geographic Area	**Total Households**	**Households Without Internet Service**	
		#	%
Orange County	**128,016**	**25,241**	**19.7%**
Blooming Grove town	6,063	959	15.8%
South Blooming Grove village	1,085	178	16.4%
Washingtonville village	2,064	514	23.9%
Chester town	4,011	375	9.3%
Chester village	1,569	187	11.9%
Cornwall town	4,601	565	12.3%
Cornwall-on-Hudson village	1,090	116	10.6%
Crawford town	3,221	480	14.9%
Deerpark town	2,941	732	24.9%
Goshen town	4,323	797	18.4%
Goshen village	2,037	554	27.2%
Greenville town	1,471	132	9.0%
Hamptonburgh town	1,562	106	6.8%
Highlands town	3,217	314	9.8%
Highland Falls village	1,595	247	15.5%
Middletown city	10,447	3,609	34.5%
Minisink town	1,378	98	7.1%
Unionville village	199	23	11.6%
Monroe town	6,164	747	12.1%
Harriman village (total)*	1,051	134	12.7%
Monroe village	2,552	376	14.7%

Table 13 (Continued)

Geographic Area	Total Households	Households Without Internet Service	
		#	%
Montgomery town	8,224	1,170	14.2%
Maybrook village	1,351	200	14.8%
Montgomery village	1,622	262	16.2%
Walden village	2,219	388	17.5%
Mount Hope town	1,714	225	13.1%
Otisville village	388	25	6.4%
Newburgh city	9,967	3,363	33.7%
Newburgh town	11,111	1,159	10.4%
New Windsor town	9,893	1,316	13.3%
Palm Tree town	4,180	3,448	82.5%
Kiryas Joel village	4,169	3,437	82.4%
Port Jervis city	3,713	997	26.9%
Tuxedo town	1,398	143	10.2%
Tuxedo Park village	222	14	6.3%
Wallkill town	10,791	2,372	22.0%
Warwick town	11,482	1,456	12.5%
Florida village	1,038	100	9.6%
Greenwood Lake village	1,238	123	9.9%
Warwick village	2,996	696	23.2%
Wawayanda town	2,487	406	16.3%
Woodbury town	3,547	272	7.7%
Woodbury village	3,328	257	7.7%

**: The Village of Harriman population is included entirely within the Town of Monroe for this Table.*
Note: Town totals include village totals.
Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 5-Year Estimates, Table B28004
https://data.census.gov/table?q=B28004&g=0500000US36071_0600000US3607107003,3607115308,3607118300,3607118916,3607119961,3607129553,3607130631,3607131907,3607134550,3607147042,3607147713,3607147999,3607148153,3607148857,3607150034,3607150045,3607150848,3607156185,3607159388,3607175781,3607177992,3607178366,3607178839,3607182755_1600000US3615297,3618333,3629542,3630752,3632325,3634495,3639853,3646162,3647988,3648142,3655673,3668610,3675803,3676210,3677849,3678355,3678465,3682750&tid=ACSDT5Y2019.B28004

Table 14

Population Served by Orange County Department of Social Services, 2017-2019			
Human Services	**2017**	**2018**	**2019**
Number of Children Protective Services reports (children under age 18)	4,233	3,980	3,992
Children in care (mo. average)	392	402	371
Number of families receiving preventive services	292	238	233
Children discharged to adoption	34	43	37
Average number of youths receiving Persons in Need of Supervision (PINS)/Juvenile Detention (JD) Prevention Services per month	175	179	194
Economic Independence			
Temporary Assistance (TA) applications filed	6,718	6,725	6,973
TA cases (end of year)	2,111	1 ,821	1,700
TA recipients (end of year)	4,127	3,468	3,205
-Family Assistance (FA) cases (end of year)	917	777	721
-Safety Net Assistance (SNA) cases (end of year)	1,194		979
Home Energy Assistance Program (HEAP) payments	20,486	23,416	21,245
Medicaid applications filed	6,323	6,310	6,720
Medicaid only (MA) cases (end of year)	10,890	10,912	10,507
Family Health Plus (FHP) cases (end of year) (incl. in MA only cases)	0	0	0
SNAP cases (end of year)	16,948	15,992	15,699
Employment of TA recipients (via Employment & Training Adm.)	1,123	1,098	957
Homeless applicants/cases	4,409	5,128	3,845
Cases diverted to other housing remedies or ineligible	3,499	4,209	2,762
Homeless cases (mo. Average)			
Temporarily housed at emergency housing shelter (mo. average for families and singles combined)	56	57	52
Temporarily housed at hotel/motel (mo. average for families and singles combined)	27	53	40
Temporarily housed in transitional housing-Project Life (mo. average)	15	15	15
Administrative Division			
Child Support cases (end of year)	13,282	12,555	12,023
Child Support total collected	$41.5 mil	$41.9 mil	$42.6 mil
DSS cases with substantiated fraud (Special Investigation results)	767	594	649
Child Care Subsidy Cases (mo. average)	525	500	508

Note: All end of year figures equal the amounts on December 31st of the indicated year. All counts have been rounded to the nearest whole number. Dollar amounts have been rounded to the nearest tenth.
Source: Orange County Department of Social Services, 2019

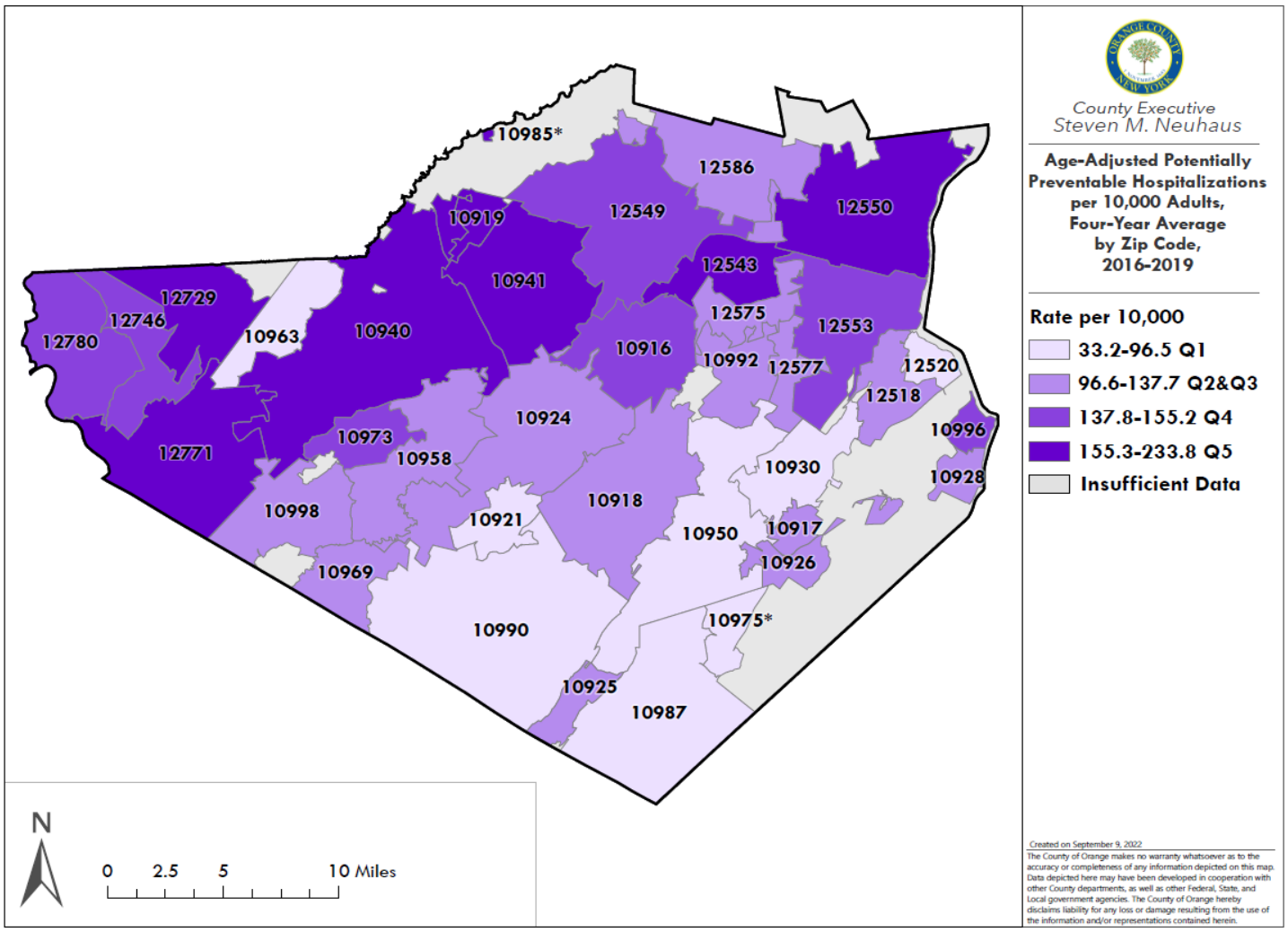
PROMOTE EQUITY ACROSS THE LIFESPAN

POTENTIALLY PREVENTABLE HOSPITALIZATIONS

Potentially preventable hospitalizations are hospital admissions for acute illnesses or chronic conditions that may have been avoided with timely and quality preventative care. Measuring potentially preventable hospitalizations is an indicator of health system efficiency. Not all hospital admissions can be avoided, but they vary depending on primary care access, utilization, and quality. Inequities in potentially preventable hospitalizations have been shown by race/ethnicity and income.[9] In Orange County, there was four-year average of 139.5 potentially preventable hospitalizations per 10,000 adults (age-adjusted) from 2016 to 2019, and the rate differed by ZIP code [see Figure 6]. The ZIP codes with the highest rates of potentially preventable hospitalizations are represented by the darkest shade of purple, with 12771 having the highest age-adjusted rate of 233.8 per 10,000 adults.

[9] Centers for Disease Control and Prevention, 2013, https://www.cdc.gov/mmwr/preview/mmwrhtml/su6203a23.htm, accessed October 2022

Figure 6



ZIP Code	Rate per 10,000	ZIP Code	Rate per 10,000	ZIP Code	Rate per 10,000
10916	147.1	**10958**	136.7	**12543**	186.8
10917	118.5	**10963**	96.4	**12549**	138.4
10918	105.5	**10969**	98.3	**12550**	177.1
10919	155.4	**10973**	150.1	**12553**	140.3
10921	95.6	**10975**	33.2*	**12575**	117.8
10924	136.2	**10985**	223.6*	**12577**	102.9
10925	122.4	**10987**	75.6	**12586**	135.4
10926	119.1	**10990**	89.1	**12729**	193.6
10928	129.8	**10992**	111.4	**12746**	154.2
10930	81.3	**10996**	148.8	**12771**	233.8
10940	198.8	**10998**	97.1	**12780**	151.6
10941	186.1	**12518**	99.2		
10950	95.9	**12520**	75.2		

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=mp&ind_id=pa2_0%20&cos=33

MORTALITY

LEADING CAUSES OF DEATH

Table 15 lists the top five causes of mortality in Orange County, as well as New York State (NYS) and New York State excluding New York City (NYS excl NYC). In 2019, the leading cause of death in both Orange County and NYS was heart disease. The second leading cause of death in Orange County was cancer, followed by unintentional injury, chronic lower respiratory disease (CLRD), and Alzheimer's disease. Leading causes of death differ by age. For example, accidents are the leading cause of death for those aged less than 45 years, whereas malignant neoplasms and diseases of the heart take over as the leading causes for those aged 45 and older. Cause of death also differs by gender. Deaths from accidents and heart disease are consistently more common among males than females, and malignant neoplasms are more common among females. See Table 16 and Table 17 for a breakdown of the leading causes of death raked within age groups, by gender.

Table 15

Top Five Leading Causes of Death in Orange County and NYS, 2019 (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
Orange		**Heart Disease**	**Cancer**	**Unintentional Injury**	**CLRD**	**Alzheimer's**
	No.: 2,773	No.: 636	No.: 621	No.: 164	No.: 144	No.: 112
	Rate: 675.2	Rate: 154.7	Rate: 145.6	Rate: 43.9	Rate: 34.5	Rate: 28.0
NYS excl NYC		**Heart Disease**	**Cancer**	**CLRD**	**Unintentional Injury**	**Stroke**
	No.: 102,334	No.: 25,602	No.: 21,782	No.: 5,255	No.: 4,832	No.: 4,225
	Rate: 673.5	Rate: 161.3	Rate: 143.1	Rate: 33.7	Rate: 39.6	Rate: 27.0
NYS		**Heart Disease**	**Cancer**	**Unintentional Injury**	**CLRD**	**Stroke**
	No.: 156,405	No.: 43,472	No.: 33,418	No.: 7,308	No.: 7,065	No.: 6,125
	Rate: 622.4	Rate: 167.1	Rate: 133.6	Rate: 33.8	Rate: 27.7	Rate: 23.9

Note: Ranks are based on numbers of deaths, then on mortality rates.
Source: NYSDOH Vital Statistics, 2022
https://apps.health.ny.gov/public/tabvis/PHIG_Public/lcd/reports/#state
https://apps.health.ny.gov/public/tabvis/PHIG_Public/lcd/reports/#county

Table 16

Number of Deaths from Leading Causes by Gender in Orange County, 2016-2019

Cause of Death	Number of Deaths		
	Male	Female	Total
All Causes	**5,464**	**5,375**	**10,839**
Disease of the heart	1,345	1,225	2,570
Malignant Neoplasms	1,210	1,237	2,447
Accident	483	205	688
COPD/CLRD	259	312	571
Cerebrovascular disease	175	232	407
Alzheimer's Disease	124	267	391
Dementia	111	272	383
Diabetes	136	127	263
Pneumonia	122	138	260
Septicemia	102	134	236
Suicide	115	25	140
Cirrhosis of liver	80	42	122
Other	1,202	1,159	2,361

COPD: Chronic Obstructive Pulmonary Disease
Note: 2018-2019 data does not include Orange County deaths recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and the NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Table 17

Number of Deaths from Leading Causes, Ranked within Age Groups by Gender in Orange County, 2016-2019

Age	Cause of Death	Number of Deaths			Age	Cause of Death	Number of Deaths		
		Male	Female	Total			Male	Female	Total
<10	**All Causes**	**40**	**34**	**83**	**45-54**	**All Causes**	**361**	**243**	**604**
	Total Accidents	s	s	s		Malignant Neoplasms	76	101	177
	Extreme Immaturity of Newborn	s	s	s		Diseases of the Heart	77	29	106
	Malignant Neoplasms	s	s	s		Total Accidents	62	25	87
	Unknown Cause	s	s	s		Suicide	27	s	31
	Condition Perinatal Period	0	s	s		Cirrhosis of the liver	14	s	17
	SIDS	s	0	s		Diabetes	10	s	16
	Cerebrovascular	s	s	s		COPD/CLRD	s	s	13
	Other	27	23	50		Pneumonia	s	s	12
						Cerebrovascular	s	s	10
						Septicemia	s	s	s
						Homicide	s	s	s
						Other	72	50	122
10-19	**All Causes**	**29**	**20**	**49**	**55-64**	**All Causes**	**815**	**560**	**1375**
	Total Accidents	12	s	14		Malignant Neoplasms	218	253	471
	Homicide	s	s	s		Diseases of the Heart	184	83	267
	Suicide	s	s	s		Total Accidents	70	23	93
	Malignant Neoplasms	s	s	s		Cirrhosis of the liver	33	14	47
	Cerebrovascular	s	0	s		COPD/CLRD	25	21	46
	Pneumonia	0	s	s		Diabetes	25	15	40
	Other	11	12	23		Suicide	29	s	35
						Cerebrovascular Disease	19	12	31
						Septicemia	14	17	31
						Pneumonia	13	11	24
						Other	185	105	290
20-24	**All Causes**	**66**	**21**	**87**	**65-74**	**All Causes**	**1125**	**858**	**1983**
	Total Accidents	37	s	45		Malignant Neoplasms	387	311	698
	Suicide	s	s	10		Diseases of the Heart	262	160	422
	Homicide	s	s	s		COPD/CLRD	66	78	144
	Malignant Neoplasms	s	s	5		Total Accidents	39	26	65
	COPD/CLRD	s	0	s		Cerebrovascular Disease	31	27	58
	Diseases of the Heart	s	0	s		Diabetes	37	18	55
	Other	12	s	19		Pneumonia	24	20	44
						Septicemia	21	21	42
						Alzheimer's/Dementia	23	22	45
						Cirrhosis of the Liver	16	s	23
						Suicide	15	s	19
						Other	204	164	368

Table 17 (Continued)

Age	Cause of Death	Number of Deaths		
		Male	Female	Total
25-34	**All Causes**	**190**	**65**	**255**
	Total Accidents	130	24	154
	Suicide	16	s	18
	Malignant Neoplasms	s	s	12
	Diseases of the Heart	s	s	11
	Homicide and Legal Intervention	s	0	s
	Diabetes	s	0	s
	Septicemia	0	s	s
	COPD/CLRD	0	s	s
	Substance Abuse	0	s	s
	Other	23	24	47
35-44	**All Causes**	**177**	**116**	**293**
	Total Accidents	72	27	99
	Malignant Neoplasms	12	39	51
	Diseases of the Heart	19	11	30
	Suicide	12	s	17
	Homicide/Legal	s	s	10
	Diabetes	s	s	s
	Cirrhosis of the Liver	s	s	s
	Septicemia	s	s	s
	Cerebrovascular	s	s	s
	Pneumonia	0	s	s
	Other	38	26	64

Age	Cause of Death	Number of Deaths		
		Male	Female	Total
75-84	**All Causes**	**1319**	**1253**	**2572**
	Malignant Neoplasms	308	314	622
	Diseases of the Heart	347	263	610
	COPD/CLRD	74	90	164
	Cerebrovascular Disease	62	78	140
	Alzheimer's	43	53	96
	Dementia	31	55	86
	Pneumonia	39	29	68
	Diabetes	34	34	68
	Septicemia	33	35	68
	Total Accidents	33	27	60
	Other	315	275	590
85+	**All Causes**	**1342**	**2205**	**3547**
	Diseases of the Heart	450	672	1122
	Malignant Neoplasms	197	206	403
	Dementia	68	205	273
	Alzheimer's	65	200	265
	COPD/CLRD	87	115	202
	Cerebrovascular Disease	55	107	162
	Pneumonia	40	70	110
	Septicemia	26	54	80
	Diabetes	22	53	75
	Total Accidents	24	38	62
	Other	308	485	793

SIDS: Sudden Infant Death Syndrome
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County deaths recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and the NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

ALL-CAUSE MORTALITY

When considering all causes of death, Orange County had an average crude mortality rate of 723.2 per 100,000 population from 2016 to 2019. The age-adjusted all-cause mortality rate in Orange County exceeded that of NYS excluding NYC [see Figure 7]. Unsurprisingly, all-cause mortality tends to increase with age, with the exception of infants having a higher mortality rate than children and young adults. [see Table 18]. When stratifying by race/ethnicity, the age-adjusted all-cause mortality rate is highest for the non-Hispanic Black population and lowest for the non-Hispanic Asian/Pacific Islander population [see Figure 7]. When stratifying by gender, males have a higher age-adjusted mortality rate than females [see Figure 9]. Age-adjusted data is unavailable by ZIP code, but of the major metropolitan areas in the county, those who live in 12771 suffer the highest crude all-cause mortality rates in the county, followed by those who live in 10940. This trend has remained consistent over time [see Table 18, Figure 8].

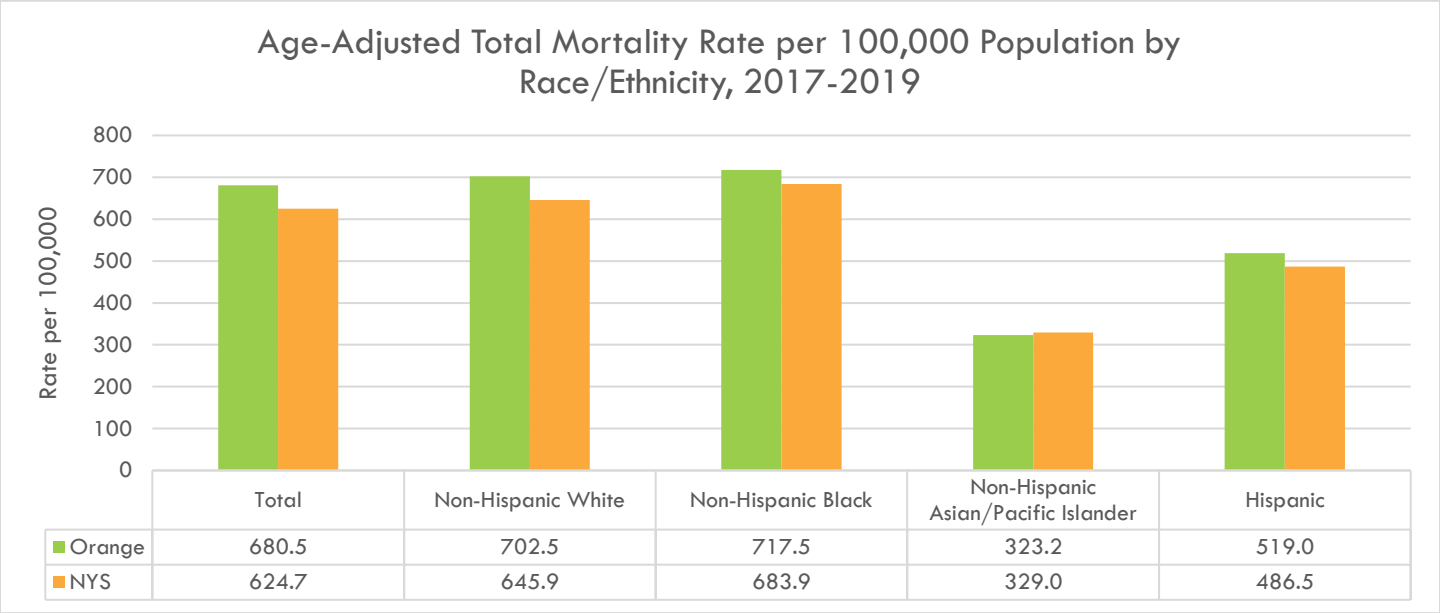
Table 18

All-Cause Mortality Rate per 100,000 Population by Age, Race/Ethnicity, and ZIP Code 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	2765	734.9	2743	725.3	2754	728.1	2677	704.3	10,939	723.2
NYS excl NYC	98,974	880.9	100,587	895.0	101,494	908.2	101,132	906.8	402,187	897.7
Age Intervals										
<1	24	504.2	15	308.3	16	362.2	15	332.4	70	376.8
1-9	27	56.4	13	27.6	19	40.4	15	31.7	74	39.0
10-19	13	22.9	12	21.0	17	29.8	7	12.3	49	21.5
20-24	18	62.9	21	73.0	18	62.6	30	104.8	87	75.8
25-34	51	121.3	74	172.6	70	162.0	60	136.4	255	148.1
35-44	85	182.1	72	156.5	68	150.3	68	150.7	293	159.9
45-54	166	294.5	153	274.5	153	280.3	132	246.4	604	273.9
55-64	351	764.4	361	771.1	330	695.6	333	691.6	1375	730.7
65-74	535	1939.6	513	1780.3	484	1623.9	451	1470.8	1983	1703.6
75-84	603	4661.8	641	4783.2	665	4727.0	663	4560.1	2572	4683.0
85+	892	13387.4	868	12774.1	914	13892.7	873	12937.2	3547	13247.8
Race/Ethnicity										
Non-Hispanic White	2,259	909.6	2,229	901.5	2,254	917.7	2,130	872.3	8,872	900.3
Non-Hispanic Black	245	690.6	213	582.1	246	660.5	233	613.3	937	636.6
Hispanic	208	285.4	237	317.5	223	294.6	232	297.9	900	298.8
Other	53	271.2	64	325.3	31	157.6	82	409.3	230	290.8
ZIP Code										
10940	401	815.1	395	794.9	395	805.0	414	862.1	1605	819.3
10950	174	350.0	195	386.9	167	328.1	162	317.8	698	345.7
12550	426	780.0	393	715.4	395	718.3	412	747.1	1,626	740.2
12771	151	1073.9	151	1063.3	161	1091.0	151	1021.1	614	1062.3

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 years and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

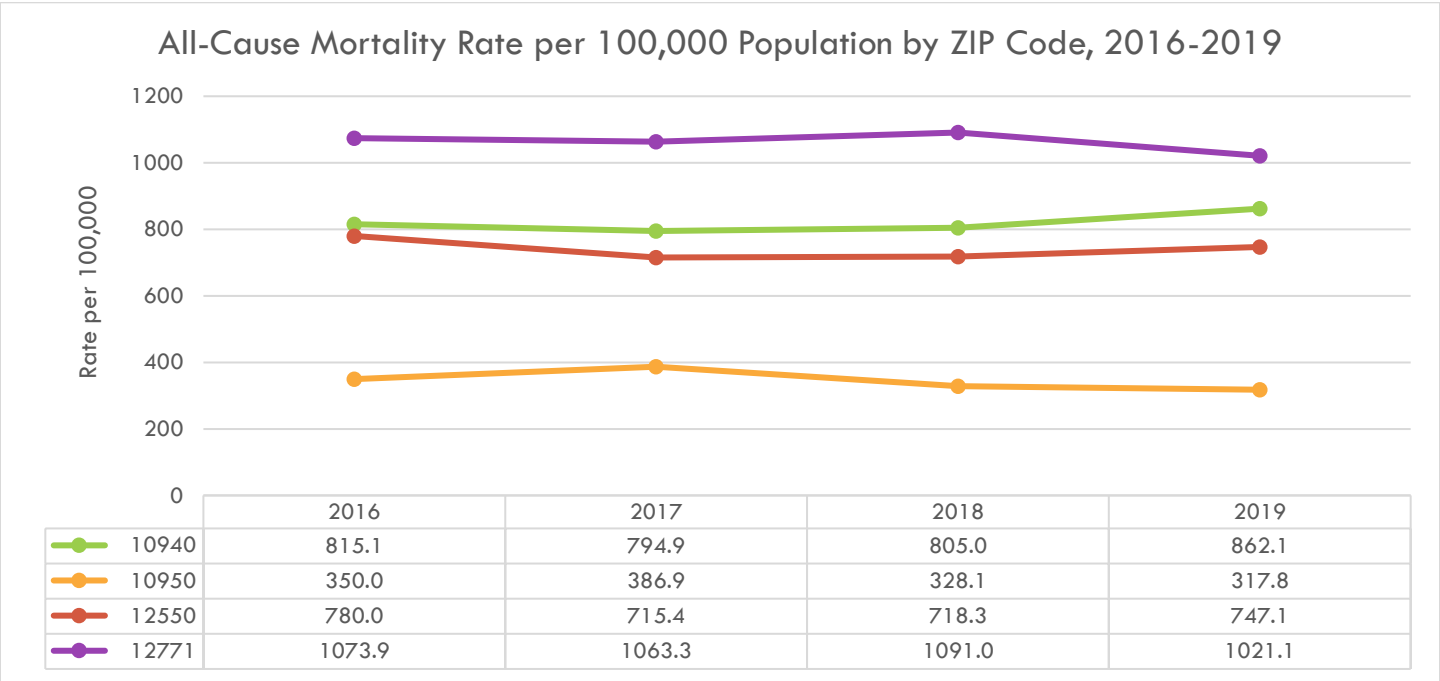
Figure 7



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	680.5	702.5	717.5	323.2	519.0
NYS	624.7	645.9	683.9	329.0	486.5

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

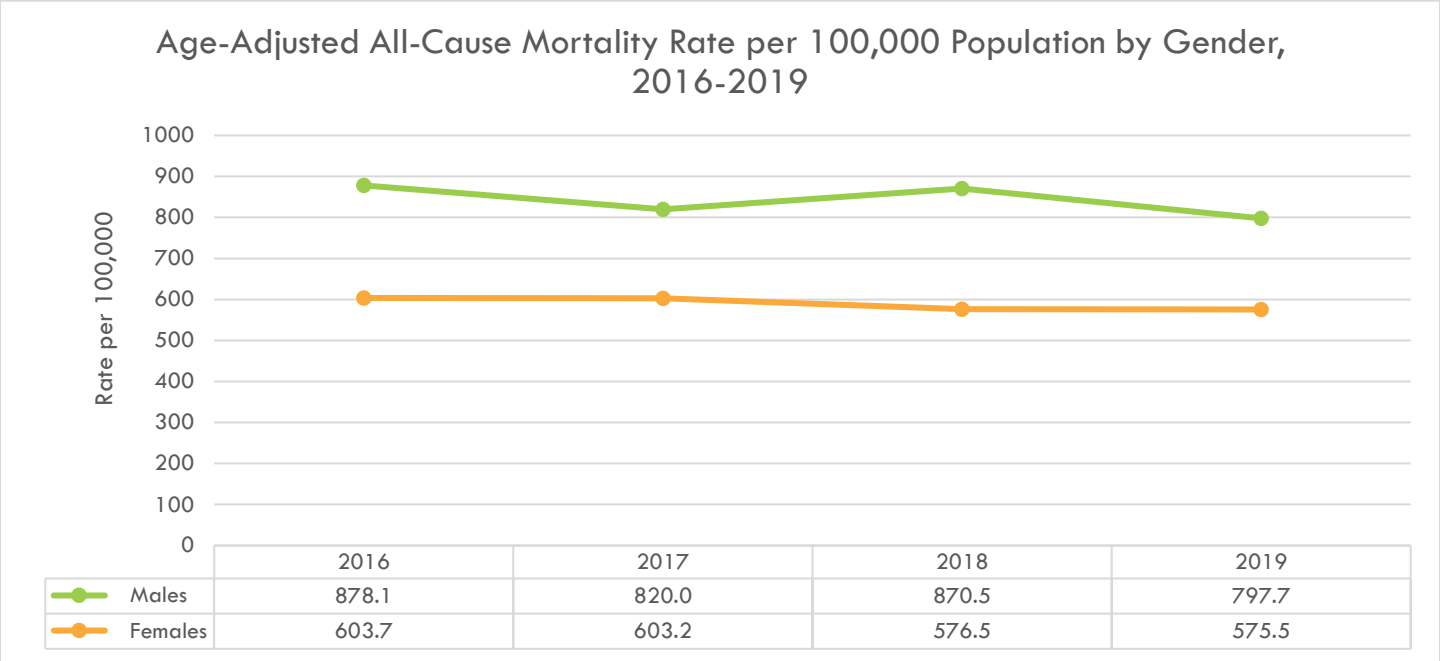
Figure 8



	2016	2017	2018	2019
10940	815.1	794.9	805.0	862.1
10950	350.0	386.9	328.1	317.8
12550	780.0	715.4	718.3	747.1
12771	1073.9	1063.3	1091.0	1021.1

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates except for the age intervals <1 years and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 9



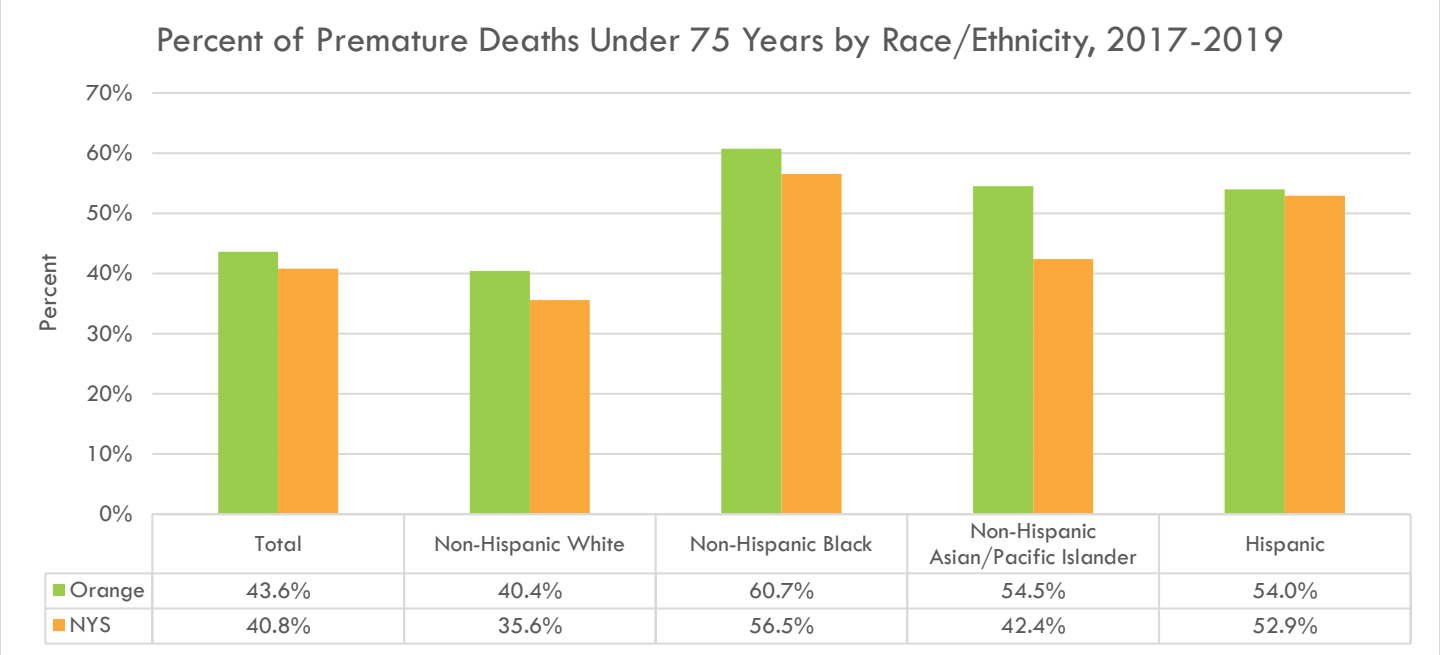
	2016	2017	2018	2019
Males	878.1	820.0	870.5	797.7
Females	603.7	603.2	576.5	575.5

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates and the US 2000 standard population.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

PREMATURE DEATH

The percentage of premature deaths for those younger than 75 years of age in Orange County was 43.6% from 2017-2019, which is slightly higher than the total NYS rate of 40.8%. When stratifying across race/ethnicity, non-Hispanic Black populations face the largest percentage of premature deaths, followed by non-Hispanic Asian/Pacific Islander and Hispanic populations [see Figure 10]. Figure 11 displays premature death by minor civil division (MCD). The MCDs with the highest percentages of premature death are shaded in red, with 50034 suffering the highest percentage of 42.7%.

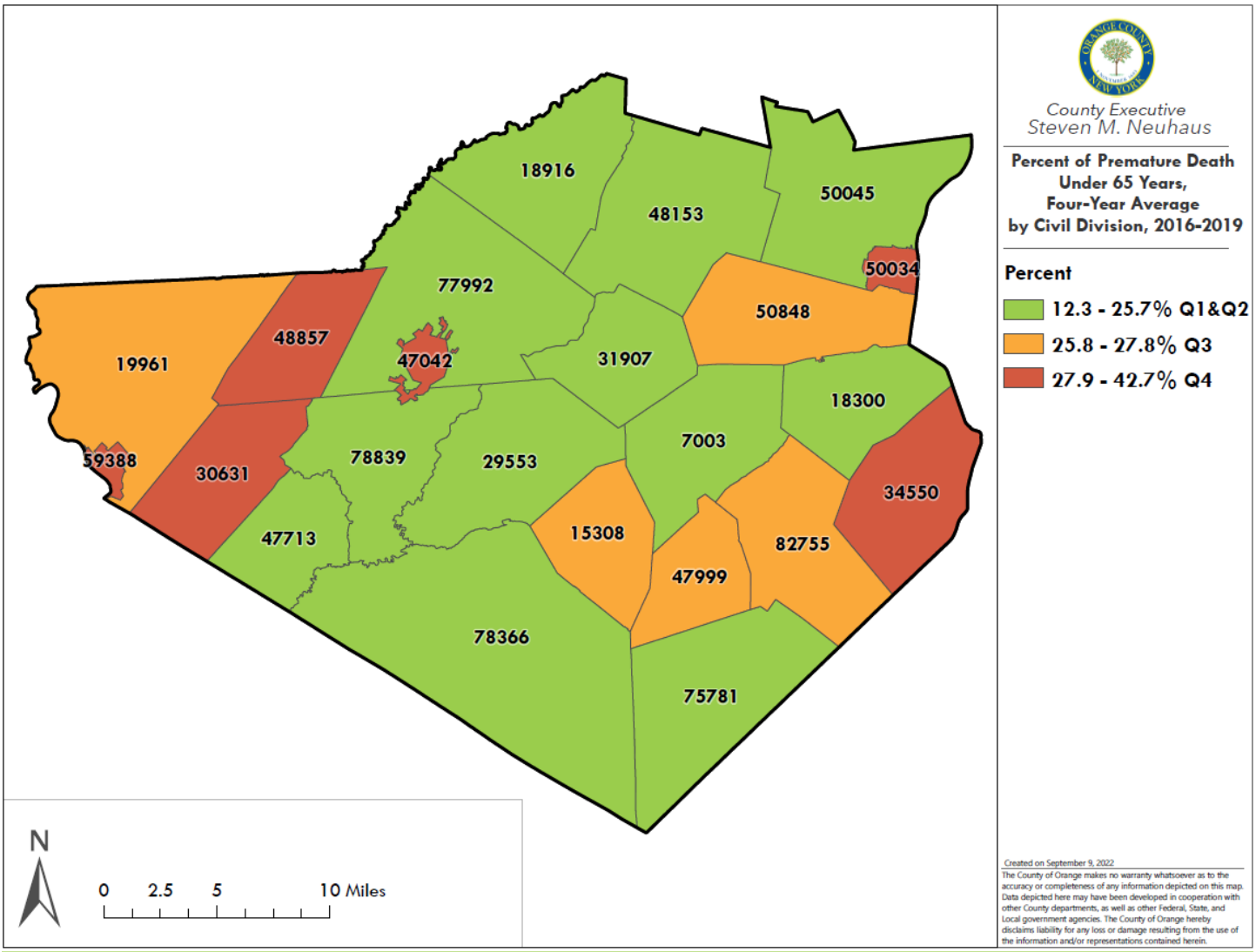
Figure 10



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	43.6%	40.4%	60.7%	54.5%	54.0%
NYS	40.8%	35.6%	56.5%	42.4%	52.9%

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

Figure 11



MCD Number	MCD Name	Percent	MCD Number	MCD Name	Percent
7003	Blooming Grove town	24.6%	**48153**	Montgomery town	25.7%
15308	Chester town	25.9%	**48857**	Mount Hope town	31.7%
18300	Cornwall town	21.1%	**50034**	Newburgh city	42.7%
18916	Crawford town	22.7%	**50045**	Newburgh town	24.4%
19961	Deerpark town	26.0%	**50848**	New Windsor town	26.5%
29553	Goshen town	12.3%	**59388**	Port Jervis city	29.5%
30631	Greenville town	29.3%	**75781**	Tuxedo town	16.7%
31907	Hamptonburgh town	22.6%	**77992**	Wallkill town	24.3%
34550	Highlands town	29.0%	**78366**	Warwick town	22.3%
47042	Middletown city	31.4%	**78839**	Wawayanda town	24.7%
47713	Minisink town	22.1%	**82755**	Woodbury town	26.1%
47999	Monroe town	26.2%			

Source: NYSDOH Community Health Indicator Reports (CHIRS), 2022
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=%2FEBI%2FPHIG%2Fapps%2Fdashboard%2Fpa_dashboard&p=mp&ind_id=pa1_0&cos=33

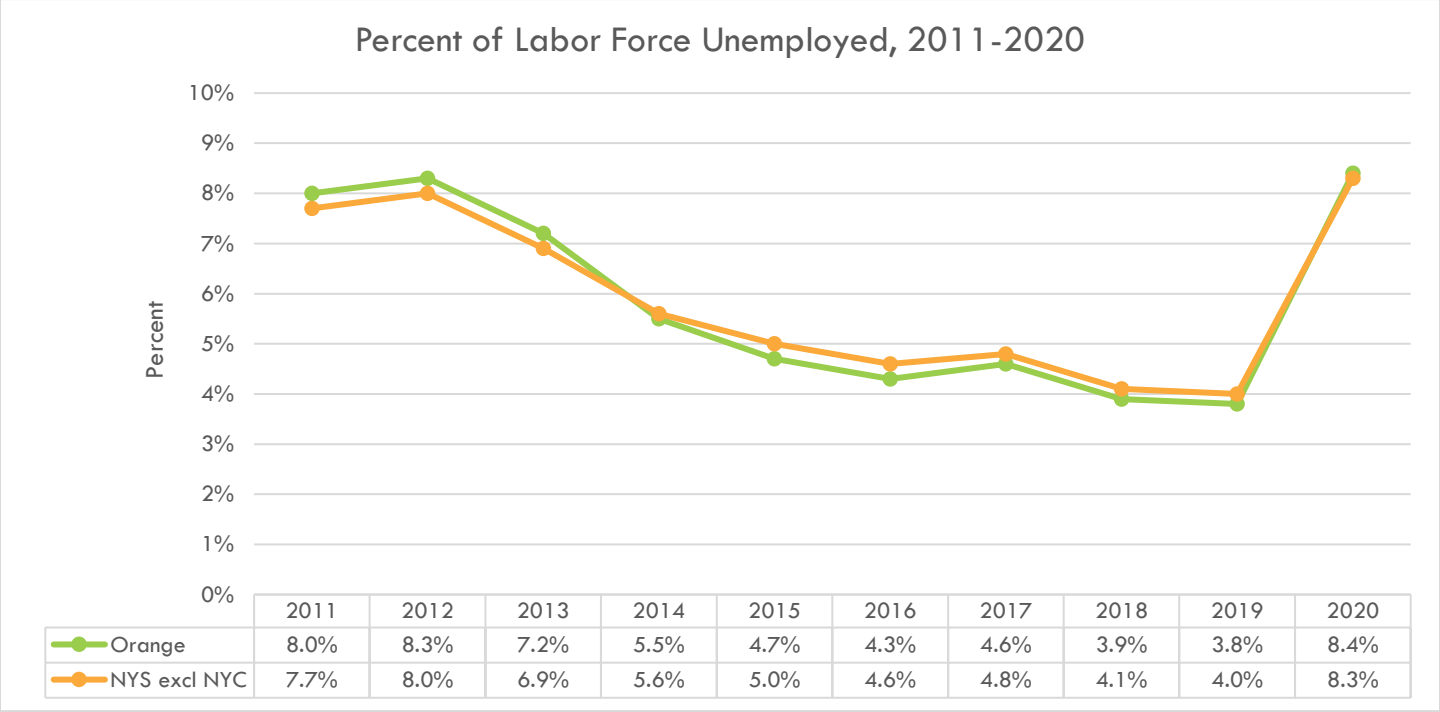
ECONOMIC STABILITY

EMPLOYMENT

Occupation and employment affect 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.[10]

Unemployment rates in Orange County saw an overall decrease from 2011 to 2019, dropping from 8.0% to 3.8%. In 2020, the unemployment rate increased dramatically to 8.4%, the highest it had been in the past decade. Unemployment in NYS excluding NYC followed the same trend over time [see Figure 12].

Figure 12



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Orange	8.0%	8.3%	7.2%	5.5%	4.7%	4.3%	4.6%	3.9%	3.8%	8.4%
NYS excl NYC	7.7%	8.0%	6.9%	5.6%	5.0%	4.6%	4.8%	4.1%	4.0%	8.3%

Note: Single-year estimates for both Orange County and NYS excl NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ng97&cos=33

[10] Robert Wood Johnson Foundation, 2013, https://www.rwjf.org/en/library/research/2012/12/how-does-employment--or-unemployment--affect-health-.html, accessed July 2022

POVERTY

The US Census Bureau defines a family, and every individual in it, as being in poverty when their income is less than the family's threshold.[11] See Table 19 for the defined thresholds, which do not vary geographically.

Table 19

Poverty Threshold for 2020 by Size of Family and Number of Related Children Under 18 Years

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	$13,465								
Aged 65 and older	$12,413								
Two people:									
Householder under age 65	$17,331	$17,839							
Householder aged 65 and older	$15,644	$17,771							
Three people	$20,244	$20,832	$20,852						
Four people	$26,695	$27,131	$26,246	$26,338					
Five people	$32,193	$32,661	$31,661	$30,887	$30,414				
Six people	$37,027	$37,174	$36,408	$35,674	$34,582	$33,935			
Seven people	$42,605	$42,871	$41,954	$41,314	$40,124	$38,734	$37,210		
Eight people	$47,650	$48,071	$47,205	$46,447	$45,371	$44,006	$42,585	$42,224	
Nine people or more	$57,319	$57,597	$56,831	$56,188	$55,132	$53,679	$52,366	$52,040	$50,035

Source: U.S. Census Bureau; Poverty Thresholds by Size of Family and Number of Children, 2020
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 less likely to have access to healthcare, stable housing, healthy food, and opportunities for physical activity. Such disparities put people in poverty at an increased risk of chronic and mental health conditions, mortality, and lower life expectancies.[12]

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

In 2020, an estimated 11.4% of people in Orange County were in poverty. Despite Orange County's overall poverty rate being slightly lower than that of NYS and the US, there were large disparities between racial/ethnic groups in the county. Native Hawaiian/Other Pacific Islander populations faced the highest rate of poverty at 27.3%. American Indian/Alaska Native populations had the lowest poverty rate (6.7%), much lower than the poverty status rate for American Indian/Alaska Native populations statewide and nationally (22.6% and 24.1%, respectively). Family poverty status follows a similar trend. Native Hawaiian/Other Pacific Islander populations had the highest percentage of families with poverty status in Orange County, while American Indian/Alaska Native families had the lowest [see Figure 13, Figure 14].

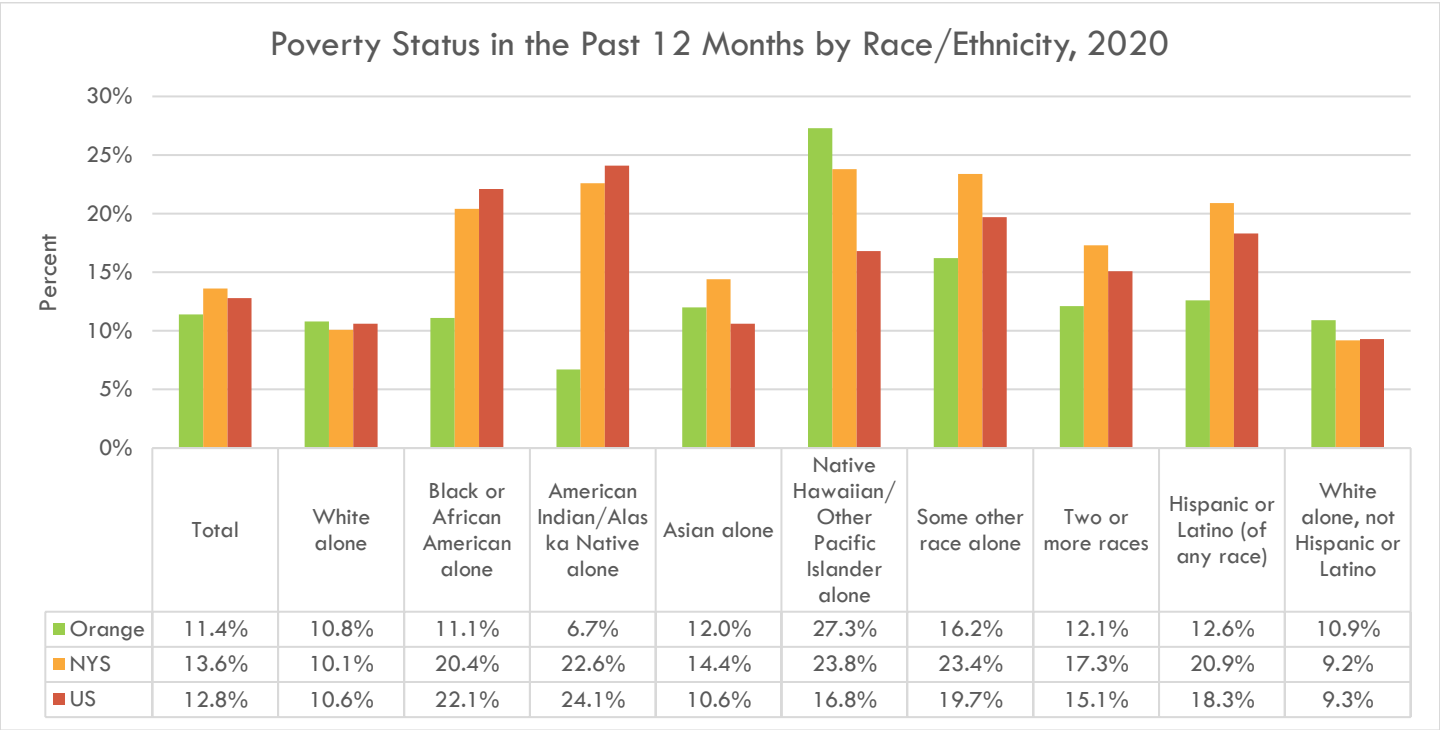
[11] U.S. Census Bureau, 2020, https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html, accessed July 2022

[12] Healthy People 2030, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://health.gov/healthypeople/objectives-and-data/browse-objectives/economic-stability/reduce-proportion-people-living-poverty-sdoh-01, accessed October, 2022

[13] Health Poverty Action, 2018, https://www.healthpovertyaction.org/news-events/key-facts-poverty-and-poor-health/, accessed June 2022

Poverty rates have fluctuated over the past decade in Orange County, reaching the lowest rate of 10.9% in 2017. However, poverty rates then began to increase, reaching 12.3% in 2019 [see Figure 15]. The percentage of children (aged less than 18 years) below poverty has followed the same trend; there was an overall decreasing trend until 2017, and since then the percentage of children below the poverty level has steadily increased [see Figure 16].

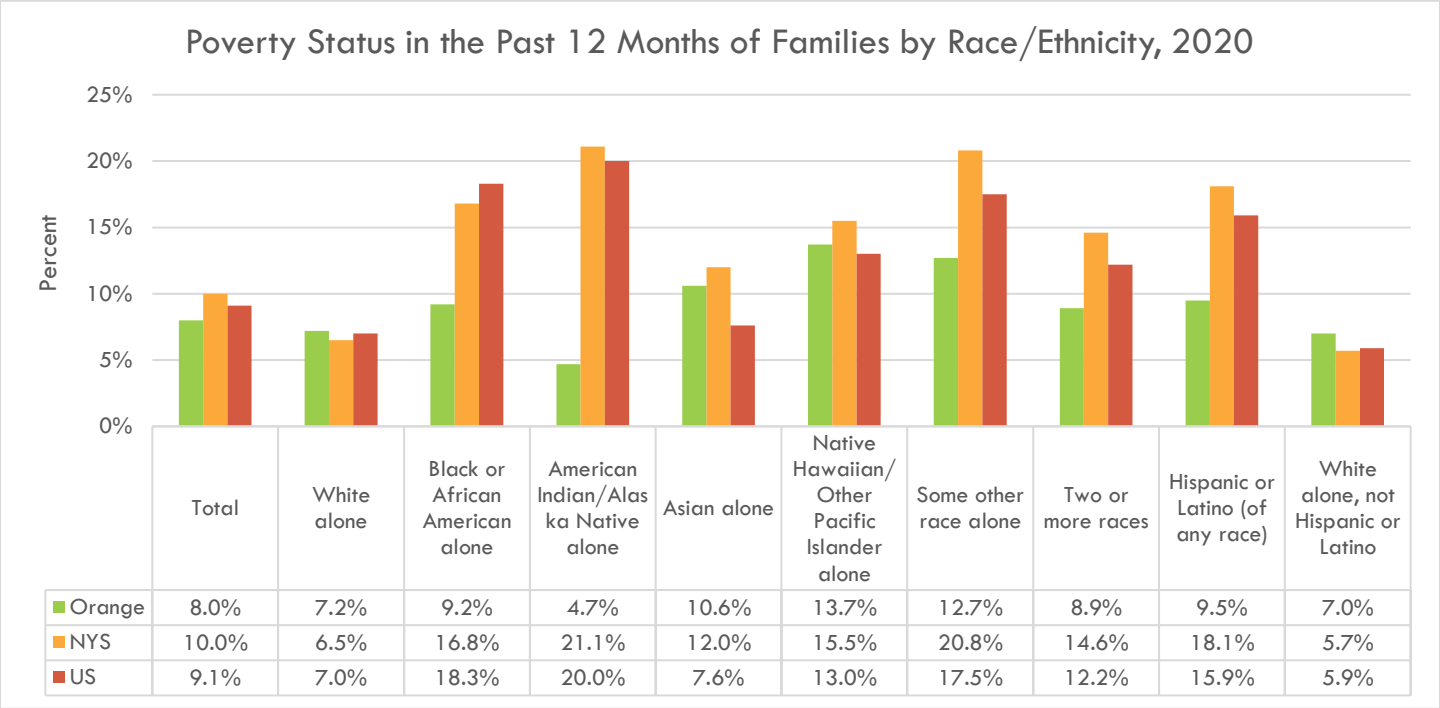
Figure 13



	Total	White alone	Black or African American alone	American Indian/Alaska Native alone	Asian alone	Native Hawaiian/ Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino (of any race)	White alone, not Hispanic or Latino
Orange	11.4%	10.8%	11.1%	6.7%	12.0%	27.3%	16.2%	12.1%	12.6%	10.9%
NYS	13.6%	10.1%	20.4%	22.6%	14.4%	23.8%	23.4%	17.3%	20.9%	9.2%
US	12.8%	10.6%	22.1%	24.1%	10.6%	16.8%	19.7%	15.1%	18.3%	9.3%

Source: U.S. Census Bureau; American Community Survey, 2020 American Community Survey 5-Year Estimates, Table S1701
https://data.census.gov/table?q=s1701&g=0100000US_0400000US36_0500000US36071&tid=ACSST5Y2020.S1701

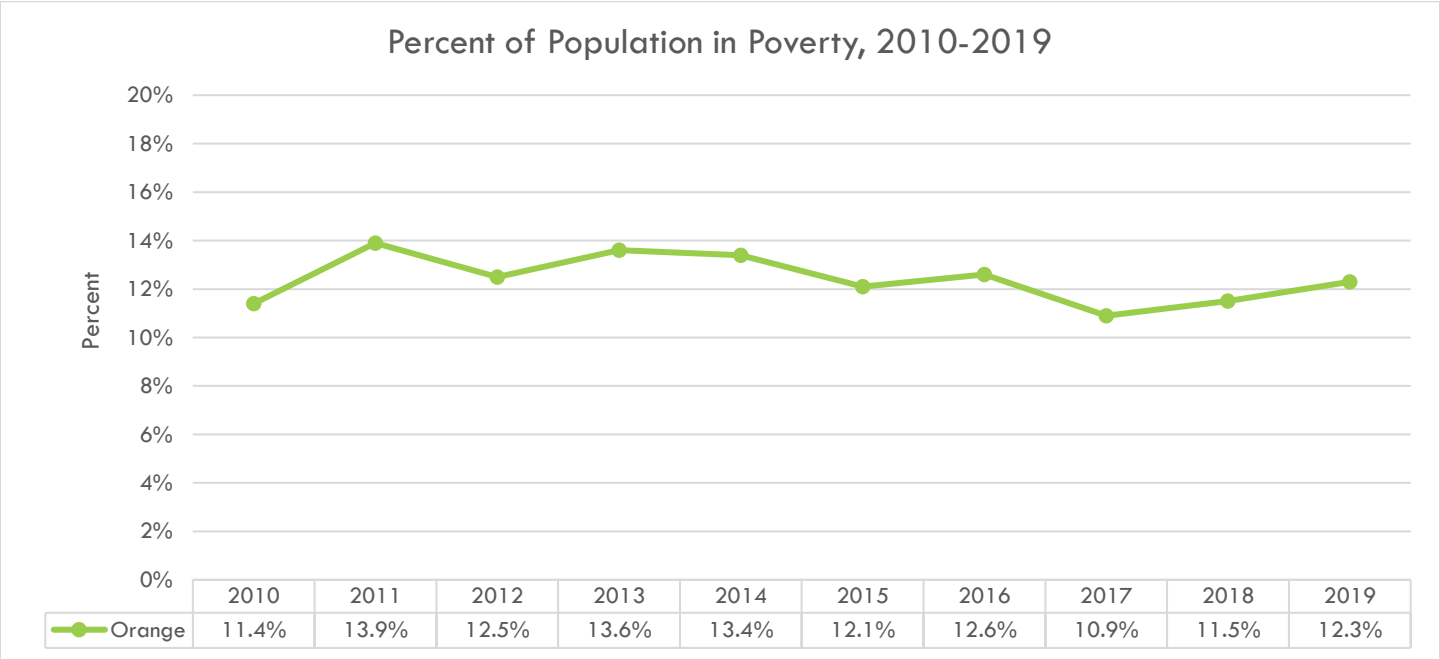
Figure 14



	Total	White alone	Black or African American alone	American Indian/Alaska Native alone	Asian alone	Native Hawaiian/ Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino (of any race)	White alone, not Hispanic or Latino
Orange	8.0%	7.2%	9.2%	4.7%	10.6%	13.7%	12.7%	8.9%	9.5%	7.0%
NYS	10.0%	6.5%	16.8%	21.1%	12.0%	15.5%	20.8%	14.6%	18.1%	5.7%
US	9.1%	7.0%	18.3%	20.0%	7.6%	13.0%	17.5%	12.2%	15.9%	5.9%

Source: U.S. Census Bureau; American Community Survey, 2020 American Community Survey 5-Year Estimates, Table S1702
https://data.census.gov/cedsci/table?q=Poverty&g=0100000US_0400000US36_0500000US36071&tid=ACSST5Y2020.S1702

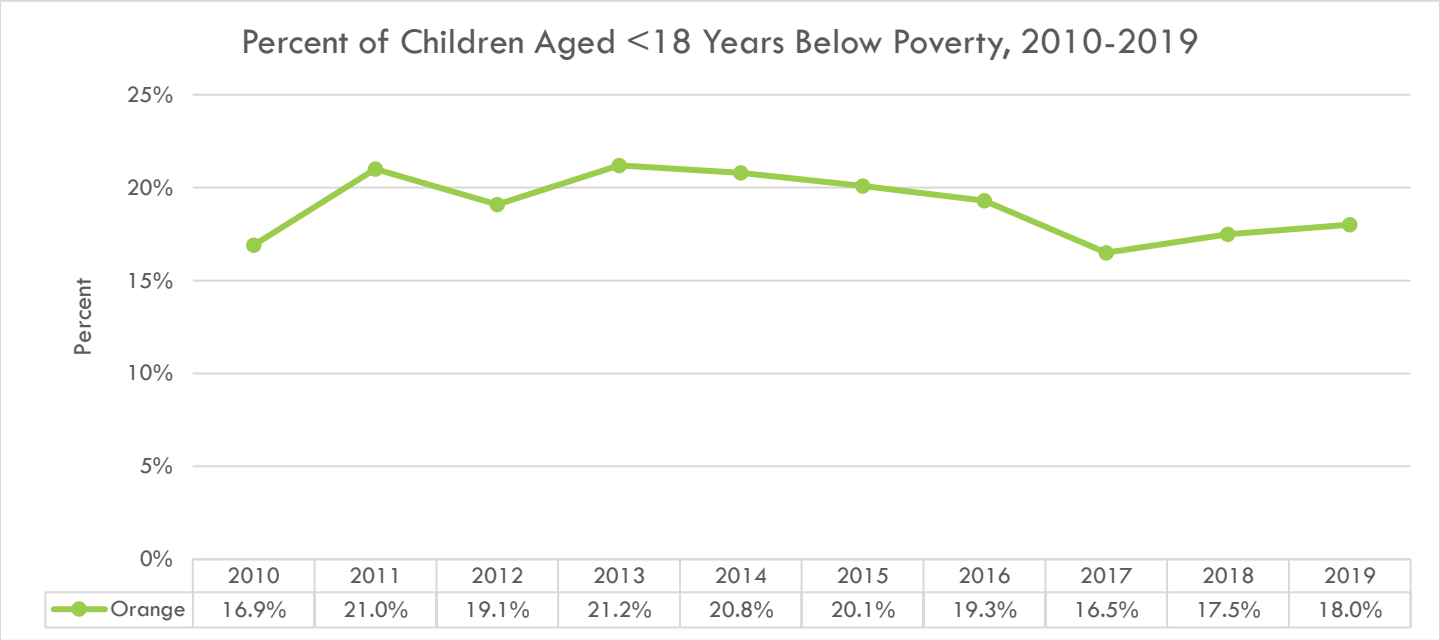
Figure 15



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Orange	11.4%	13.9%	12.5%	13.6%	13.4%	12.1%	12.6%	10.9%	11.5%	12.3%

Note: Single-year estimates are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ng98&cos=33

Figure 16



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Orange	16.9%	21.0%	19.1%	21.2%	20.8%	20.1%	19.3%	16.5%	17.5%	18.0%

Note: Single-year estimates are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ng99&cos=33

EDUCATION

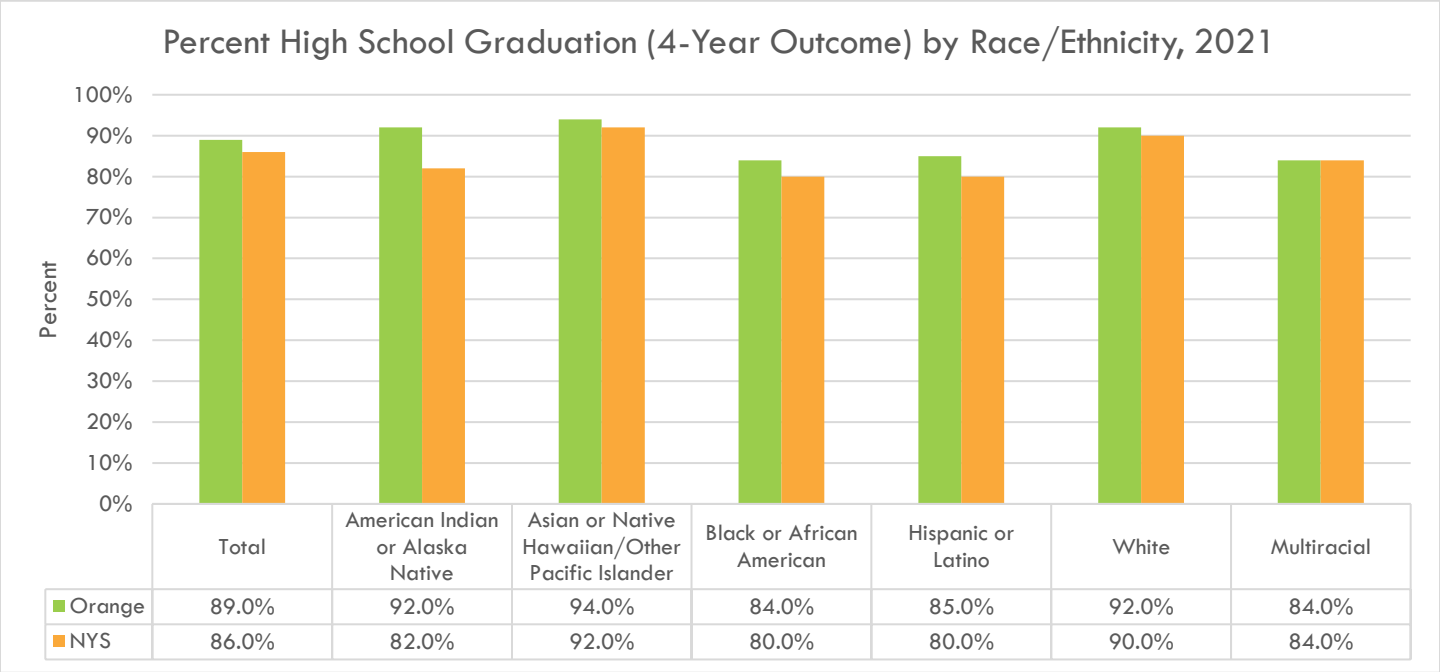
HIGH SCHOOL GRADUATION

Obtaining 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 and are more likely to report at least one chronic health condition and to be in poverty compared to those who have graduated.[14]

In Orange County, the total high school graduation rate in 2021 was 89%, which is slightly higher than the high school graduation rate in NYS (86%). Disparities in graduation rates exist between racial and ethnic groups. Asian or Native Hawaiian/Other Pacific Islander students in Orange County had the highest high school graduation rate (94%), followed by that of American Indian/Alaska Native and non-Hispanic White students, which both had rates of 92%. Black and Multiracial students had the lowest graduation rates of 84%, and Hispanic students had a slightly higher rate of 85% [see Figure 17].

[14] Healthy People 2020, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, 2019, https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/high-school-graduation, accessed June 2022

Figure 17



	Total	American Indian or Alaska Native	Asian or Native Hawaiian/Other Pacific Islander	Black or African American	Hispanic or Latino	White	Multiracial
Orange	89.0%	92.0%	94.0%	84.0%	85.0%	92.0%	84.0%
NYS	86.0%	82.0%	92.0%	80.0%	80.0%	90.0%	84.0%

Source: NYS Department of Education, 2021
https://data.nysed.gov/gradrate.php?year=2021&county=44
https://data.nysed.gov/gradrate.php?year=2021&state=yes

HEALTH CARE ACCESS AND USAGE

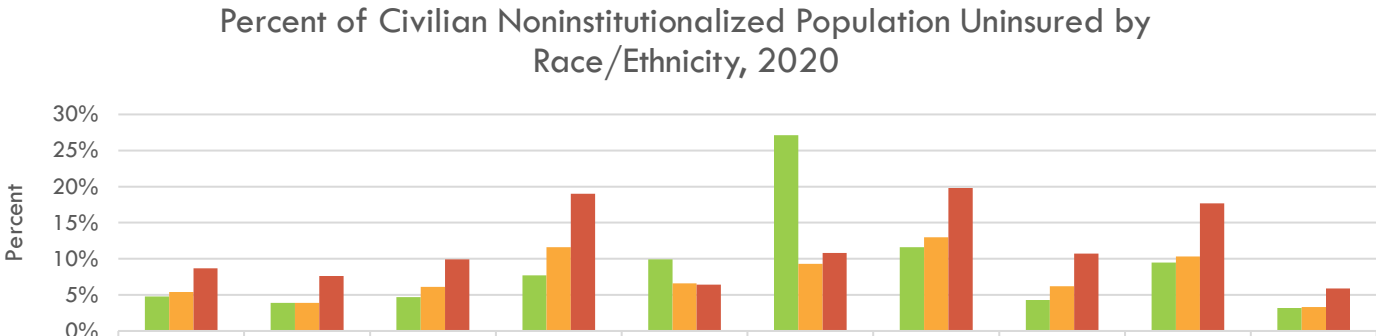
HEALTH INSURANCE COVERAGE

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.[15] 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.

Almost five percent (4.8%) of the civilian non-institutionalized population in Orange County is uninsured. This is lower than the percent of uninsured individuals in both NYS and the US (5.4% and 8.7%, respectively). When stratifying by race/ethnicity, there are large inequities in insurance coverage in the county. Native Hawaiian/Other Pacific Islander populations have a strikingly higher percent of uninsured individuals (27.1%) when compared to other races/ethnicities. This is also much higher than the percent of uninsured individuals for the Native Hawaiian/Other Pacific Islander population at the NYS and national levels (9.3% and 10.8%, respectively). The non-Hispanic White population has the lowest percent of uninsured individuals in Orange County at 3.2% [see Figure 18].

[15] NIH, National Library of Medicine, National Center for Biotechnology Information, Institute of Medicine (US) Committee on the Consequences of Uninsurance, 2002, https://www.ncbi.nlm.nih.gov/books/NBK220639/, accessed August 2022

Figure 18



	Total	White alone	Black or African American alone	American Indian/Alaska Native alone	Asian alone	Native Hawaiian/ Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino (of any race)	White alone, not Hispanic or Latino
Orange	4.8%	3.9%	4.7%	7.7%	9.9%	27.1%	11.6%	4.3%	9.5%	3.2%
NYS	5.4%	3.9%	6.1%	11.6%	6.6%	9.3%	13.0%	6.2%	10.3%	3.3%
US	8.7%	7.6%	9.9%	19.0%	6.4%	10.8%	19.8%	10.7%	17.7%	5.9%

Source: U.S. Census Bureau; American Community Survey, 2020 American Community Survey 5-Year Estimates, Table S2701
https://data.census.gov/table?q=s2701&g=0100000US_0400000US36_0500000US36071&tid=ACSST5Y2020.S2701

NEIGHBORHOOD AND BUILT ENVIRONMENT

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.

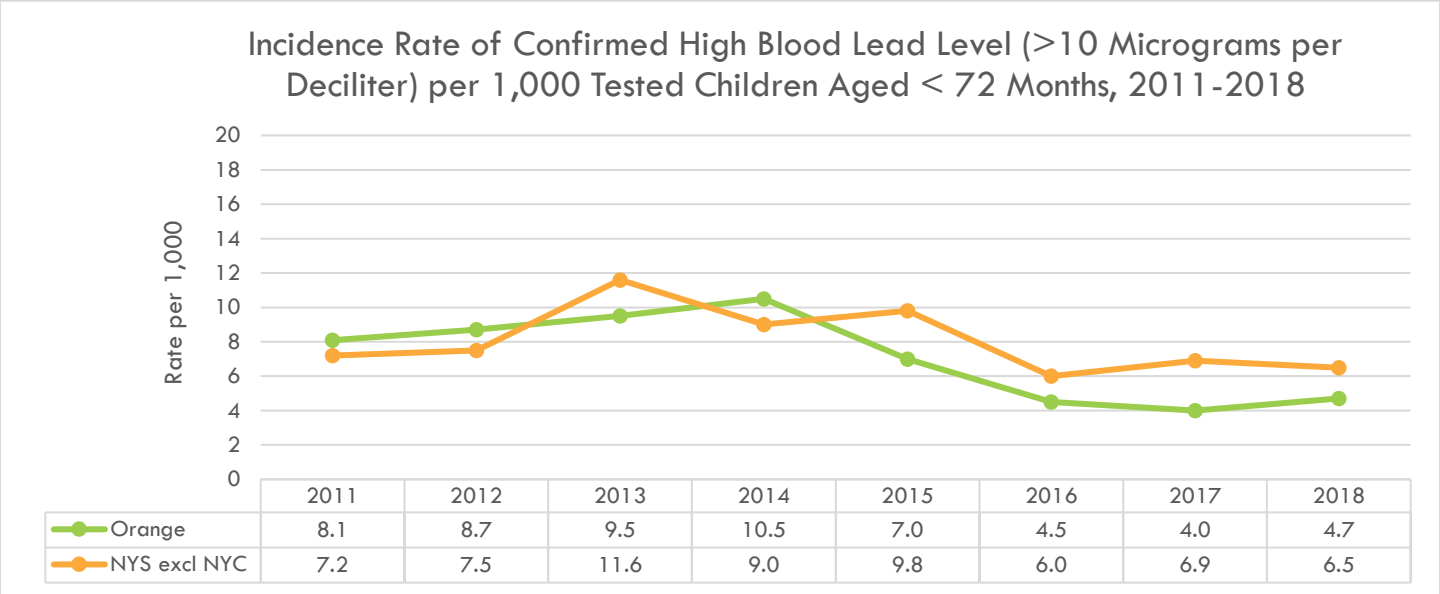
Certain groups of children are at a higher risk for lead exposure than others, often due to the types of housing they live in. This includes children in low-income households, racial/ethnic minorities, recent immigrants, and those whose parents are exposed to lead through their work.[16]

NYS requires health care providers to test all children for lead exposure at age one and again at age two.[17] Most recent data from 2018 show a confirmed high blood lead level incidence rate of 4.7 per 1,000 tested children younger than 72 months in Orange County. High blood lead level incidence decreased every year from 2014 to 2017 but increased slightly in 2018. Despite this slight increase, the incidence of high blood lead level remains lower in Orange County than in NYS excluding NYC. [see Figure 19].

[16] Centers for Disease Control and Prevention, 2021, https://www.cdc.gov/nceh/lead/prevention/populations.htm, accessed June 2022

[17] New York State Department of Health, 2022, https://www.health.ny.gov/environmental/lead/, accessed June 2022

Figure 19



Note: Three-year averages for Orange County and single-year estimates for NYS excl NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2022
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Cg28&cos=33

PREVENT CHRONIC DISEASES

OBESITY

Obesity is a condition where an individual's weight is higher than what is considered normal for their height. 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 their height in meters squared. Individuals with a BMI between 25.0 and 29.9 kg/m^2 are considered overweight and those with a BMI of 30.0 or higher are considered obese.[18]

Obesity is linked with increased risk of premature mortality and many chronic diseases including diabetes, heart disease, hypertension, cancer, and renal failure.[19]

CHILD AND ADOLESCENT OBESITY

In the US, one in five children and adolescents are affected by obesity. Many factors contribute to childhood obesity, including individual behavior; genetics; medications; childcare; school environments; neighborhood design; access to affordable, healthy food and drink; and access to spaces for physical activity.[20]

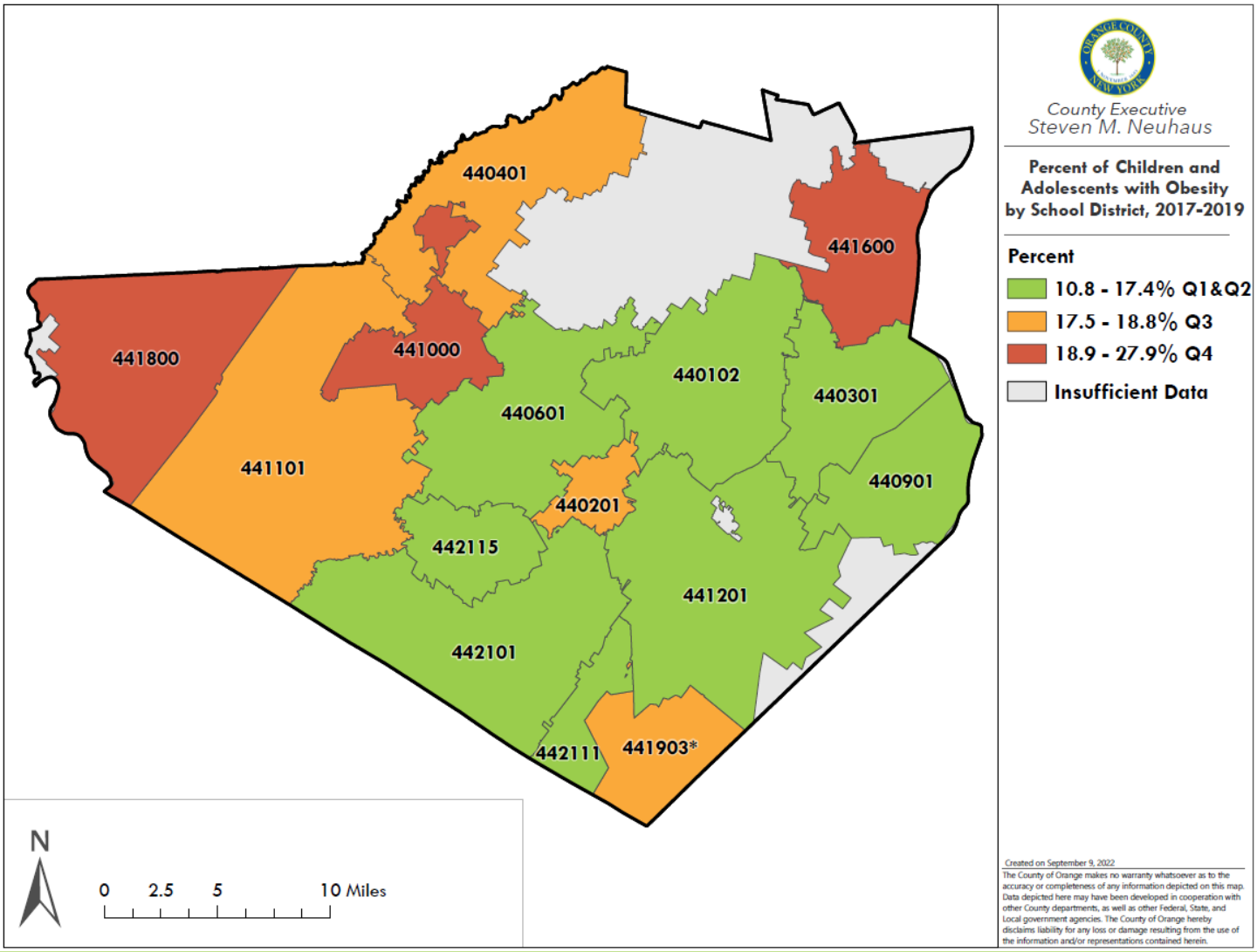
19.6% of children suffered from obesity in Orange County from 2017 to 2019. School districts in the cities of Newburgh, Middletown, and Port Jervis had student populations with the highest levels of obesity [see Figure 20].

[18] NIH, National Institute of Diabetes and Digestive and Kidney Diseases, 2021, https://www.niddk.nih.gov/health-information/health-statistics/overweight-obesity, accessed October 2022

[19] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/obesity/index.html, accessed October 2022

[20] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/obesity/childhood/index.html, accessed October 2022

Figure 20



School District Code	School District Name	Percent	School District Code	School District Name	Percent
440201	Chester Union Free School District	18.8%	**441600**	Newburgh City School District	27.9%
440301	Cornwall Central School District	13.9%	**440401**	Pine Bush Central School District	18.8%
440601	Goshen Central School District	16.3%	**441800**	Port Jervis City School District	23.7%
442111	Greenwood Lake Union Free School District	17.4%	**442115**	Florida Union Free School District	17.4%
440901	Highland Falls Central School District	14.4%	**441903**	Tuxedo Union Free School District	18.2%*
441000	Middletown City School District	23.8%	**442101**	Warwick Valley Central School District	10.8%
441101	Minisink Valley Central School District	17.8%	**440102**	Washingtonville Central School District	16.3%
441201	Monroe-Woodbury Central School District	11.8%			

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=mp&ind_id=pa22_1&cos=33

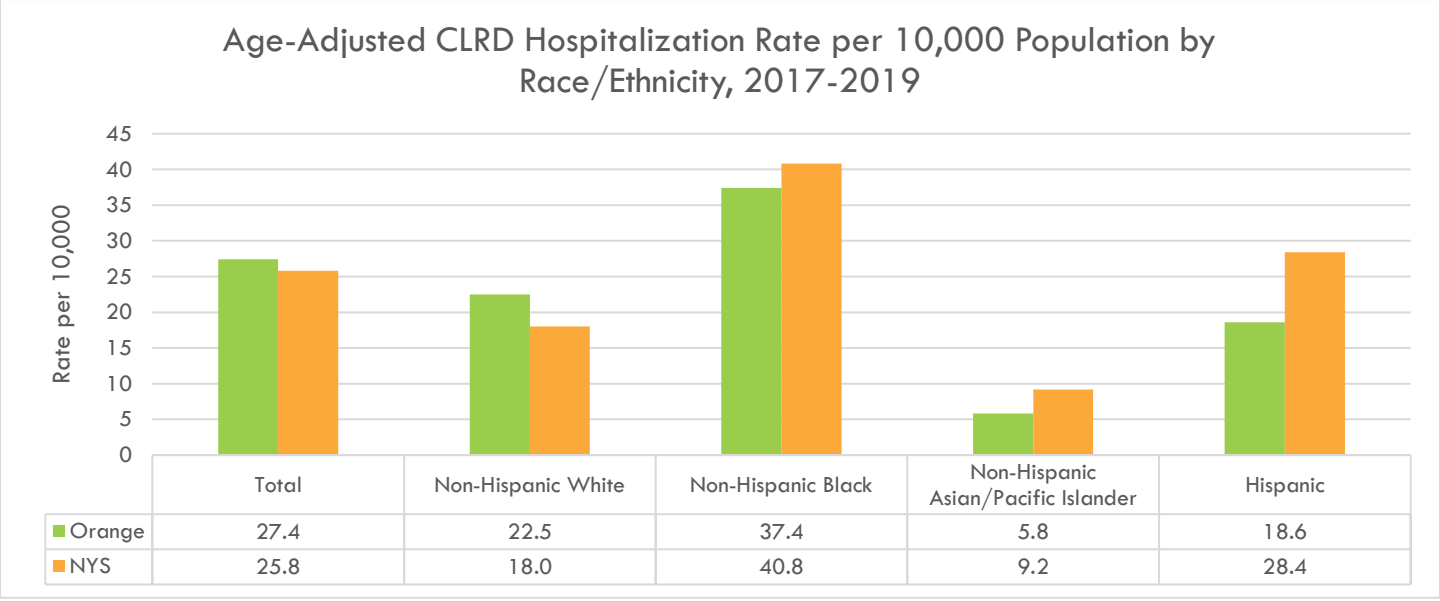
CHRONIC LOWER RESPIRATORY DISEASES

Chronic lower respiratory disease (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 and difficulty breathing.[21]

From 2017 to 2019, Orange County had an average CLRD hospitalization rate of 27.4 per 10,000 population. This is slightly higher than the NYS rate of 25.8 per 10,000. Disparities were identified when stratifying CLRD hospitalization rates by race/ethnicity. Non-Hispanic Black adults had the highest rate of CLRD hospitalization in the county at 37.4 per 10,000. In contrast, non-Hispanic Asian/Pacific Islander adults had a much lower rate at 5.8 per 10,000. These rates are consistent with NYS trends [see Figure 21].

From 2016 to 2019, the average mortality from COPD/CLRD in Orange County was 37.7 deaths per 100,000 population and consistently remained lower than the rate in NYS excluding NYC during this time [see Figure 22]. Disparities were seen in mortality rates from COPD/CLRD; however, the disparities in mortality rates differ from those in hospitalization rates. The non-Hispanic White population faced a much higher death rate from COPD/CLRD compared to non-Hispanic Black and Hispanic populations, at 52.1 compared to 17.7 and 8.6, respectively [see Figure 23]. Overall, females had a slightly higher risk of both being discharged for and dying from COPD/CLRD compared to males, but age-adjusted data show that since 2017, the COPD/CLRD mortality has been decreasing for females but increasing for males [see Figure 25]. When looking at the county's major metropolitan areas, 12771 had a significantly higher rate of COPD/CLRD mortality compared to other cities, averaging at 83.0 deaths per 100,000 [see Figure 24].

Figure 21



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	27.4	22.5	37.4	5.8	18.6
NYS	25.8	18.0	40.8	9.2	28.4

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

[21] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/copd/features/copd-symptoms-diagnosis-treatment.html, accessed June 2022

Table 20

COPD Discharge Rate per 10,000 Population by Gender, 2014-2017				
	Male		Female	
Region	#	Rate	#	Rate
Orange County Total	20	0.3	37	0.5
Mid-Hudson	218	0.5	329	0.7
NYS excl NYC	740	0.3	974	0.4

Note: All rates are calculated using ACS 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

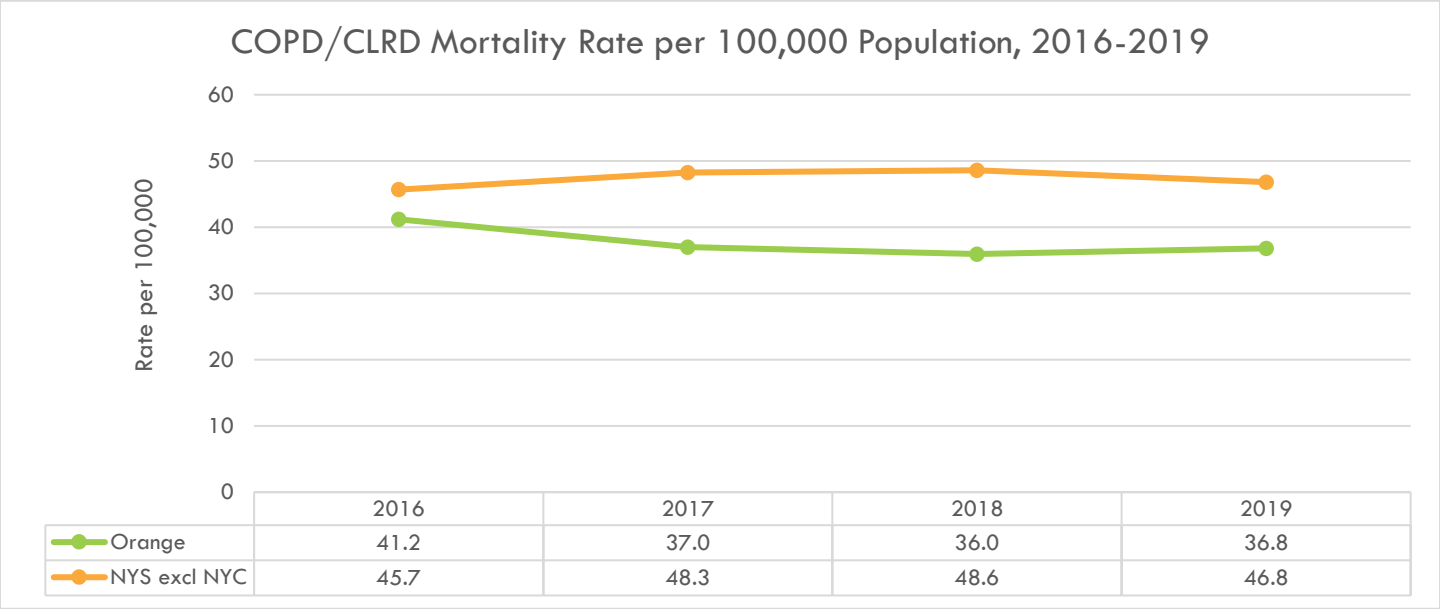
Table 21

COPD/CLRD Mortality Rate per 100,000 Population by Race/Ethnicity, Age, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	155	41.2	140	37.0	136	36.0	140	36.8	571	37.7
NYS excl NYC	5,132	45.7	5,424	48.3	5,430	48.6	5,222	46.8	18,208	40.6
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10-19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20-24	s	s	0	0.0	0	0.0	0	0.0	s	s
25-34	0	0.0	0	0.0	0	0.0	s	s	s	s
35-44	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
45-54	s	s	s	s	s	s	s	s	13	5.9
55-64	12	26.1	s	s	s	s	15	31.2	46	24.4
65-74	40	145.0	33	114.5	39	130.9	32	104.4	144	123.2
75-84	44	340.2	40	298.5	39	277.2	41	282.0	164	298.5
85+	52	780.4	55	809.4	45	684.0	50	741.0	202	754.2
Race/Ethnicity										
Non-Hispanic White	142	57.2	124	50.1	122	49.7	125	51.2	513	52.1
Non-Hispanic Black	s	s	s	s	s	s	s	s	26	17.7
Hispanic	s	s	s	s	s	s	s	s	26	8.6
Other	0	0.0	s	s	s	s	s	s	s	s
ZIP Code										
10940	26	52.9	14	28.2	20	40.8	26	54.1	86	43.9
10950	s	s	s	s	11	21.6	s	s	31	15.3
12550	13	23.8	21	38.2	14	25.5	17	30.8	65	29.6
12771	16	113.8	s	s	11	74.5	14	94.7	48	83.0

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

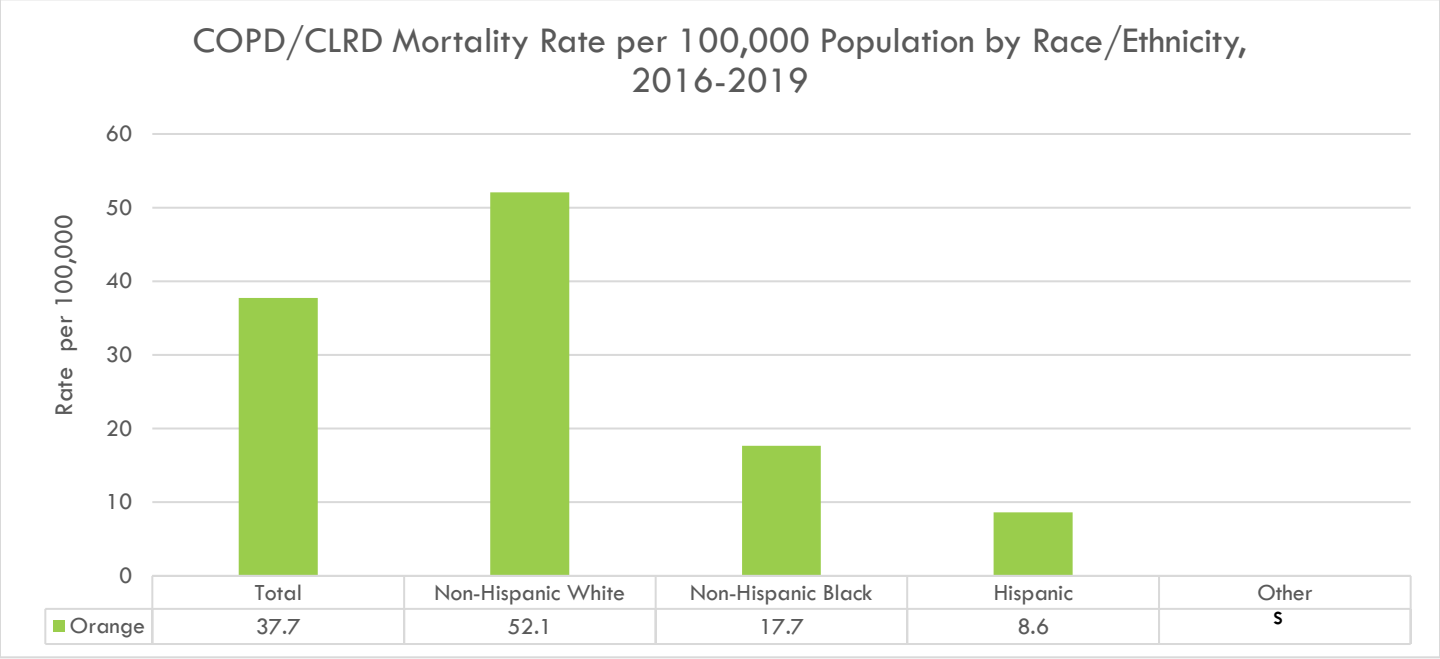
Figure 22



	2016	2017	2018	2019
Orange	41.2	37.0	36.0	36.8
NYS excl NYC	45.7	48.3	48.6	46.8

Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

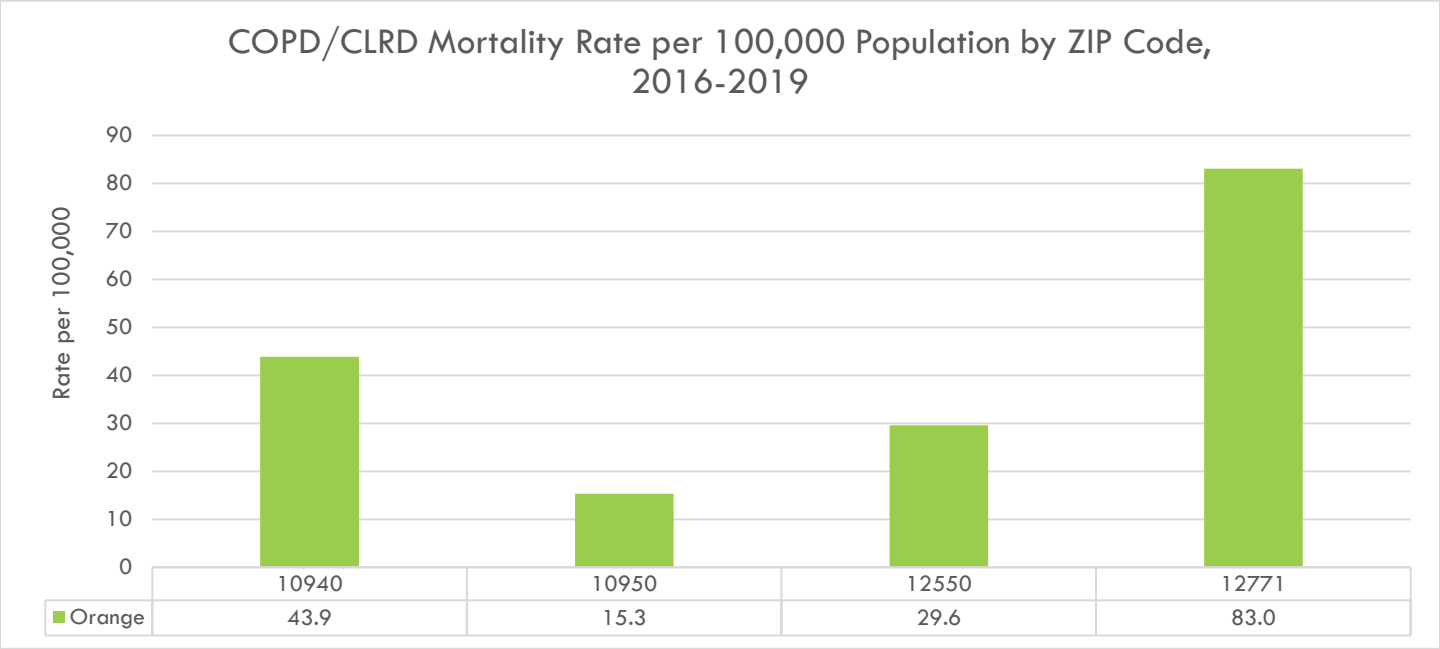
Figure 23



	Total	Non-Hispanic White	Non-Hispanic Black	Hispanic	Other
Orange	37.7	52.1	17.7	8.6	s

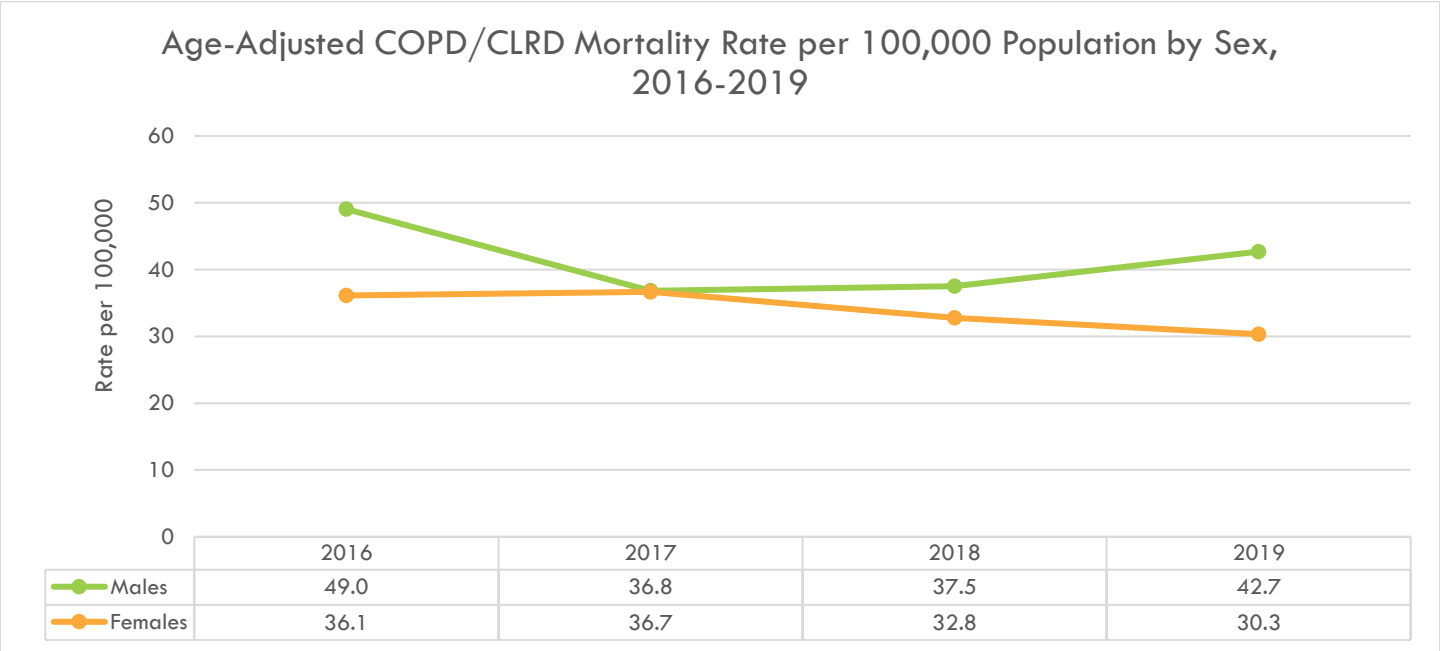
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 24



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 25



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates and the US 2000 standard population.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

ASTHMA

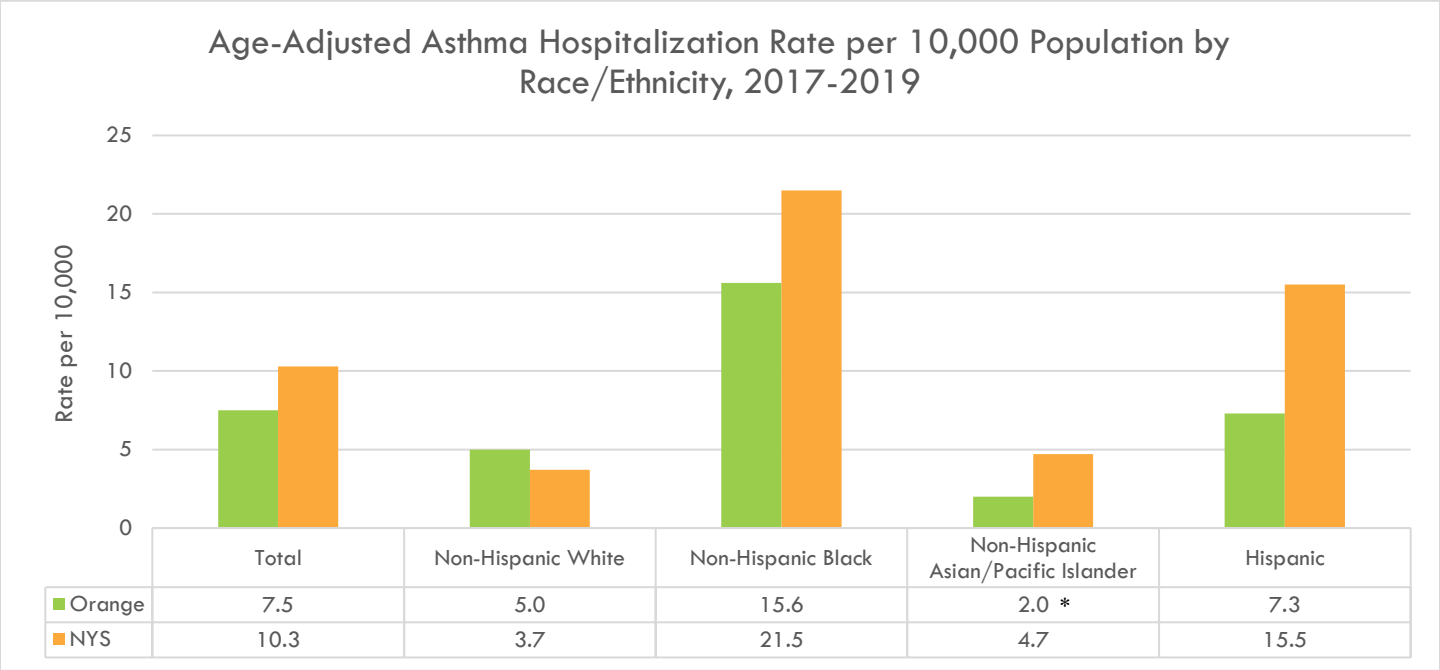
Asthma is caused by airway restriction in the lungs resulting in difficulty breathing, wheezing, chest tightness, and coughing.[22] It is one of the most common diseases found among children, but the onset can also occur during adulthood. It can be caused by a variety of factors that may be genetic, 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. It is important that intervention starts in early childhood to avoid increased medical costs and fatal consequences.

The most recent data from 2017 to 2019 show that Orange County had an asthma hospitalization rate of 7.5 per 10,000 population. This is lower than the NYS rate of 10.3 per 10,000. However, there were large disparities in asthma hospitalizations across racial and ethnic groups in the county. Non-Hispanic Black adults by far had the highest rates of asthma hospitalizations at 15.6 per 10,000 population. Though this was the highest rate in Orange County, it was lower than the rate for non-Hispanic Black populations across NYS (21.5 per 10,000). Similarly, Hispanic adults had a much lower asthma hospitalization rate in Orange County compared to NYS (7.3 and 15.5 per 10,000, respectively) [see Figure 26].

Asthma discharge rates for adults (aged 18 years and older) decreased substantially in the county from 2014 to 2017, dropping from 15.7 per 10,000 in 2014 to 5.5 per 10,000 in 2017. NYS excluding NYC and the rest of the Mid-Hudson Region followed a similar trend [see Table 22, Figure 27]. Asthma discharge rates increase as age increases and is higher for males in the county compared to females. Asthma discharges also varied by race. Where known, the rate of discharges was highest for the non-Hispanic Black population [see Table 22, Figure 28]. Those in ZIP code 10940 suffered the highest asthma discharge rates among county's major metropolitan areas [see Table 22, Figure 29].

[22] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/asthma/, accessed June 2022

Figure 26



**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Note: The 2019 ED data in NYC may be incomplete and subject to change. Thus, the state rates may be underestimated and subject to change.
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

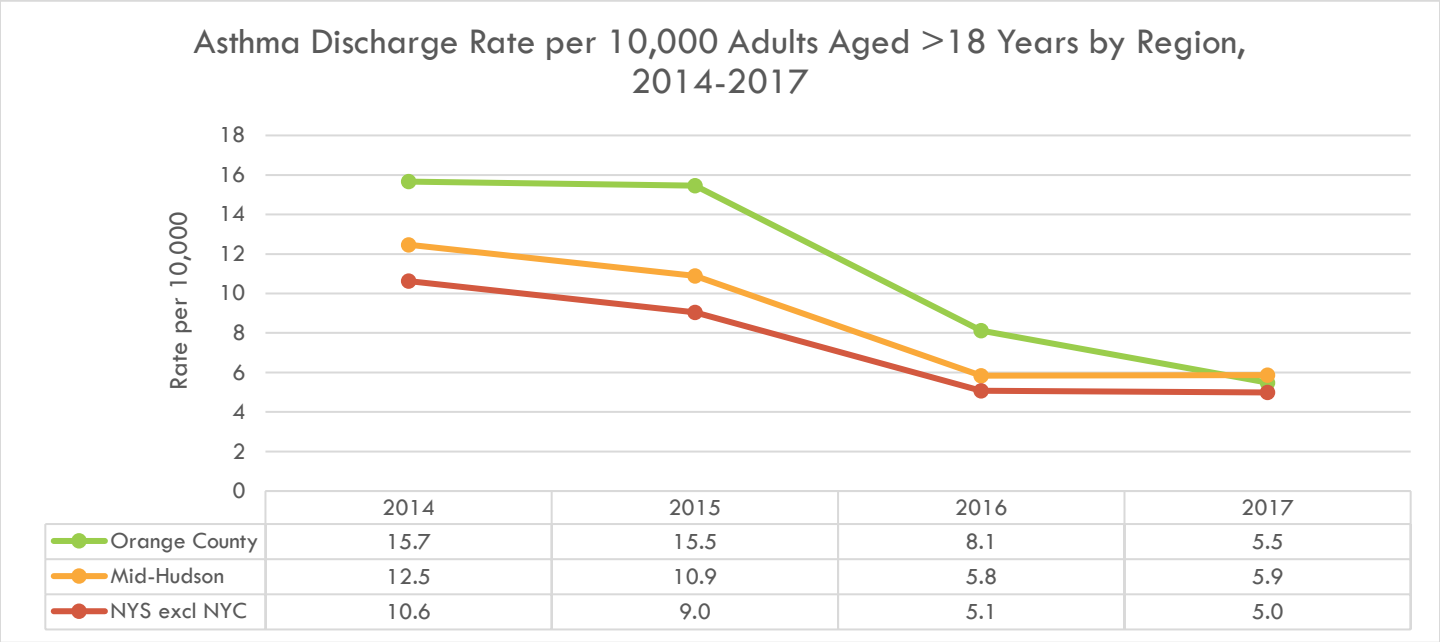
Table 22

Asthma Discharge Rate per 10,000 Adults Aged 18 Years and Older by Age, Gender, Race/Ethnicity, and ZIP Code, 2014-2017

	2014		2015		2016		2017		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	431	15.7	428	15.5	226	8.1	154	5.5	1,239	11.2
Mid-Hudson	2,195	12.5	1,930	10.9	1,039	5.8	1,051	5.9	6,215	8.7
NYS excl NYC	9,301	10.6	7,948	9.0	4,462	5.1	4,406	5.0	26,117	7.4
Age Intervals										
18-19	s	s	s	s	0	0.0	0	0.0	19	4.1
20-24	12	4.5	19	6.8	20	7.0	9	3.1	60	5.4
25-34	39	9.4	34	8.1	33	7.8	15	3.5	121	7.2
35-44	62	12.6	37	7.7	29	6.2	23	5.0	151	8.0
45-54	87	15.1	84	14.7	49	8.7	35	6.3	255	11.3
55-64	104	23.5	116	25.7	57	12.4	31	6.6	308	16.9
65-74	60	23.9	67	25.5	25	9.1	23	8.0	175	16.2
75-84	34	26.7	43	33.7	0	0.0	0	0.0	77	14.9
85+	27	43.3	22	34.0	0	0.0	0	0.0	49	18.7
Gender										
Males	134	9.8	136	9.9	72	5.2	50	3.6	392	7.1
Females	297	21.4	292	20.9	154	11.0	104	7.4	847	15.1
Race/Ethnicity										
Non-Hispanic White	277	14.6	253	13.3	114	6.0	88	4.6	732	9.6
Non-Hispanic Black	81	27.3	87	29.3	59	19.9	29	9.8	256	21.5
Hispanic	34	6.8	47	9.4	33	6.6	22	4.4	136	6.8
Other	39	36.6	41	38.5	20	18.8	15	14.1	115	27.0
ZIP Code										
10940	104	28.1	89	24.0	67	17.7	32	8.3	292	19.4
10950	23	8.0	18	4.9	11	2.9	11	2.9	63	4.4
12550	71	17.7	59	14.8	34.0	8.5	24.0	6.0	188.0	11.8
12771	12	11.3	31	28.6	s	s	s	s	56	13.1

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: All rates are calculated using ACS 5-year population estimates.
Rates by race/ethnicity are calculated using 2017 ACS 5-year population estimates only
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

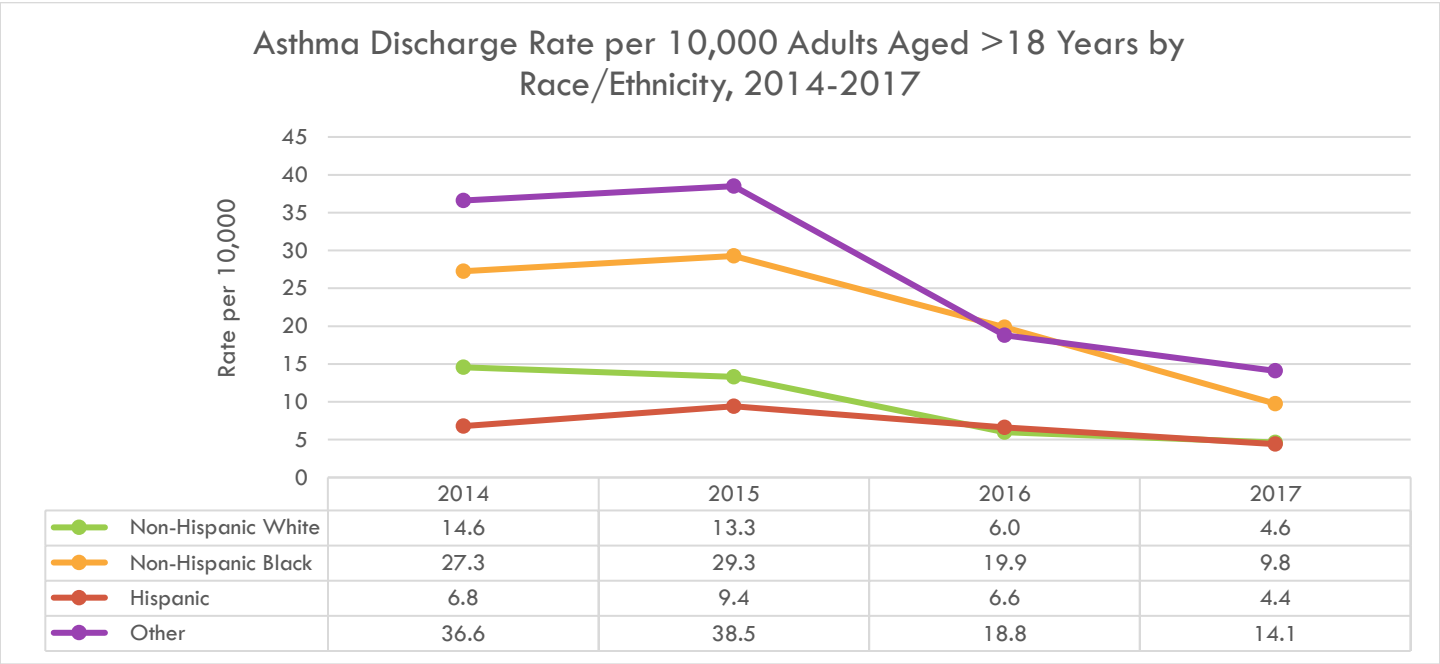
Figure 27



	2014	2015	2016	2017
Orange County	15.7	15.5	8.1	5.5
Mid-Hudson	12.5	10.9	5.8	5.9
NYS excl NYC	10.6	9.0	5.1	5.0

Note: All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

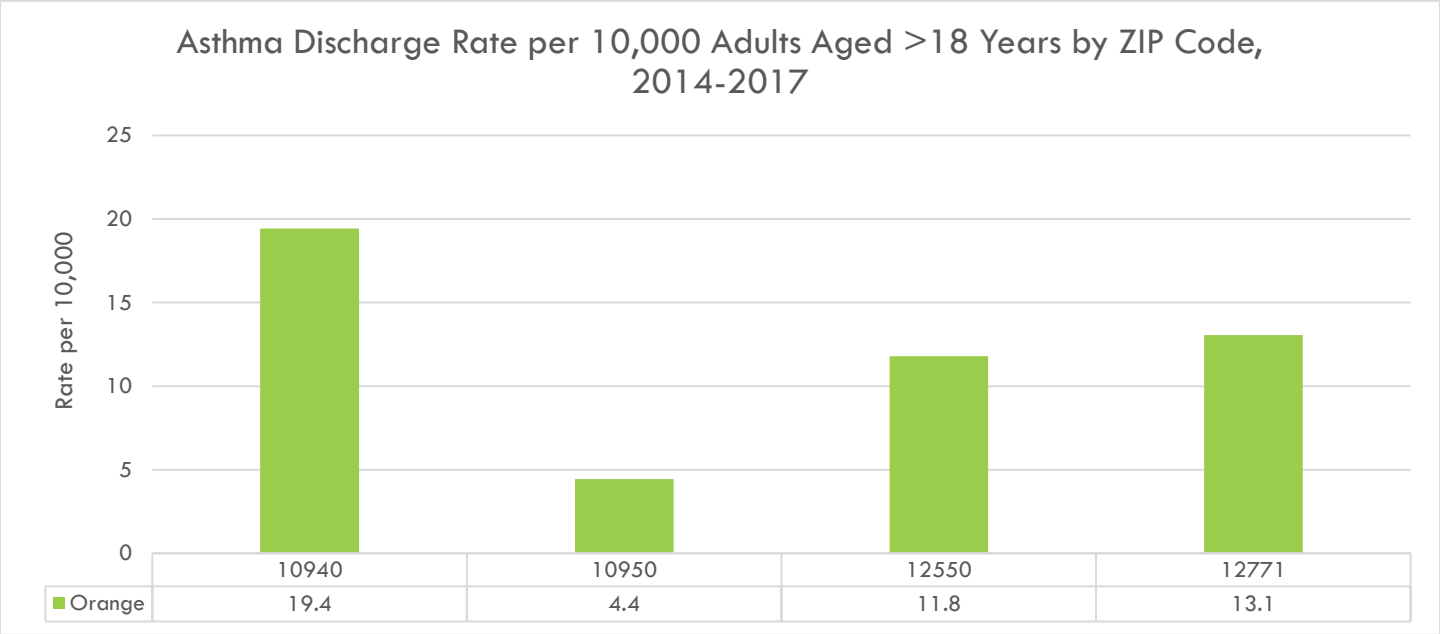
Figure 28



	2014	2015	2016	2017
Non-Hispanic White	14.6	13.3	6.0	4.6
Non-Hispanic Black	27.3	29.3	19.9	9.8
Hispanic	6.8	9.4	6.6	4.4
Other	36.6	38.5	18.8	14.1

Note: All rates are calculated using ACS 5-year population estimates.
Rates by race/ethnicity are calculated using 2017 ACS 5-year population estimates only.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 29



Note: All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

While the asthma discharge rate for adults decreased in Orange County over time, the discharge rate for children has increased, from a rate of 6.1 per 10,000 children aged 5 to 17 years in 2016 to 8.7 in 2019. This contrasts with the NYS excluding NYC rate, which decreased from 2016 to 2019 [see Table 23, Figure 30]. Children aged 5 to 9 years suffered the highest discharge rates, and the rates decrease with age [see Table 23, Figure 31]. In 2014, female children had a lower asthma discharge rate than males, but the rate increased for females every year, surpassing that of males and reaching 7.7 per 10,000 in 2017 [see Table 23, Figure 33]. Just as with adults, non-Hispanic Black children suffered the highest average rate of asthma discharges from 2014 to 2017, where race/ethnicity was known [see Figure 32]. Asthma emergency department visits for children also differed by ZIP code [see Figure 34]. The ZIP codes with the highest rates of child asthma discharges are shaded in red, with the highest rate of 123.9 per 10,000 in 12771.

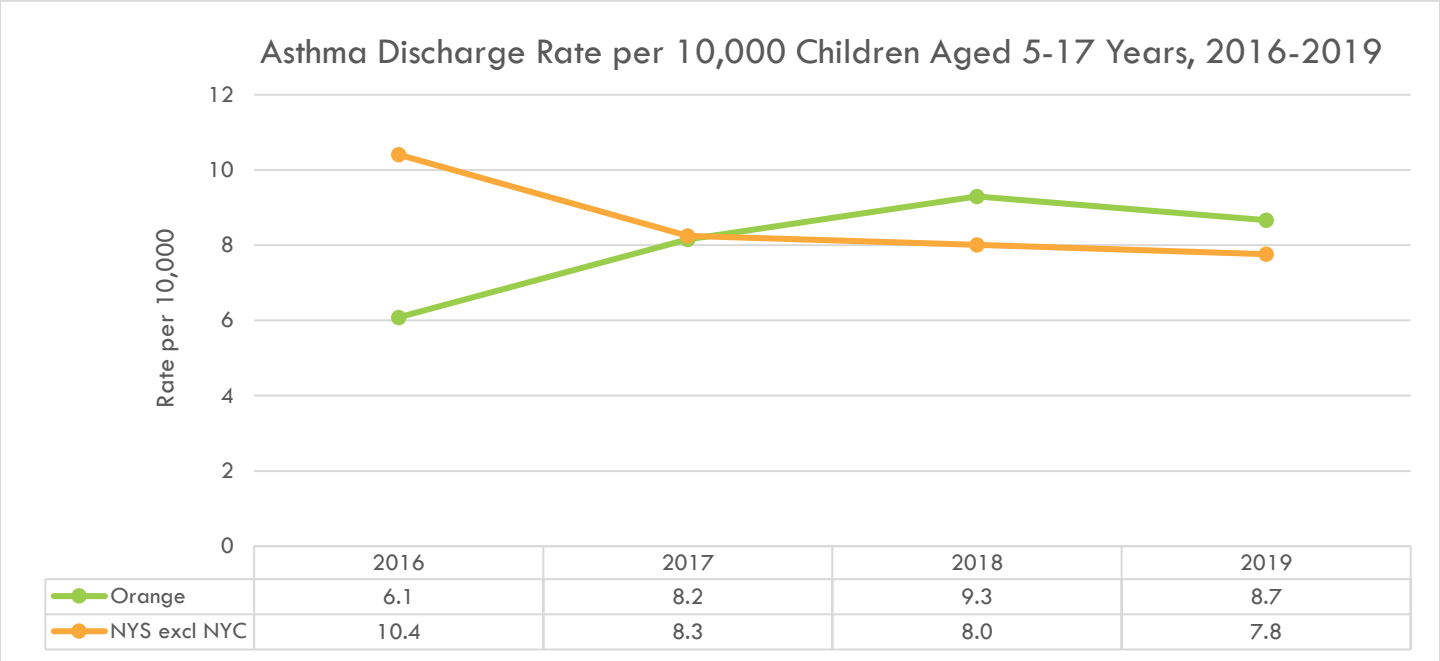
Table 23

Asthma Discharge Rate per 10,000 Children Aged 5-17 Years by Age, Gender, Race/Ethnicity, and ZIP Code, 2014-2017

	2014		2015		2016		2017		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	45	6.1	60	8.2	68	9.3	63	8.7	236	8.0
NYS excl NYC	1,939	10.4	1,518	8.3	1,455	8.0	1,391	7.8	6,303	8.6
Age Intervals										
5-9	27	9.9	32	11.6	38	13.6	30	11.1	127	11.6
10-14	13	4.5	22	7.7	20	7.2	28	10.0	83	7.3
15-17	s	s	s	s	s	s	s	s	26	3.7
Gender										
Males	29	7.6	32	8.4	34	9.0	29	7.7	124	8.2
Females	16	4.5	28	7.8	34	9.6	34	9.7	112	7.9
Race/Ethnicity										
Non-Hispanic White	13	3.0	22	5.1	16	3.7	21	4.8	72	4.1
Non-Hispanic Black	11	13.3	13	15.7	20	24.2	16	19.3	60	18.1
Hispanic	s	s	11	6.0	18	9.8	20	10.9	57	7.8
Other	13	47.3	14	50.9	14	50.9	s	s	47	42.7
ZIP Code										
10940	12	14.2	s	s	15	17.4	21	23.8	57	16.4
10950	s	s	s	s	s	s	s	s	12	2.1
12550	s	s	14	12.4	s	s	s	s	29	6.5
12771	s	s	s	s	s	s	0	0.0	s	s

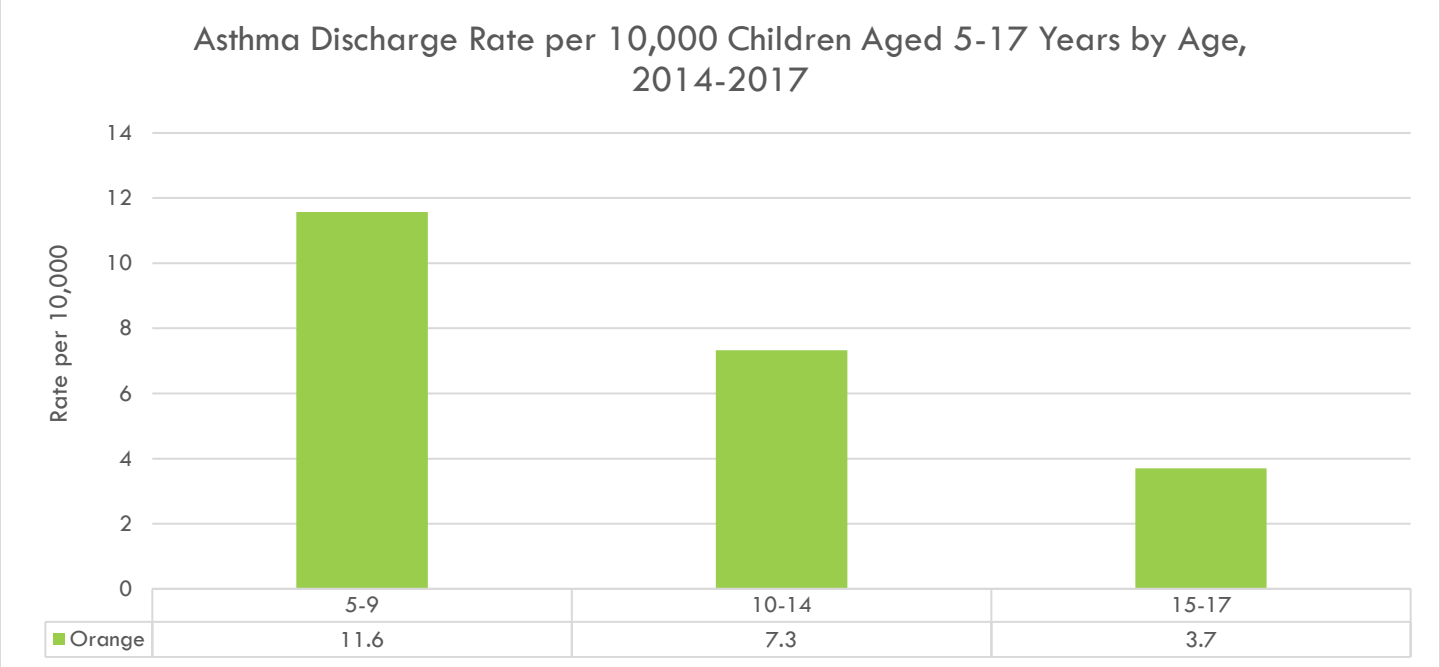
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 2017 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 30



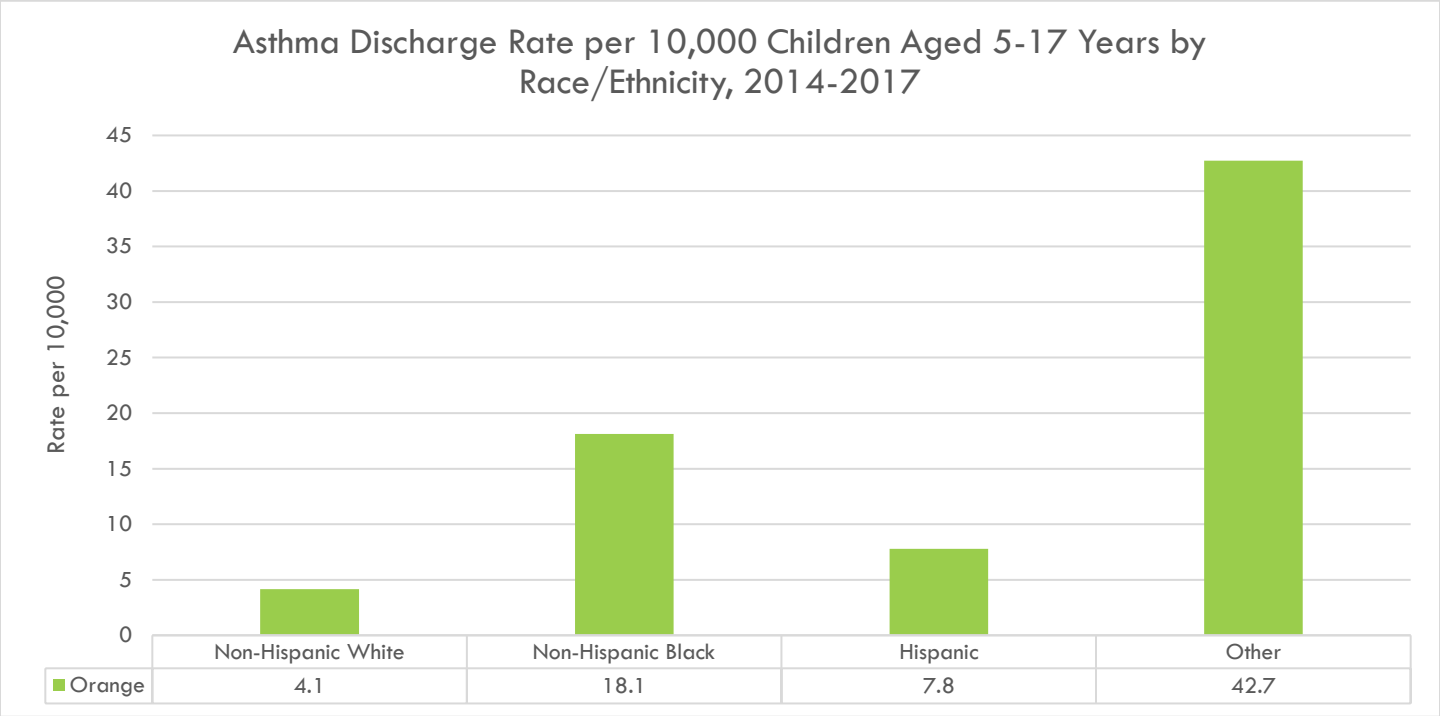
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 2017 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 31



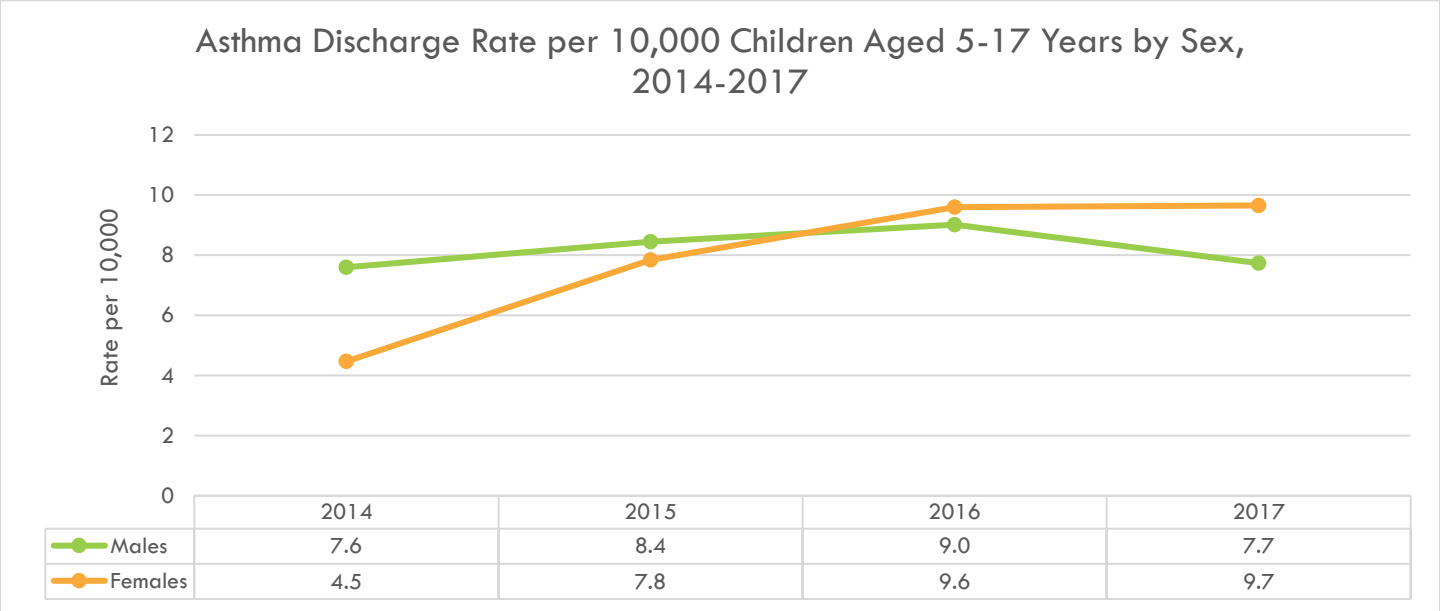
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 2017 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 32



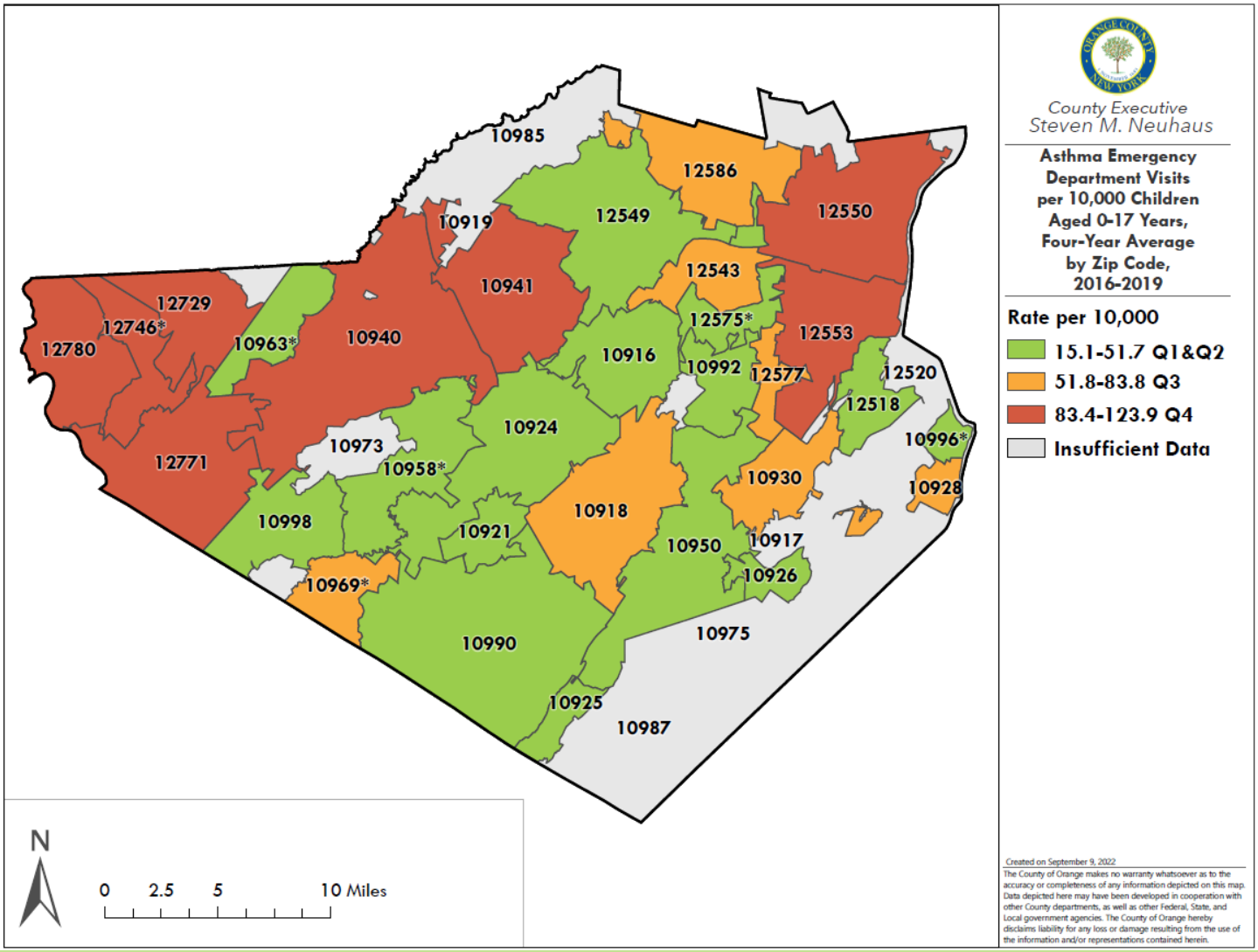
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
Rates for race/ethnicity are calculated using ACS 2017 5-year population estimates only.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 33



Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 2017 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 34



ZIP Code	Rate per 10,000	ZIP Code	Rate per 10,000	ZIP Code	Rate per 10,000
10916	39.4	**10958**	23.3*	**12543**	74.1
10917	s	**10963**	31.2*	**12549**	41.6
10918	54.3	**10969**	81.8*	**12550**	109.1
10919	s	**10973**	s	**12553**	84.4
10921	40.4	**10975**	s	**12575**	32.1*
10924	28.7	**10985**	s	**12577**	64.8
10925	48.5	**10987**	s	**12586**	74.1
10926	50.6	**10990**	39.6	**12729**	108.1
10928	56.6	**10992**	22.7	**12746**	94.9*
10930	52.8	**10996**	15.1*	**12771**	123.9
10940	111.2	**10998**	31.7	**12780**	109.4
10941	103.6	**12518**	18.2		
10950	20.2	**12520**	s		

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=mp&ind_id=pa36_0%20&cos=33

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.[23]

From 2016 to 2019, the average mortality rate from pneumonia in Orange County was 17.2 per 100,000 population, which is lower than the rate for NYS excluding NYC (20.6). Pneumonia mortality decreased in the county from 2016 to 2018, but increased from 2018 to 2019 [see Table 24, Figure 35]. Pneumonia mortality risk increases with age, with those aged 85 years and older suffering the highest death rate at 410.7 per 100,000 [see Table 24]. The non-Hispanic White population is more likely to suffer pneumonia mortality compared to the non-Hispanic Black and Hispanic populations in the county [see Figure 36]. The three major cities in the county (ZIP codes 10940, 12550, and 12771) have similar rates of pneumonia mortality and are much higher than the rate in 10950 [see Table 24, Figure 37]. Age-adjusted rates show that males tend to die more often from pneumonia than females. Since 2017, the mortality rate has been steadily increasing for males, while females have seen a decrease [see Figure 38].

Table 24

Pneumonia Mortality Rate per 100,000 Population by Age, Race/Ethnicity, and ZIP Code, 2016-2019

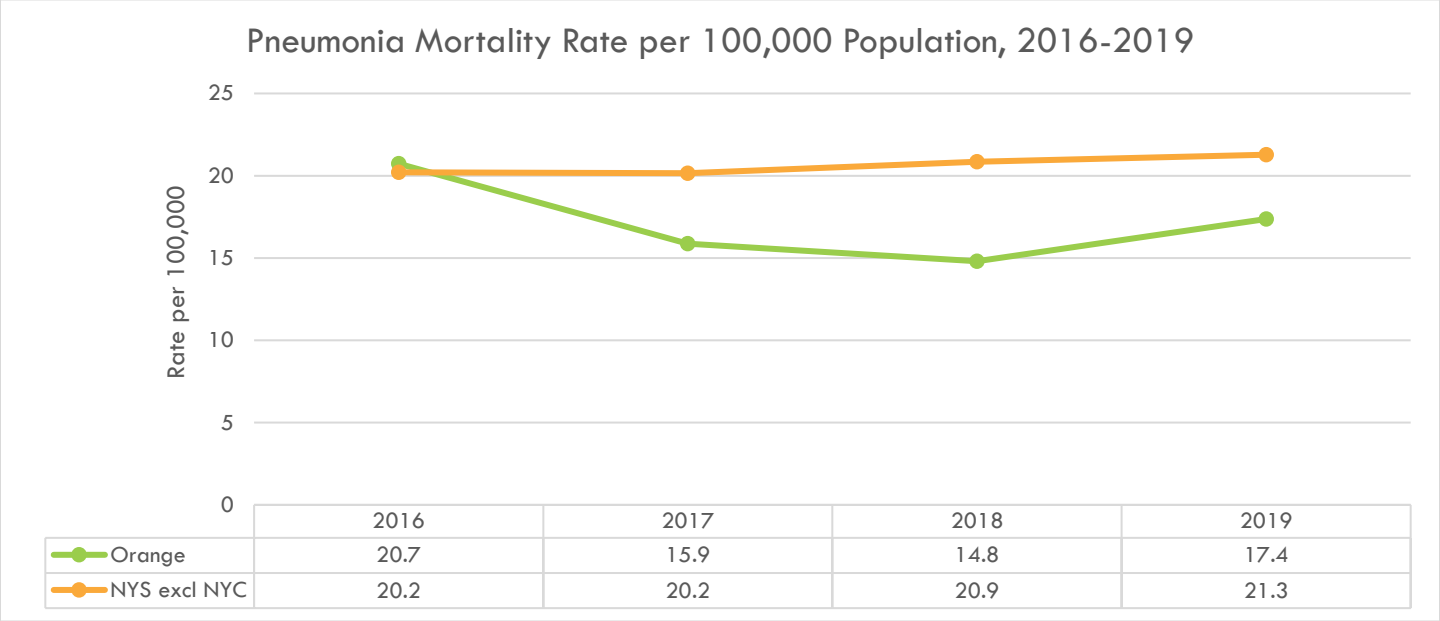
	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	78	20.7	60	15.9	56	14.8	66	17.4	260	17.2
NYS excl NYC	2,270	20.2	2,265	20.2	2,330	20.9	2,373	21.3	9,238	20.6
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	0	0.0	0	0.0	s	s	0	0.0	0	0.0
10-19	0	0.0	0	0.0	s	s	0	0.0	s	s
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-34	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
35-44	0	0.0	s	s	0	0.0	0	0.0	s	s
45-54	s	s	s	s	s	s	s	s	12	5.4
55-64	s	s	s	s	s	s	s	s	24	12.7
65-74	20	72.5	s	s	s	s	s	s	44	37.6
75-84	14	108.2	23	171.6	14	99.5	17	116.9	68	123.8
85+	31	465.3	24	353.2	22	334.4	33	489.0	110	410.7
Race/Ethnicity										
Non-Hispanic White	69	27.8	45	18.2	47	19.1	56	22.9	217	22.0
Non-Hispanic Black	s	s	s	s	s	s	s	s	19	12.9
Hispanic	s	s	s	s	s	s	s	s	22	7.3
Other	0	0.0	s	s	s	s	0	0.0	s	s
ZIP Code										

[23] Mayo Clinic, 2020, https://www.mayoclinic.org/diseases-conditions/pneumonia/symptoms-causes/syc-20354204, accessed August 2022

10940	14	28.5	0	0.0	s	s	15	31.2	42	21.4
10950	s	s	s	s	0	0.0	s	s	19	9.4
12550	13	23.8	s	s	10	18.2	11	19.9	40	18.2
12771	s	s	s	s	s	s	s	s	12	20.8

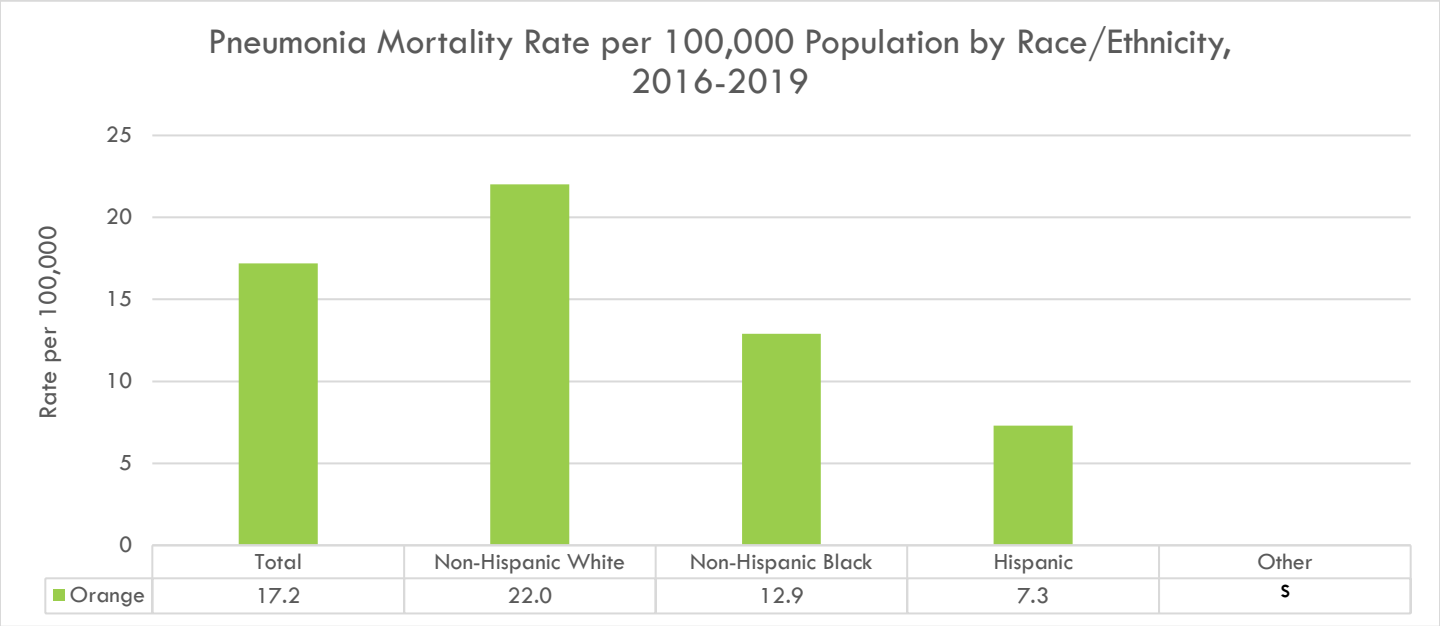
s: Data are suppressed. The data do not meet the criteria for confidentiality
Note: 2018 -2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 35



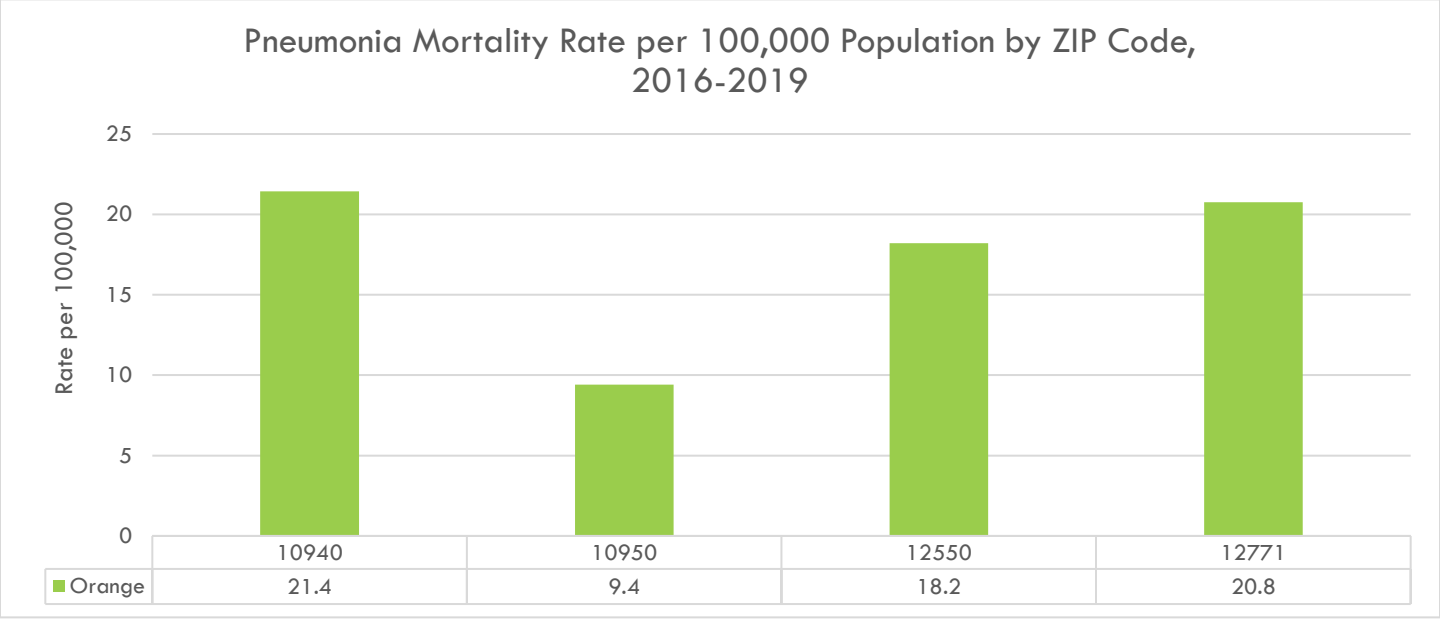
Note: 2018 -2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 36



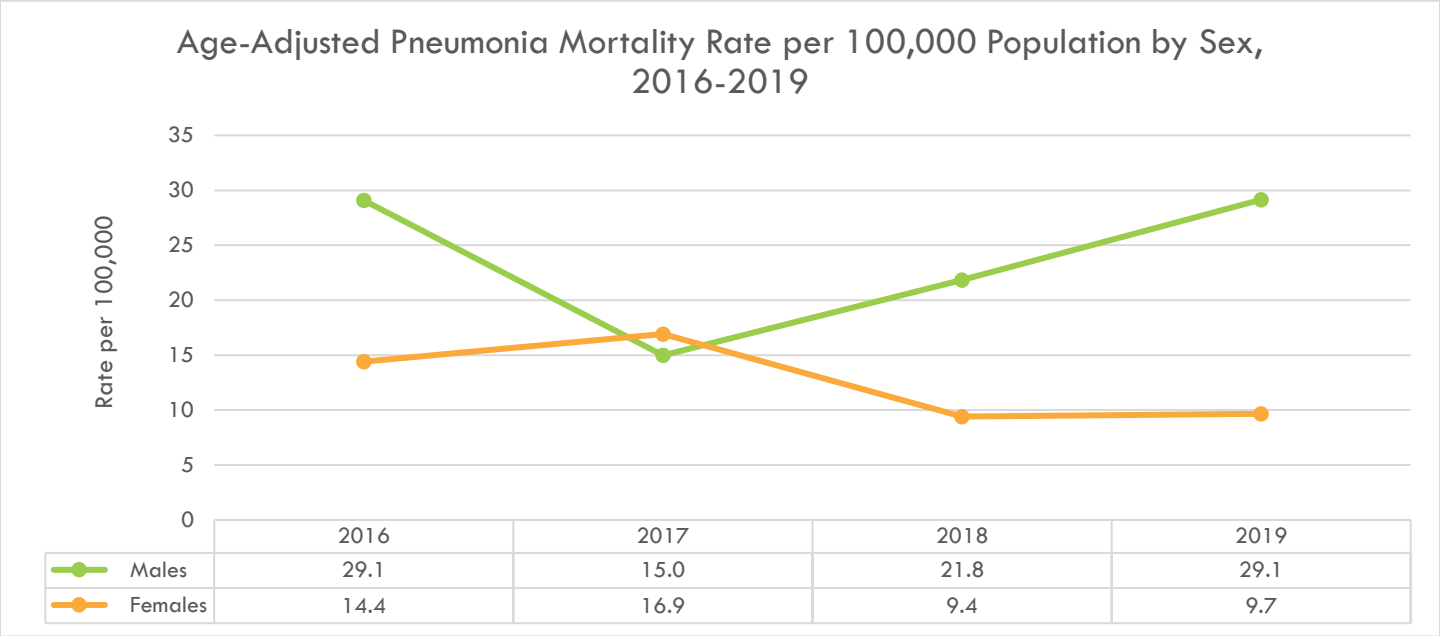
s: Data are suppressed. The data do not meet the criteria for confidentiality
Note: 2018 -2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 37



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 38



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

CARDIOVASCULAR DISEASE

Cardiovascular disease (CVD), or heart disease, is the leading cause of death in the US, killing more than 650,000 people each year.[24] 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.

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).

Discharge rates for CVD in Orange County from 2014 to 2017 were lower than those in NYS excluding NYC, but higher than those in the rest of the Mid-Hudson Region. In all of NYS, including Orange County, CVD discharge rates were higher among males than females [see Table 25].

The average CVD mortality rate in the county from 2016 to 2019 was 213.2 per 100,000, and the rate didn't fluctuate much in that time frame. The county rate was consistently lower than that of NYS excluding NYC from 2016 to 2019 [see Table 26, Figure 39]. There are disparities in CVD mortality by age, race/ethnicity, ZIP code, and gender. Those who are older face a higher risk of death from CVD [see Table 26]. The non-Hispanic White population suffers a much higher CVD mortality rate compared to other races/ethnicities in the county, as well as those who live in ZIP Code 12771 [see Table 26, Figure 40, Figure 41]. Adjusting for age shows that males have consistently suffered from higher rates of CVD mortality than females, though the rates have slightly decreased for both groups from 2016 to 2019 [see Figure 42].

Table 25

Cardiovascular Disease Discharge Rate per 10,000 Population by Gender, 2014-2017

	Male		Female	
Region	**#**	**Rate**	**#**	**Rate**
Orange County	12,077	160.4	10,143	135.0
Mid-Hudson	69,618	152.7	58,386	121.0
NYS excl NYC	405,007	183.3	336,158	147.0

Note: All rates are calculated using ACS 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

[24] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/heartdisease/facts.htm, accessed June 2022

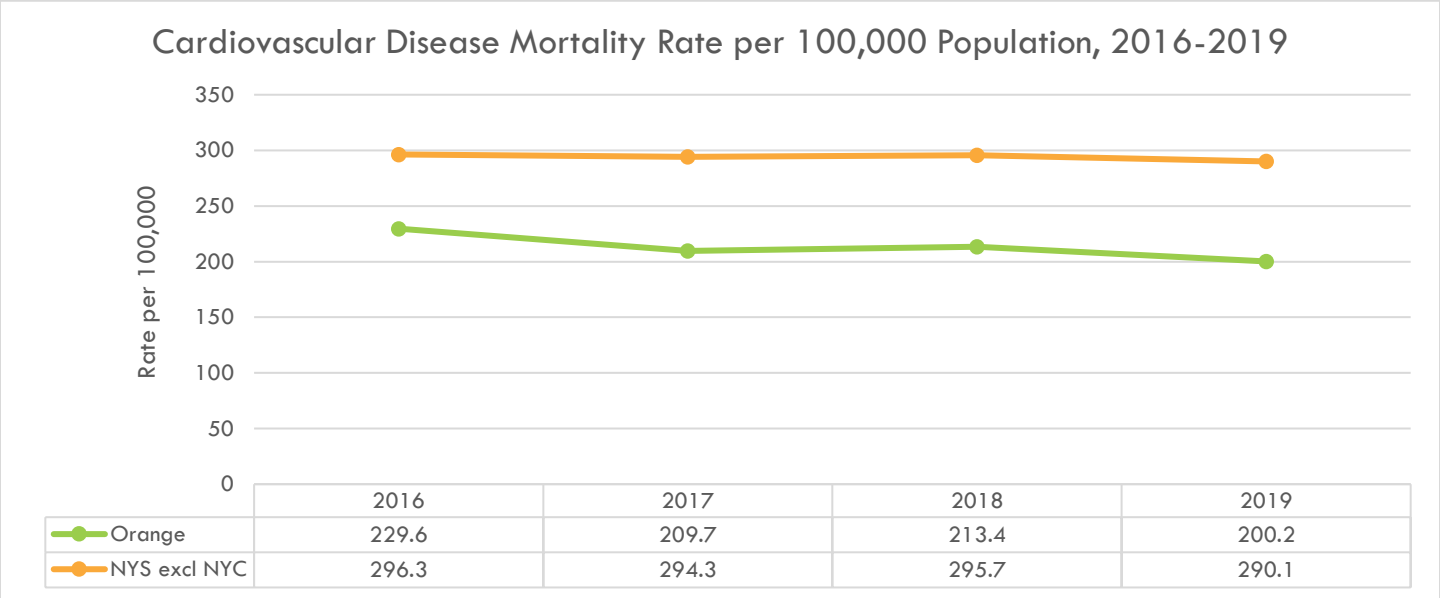
Table 26

Cardiovascular Disease Mortality Rate per 100,000 Population by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	864	229.6	793	209.7	807	213.4	761	200.2	3,225	213.2
NYS excl NYC	33,294	296.3	33,078	294.3	33,045	295.7	32,354	290.1	131,771	294.1
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	s	s	0	0.0	s	s	s	s	s	s
10-19	0	0.0	0	0.0	0	0.0	s	s	s	s
20-24	0	0.0	s	s	s	s	0	0.0	s	s
25-34	s	s	s	s	s	s	s	s	14	8.1
35-44	13	27.8	s	s	s	s	s	s	34	18.6
45-54	40	71.0	28	50.2	33	60.5	27	50.4	128	58.1
55-64	96	209.1	82	175.2	79	166.5	70	145.4	327	173.6
65-74	152	551.1	138	478.9	111	372.4	120	391.3	521	445.8
75-84	194	1499.8	193	1440.2	218	1549.6	212	1458.1	817	1487.0
85+	365	5478.0	338	4974.2	353	5365.6	323	4786.6	1,379	5148.4
Race/Ethnicity										
Non-Hispanic White	724	291.5	669	270.6	666	271.2	621	254.3	2,680	272.0
Non-Hispanic Black	70	197.3	63	172.2	74	198.7	68	179.0	275	186.7
Hispanic	49	67.2	46	61.6	59	77.9	52	66.8	206	68.4
Other	21	107.4	15	76.2	s	s	20	99.8	64	81.1
ZIP Code										
10940	124	252.1	112	225.4	108	220.1	101	210.3	445	227.1
10950	54	108.6	55	109.1	50	98.2	52	102.0	211	104.5
12550	122	223.4	107	194.8	117	212.8	129	233.9	475	216.2
12771	52	369.8	48	338.0	54	365.9	35	236.7	189	327.0

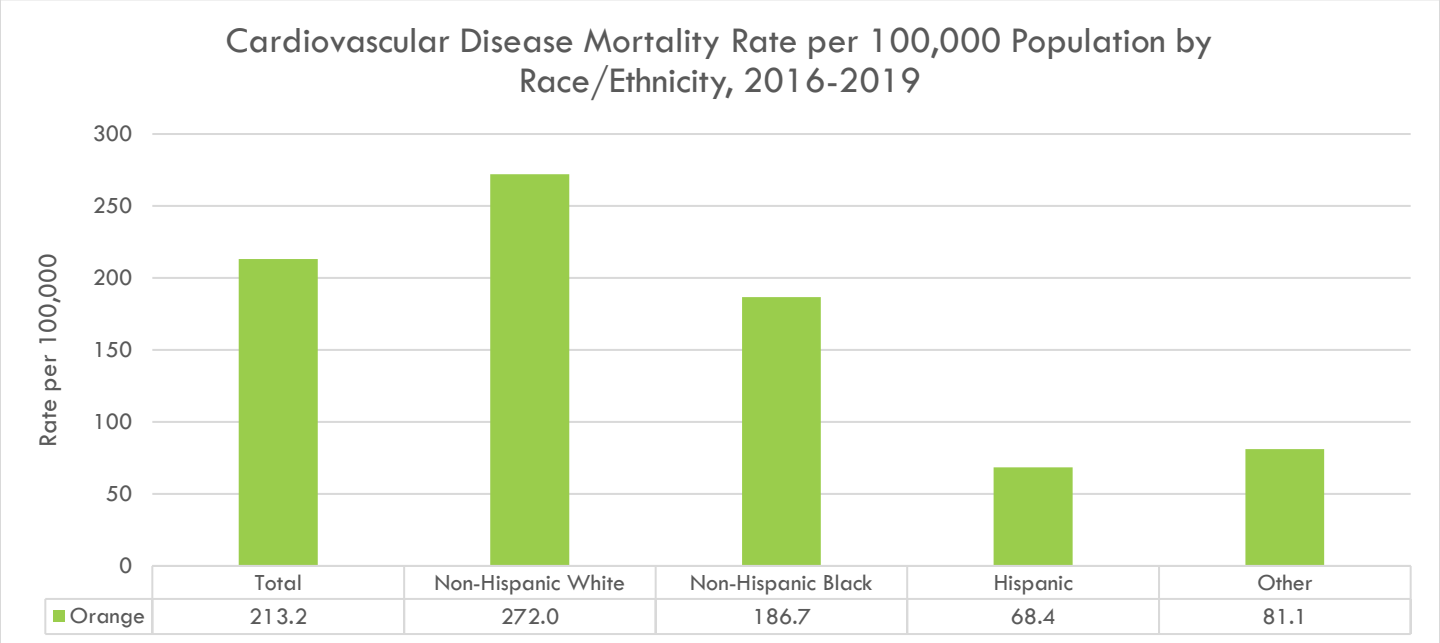
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 39



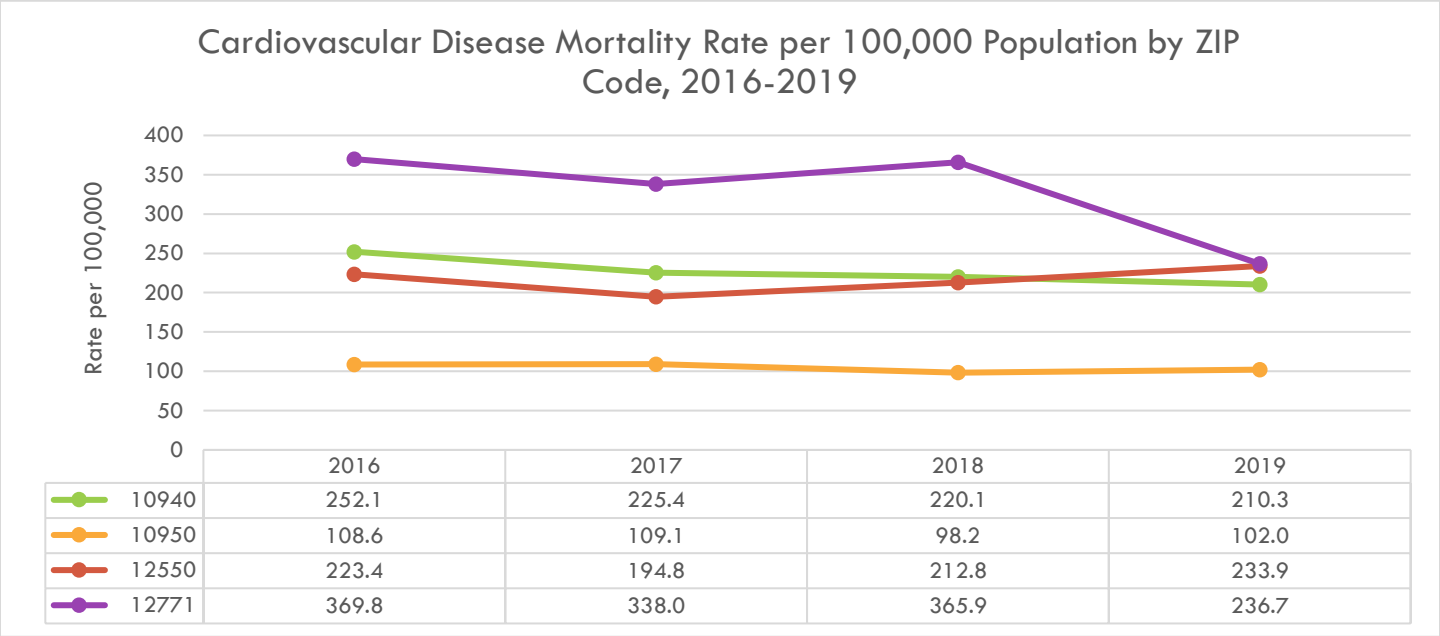
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 40



Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

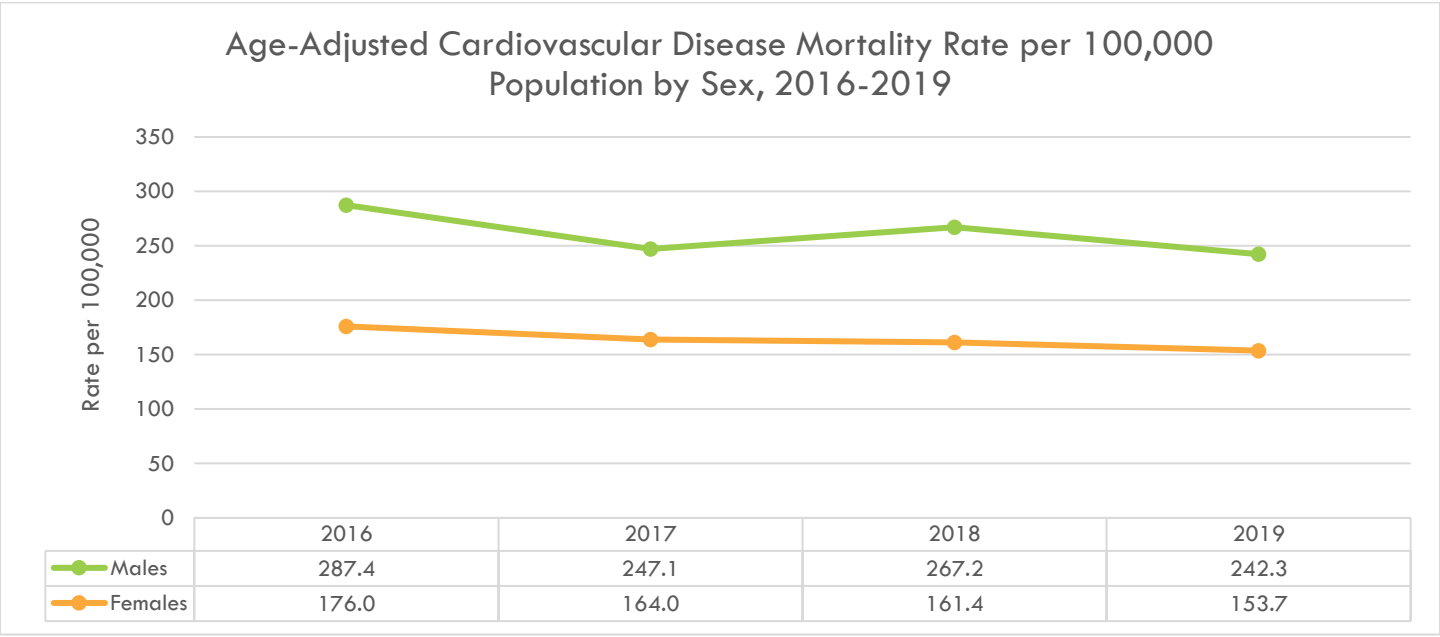
Figure 41



	2016	2017	2018	2019
10940	252.1	225.4	220.1	210.3
10950	108.6	109.1	98.2	102.0
12550	223.4	194.8	212.8	233.9
12771	369.8	338.0	365.9	236.7

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 42



	2016	2017	2018	2019
Males	287.4	247.1	267.2	242.3
Females	176.0	164.0	161.4	153.7

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population and the US 2000 standard population.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

DISEASES OF THE HEART

The average diseases of the heart crude mortality rate in Orange County from 2016 to 2019 was 169.9 per 100,000 population. Over time the mortality rate slightly decreased, from 183.7 in 2016 to 157.6 in 2019, and over that time span remained lower than the mortality rate in NYS excluding NYC [see Table 27, Figure 43]. Deaths from diseases of the heart increase with age, and there are also disparities in mortality by gender and race/ethnicity when adjusting for age. Men are more likely to die from diseases of the heart that females [see Figure 45]. The non-Hispanic Black population had the highest diseases of the heart mortality rate at 176.9 per 100,000 and non-Hispanic Asian/Pacific Islander populations had the lowest at 64.2 per 100,000 [see Figure 44]. Diseases of the heart mortality also differs by ZIP code in the county, with those who live in 12771 suffering the highest rate among major cities in the county [see Table 27, Figure 46].

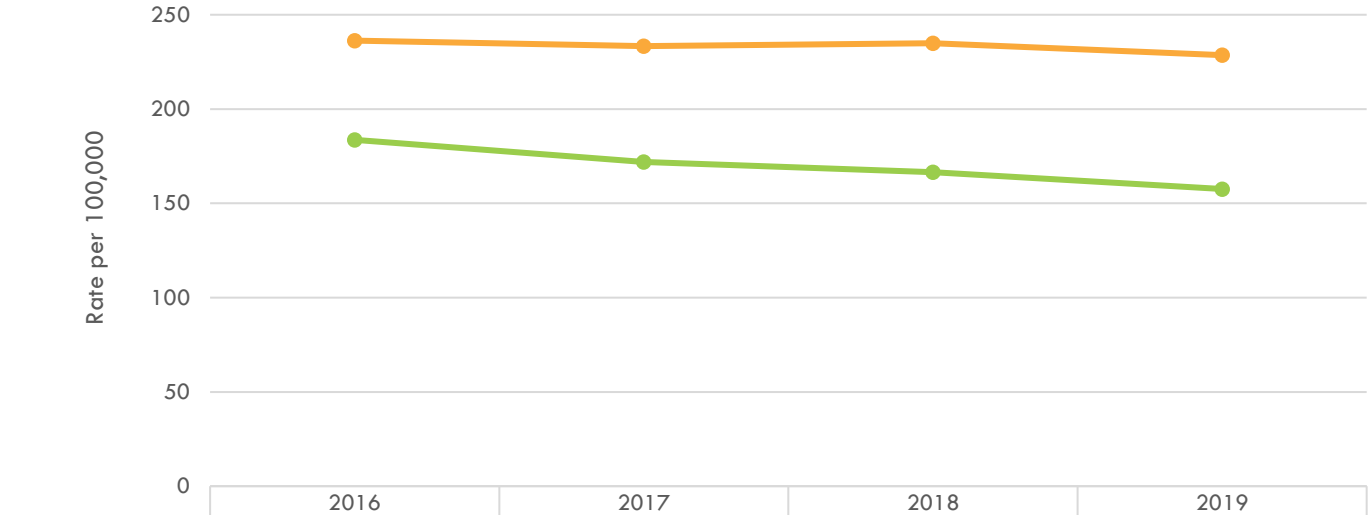
Table 27

Diseases of the Heart Mortality Rate per 100,000 Population by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	691	183.7	650	171.9	630	166.6	599	157.6	2,570	169.9
NYS excl NYC	26,548	236.3	26,225	233.4	26,251	234.9	25,495	228.6	104,519	233.3
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	0	0.0	0	0.0	s	s	0	0.0	s	s
10-19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	s	s	0	0.0	s	s
25-34	s	s	s	s	s	s	s	s	36	20.9
35-44	12	25.7	s	s	s	s	s	s	30	16.4
45-54	35	62.1	22	39.5	28	51.3	21	39.2	106	48.1
55-64	80	174.2	71	151.7	64	134.9	52	108.0	267	141.8
65-74	124	449.6	123	426.8	82	275.1	93	303.3	422	361.1
75-84	154	1190.6	140	1044.7	156	1108.9	160	1100.5	610	1110.2
85+	285	4277.4	283	4164.8	289	4392.8	265	3927.1	1,122	4188.9
Race/Ethnicity										
Non-Hispanic White	576	231.9	551	222.8	523	212.9	495	202.7	2,145	217.7
Non-Hispanic Black	58	163.5	51	139.4	58	155.7	51	134.2	218	148.0
Hispanic	39	53.5	38	50.9	42	55.5	40	51.4	159	52.8
Other	18	92.1	10	50.8	s	s	13	64.9	48	60.8
ZIP Code										
10940	106	215.5	87	175.1	82	167.1	81	168.7	356	181.7
10950	38	76.4	45	89.3	40	78.6	41	80.4	164	81.2
12550	92	168.5	88	160.2	81	147.3	92	166.8	353	160.7
12771	41	291.6	45	316.9	43	291.4	30	202.9	159	275.1

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

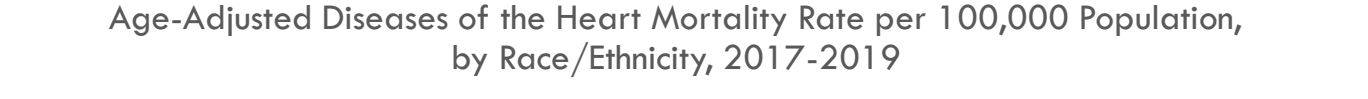
Figure 43



	2016	2017	2018	2019
Orange	183.7	171.9	166.6	157.6
NYS excl NYC	236.3	233.4	234.9	228.6

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

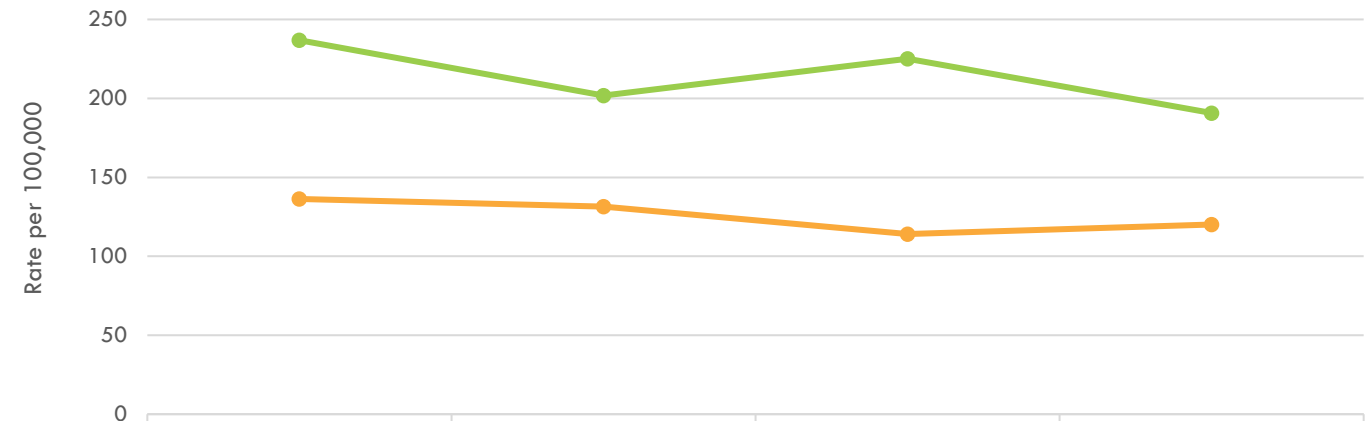
Figure 44



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	156.7	160.2	176.9	64.2	105.3
NYS	169.4	169.7	206.5	93.1	132.6

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

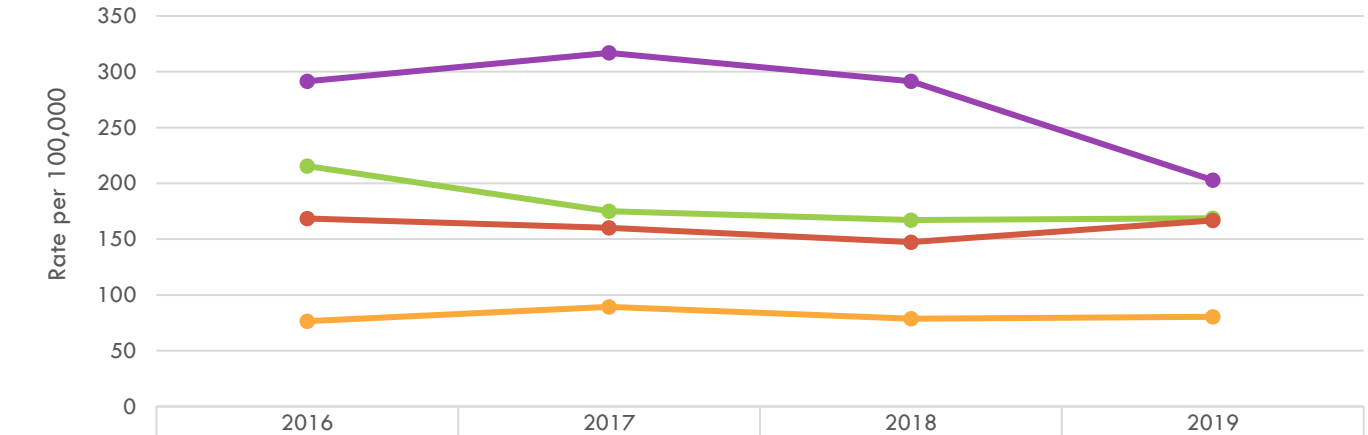
Figure 45



	2016	2017	2018	2019
Males	236.8	201.9	225.0	190.7
Females	136.3	131.5	114.1	120.1

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates and the US 2000 standard population.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 46



	2016	2017	2018	2019
10940	215.5	175.1	167.1	168.7
10950	76.4	89.3	78.6	80.4
12550	168.5	160.2	147.3	166.8
12771	291.6	316.9	291.4	202.9

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

CEREBROVASCULAR DISEASE

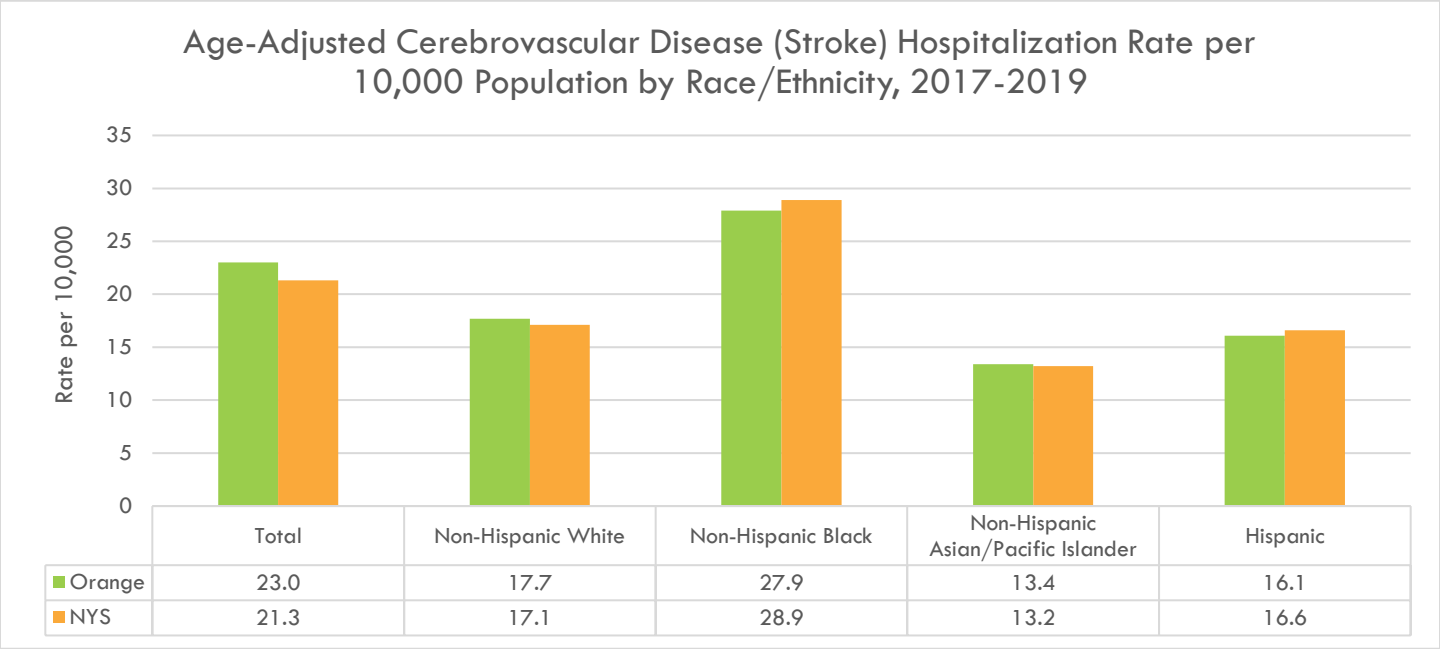
Cerebrovascular disease, also called a stroke, occurs when blood supply to the brain is blocked, which can lead to extensive damage to the brain and even death. It is important to recognize the signs and symptoms of a stroke in order for action to be taken quickly. Signs of a stroke include numbness 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. 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.[25]

When adjusting for age, stroke hospitalizations in Orange County are slightly higher than that of NYS excluding NYC, and there are disparities in rates by race/ethnicity. When adjusting for age, non-Hispanic Black populations had higher rates of stroke hospitalization (27.9 per 10,000) compared to other racial/ethnic groups in the county. Non-Hispanic Asian/Pacific Islander populations had the lowest rate at 13.4 per 10,000. Stroke hospitalization trends across race/ethnicity in Orange County are consistent with those at the state level [see Figure 47].

Mortality from strokes has averaged at 26.9 per 100,000 population in Orange County from 2016 to 2019, which is lower than the rate for NYS excluding NYC (37.8) [see Table 28, Figure 48]. The frequency of stroke mortality increases with age and is higher for males than females. Similar to stroke hospitalizations, there are also disparities in stroke mortality when stratifying by race/ethnicity. However, in this case the mortality rate is highest for the non-Hispanic White population (33.1) compared to the non-Hispanic Black (25.1), Hispanic (10.3), and "Other" (16.5) populations [see Figure 49]. Those who live in the ZIP code 12550 also suffer a higher rate of stroke mortality compared to other ZIP codes in the county [see Figure 50]. When adjusting for age, males are shown to have slightly higher rates of cerebrovascular disease mortality than females, on average, and the age-adjusted rates in Orange County have remained similar to those of NYS excluding NYC over time [see Figure 51].

[25] Mayo Clinic, 2022, https://www.mayoclinic.org/diseases-conditions/stroke/symptoms-causes/syc-20350113, accessed June 2022

Figure 47



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	23.0	17.7	27.9	13.4	16.1
NYS	21.3	17.1	28.9	13.2	16.6

Note: The 2019 ED data in NYC may be incomplete and subject to change. Thus, the state rates may be underestimated and subject to change.

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

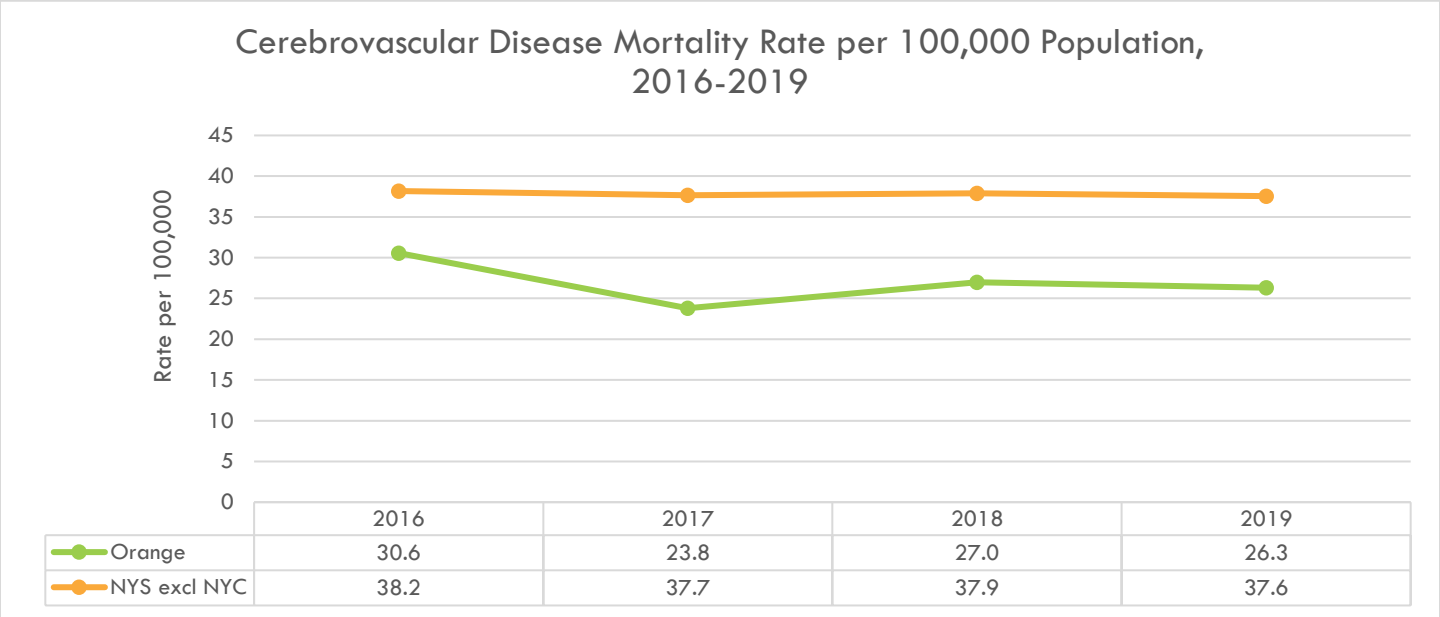
Table 28

Cerebrovascular Disease (Stroke) Mortality Rate per 100,000 Population by Age, Gender, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	116	30.8	90	23.8	103	27.2	100	26.3	409	27.0
NYS excl NYC	4,289	38.2	4,234	37.7	4,233	37.9	4,188	37.6	16,944	37.8
Age Intervals										
<1	s	s	0	0.0	s	s	0	0.0	s	s
1-9	s	s	0	0.0	s	s	0	0.0	s	s
10-19	0	0.0	0	0.0	0	0.0	s	s	s	s
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-34	s	s	0	0.0	0	0.0	0	0.0	s	s
35-44	0	0.0	s	s	s	s	0	0.0	s	s
45-54	s	s	s	s	s	s	s	s	s	s
55-64	11	24.0	s	s	s	s	s	s	31	16.5
65-74	17	61.6	12	41.6	15	50.3	14	45.7	58	49.6
75-84	31	239.7	35	261.2	39	277.2	35	240.7	140	254.8
85+	51	765.4	34	500.4	35	532.0	42	622.4	162	604.8
Race/Ethnicity										
Non-Hispanic White	94	37.9	77	31.1	77	31.4	78	31.9	326	33.1
Non-Hispanic Black	11	31.0	s	s	11	29.5	s	s	37	25.1
Hispanic	s	s	s	s	13	17.2	s	s	31	10.3
Other	s	s	s	s	s	s	s	s	15	19.0
ZIP Code										
10940	12	24.4	16	32.2	16	32.6	14	29.2	58	29.6
10950	11	22.1	s	s	s	s	s	s	29	14.4
12550	21	38.5	10	18.2	26	47.3	25	45.3	82	37.3
12771	s	s	s	s	s	s	s	s	15	25.9

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018 -2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

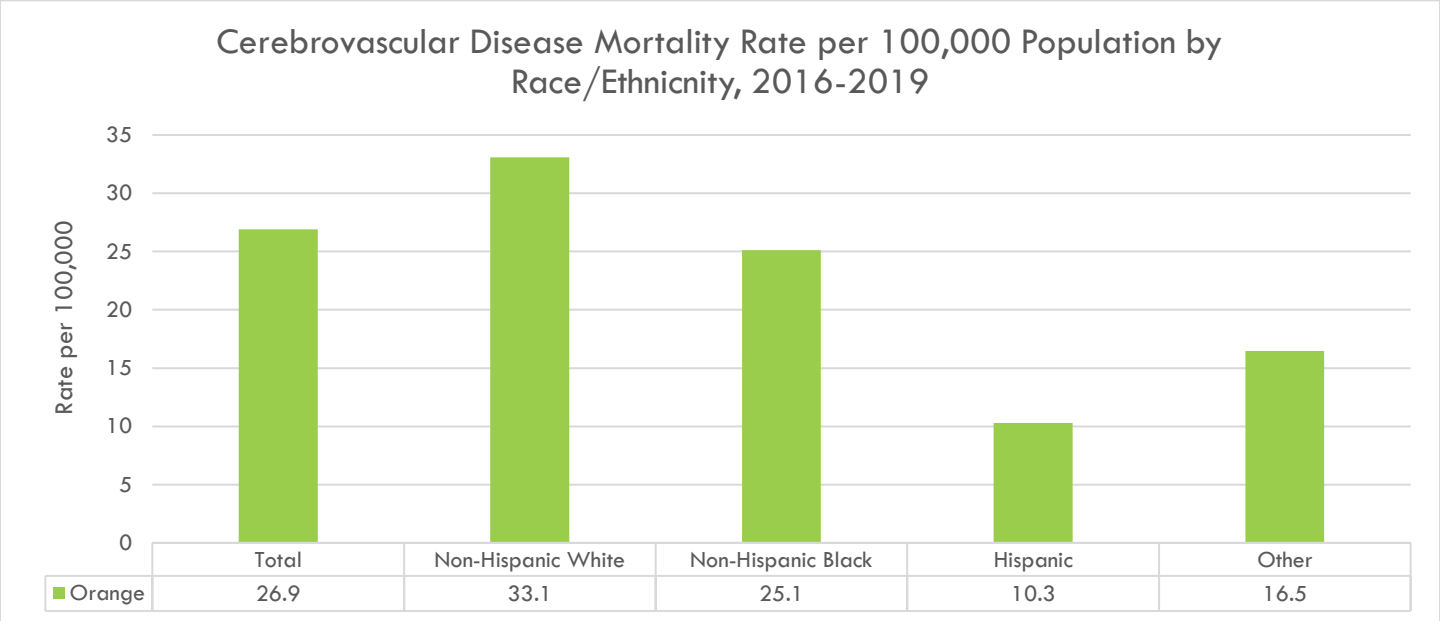
Figure 48



	2016	2017	2018	2019
Orange	30.6	23.8	27.0	26.3
NYS excl NYC	38.2	37.7	37.9	37.6

Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

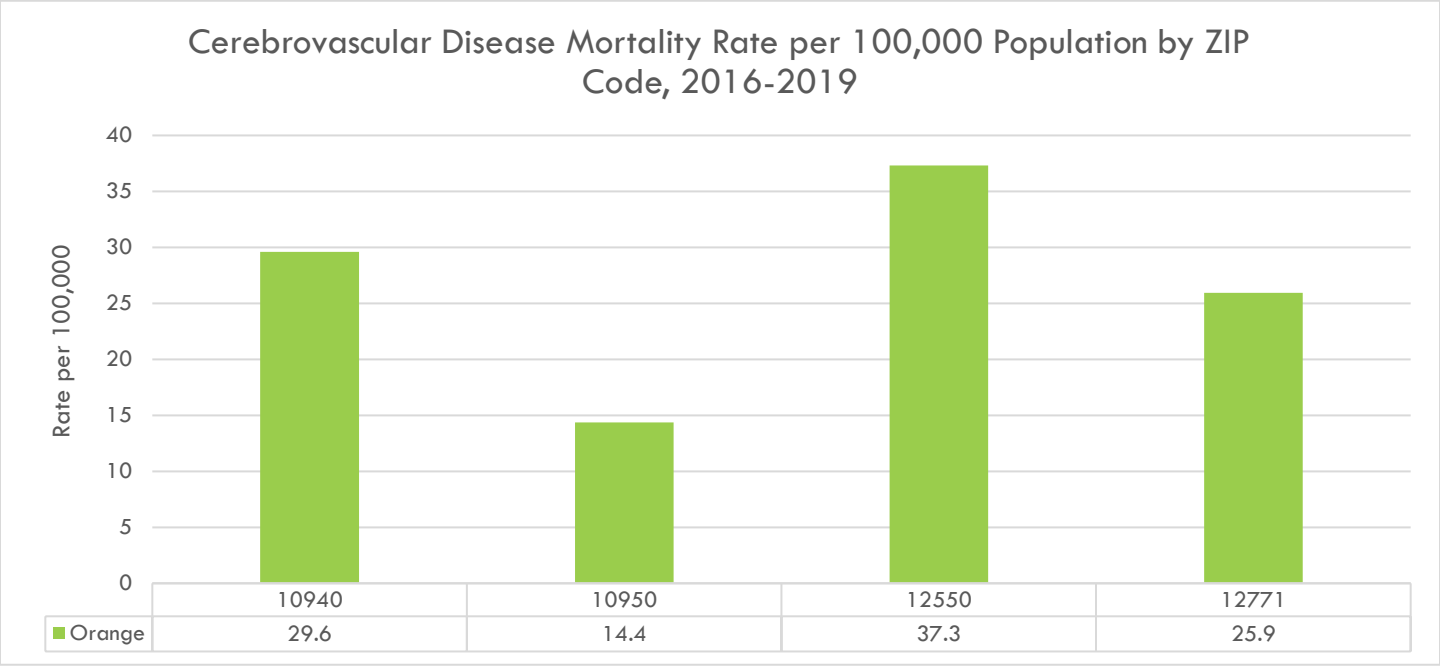
Figure 49



	Total	Non-Hispanic White	Non-Hispanic Black	Hispanic	Other
Orange	26.9	33.1	25.1	10.3	16.5

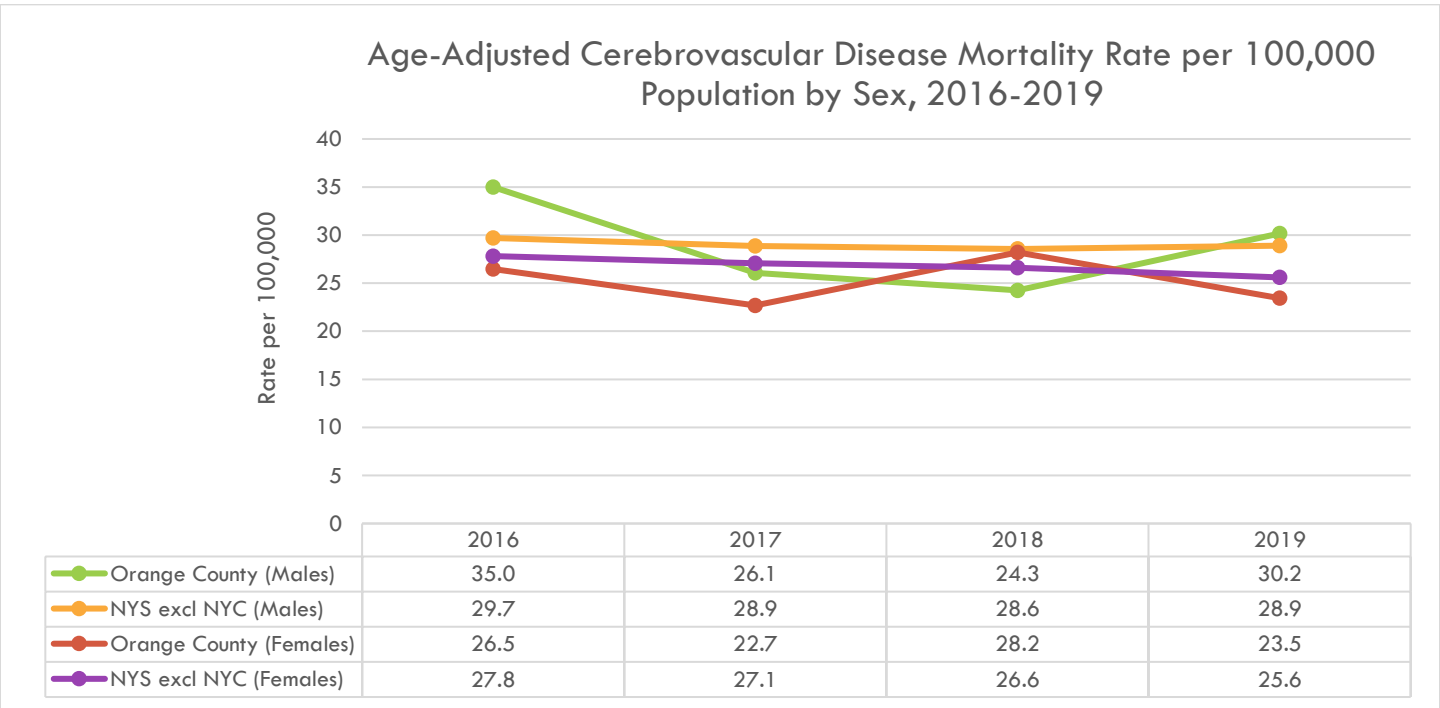
Note: 2018 -2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 50



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 51



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

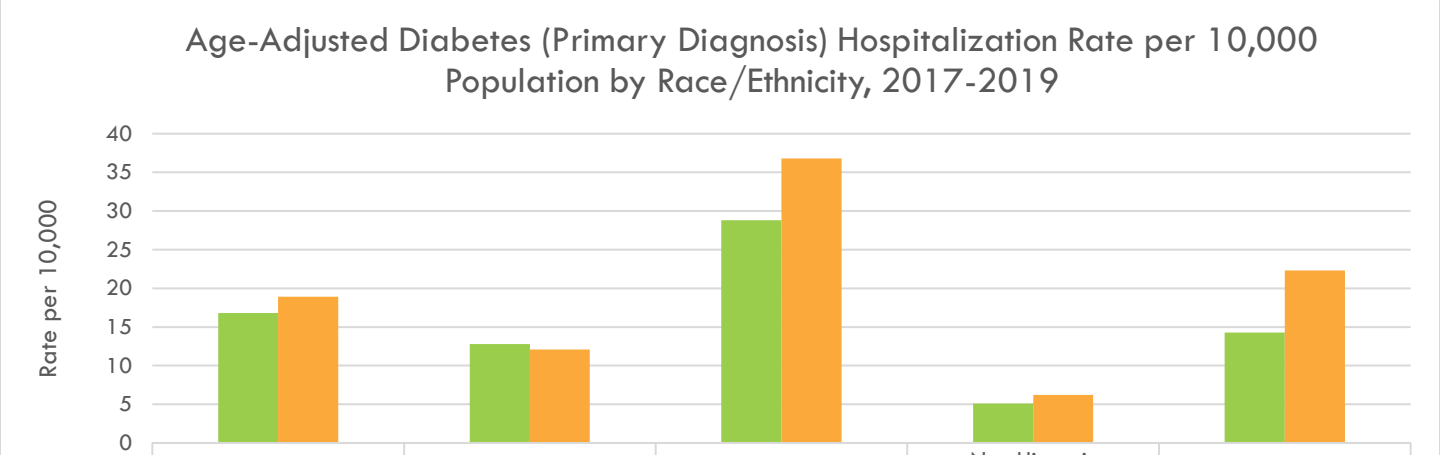
DIABETES

In the US, diabetes is the seventh leading cause of death.[26] 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% to 95% of people with diabetes have type 2 diabetes.[27]

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% to 30% of the population in NYS with prediabetes will develop type 2 diabetes within five years if they do not change their lifestyle behaviors.[26]

From 2017 to 2019, the average age-adjusted diabetes hospitalization rate in Orange County was 16.8 per 10,000 population, which is lower than the NYS rate of 18.9 per 10,000. There were large disparities in diabetes hospitalization rates across race/ethnicity. Non-Hispanic Black populations had the highest hospitalization rate at 28.8, and non-Hispanic Asian/Pacific Islander populations had the lowest at 5.1 [see Figure 52]. There were also disparities in diabetes discharge rates by gender, with males having a much higher discharge rate than females [see Table 29].

Figure 52



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	16.8	12.8	28.8	5.1	14.3
NYS	18.9	12.1	36.8	6.2	22.3

Note: The 2019 ED data in NYC may be incomplete and subject to change. Thus, the state rates may be underestimated and subject to change.
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

[26] New York State Department of Health, 2022, https://www.health.ny.gov/diseases/conditions/diabetes/, accessed June 2022

[27] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/diabetes/index.html, accessed June 2022

Table 29

Diabetes Discharge Rate per 10,000 Population by Gender, 2014-2017				
	Male		Female	
Region	#	Rate	#	Rate
Orange County	1289	17.1	950	12.6
Mid-Hudson	7554	16.6	5333	11.1
NYS excl NYC	43200	19.6	31738	13.9

Note: All rates are calculated using ACS 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Similar to diabetes hospitalizations, diabetes mortality was slightly lower in Orange County compared to NYS excluding NYC, with an average of 16.2 diabetes deaths per 100,000 compared to 17.6. While the mortality rate in NYS excluding NYC consistently increased from 2016 to 2019, the rate in Orange County has remained more stable over time [see Table 30, Figure 53]. Diabetes mortality increases with age, and, just as with diabetes hospitalizations, age-adjusted data show that non-Hispanic Black populations faced the highest mortality from diabetes in both the county and NYS excluding NYC when compared to other racial/ethnic groups [see Table 30, Figure 54]. Age-adjusted rates also show that males tend to die more often from diabetes than females [see Figure 55].

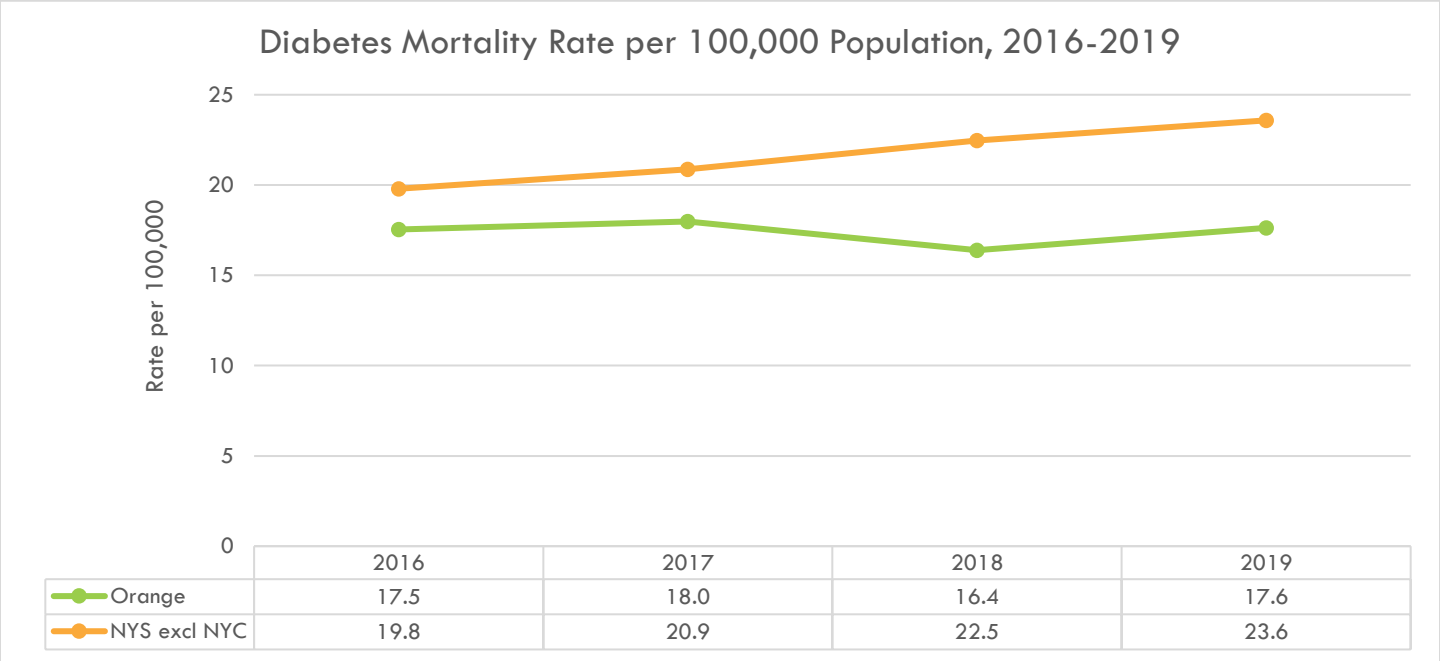
Table 30

Diabetes Mortality Rate per 100,000 Population by Age and Race/Ethnicity, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	66	17.5	68	18.0	62	16.4	67	17.6	263	17.4
NYS excl NYC	2,224	19.8	2,346	20.9	2,510	22.5	2,630	23.6	9,710	21.7
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10-19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-34	0	0.0	0	0.0	s	s	s	s	s	s
35-44	0	0.0	s	s	s	s	0	0.0	s	s
45-54	s	s	s	s	s	s	s	s	16	7.3
55-64	s	s	10	21.4	10	21.1	11	22.8	40	21.2
65-74	16	58.0	14	48.6	11	36.9	14	45.7	55	47.1
75-84	20	154.6	19	141.8	14	99.5	15	103.2	68	123.8
85+	18	270.1	15	220.8	19	288.8	23	340.8	75	280.0
Race/Ethnicity										
Non-Hispanic White	50	20.1	48	19.4	42	17.1	50	20.5	190	19.3
Non-Hispanic Black	11	31.0	s	s	s	s	s	s	37	25.1
Hispanic	s	s	s	s	11	14.5	s	s	29	9.6
Other	s	s	s	s	s	s	s	s	s	s

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

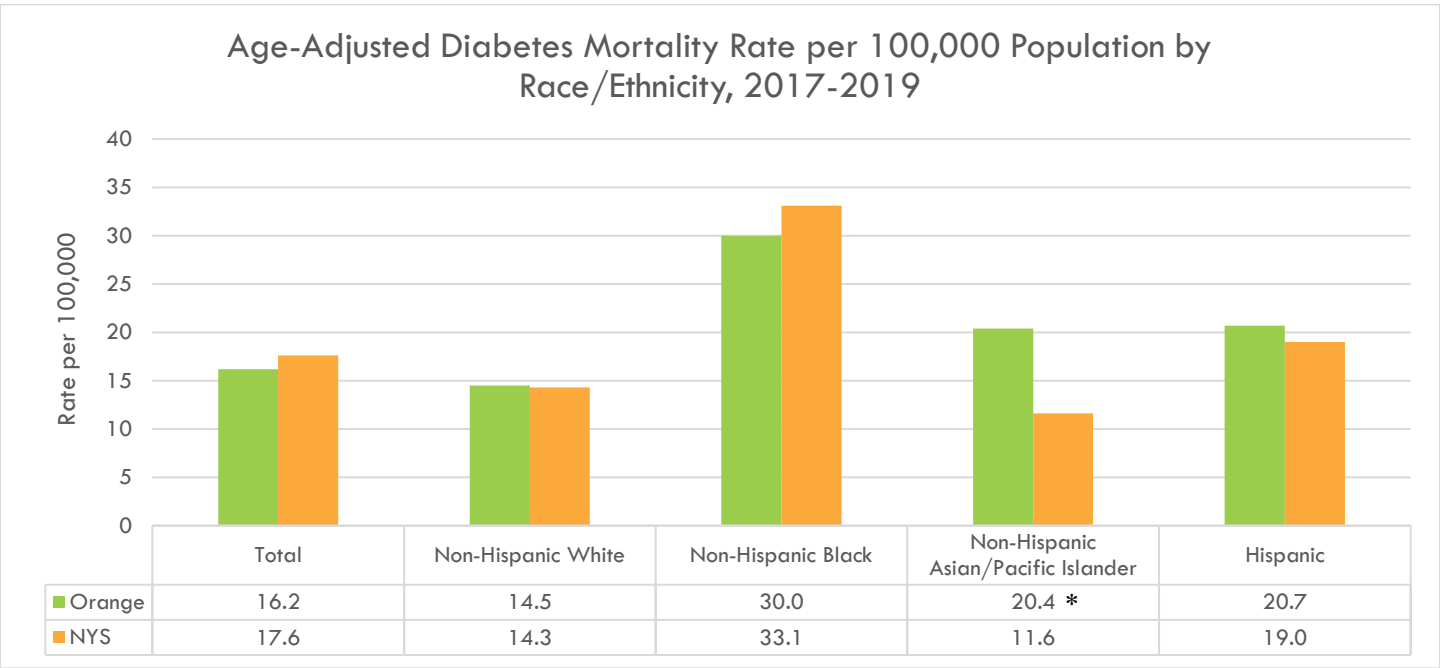
Figure 53



	2016	2017	2018	2019
Orange	17.5	18.0	16.4	17.6
NYS excl NYC	19.8	20.9	22.5	23.6

Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

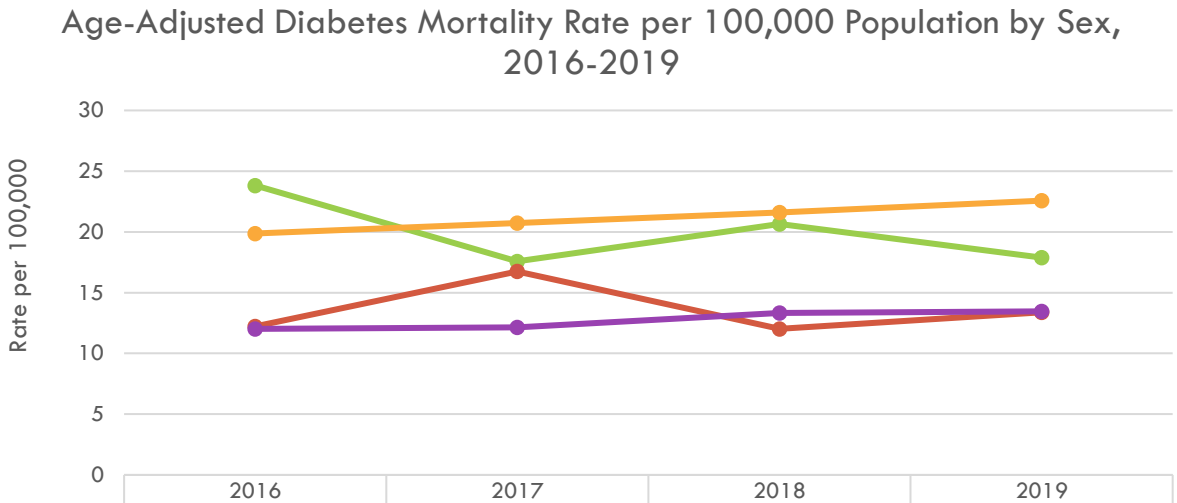
Figure 54



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	16.2	14.5	30.0	20.4 *	20.7
NYS	17.6	14.3	33.1	11.6	19.0

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

Figure 55



	2016	2017	2018	2019
Orange County (Males)	23.8	17.6	20.7	17.9
NYS excl NYC (Males)	19.9	20.7	21.6	22.6
Orange County (Females)	12.2	16.7	12.0	13.4
NYS excl NYC (Females)	12.0	12.1	13.3	13.5

Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
Rates are calculated using ACS 5-year population estimates and the US 2000 standard population.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

CIRRHOSIS OF THE LIVER

Cirrhosis is a condition in which the liver experiences fibrosis (scarring) that can lead to permanent damage.[28] In the US, 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).[29]

From 2016 to 2019, mortality from cirrhosis of the liver averaged at 8.1 deaths per 100,000 population. Mortality rates increase with age and are higher among males and the non-Hispanic White population in the county [see Table 31, Figure 57]. Discharge rates for cirrhosis of the liver were also higher among males than females in the county, which follows the trend seen in NYS excluding NYC [see Table 32].

Age-adjusted cirrhosis mortality rates in Orange County started to decrease in 2013, but in 2015 it started increasing again, reaching a high of 7.5 per 100,000 in 2018. This increase beginning in 2015 is also seen at the state level, though the rates for Orange County have remained below those of the state over time [see Figure 56].

[28] World Journal of Gastroenterology, 2014, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4017060/, accessed August 2022

[29] Mayo Clinic, 2021, https://www.mayoclinic.org/diseases-conditions/cirrhosis/symptoms-causes/syc-20351487, accessed August 2022

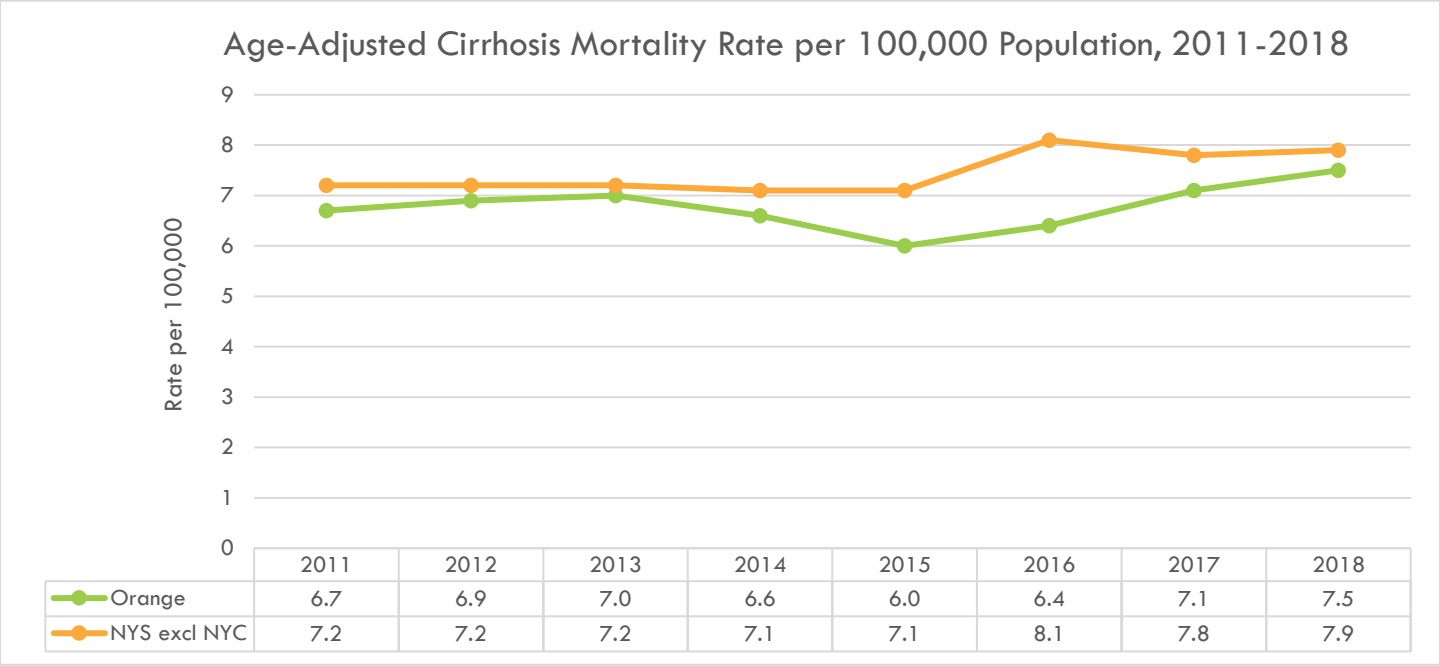
Table 31

Cirrhosis of the Liver Mortality Rate per 100,000 Population by Age, Gender, and Race/Ethnicity, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	28	7.4	30	7.9	32	8.5	32	8.4	122	8.1
NYS excl NYC	1,108	9.9	1,075	9.6	1,092	9.8	1,137	10.2	4,412	9.8
Age Intervals										
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-34	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
35-44	s	s	s	s	s	s	s	s	s	s
45-54	s	s	s	s	s	s	s	s	17	7.7
55-64	15	32.7	12	25.6	12	25.3	s	s	47	25.0
65-74	s	s	s	s	s	s	13	42.4	23	19.7
75-84	s	s	s	s	s	s	s	s	20	36.4
85+	s	s	s	s	s	s	s	s	s	s
Gender										
Males	20	10.6	17	9.0	22	11.6	21	11.0	80	10.6
Females	s	s	13	6.9	s	s	11	5.8	42	5.6
Race/Ethnicity										
Non-Hispanic White	18	7.2	27	10.9	25	10.2	30	12.3	100	10.1
Non-Hispanic Black	s	s	s	s	s	s	0	0.0	s	s
Hispanic	s	s	s	s	s	s	s	s	17	5.6
Other	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Source: NYS Department of Health, Bureau of Vital Statistics and NYS DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

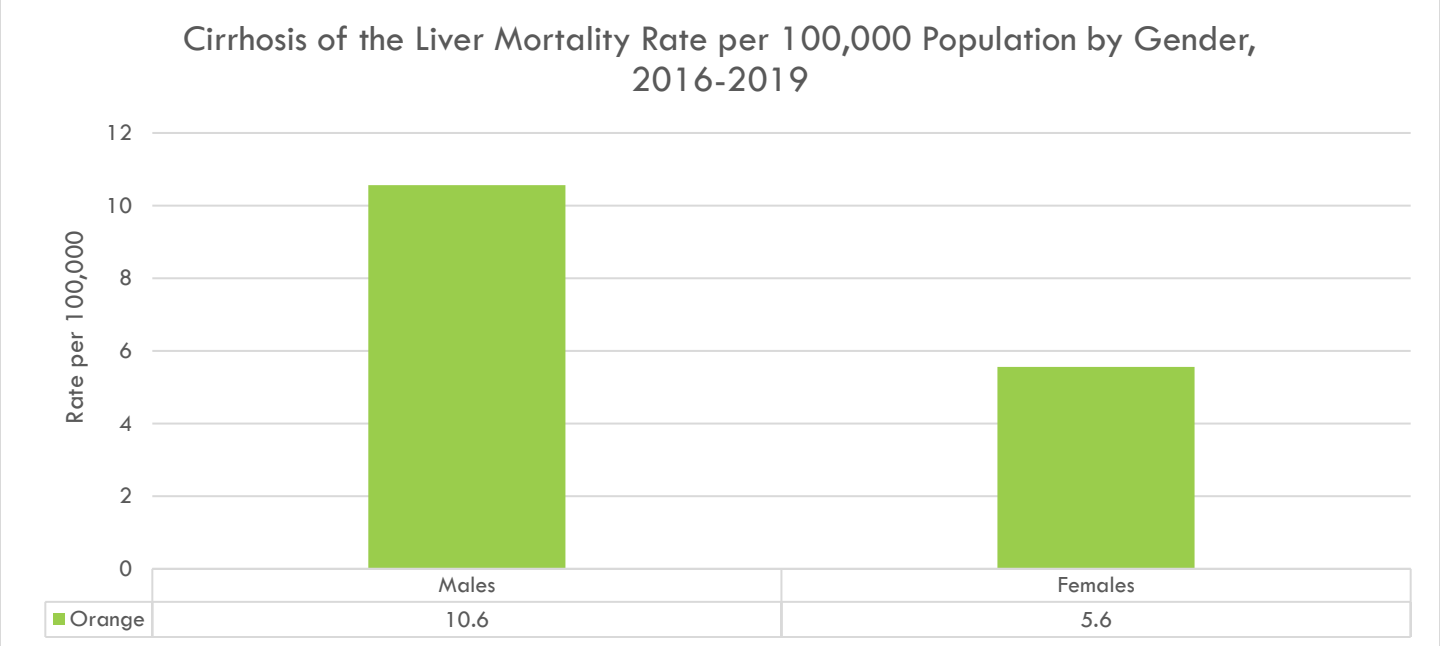
Figure 56



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	6.7	6.9	7.0	6.6	6.0	6.4	7.1	7.5
NYS excl NYC	7.2	7.2	7.2	7.1	7.1	8.1	7.8	7.9

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2022
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Dd21&cos=33

Figure 57



	Males	Females
Orange	10.6	5.6

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Table 32

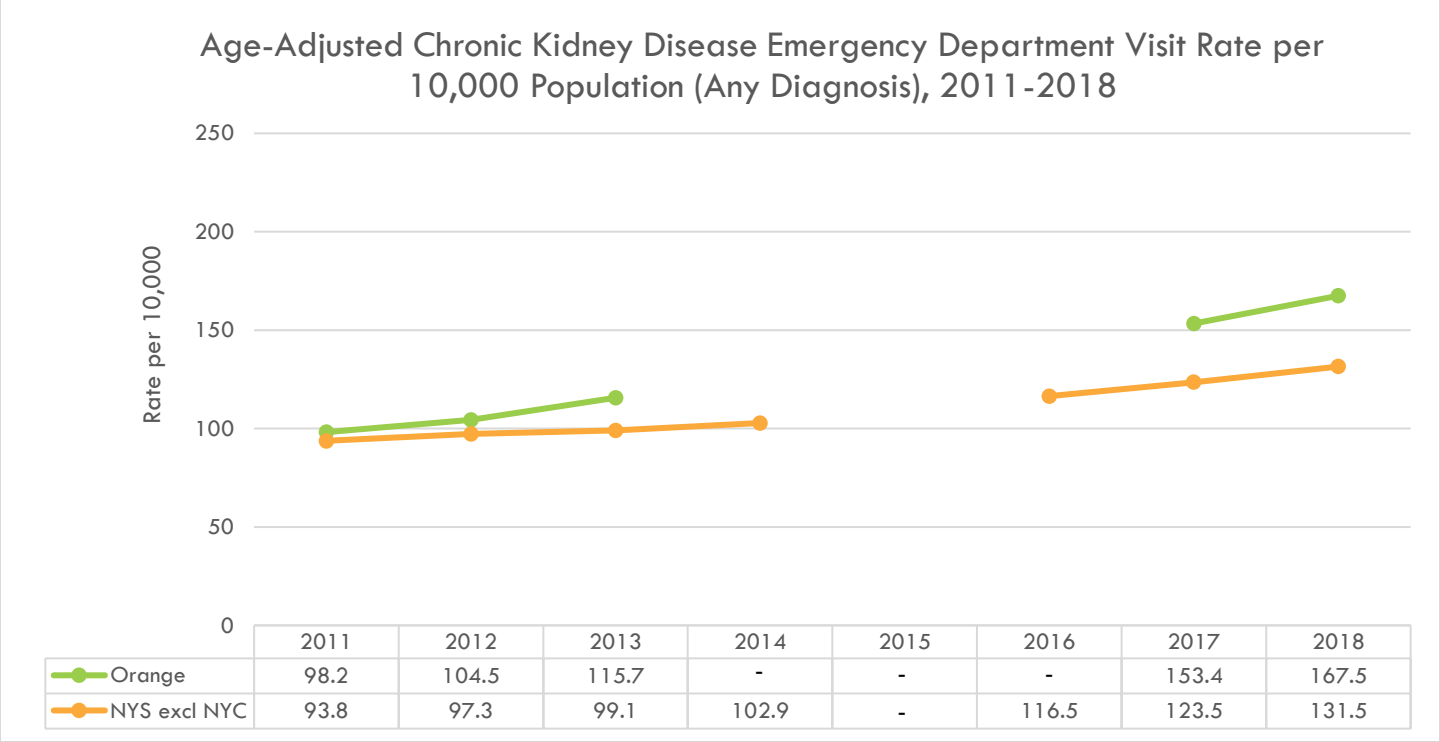
Cirrhosis of the Liver Discharge Rate per 10,000 Population by Gender, 2014-2017				
	Male		Female	
Region	#	Rate	#	Rate
Orange County	292	3.9	184	2.4
Mid-Hudson	974	2.1	1684	3.5
NYS excl NYC	9155	4.1	5321	2.3

Note: All rates are calculated using ACS 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

CHRONIC KIDNEY DISEASE

Chronic kidney disease emergency department visit rates have increased in both Orange County and NYS excluding NYC since 2011. The rate for Orange County has consistently been higher than that of NYS excluding NYC over time. While ER visits had been increasing, the chronic kidney disease hospitalization rate had been decreasing in the county from 2011 to 2013. However, the rates increased from 2017 to 2018. Similar to the emergency department visit rates, the hospitalization rate for chronic kidney disease in Orange County has remained higher than that of NYS excluding NYC over time [see Figure 58, Figure 59].

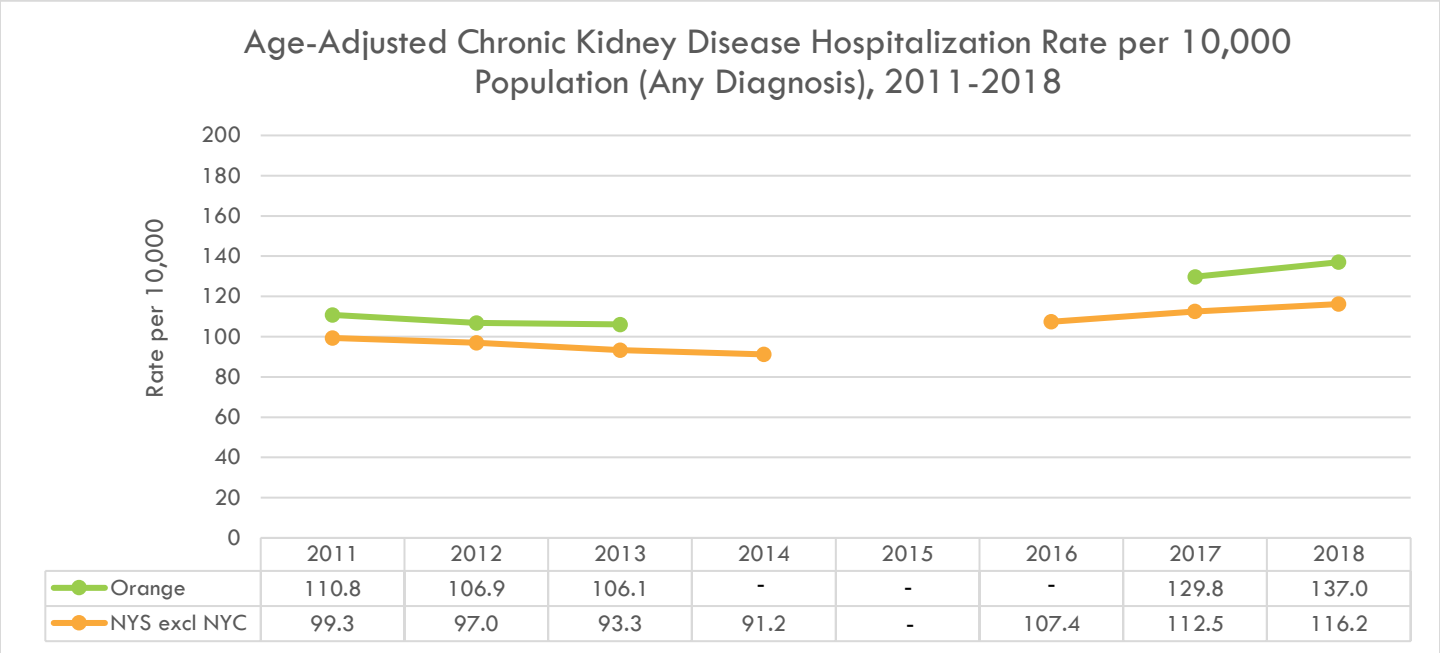
Figure 58



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	98.2	104.5	115.7	-	-	-	153.4	167.5
NYS excl NYC	93.8	97.3	99.1	102.9	-	116.5	123.5	131.5

Note: 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.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=De3&cos=33

Figure 59



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	110.8	106.9	106.1	-	-	-	129.8	137.0
NYS excl NYC	99.3	97.0	93.3	91.2	-	107.4	112.5	116.2

Note: 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.
Source: NYS Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Dh50&cos=33

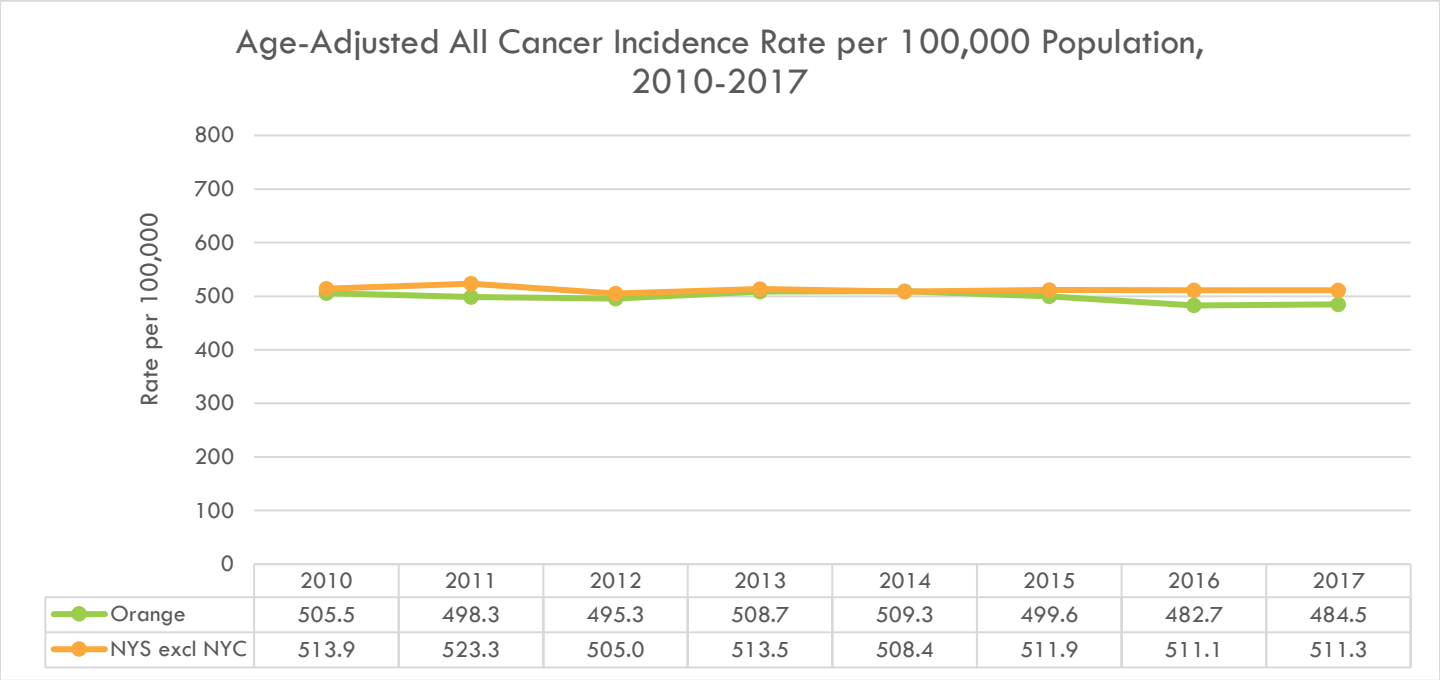
CANCER

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. These masses of cells that spread are called malignant neoplasms, or tumors.[30] There are a variety of risk factors for cancer, including genetics, environment, and health behaviors such as smoking, drinking alcohol, diet, and physical activity.

Cancer is one of the leading causes of death in the Mid-Hudson Region. From 2014 to 2018, Orange County had an average yearly age-adjusted cancer incidence rate of 496.2 per 100,000 population. This rate has remained relatively stable over time in both Orange County and NYS excluding NYC [see Figure 60]. When stratifying by race/ethnicity, the non-Hispanic White population in the county had the highest cancer incidence rate at 513.0 per 100,000. This number is slightly below the NYS incidence rate but well above the US national rate. The Asian/Pacific Islander population has the lowest cancer incidence at 338.0 per 100,000 population [see Figure 61]. The discharge rate for malignant neoplasms (cancerous tumors) was much lower in Orange County than in the rest of the Mid-Hudson Region and NYS excluding NYC for both males and females from 2014 to 2017. Males in Orange County had a slightly higher rate than females, at 17.1 per 10,000 compared to 12.6. This contrasts the trend in the rest of the Mid-Hudson Region and NYS excluding NYC, where females tend to have higher malignant neoplasm discharge rates [see Table 33].

[30] National Cancer Institute, 2021, https://www.cancer.gov/about-cancer/understanding/what-is-cancer, accessed August 2022

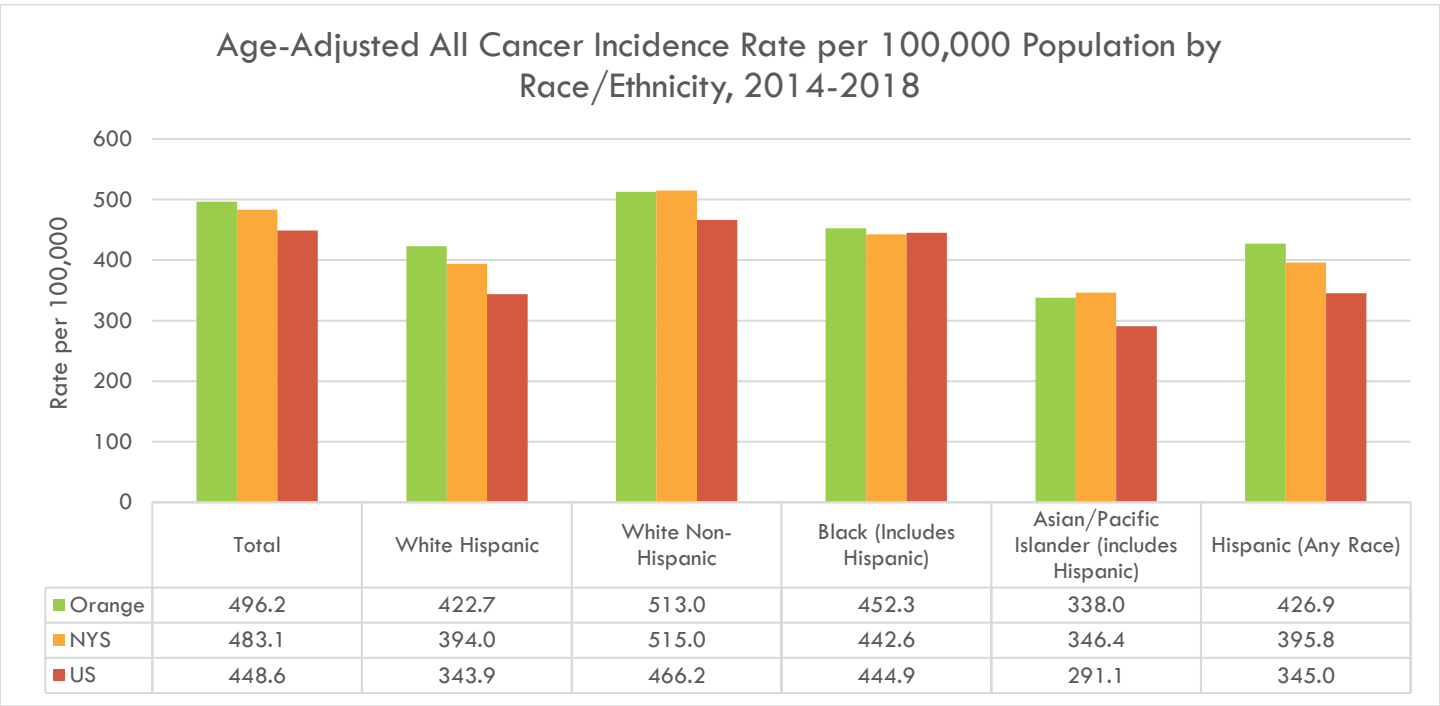
Figure 60



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	505.5	498.3	495.3	508.7	509.3	499.6	482.7	484.5
NYS excl NYC	513.9	523.3	505.0	513.5	508.4	511.9	511.1	511.3

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag1&cos=33

Figure 61



	Total	White Hispanic	White Non-Hispanic	Black (Includes Hispanic)	Asian/Pacific Islander (includes Hispanic)	Hispanic (Any Race)
Orange	496.2	422.7	513.0	452.3	338.0	426.9
NYS	483.1	394.0	515.0	442.6	346.4	395.8
US	448.6	343.9	466.2	444.9	291.1	345.0

Source: NIH National Cancer Institute, State Cancer Profiles, 2020
https://statecancerprofiles.cancer.gov/incidencerates/index.php

Table 33

Malignant Neoplasm Discharge Rate per 10,000 Population by Gender, 2014-2017				
	Male		Female	
Region	#	Rate	#	Rate
Orange County	1,289	17.1	950	12.6
Mid-Hudson	18,558	40.7	20,656	42.8
NYS excl NYC	104,597	47.3	110,182	48.2

Note: Rates are calculated using ACS 5-year population estimates.
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

From 2015 to 2019, the average age-adjusted malignant neoplasms (cancerous tumors) mortality rate was 151.8 per 100,000 population. This is slightly lower than the overall US rate, but higher than that of NYS excluding NYC [see Figure 64]. The rate of death from malignant neoplasms increases with age and is higher for those who live in ZIP code 12771 [see Table 34, Figure 63]. When stratifying by race/ethnicity, both the crude and age-adjusted malignant neoplasm mortality rates are highest among non-Hispanic White people in the county and lowest among Hispanic, Asian/Pacific Islander, and "Other" racial/ethnic groups. This has consistently been the trend over time [see Table 34, Figure 62, Figure 65].

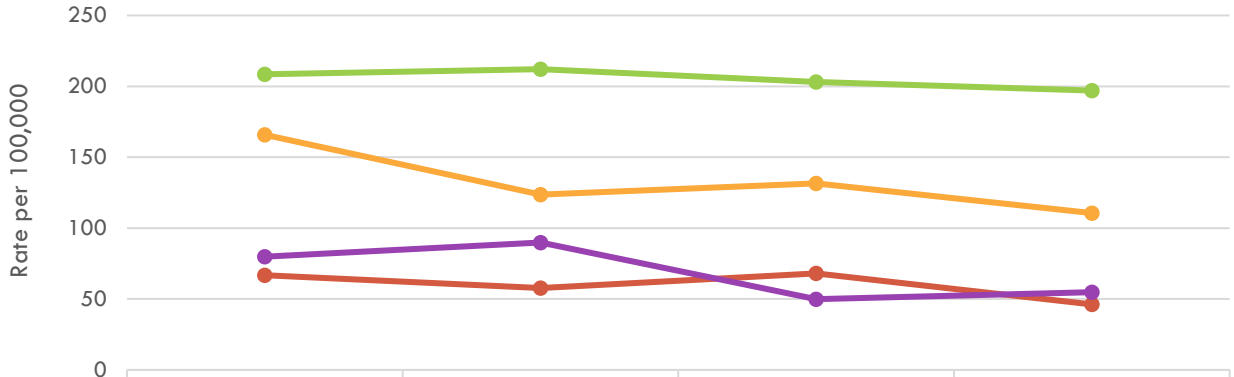
When looking at rates over time, the age-adjusted all cancer mortality rate followed a steady trend similar to that of all cancer incidence until 2014, where mortality in the county began to markedly increase until 2017. This differs from NYS, where all cancer mortality continued to decrease over the same time period [see Figure 64]. More recent age-adjusted data show that cancer mortality has been decreasing slightly from 2016 to 2019 for both males and females, though the rates have consistently remained higher for males [see Figure 66].

Table 34

Malignant Neoplasm Mortality Rate per 100,000 Population by Age, Race/Ethnicity, and ZIP Code, 2016-2019										
	2016		2017		2018		2019		Total	
Region	#	Rate	#	Rate	#	Rate	#	Rate	Total #	Avg. Rate
Orange County Total	640	170.1	628	166.1	609	161.0	570	150.0	2,447	161.8
NYS excl NYC	21,738	193.5	21,518	191.5	21,254	190.2	21,011	188.4	85,521	190.9
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	s	s	0	0.0	s	s	s	s	s	s
10-19	0	0.0	0	0.0	s	s	0	0.0	s	s
20-24	0	0.0	s	s	s	s	s	s	s	s
25-34	s	s	s	s	s	s	s	s	12	7.0
35-44	15	32.1	16	34.8	s	s	11	24.4	42	22.9
45-54	55	97.6	47	84.3	46	84.3	29	54.1	177	80.4
55-64	115	250.4	132	282.0	107	225.5	117	243.0	471	250.1
65-74	193	699.7	179	621.2	170	570.4	156	508.7	698	597.3
75-84	149	1151.9	149	1111.9	173	1229.7	151	1038.6	622	1132.1
85+	104	1560.9	102	1501.1	97	1474.4	100	1481.9	403	1504.6
Race/Ethnicity										
Non-Hispanic White	509	205.0	518	209.5	496	202.0	481	197.0	2004	203.4
Non-Hispanic Black	63	177.6	47	128.5	50	134.2	42	110.6	202	137.1
Hispanic	52	71.4	45	60.3	53	70.0	36	46.2	186	61.8
Other	16	81.9	18	91.5	10	50.8	11	54.9	55	69.7
ZIP Code										
10940	90	182.9	81	163.0	90	183.4	86	179.1	347	177.1
10950	51	102.6	48	95.2	34	66.8	27	53.0	160	79.2
12550	104	190.4	85	154.7	93	169.1	83	150.5	365	166.1
12771	32	227.6	36	253.5	33	223.6	29	196.1	130	224.9

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

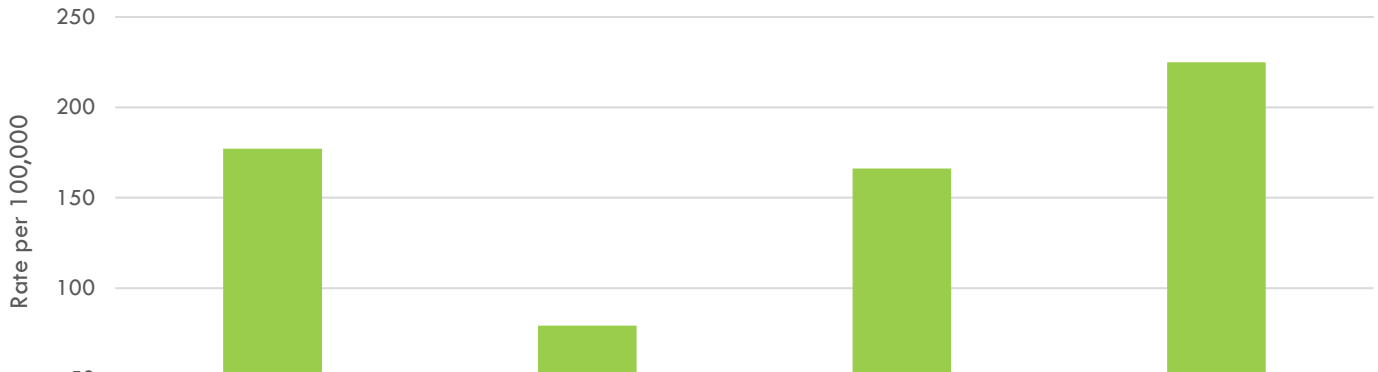
Figure 62



	2016	2017	2018	2019
Non-Hispanic White	208.5	212.1	203.1	197.0
Non-Hispanic Black	165.8	123.7	131.6	110.6
Hispanic	66.8	57.8	68.1	46.2
Other	79.9	89.8	49.9	54.9

Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

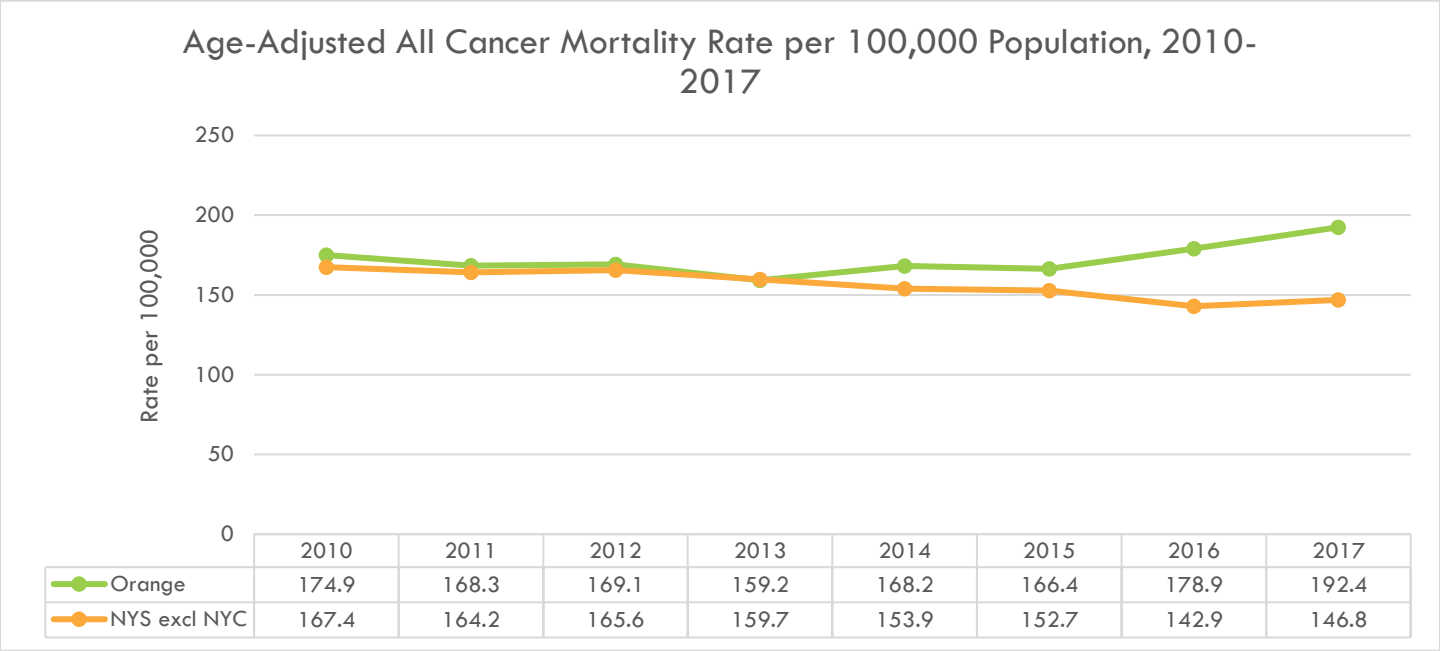
Figure 63



	10940	10950	12550	12771
Orange	177.1	79.2	166.1	224.9

Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

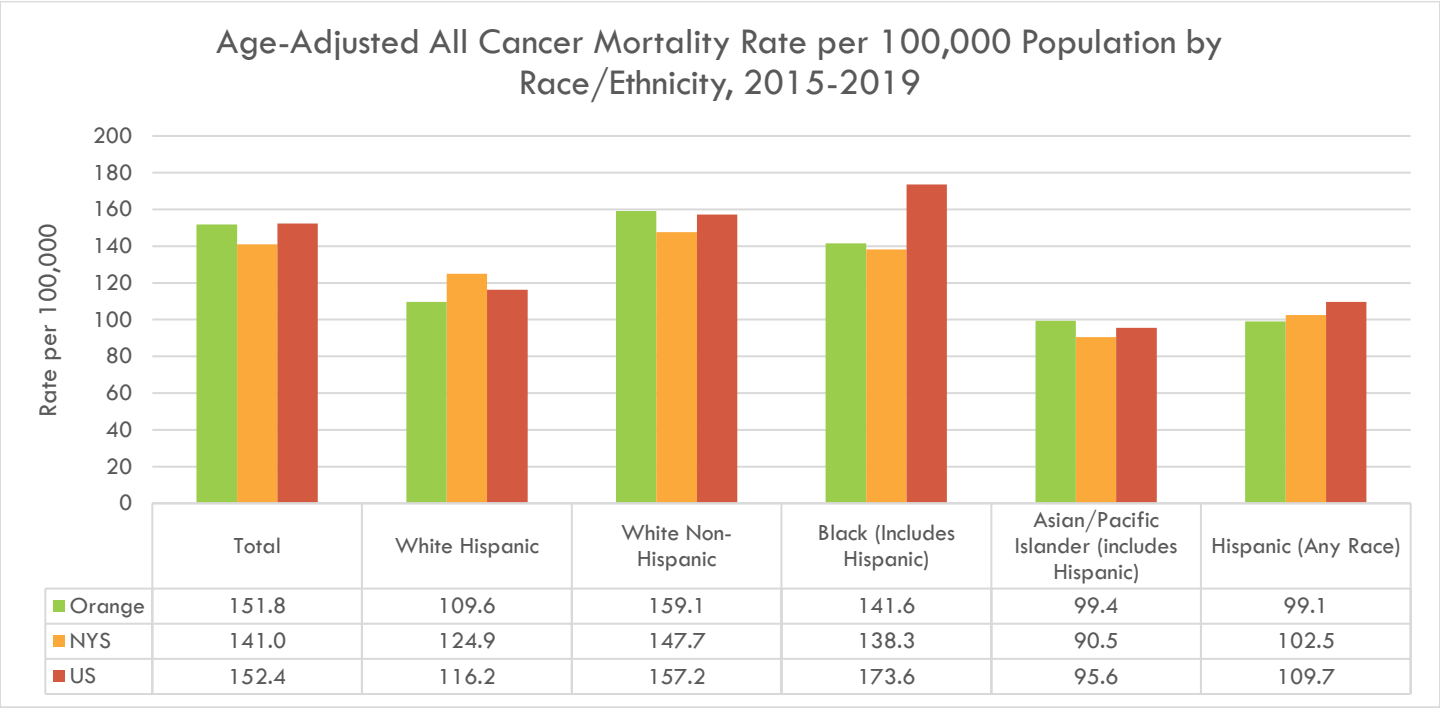
Figure 64



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	174.9	168.3	169.1	159.2	168.2	166.4	178.9	192.4
NYS excl NYC	167.4	164.2	165.6	159.7	153.9	152.7	142.9	146.8

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag2&cos=33

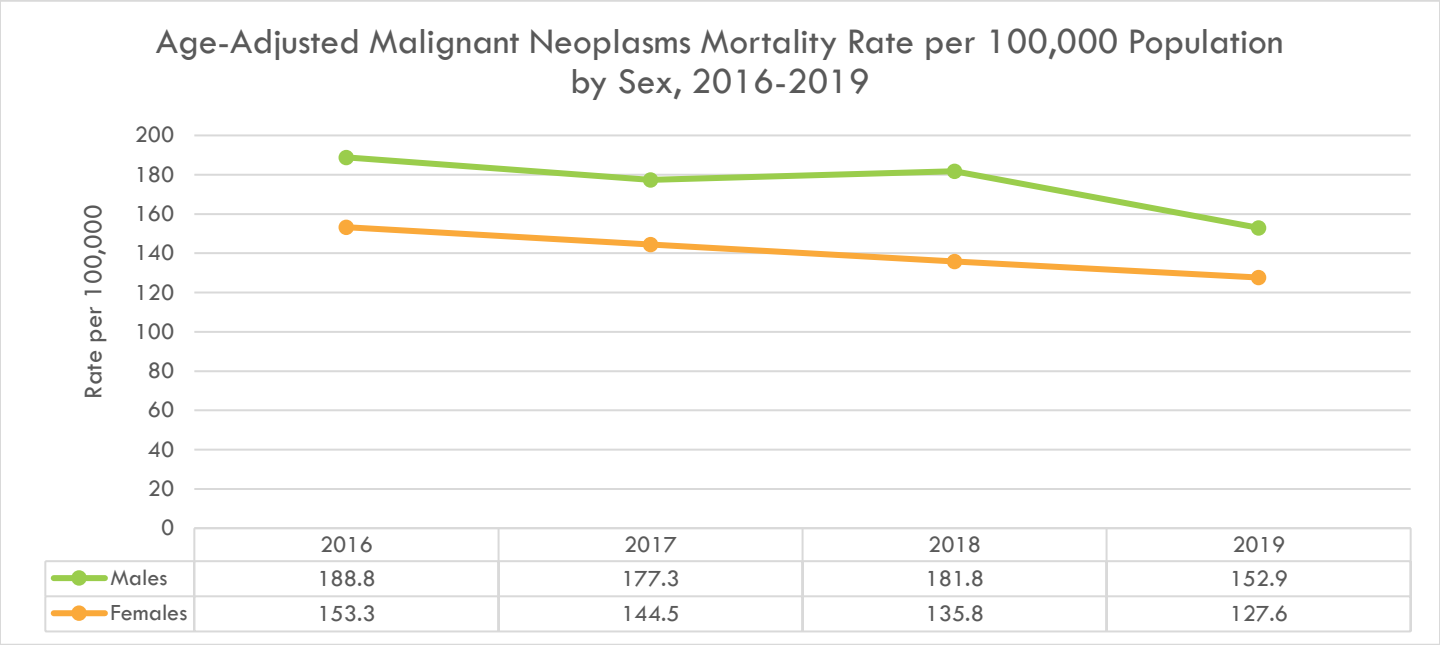
Figure 65



	Total	White Hispanic	White Non-Hispanic	Black (Includes Hispanic)	Asian/Pacific Islander (includes Hispanic)	Hispanic (Any Race)
Orange	151.8	109.6	159.1	141.6	99.4	99.1
NYS	141.0	124.9	147.7	138.3	90.5	102.5
US	152.4	116.2	157.2	173.6	95.6	109.7

Source: NIH National Cancer Institute, State Cancer Profiles, 2020
https://statecancerprofiles.cancer.gov/deathrates/index.php

Figure 66



Note: 2018-2019 data do not include Orange County births or deaths recorded in NYC.
Rates are calculated using ACS 5-year population estimates and the US 2000 standard population
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

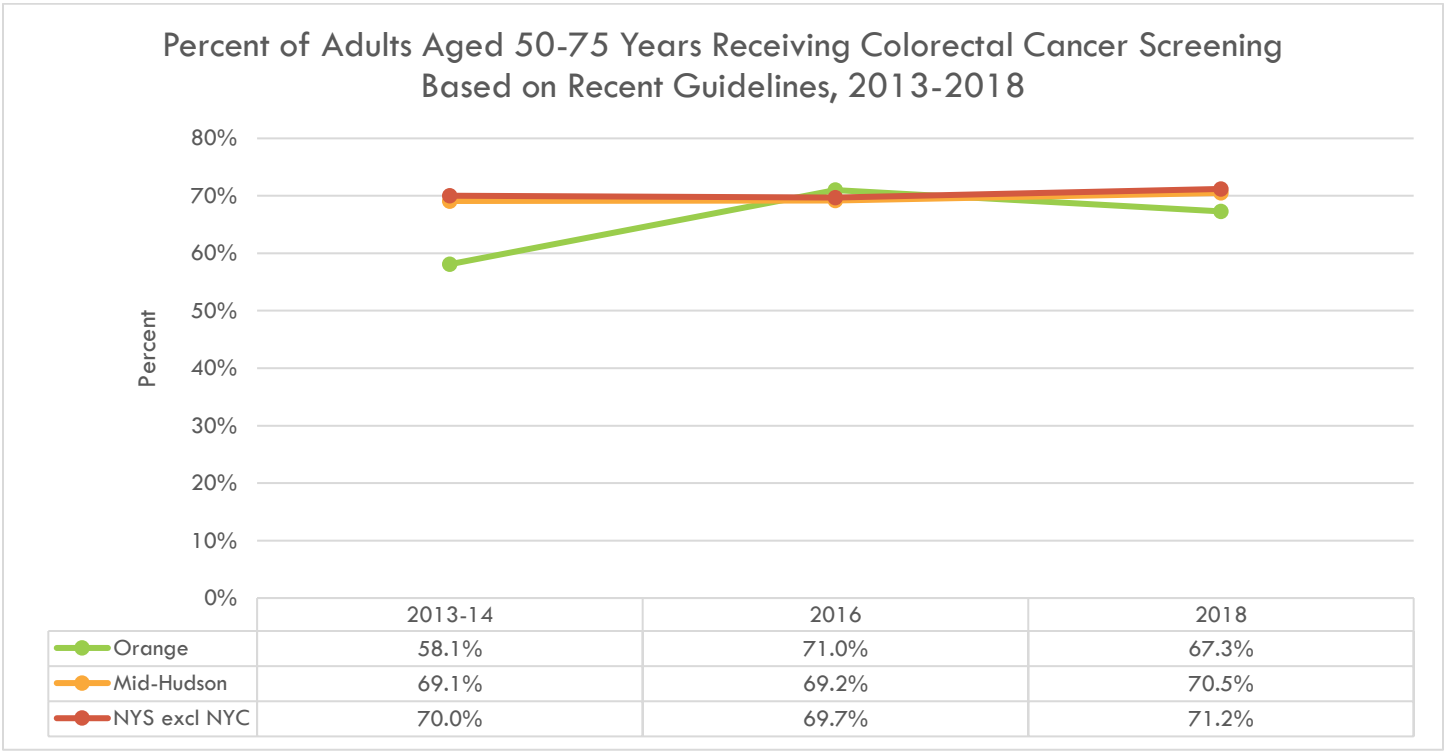
COLORECTAL CANCER

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. Screening can help find colorectal cancer early and prevent deaths. Healthy People 2030 sets a target of 74.4% of adults aged 50 to 75 receiving a colorectal cancer screening based on the most recent guidelines.[31] Orange County falls short of this target, with only 67.3% of adults aged 50-75 receiving screening based on the most recent guidelines in 2018. Orange County's percentage is also slightly lower than that of both the Mid-Hudson Region and NYS excluding NYC [see Figure 67].

From 2016 to 2018, Orange County had an average colorectal cancer incidence rate of 40.0 per 100,000, which is slightly higher than the NYS rate. When looking over time, colorectal cancer incidence has slightly decreased in the county as well as in NYS [see Figure 69].

There are stark disparities in colorectal cancer incidence by race/ethnicity in the county. The non-Hispanic Black population had the highest rate at 57.9 per 100,000, compared to the non-Hispanic White, Hispanic, and non-Hispanic Asian/Pacific Islander populations [see Figure 68].

Figure 67

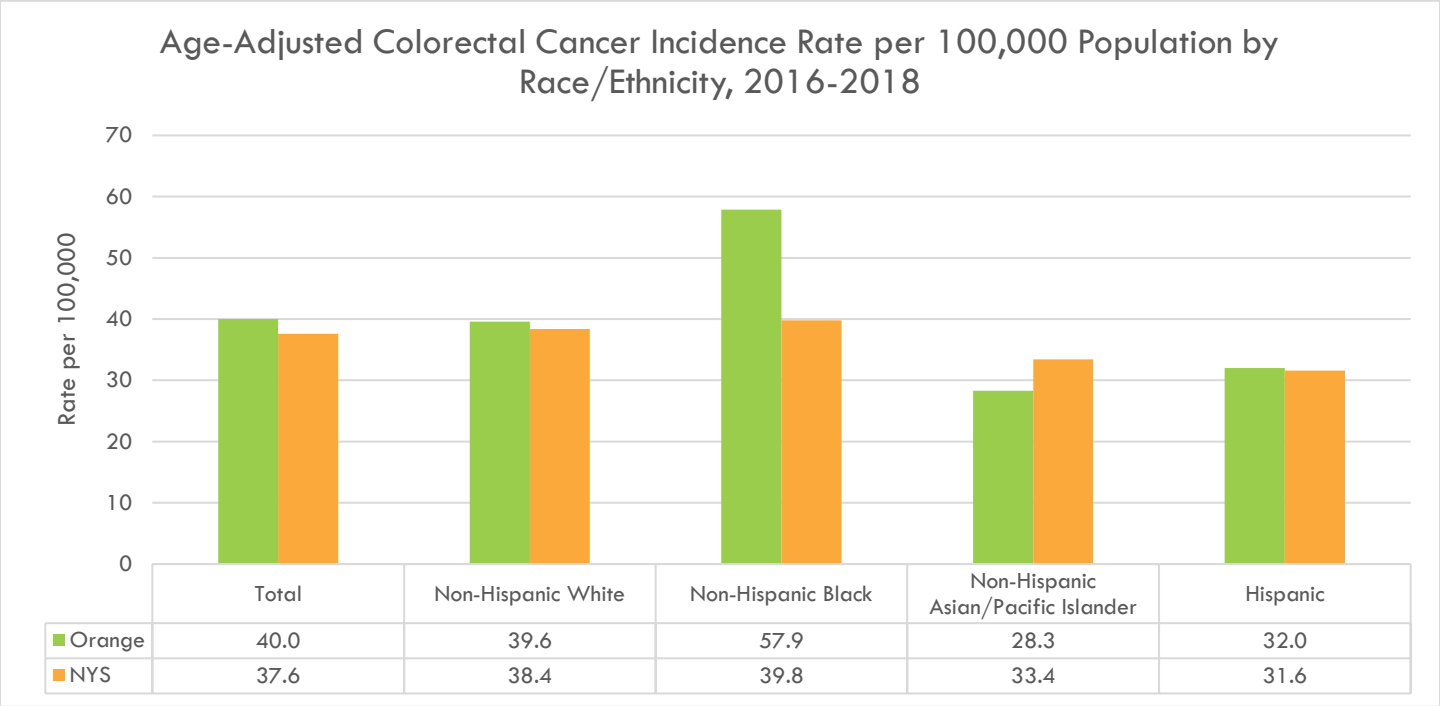


	2013-14	2016	2018
Orange	58.1%	71.0%	67.3%
Mid-Hudson	69.1%	69.2%	70.5%
NYS excl NYC	70.0%	69.7%	71.2%

Source: Behavioral Risk Factor Surveillance System (BRFSS), 2020
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

[31] Healthy People 2030, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://health.gov/healthypeople/objectives-and-data/browse-objectives/cancer/increase-proportion-adults-who-get-screened-colorectal-cancer-c-07, accessed December 2022

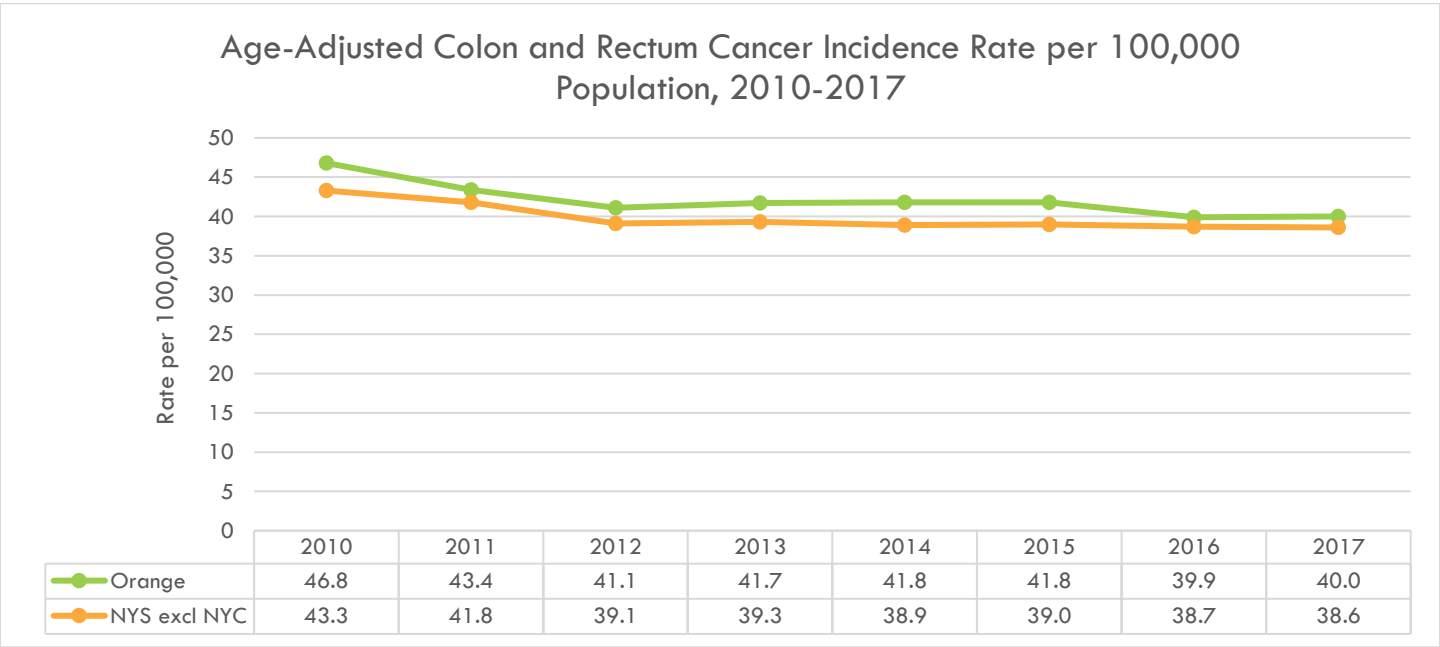
Figure 68



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	40.0	39.6	57.9	28.3	32.0
NYS	37.6	38.4	39.8	33.4	31.6

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

Figure 69



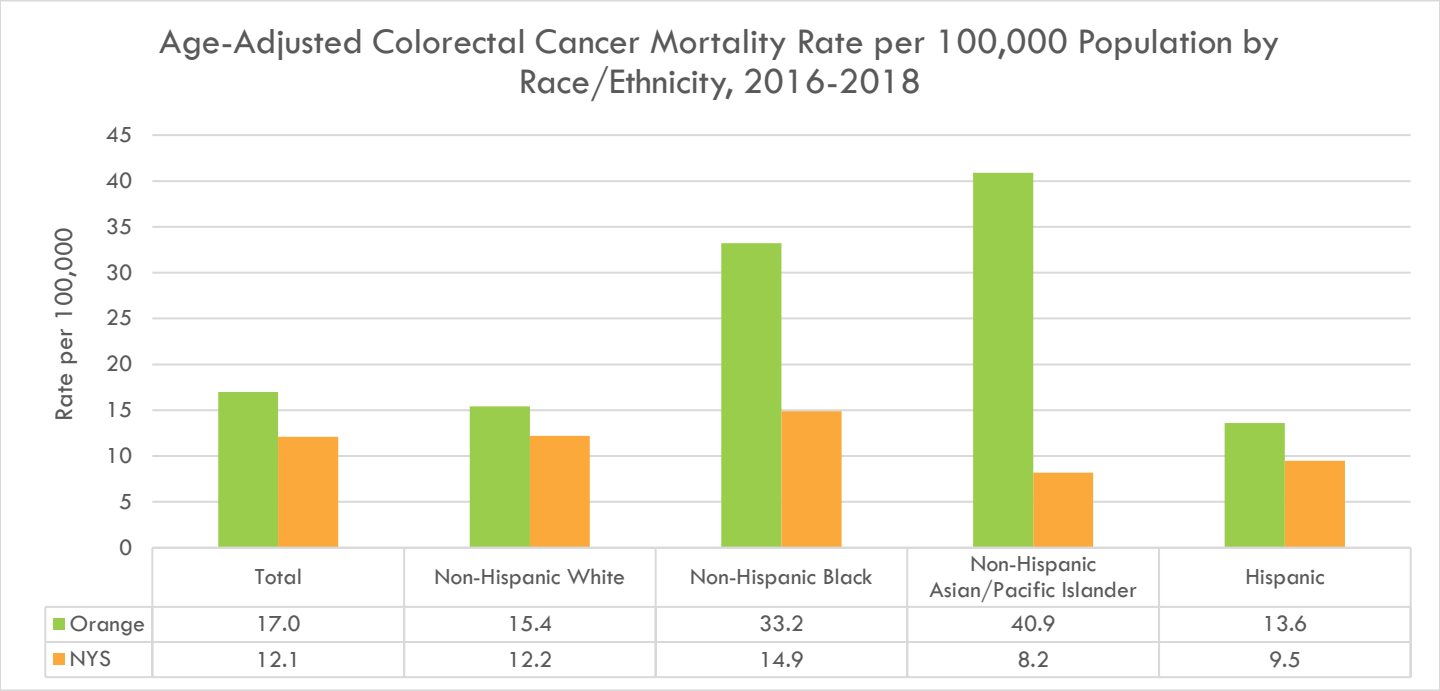
	2010	2011	2012	2013	2014	2015	2016	2017
Orange	46.8	43.4	41.1	41.7	41.8	41.8	39.9	40.0
NYS excl NYC	43.3	41.8	39.1	39.3	38.9	39.0	38.7	38.6

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag5&cos=33

Orange County has a colorectal cancer mortality rate of 17.0 per 100,000, higher than the NYS rate of 12.1. When looking over time, colon and rectum cancer mortality rates have decreased for NYS. However, Orange County's mortality rates appear to fluctuate annually, decreasing one year and increasing the next. This pattern continued until 2016, where colon and rectum cancer mortality rates began to steadily increase, reaching its highest point yet in 2017 at 17.0 per 100,000 [see Figure 71].

There are clear disparities when looking at mortality rates by race/ethnicity. Similar to incidence rates, colorectal cancer mortality is higher for the non-Hispanic Black population compared to those who are non-Hispanic White and Hispanic. However, the non-Hispanic Asian/Pacific Islander population has the highest mortality rate by far at 40.9 per 100,000, despite the population's low incidence rate of colorectal cancer [see Figure 70].

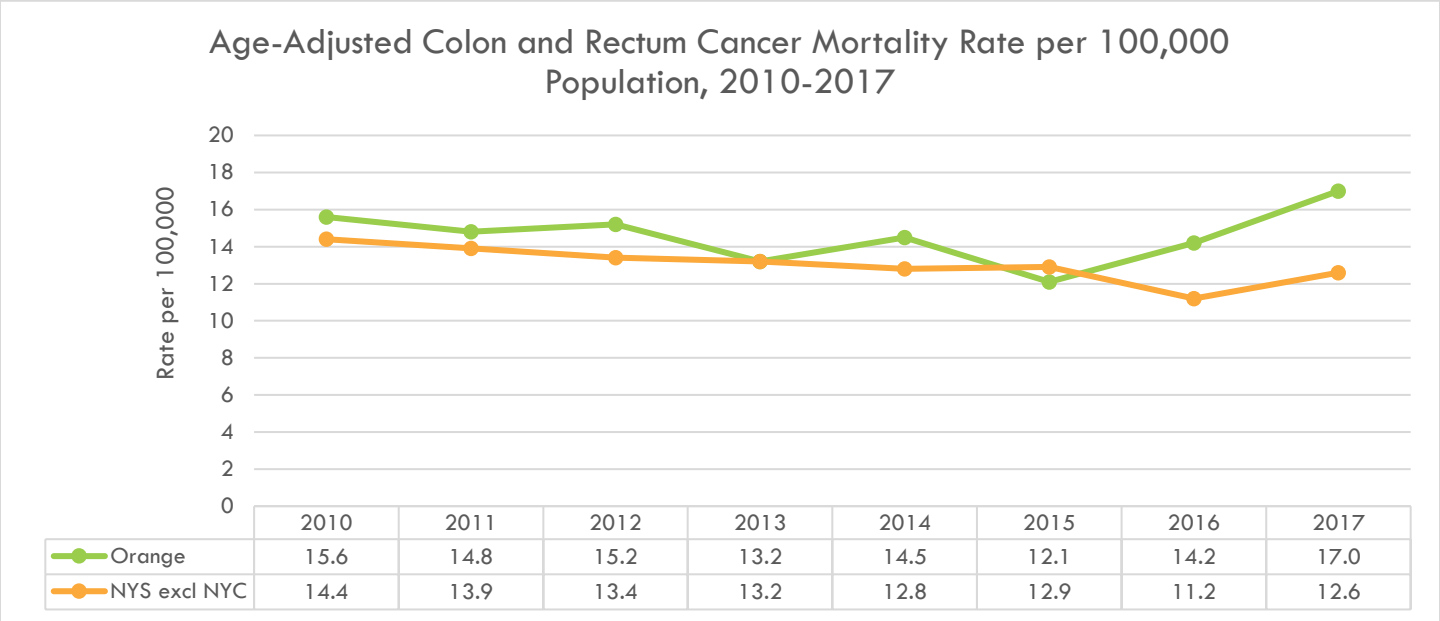
Figure 70



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	17.0	15.4	33.2	40.9	13.6
NYS	12.1	12.2	14.9	8.2	9.5

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

Figure 71



Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag6&cos=33

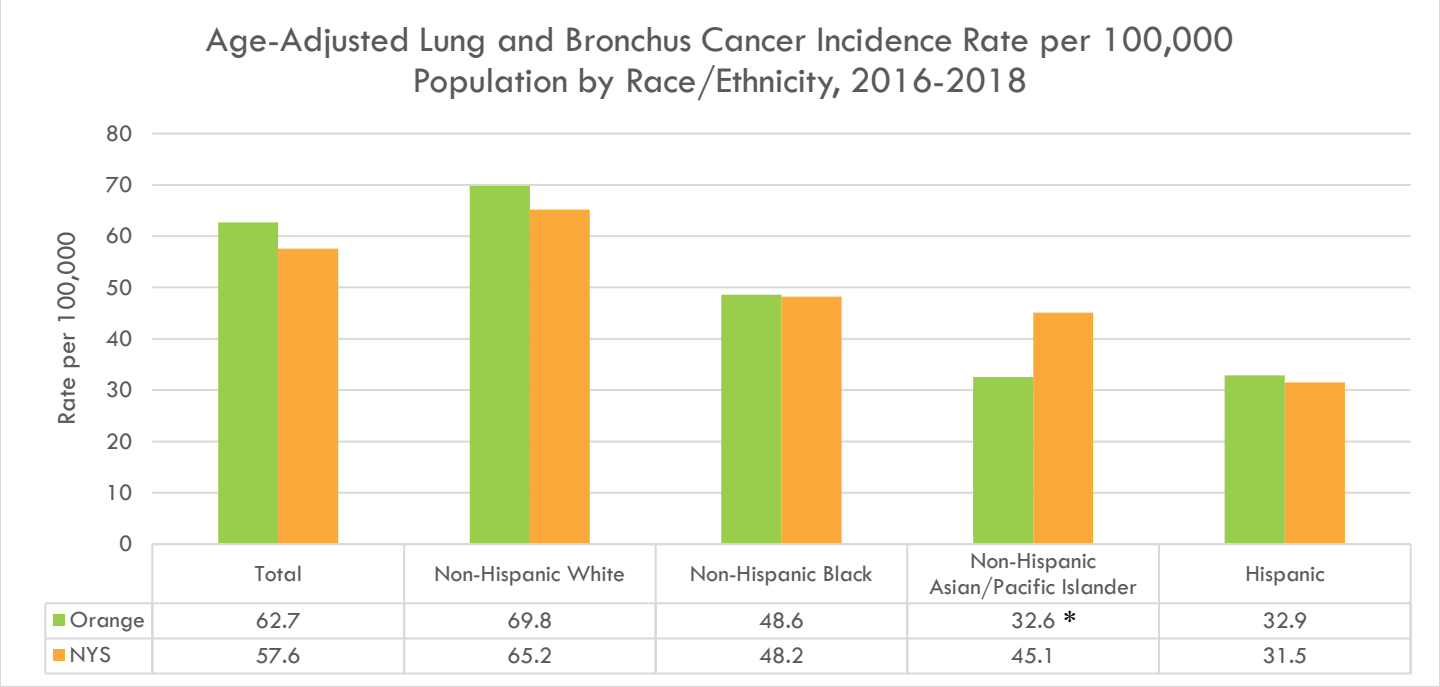
LUNG AND BRONCHUS CANCER

Lung cancer is the primary cause of cancer deaths, for both males and females, in the Mid-Hudson Region and NYS. 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. 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. 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.

Between 2016 and 2018, Orange County had an age-adjusted lung and bronchus cancer incidence rate of 62.7 per 100,000 population, which exceeds the NYS rate. When looking over time, the incidence of lung and bronchus cancer has not changed much in the county or in NYS excluding NYC. Lung and bronchus cancer incidence differs between racial/ethnic groups, with non-Hispanic White people in the county having the highest rate at 69.8 per 100,000 [see Figure 72, Figure 73].

The lung and bronchus cancer mortality rate remained relatively stable in Orange County until 2016 to 2017, where there was a slight increase. This differed from NYS excluding NYC, where there was a decrease in lung and bronchus cancer mortality over time [see Figure 74].

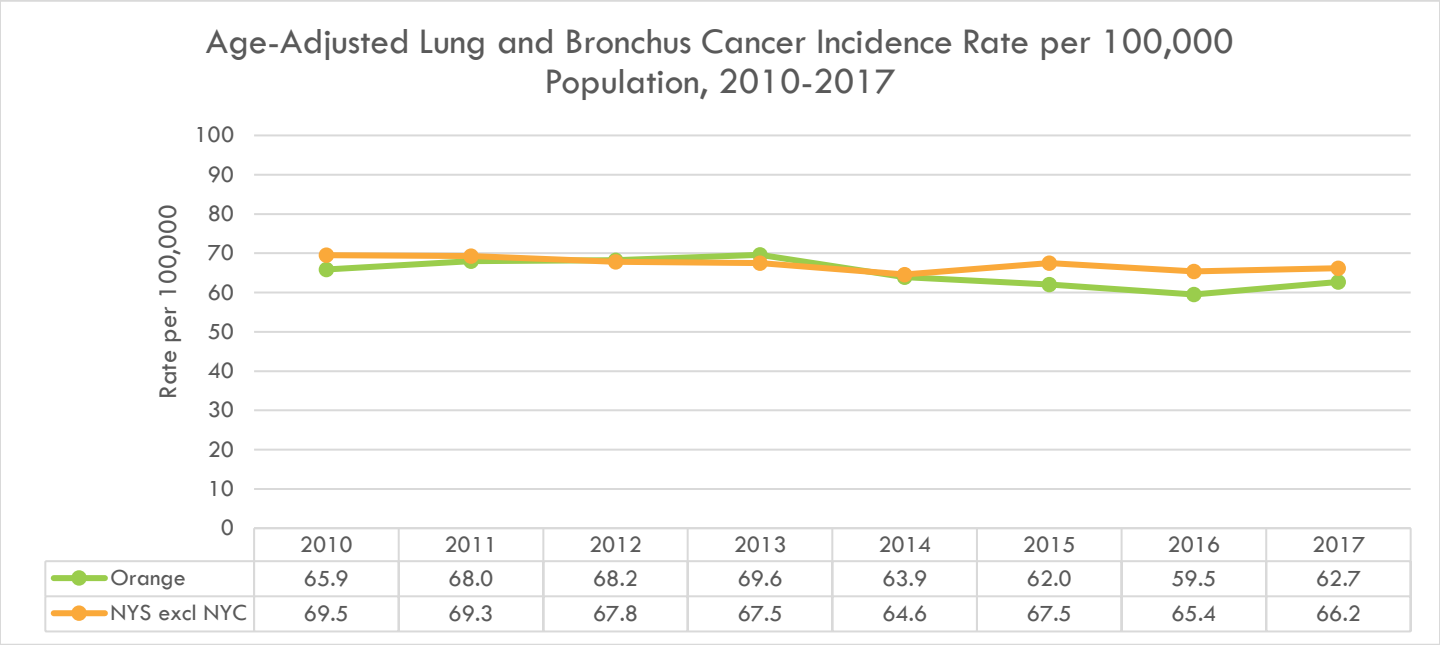
Figure 72



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	62.7	69.8	48.6	32.6 *	32.9
NYS	57.6	65.2	48.2	45.1	31.5

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

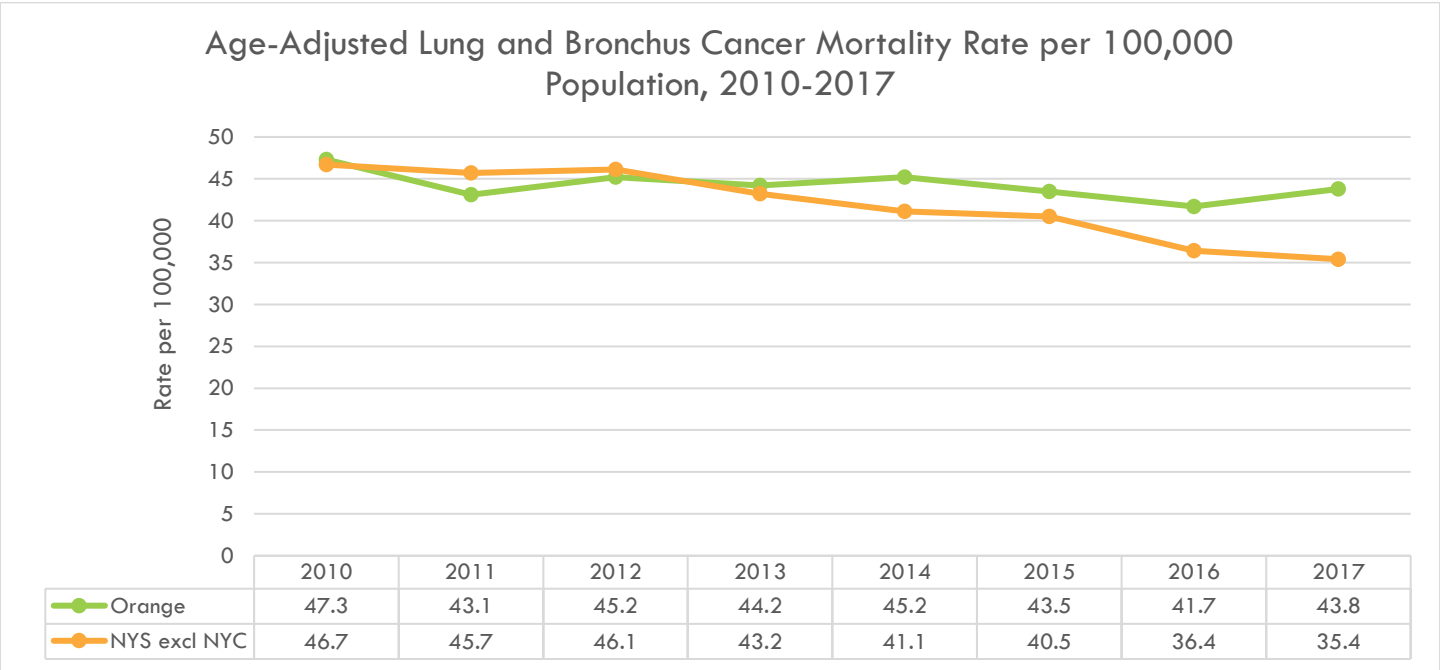
Figure 73



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	65.9	68.0	68.2	69.6	63.9	62.0	59.5	62.7
NYS excl NYC	69.5	69.3	67.8	67.5	64.6	67.5	65.4	66.2

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag7&cos=33

Figure 74



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	47.3	43.1	45.2	44.2	45.2	43.5	41.7	43.8
NYS excl NYC	46.7	45.7	46.1	43.2	41.1	40.5	36.4	35.4

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag8&cos=33

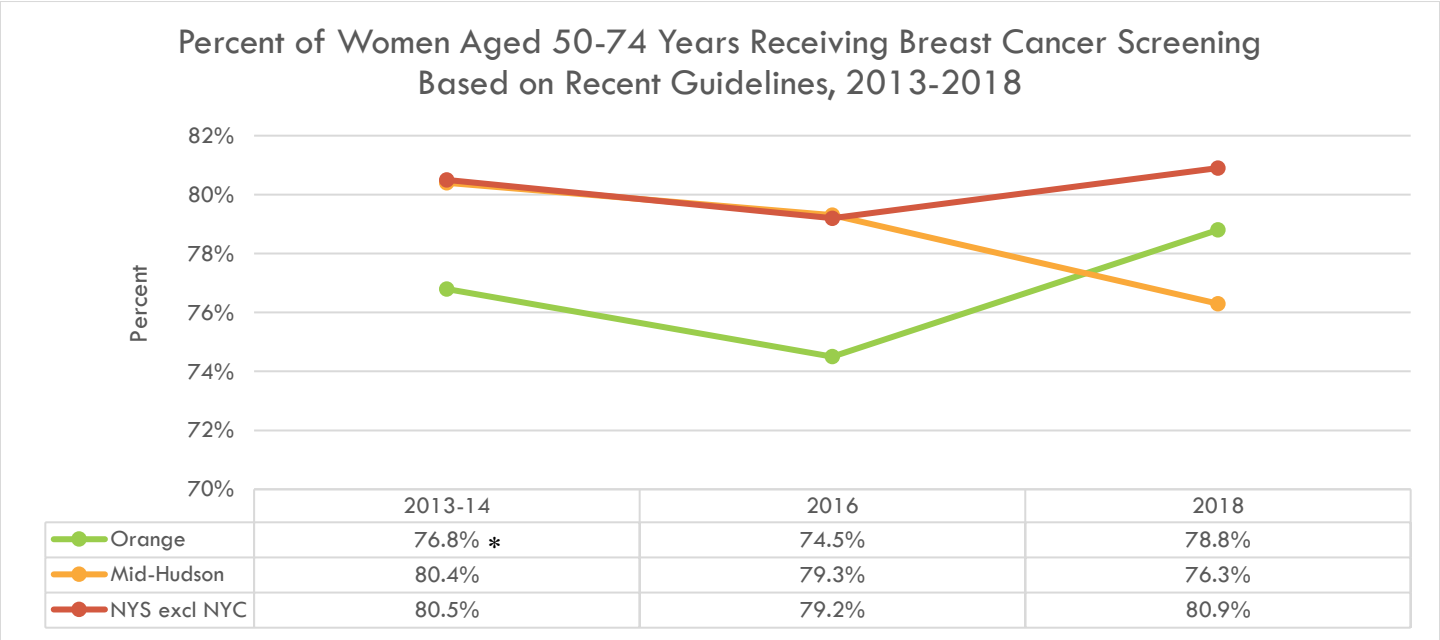
FEMALE BREAST CANCER

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 US developing breast cancer in her lifetime is about 12%.

Increasing breast cancer screening can help find breast cancer early and prevent deaths. Healthy People 2030 aims to increase the proportion of females aged 50 to 74 years who receive breast cancer screening to 80.5%.[32] Orange County has not met this goal as of 2018, with only 78.8% of women aged 50-74 receiving breast cancer screening based on recent guidelines. Though this falls behind the target percentage, it is an improvement from the 74.5% who received screening based on most recent guidelines in 2016. In addition, screening percentages in Orange County are better than the rest of the Mid-Hudson Region, which has seen a consistent decrease in breast cancer screenings since 2013-14. However, Orange County falls short of NYS excluding NYC, which surpassed the Healthy people 2030 target in both 2013-14 and 2018 [see Figure 75].

As of the most recent data in 2017, the age-adjusted incidence rate of breast cancer in Orange County was 139.8 per 100,000 female population, which has increased slightly from what the rate was back in 2010 (123.7) [see Figure 76]. The age-adjusted late-stage breast cancer incidence rate in the county averaged at 45.7 per 100,000 female population from 2016 to 2018, slightly above the NYS rate of 41.4. When stratifying by race, it is clear that non-Hispanic Black women suffer a much higher rate (59.2) of late-stage breast cancer incidence than any other race/ethnicity in the county [see Figure 77].

Figure 75

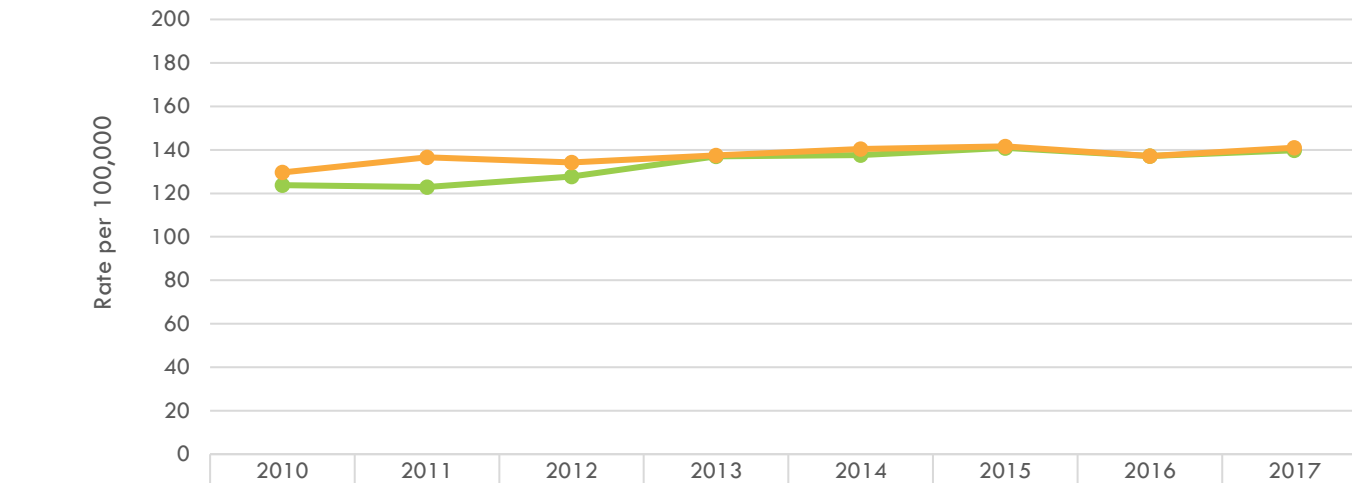


	2013-14	2016	2018
Orange	76.8% *	74.5%	78.8%
Mid-Hudson	80.4%	79.3%	76.3%
NYS excl NYC	80.5%	79.2%	80.9%

*: *unreliable crude rate due to large standard error*
Source: Behavioral Risk Factor Surveillance System (BRFSS), 2020
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

[32] Healthy People 2030, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://health.gov/healthypeople/objectives-and-data/browse-objectives/cancer/increase-proportion-females-who-get-screened-breast-cancer-c-05, accessed December 2022

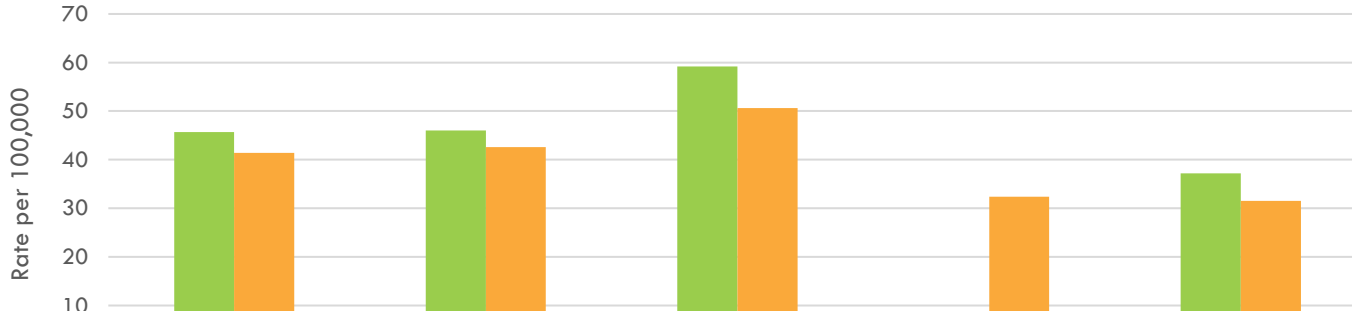
Figure 76



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	123.7	122.9	127.7	137.0	137.6	140.9	137.1	139.8
NYS excl NYC	129.6	136.6	134.2	137.5	140.4	141.6	137.1	141.0

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag9&cos=33

Figure 77

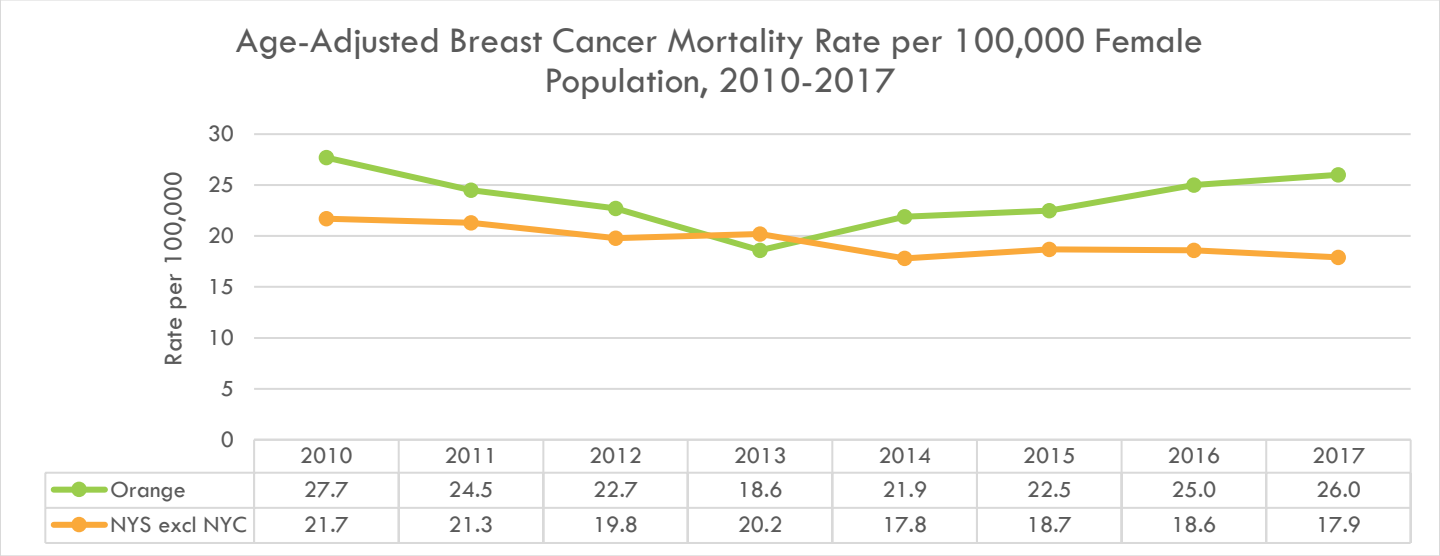


	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	45.7	46.0	59.2	s	37.2
NYS	41.4	42.6	50.6	32.4	31.5

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

The age-adjusted breast cancer mortality rate has been rising in Orange County since 2013 and has surpassed that of NYS, climbing from a rate of 18.6 per 100,000 female population in 2013 to 26.0 in 2017 [see Figure 78]. Similar to the breast cancer incidence rate, there are disparities in breast cancer mortality by race/ethnicity. Non-Hispanic Black women face the highest rate of breast cancer mortality at 50.4 per 100,000 female population, double the rate for non-Hispanic White women. The non-Hispanic Asian/Pacific Islander rate is also disproportionately high at 39.2 per 100,000 [see Figure 79].

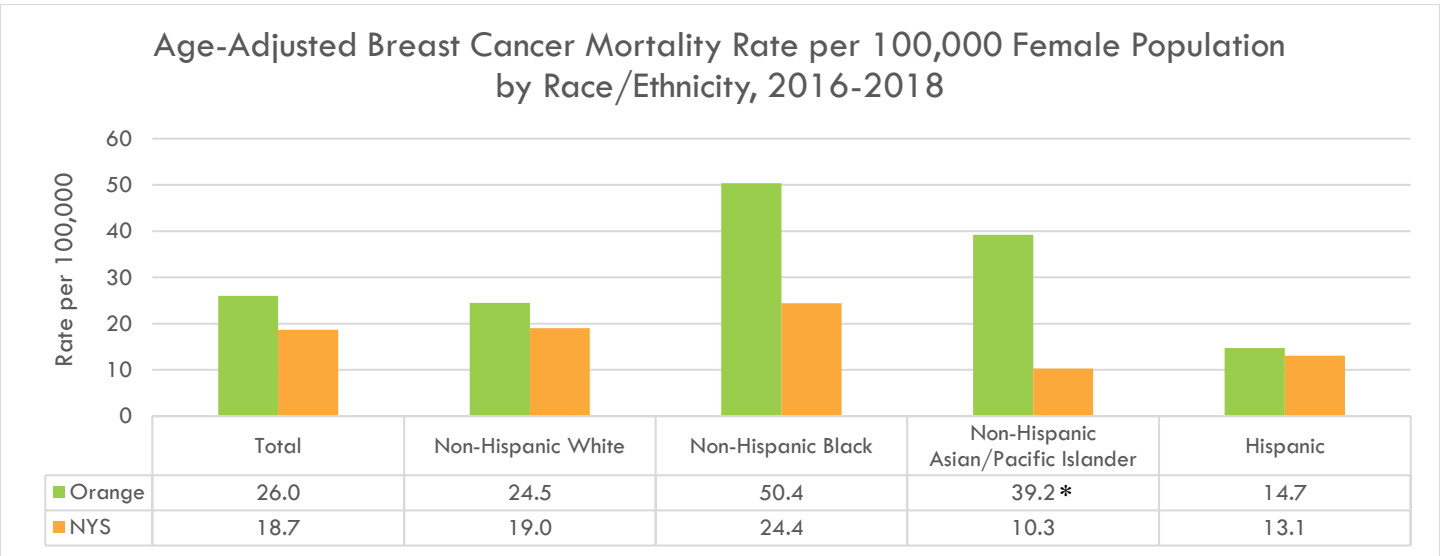
Figure 78



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	27.7	24.5	22.7	18.6	21.9	22.5	25.0	26.0
NYS excl NYC	21.7	21.3	19.8	20.2	17.8	18.7	18.6	17.9

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag10&cos=33

Figure 79



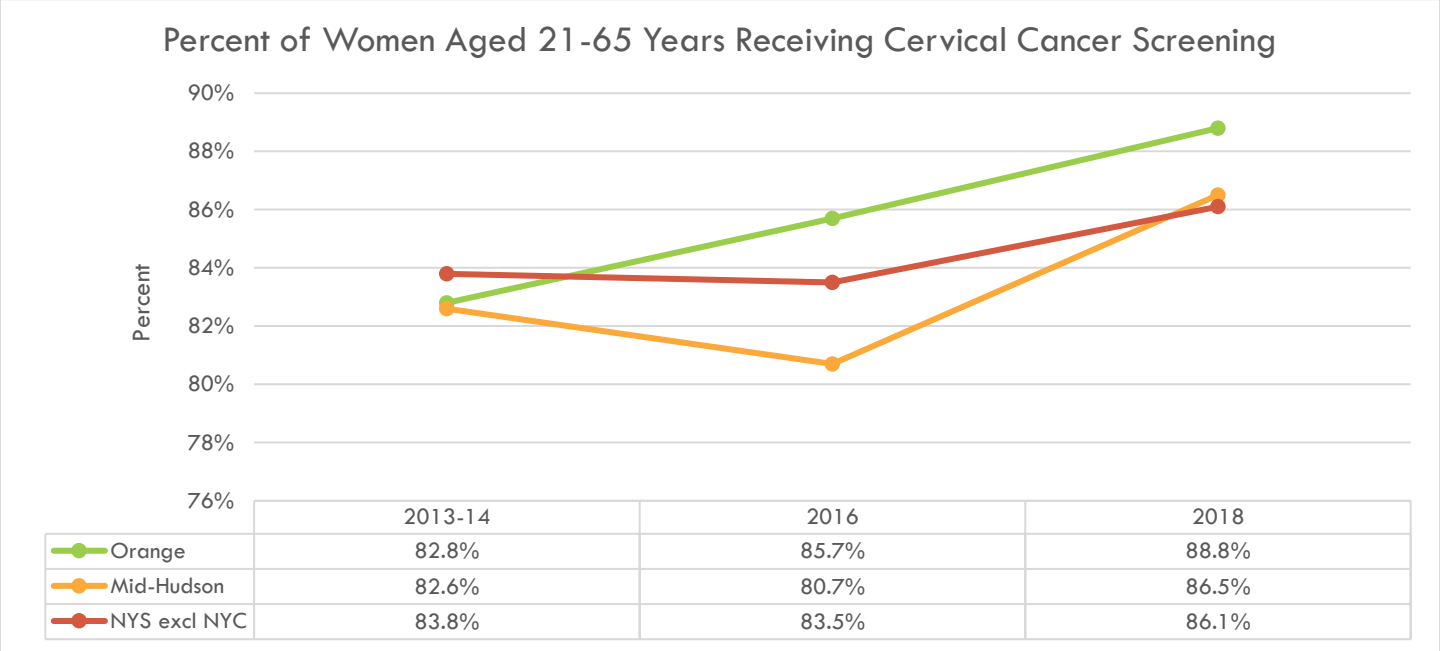
	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	26.0	24.5	50.4	39.2*	14.7
NYS	18.7	19.0	24.4	10.3	13.1

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

CERVIX UTERI CANCER

Cervical cancer/cervix uteri cancer occurs in the lower part of the uterus, or cervix. Most cases of cervical cancer are related to infection with human papillomavirus (HPV).[33] Pre-2012 cervical screening cancer guidelines recommended a Pap test for women once every three years. In 2012, the guidelines were changed to recommend a Pap test within past three years for women aged 21-65, or Pap test plus HPV test within past five years for women aged 30-65. Current guidelines recommend screening for cervical cancer every 3 years with a Pap test in women aged 21-29, and for women aged 30-65 a screening every 3 years with a Pap test, every 5 years with high-risk human papillomavirus (hrHPV) testing, or every 5 years with both types of tests.[34] The percentage of women receiving cervical cancer screening relative to these guidelines has increased consistently in Orange County since 2013-14, reaching 88.8% in 2018 and surpassing the Healthy People 2030 target of 84.3% [see Figure 80].

Figure 80



	2013-14	2016	2018
Orange	82.8%	85.7%	88.8%
Mid-Hudson	82.6%	80.7%	86.5%
NYS excl NYC	83.8%	83.5%	86.1%

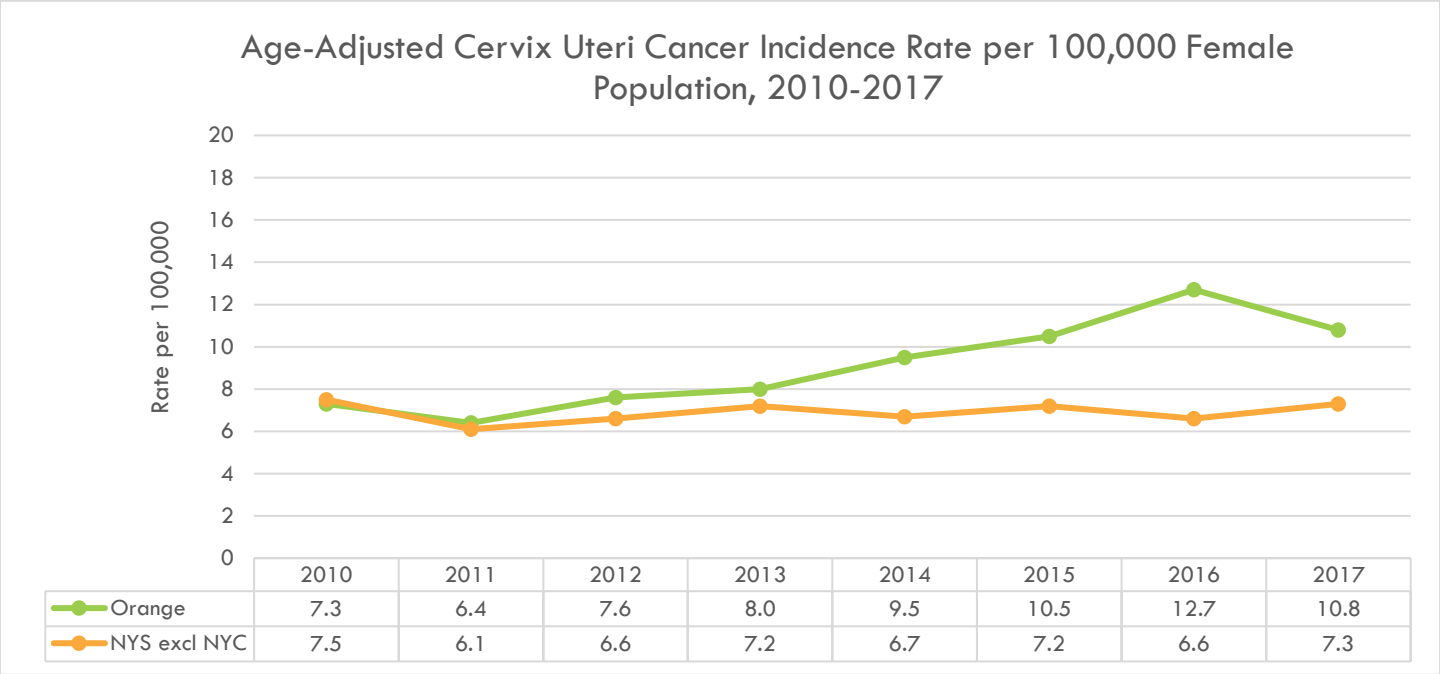
Note: 2013-2014 percentages are based on pre-2012 guidelines; 2016 percentages are based on 2012 guidelines; 2018 percentages are based on the most recent guidelines
Source: Behavioral Risk Factor Surveillance System (BRFSS), 2020
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n/data

Cervix uteri cancer incidence in Orange County has seen an increasing trend since 2010 and is higher than that of NYS excluding NYC. The mortality rate of cervix uteri cancer is also higher in Orange County than NYS excluding NYC, and it has been increasing since 2015 [see Figure 81, Figure 82].

[33] Mayo Clinic, 2021, https://www.mayoclinic.org/diseases-conditions/cervical-cancer/symptoms-causes/syc-20352501#:~:text=Cervical%20cancer%20is%20a%20type,in%20causing%20most%20cervical%20cancer, accessed August 2022

[34] U.S. Preventive Services Task Force, 2018, https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/cervical-cancer-screening, accessed December 2022

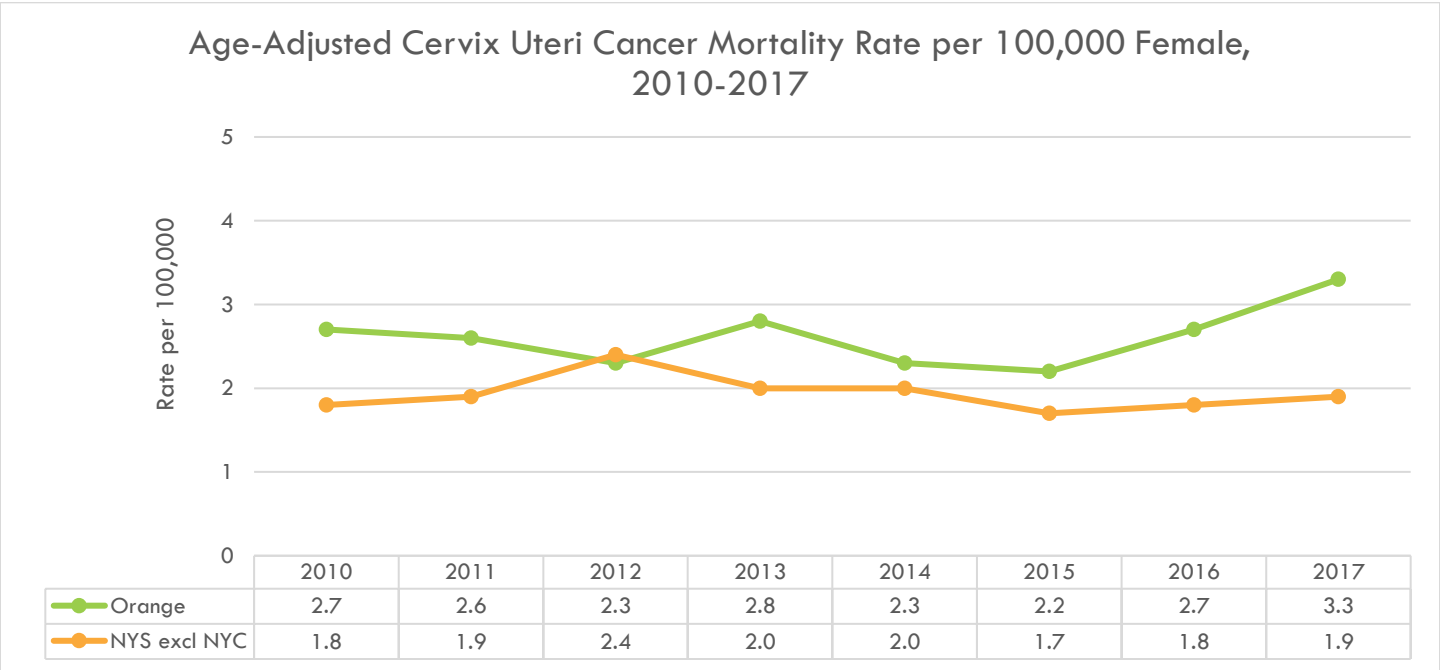
Figure 81



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	7.3	6.4	7.6	8.0	9.5	10.5	12.7	10.8
NYS excl NYC	7.5	6.1	6.6	7.2	6.7	7.2	6.6	7.3

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag12&cos=33

Figure 82



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	2.7	2.6	2.3	2.8	2.3	2.2	2.7	3.3
NYS excl NYC	1.8	1.9	2.4	2.0	2.0	1.7	1.8	1.9

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Ag13&cos=33

PROMOTE A HEALTHY AND SAFE ENVIRONMENT

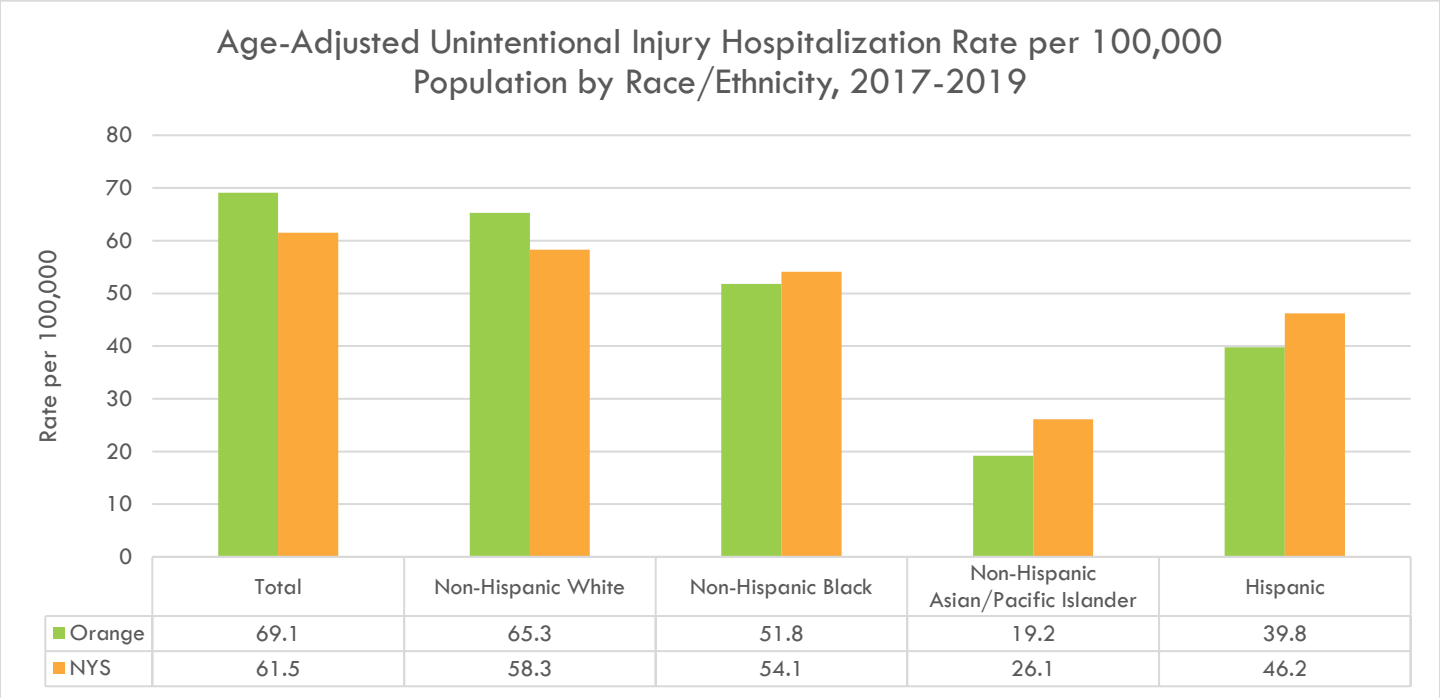
SAFETY

INJURY

Injury is one of the leading causes of death in NYS, killing more than 7,250 New Yorkers each year. For New Yorkers aged 1 to 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." Beyond death, consequences from injuries include financial burden, disability, poor mental health, and lost productivity. Injury is often broken out into two categories: intrapersonal violence and unintentional injuries. Unintentional injury may include traffic injuries, falls, drownings, and poisonings.

From 2017 to 2019, hospitalizations from unintentional injuries in Orange County occurred at a rate of 69.1 per 100,000 population, which is above the NYS rate. When stratifying by race/ethnicity, the non-Hispanic population has the highest rate at 65.3 per 100,000, and the non-Hispanic Asian/Pacific Islander population has the lowest at 19.2 [see Figure 83].

Figure 83



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	69.1	65.3	51.8	19.2	39.8
NYS	61.5	58.3	54.1	26.1	46.2

Note: The 2019 ED data in NYC may be incomplete and subject to change. Thus, the state rates may be underestimated and subject to change.
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

The average mortality rate for accidents in Orange County from 2016 to 2019 was 45.5 per 100,000 population. This is similar to that of NYS excluding NYC. Mortality from accidents is highest among individuals aged 75 years and older. Among those younger than 75, 25- to 34-year-olds have the highest accidents mortality rate. When stratifying by race/ethnicity, non-Hispanic White people die more from accidents than other groups. All racial/ethnic groups in the county saw a lower rate of accident mortality in 2019 compared to

2018, except for the Hispanic group, for which the rate slightly increased [see Figure 84]. ZIP code seems to also be associated with accident mortality rate, with those living in 12771 having a much higher rate of accident mortality than other ZIP codes in Orange County [see Table 35, Figure 85]. When adjusting for age, males are shown to die more often than females from accidents [see Figure 86].

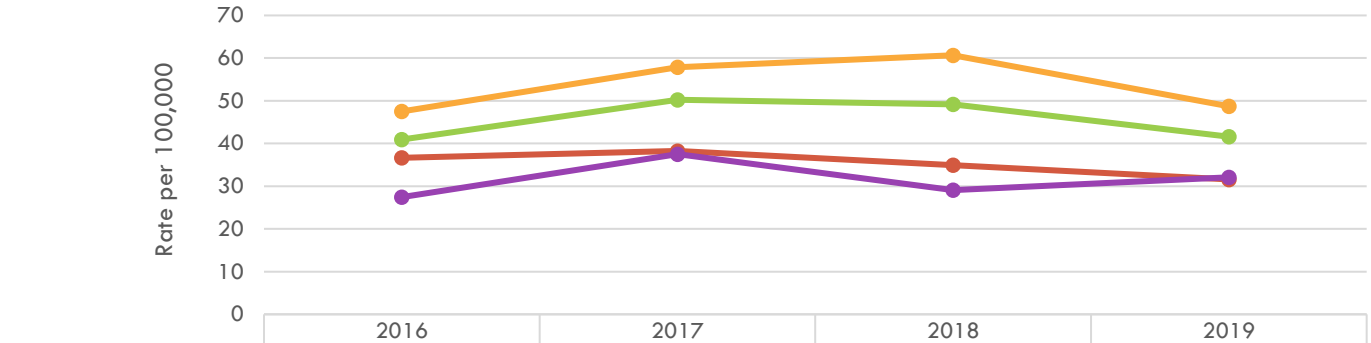
Table 35

Total Accidents Mortality Rate per 100,000 Population by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	154	40.9	190	50.2	186	49.2	158	41.6	688	45.5
NYS excl NYC	5,127	45.6	5,372	47.8	5,052	45.2	4,872	43.7	20,423	45.6
Age Intervals										
<1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1-9	s	s	s	s	s	s	s	s	s	s
10-19	s	s	s	s	s	s	s	s	s	s
20-24	11	38.4	12	41.7	s	s	13	45.4	45	41.9
25-34	29	68.9	42	98.0	46	106.5	37	84.1	154	89.4
35-44	28	60.0	24	52.2	21	46.4	26	57.6	99	54.0
45-54	11	19.5	27	48.4	33	60.5	16	29.9	87	39.6
55-64	22	47.9	24	51.3	26	54.8	21	43.6	93	49.4
65-74	12	43.5	18	62.5	15	50.3	19	62.0	64	54.6
75-84	18	139.2	17	126.9	10	71.1	15	103.2	60	110.1
85+	15	225.1	19	279.6	19	288.8	s	s	62	264.5
Race/Ethnicity										
Non-Hispanic White	118	47.5	143	57.8	149	60.7	119	48.7	529	53.7
Non-Hispanic Black	13	36.6	14	38.3	13	34.9	12	31.6	52	35.3
Hispanic	20	27.4	28	37.5	22	29.1	25	32.1	95	31.5
Other	s	s	s	s	s	s	s	s	s	s
ZIP Code										
10940	22	44.7	34	68.4	27	55.0	22	45.8	105	53.5
10950	12	24.1	17	33.7	12	23.6	14	27.5	55	27.2
12550	24	43.9	20	36.4	24	43.6	23	41.7	91	41.4
12771	s	s	s	s	s	s	11	74.4	34	74.4

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

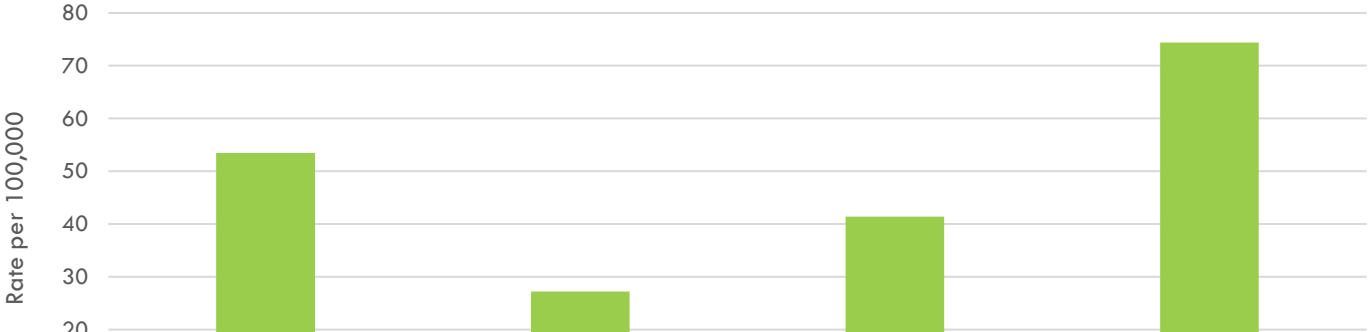
Figure 84



	2016	2017	2018	2019
Total	40.9	50.2	49.2	41.6
Non-Hispanic White	47.5	57.8	60.7	48.7
Non-Hispanic Black	36.6	38.3	34.9	31.6
Hispanic	27.4	37.5	29.1	32.1

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

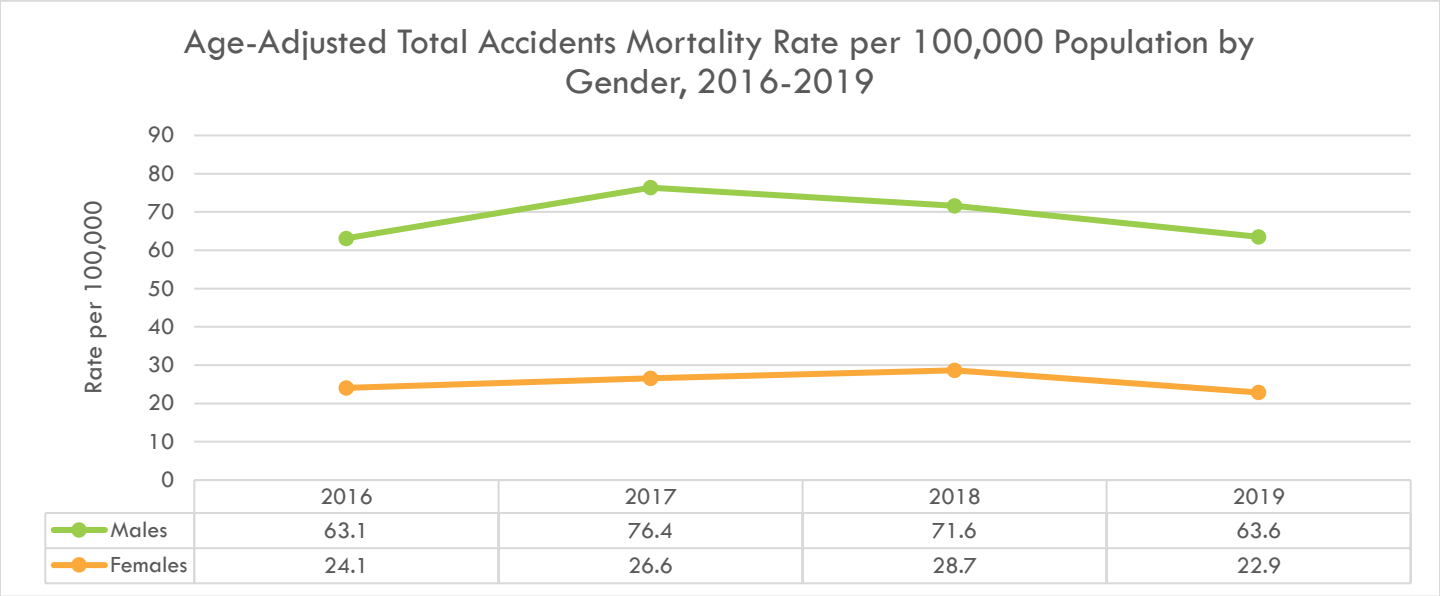
Figure 85



	10940	10950	12550	12771
Orange	53.5	27.2	41.4	74.4

Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates, except for the age intervals <1 year and 1-9 years, which are based off of crude live births in Orange County.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 86



Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

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 include: [35]

- Cause 95% of hip fractures
- Cause fear of falling again, 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

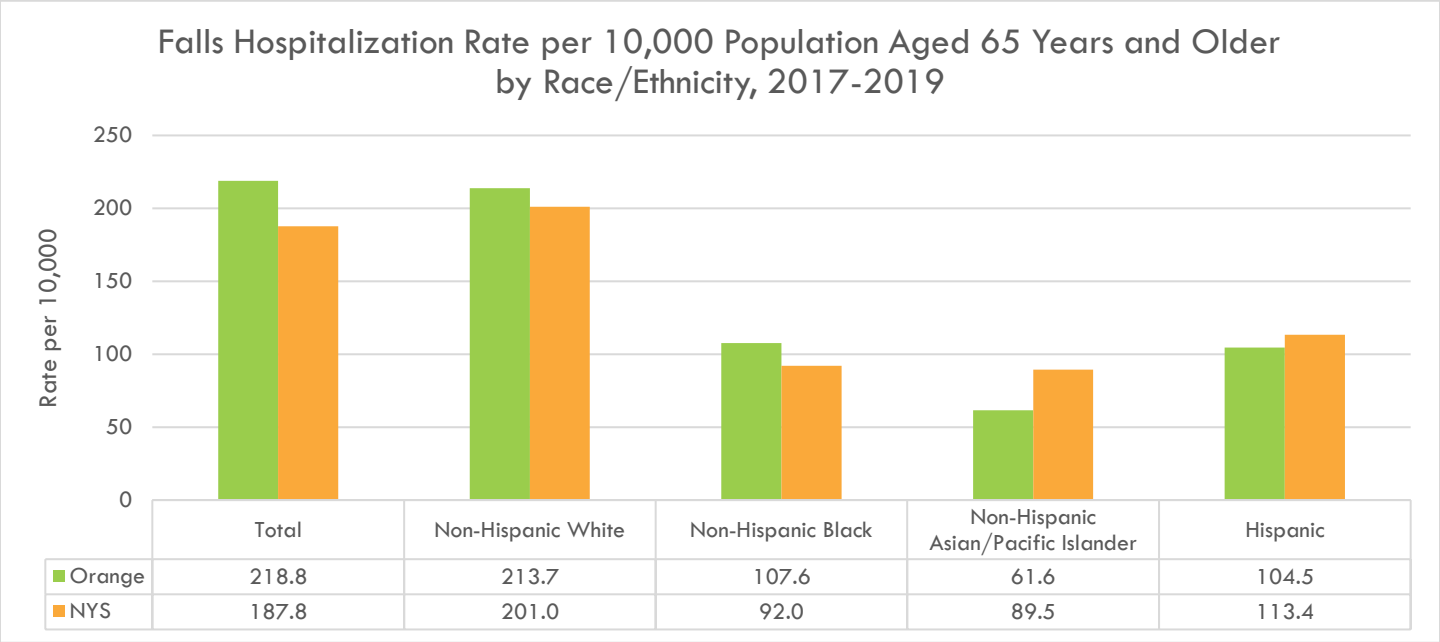
Risk factors of falls include:[35]

- Lower body weakness
- Certain medications
- Poor vision
- Environmental hazards, such as broken steps, throw-rugs, and clutter
- Vitamin D deficiency

From 2017 to 2019, the average fall hospitalization rate in Orange County was 218.8 per 10,000, which exceeds NYS' rate. Further, certain racial/ethnic groups are disproportionately affected by fall hospitalizations. The non-Hispanic White population has the highest rate at 213.7 per 10,000, while the non-Hispanic Asian/Pacific Islander population has the lowest at 61.6 [see Figure 87].

[35] Centers for Disease Control and Prevention, 2021, https://www.cdc.gov/homeandrecreationalsafety/falls/adultfalls.html, accessed July 2022

Figure 87



Note: The 2019 ED data in NYC may be incomplete and subject to change. Thus, the state rates may be underestimated and subject to change.

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

PROMOTE HEALTHY WOMEN, INFANTS, AND CHILDREN

BIRTHS

There was a total of 18,555 births in Orange County from 2016 to 2019. The average annual rate of births was 66.0 per 1,000 females aged 15 to 44 years. Most births were given by women aged 25 to 44 years, closely followed by those aged 20 to 24 years. A small proportion of births in the county were given by teen mothers aged 15 to 19 years. Birth rates have remained relatively stable over time, but have been consistently highest for non-Hispanic White and Hispanic populations, and the 10950 ZIP code [see Table 36, Figure 88, Figure 89, Figure 90].

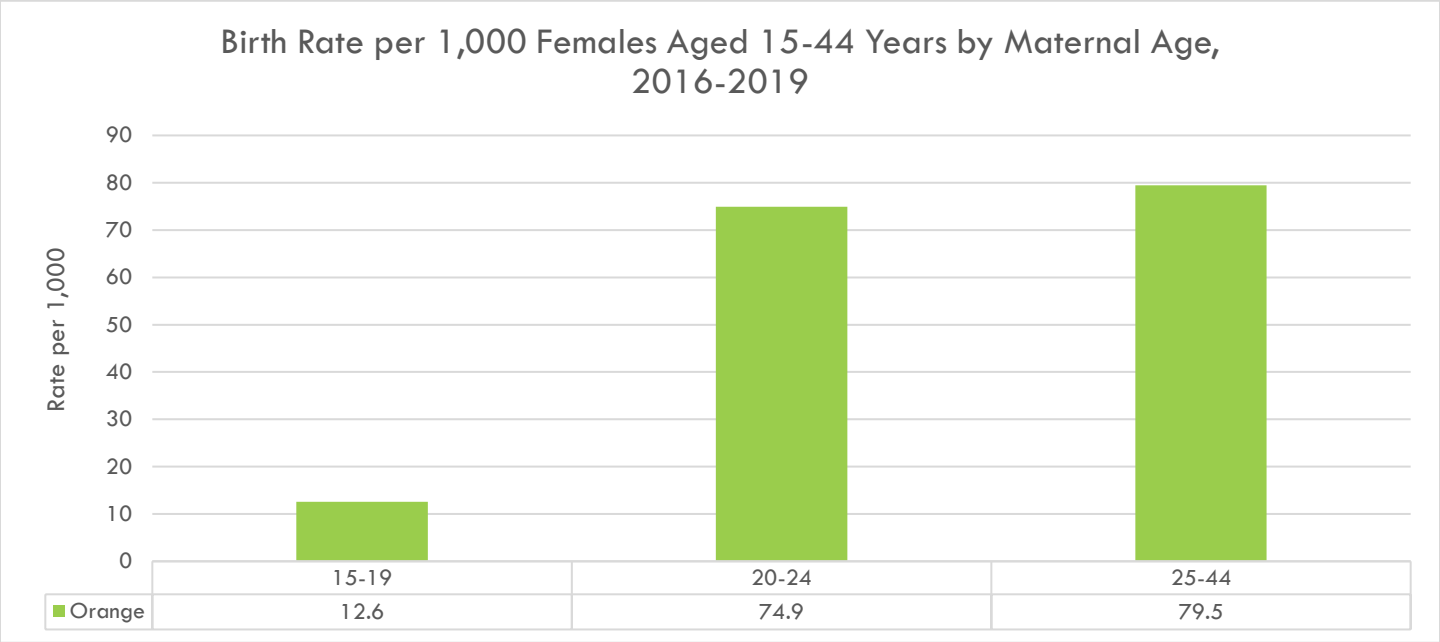
Table 36

Birth Rate per 1,000 Females Aged 15-44 Years by Maternal Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
	#	Rate	#	Rate	#	Rate	#	Rate	Total #	Avg. Rate
Orange County Total	4760	67.5	4866	69.2	4417	63.1	4512	64.2	18,555	66.0
Age Intervals										
15-19	186	13.7	198	14.7	135	10.0	162	12.0	681	12.6
20-24	1015	82.3	922	74.7	877	70.8	890	71.8	3704	74.9
25-44	3,546	79.6	3,728	83.8	3,394	76.8	3,448	77.6	14,116	79.5
Race/Ethnicity										
Non-Hispanic White	3,068	74.8	3,094	75.5	2,690	65.6	2,765	67.4	11,617	70.8
Non-Hispanic Black	427	48.1	414	46.7	440	49.6	434	48.9	1,715	48.3
Hispanic	1,121	64.8	1,199	69.4	1,128	65.2	1,158	67.0	4,606	66.6
Other	144	39.9	159	44.0	159	44.0	155	42.9	617	42.7
ZIP Code										
10940	602	58.9	630	61.9	573	58.6	588	61.4	2,393	60.2
10950	1,492	164.0	1,515	166.6	1,249	134.6	1,342	141.7	5,598	151.5
12550	741	65.7	747	66.2	696	63.5	651	57.6	2,835	63.3
12771	161	67.3	149	61.3	153	58.2	167	61.4	630	61.9

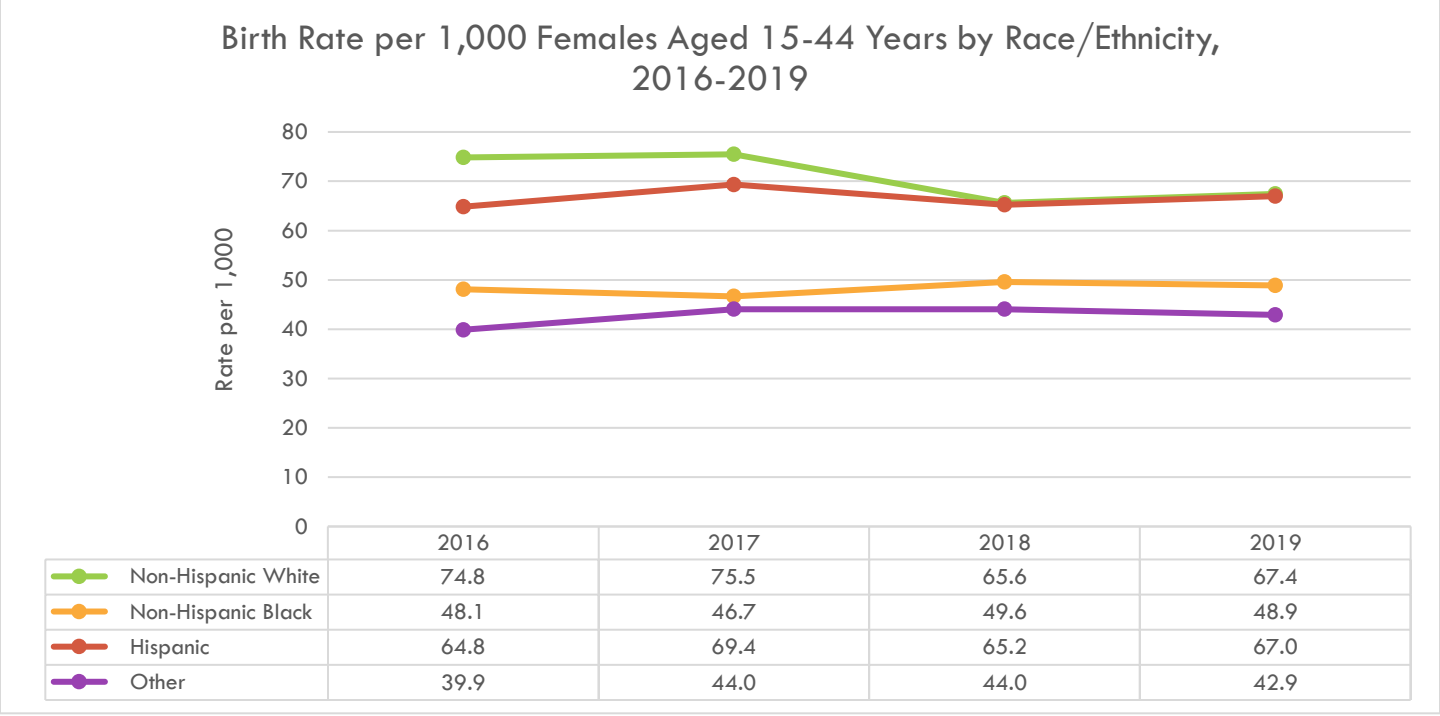
Note: 2018-2019 data does not include Orange County births recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Rates for race/ethnicity are calculated using ACS 2019 5-year population estimates only.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 88



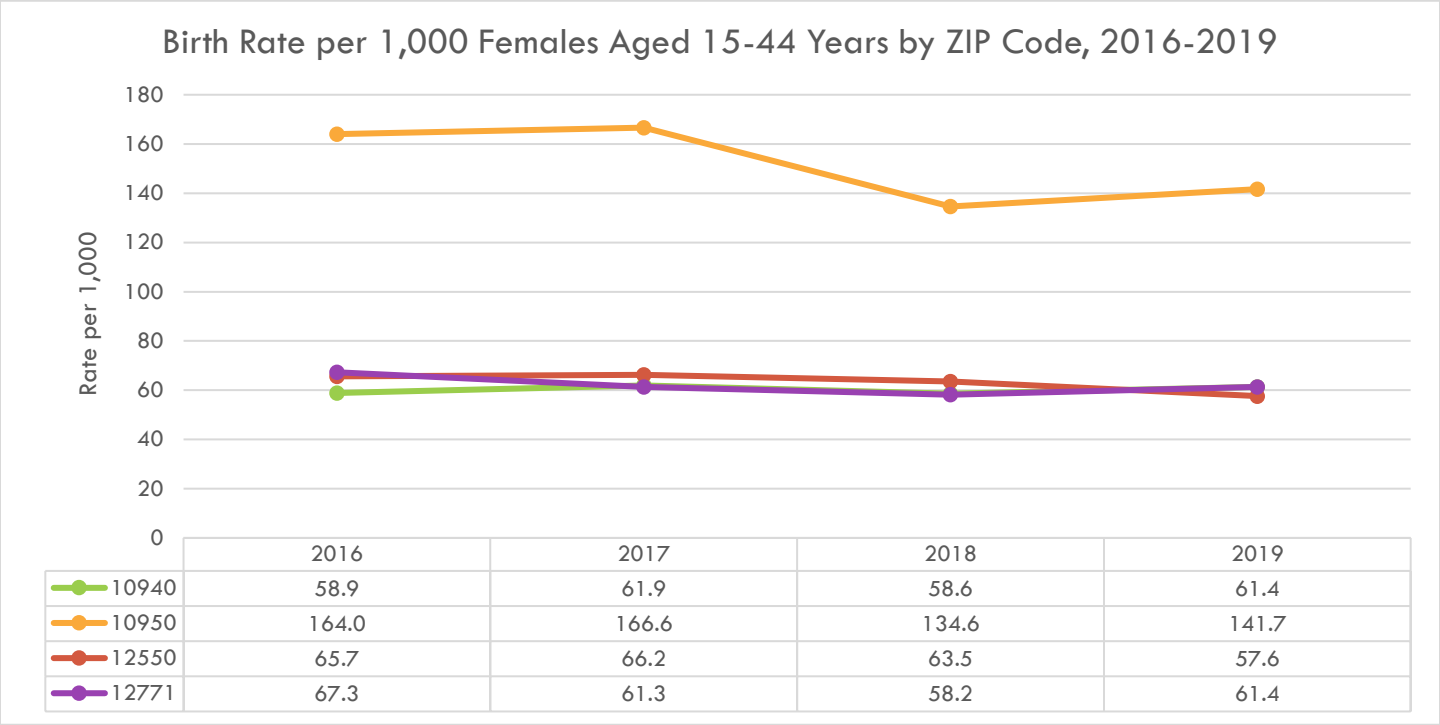
Note: 2018-2019 data does not include Orange County births recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 89



Note: 2018-2019 data does not include Orange County births recorded in NYC.
Rates for race/ethnicity calculated using ACS 2019 5-year population estimates only.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 90



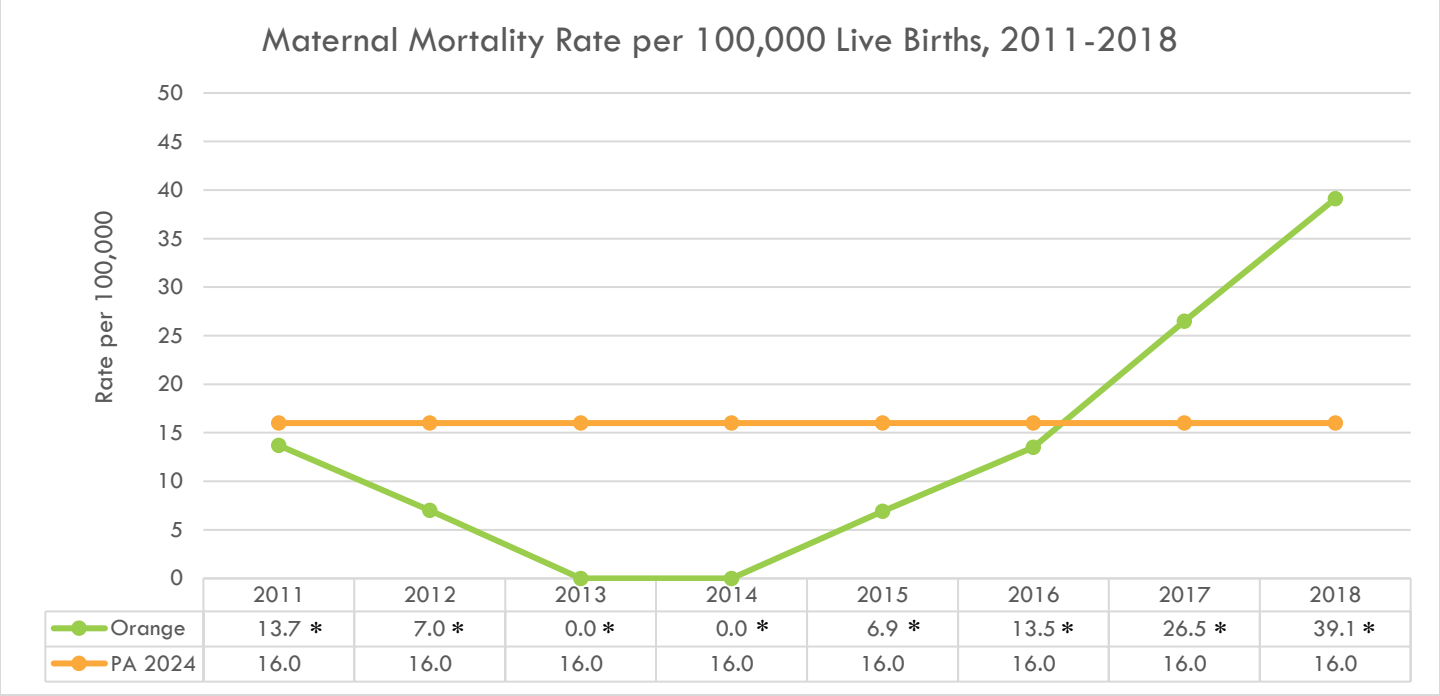
	2016	2017	2018	2019
10940	58.9	61.9	58.6	61.4
10950	164.0	166.6	134.6	141.7
12550	65.7	66.2	63.5	57.6
12771	67.3	61.3	58.2	61.4

Note: 2018-2019 data does not include Orange County births recorded in NYC.
All rates are calculated using ACS 5-year population estimates.
Original Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

MATERNAL HEALTH

Maternal mortality refers to the death of a person while they are pregnant, in delivery, or soon after giving birth. Maternal mortality and morbidity are key indicators of the overall health of a society. In the US, maternal mortality rates have doubled in the past decade, and these deaths are plagued with racial and ethnic disparities. In NYS in particular, Black women are three times more likely to die from pregnancy-related complications than White women.[36] In Orange County, the rates of maternal mortality have steeply increased from 2014 onward, reaching a rate of 39.1 per 100,000 live births in 2018. This rate far exceeds the PA 2024 goal of 16.0 per 100,000 [see Figure 91].

Figure 91



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	13.7 *	7.0 *	0.0 *	0.0 *	6.9 *	13.5 *	26.5 *	39.1 *
PA 2024	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Note: Three-year averages for Orange County are graphed above.
Source: NYS Prevention Agenda Dashboard, 2022
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ctr&ind_id=pa53_0%20&cos=33

[36] New York State Taskforce on Maternal Mortality and Disparate Racial Outcomes, 2019, https://www.health.ny.gov/community/adults/women/task_force_maternal_mortality/docs/maternal_mortality_report.pdf, accessed August 2022

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 birthweight and five times more likely to die.[37]

From 2016 to 2019, an average of 69.1% of births in Orange County had early (first trimester) prenatal care. There were disparities in prenatal care by age of the mother and race/ethnicity. Births given to younger mothers were less likely to have prenatal care compared to births to older mothers [see Table 37, Figure 92]. Non-Hispanic White births were more likely to have early prenatal care than non-Hispanic Black and Hispanic births, and births of "other" races/ethnicities were the least likely to have early prenatal care. While most demographics in the county experienced an increase in births with prenatal care from 2018 to 2019, births to mothers aged 15 to 17 years, Hispanic births, and "Other"-raced births continued to decrease in their early care coverage [see Table 37, Figure 92, Figure 93]. Further, early prenatal care coverage has been decreasing consistently in ZIP code 12550 since 2017, while all other ZIP codes experienced a slight increase from 2018 to 2019 [see Table 37, Figure 94].

[37] Office on Women's Health, 2021, https://www.womenshealth.gov/a-z-topics/prenatal-care, accessed July 2022

Table 37

Percent of Births with Early (First Trimester) Prenatal Care by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
	#		#		#		#		Total #	
Orange County Total Births	4,760		4,866		4,417		4,512		18,555	
	#	%	#	%	#	%	#	%	Total #	Avg. %
Orange County Births with Early Prenatal Care	3,444	72.4%	3,464	71.2%	2,782	63.0%	3,136	69.5%	12,826	69.1%
Age Intervals										
10-14	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%
15-17	15	51.7%	19	52.8%	10	43.5%	13	38.2%	57	46.7%
18-19	110	70.1%	103	63.6%	55	49.1%	69	53.9%	337	60.3%
20-24	706	69.6%	625	67.8%	480	54.7%	594	66.7%	2,405	64.9%
25-44	2,605	73.5%	2,705	72.6%	2,229	65.7%	2,453	71.1%	9,992	70.8%
45+	s	s	12	70.6%	s	s	s	s	35	70.0%
Race/Ethnicity										
Non-Hispanic White	2,313	75.4%	2,276	73.6%	1,728	64.2%	2,082	75.3%	8,399	72.3%
Non-Hispanic Black	277	64.9%	265	64.0%	274	62.3%	284	65.4%	1,100	64.1%
Hispanic	753	67.2%	830	69.2%	692	61.3%	694	59.9%	2,969	64.5%
Other	101	70.1%	93	58.5%	88	55.3%	76	49.0%	358	58.0%
ZIP Code										
10940	396	65.8%	430	68.3%	369	64.4%	384	65.3%	1579	66.0%
10950**	1,109	74.3%	1,077	71.1%	671	53.7%	981	73.1%	3,838	68.6%
12550	542	73.1%	560	75.0%	452	64.9%	374	57.5%	1,928	68.0%
12771	99	61.5%	99	66.4%	88	57.5%	116	69.5%	402	63.8%

**: *Higher percentage of missing data than other zip codes. Interpret rates with caution.*

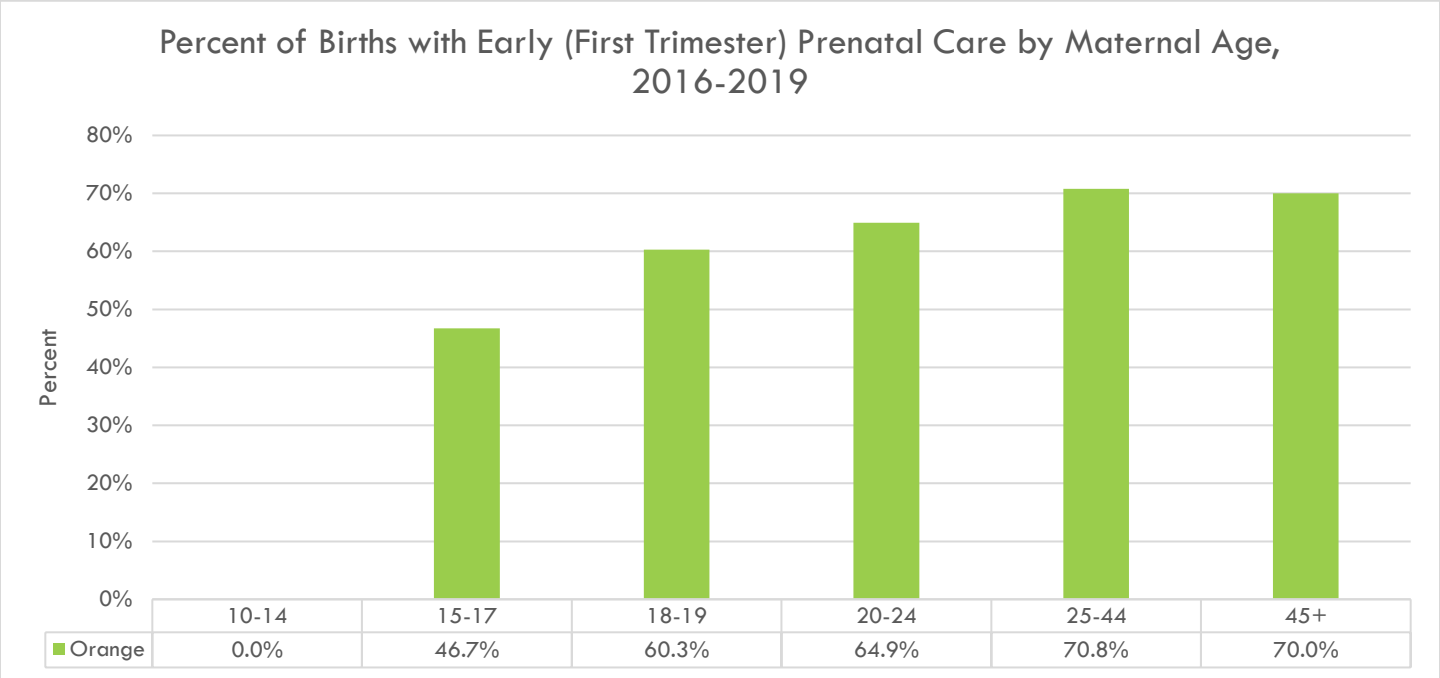
s: Data are suppressed. The data do not meet the criteria for confidentiality.

Note: 2018-2019 data does not include Orange County Births recorded in NYC.

Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH Office of Vital Statistics

Created by the School of Public Health, University at Albany, 2021

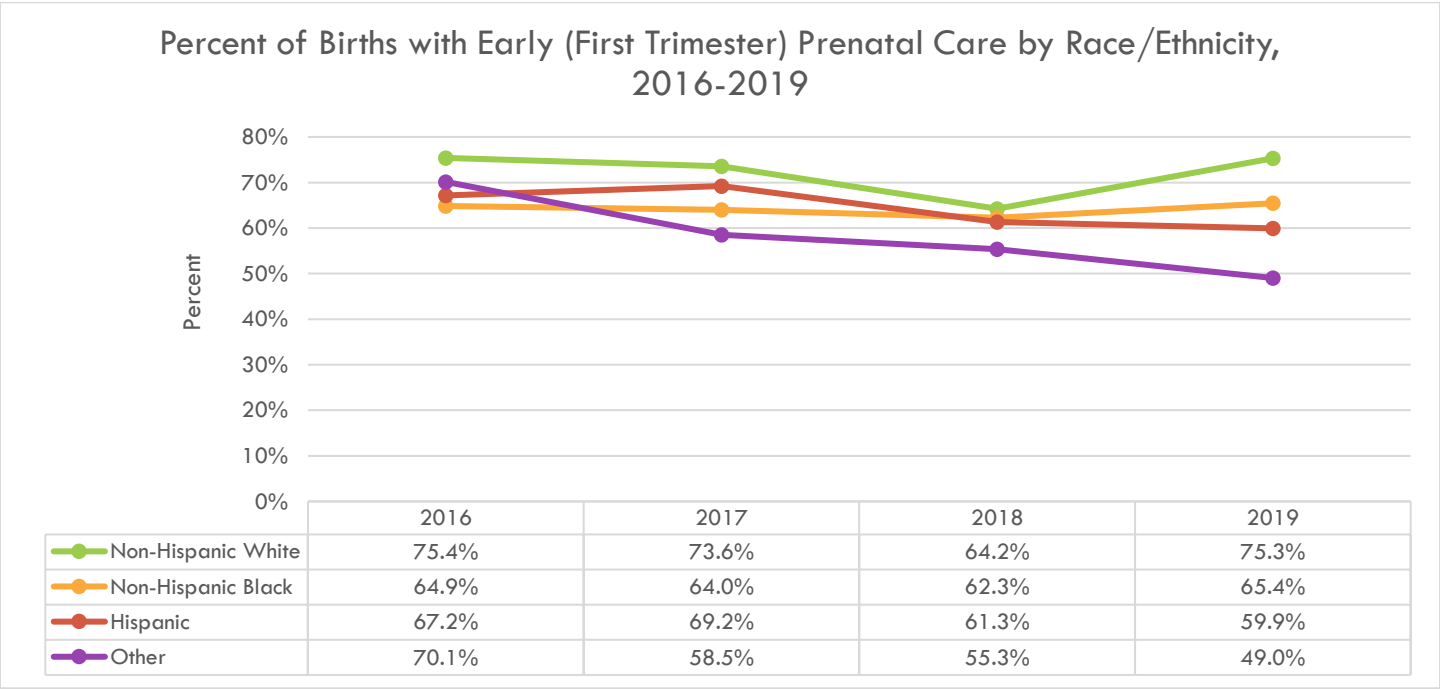
Figure 92



	10-14	15-17	18-19	20-24	25-44	45+
Orange	0.0%	46.7%	60.3%	64.9%	70.8%	70.0%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

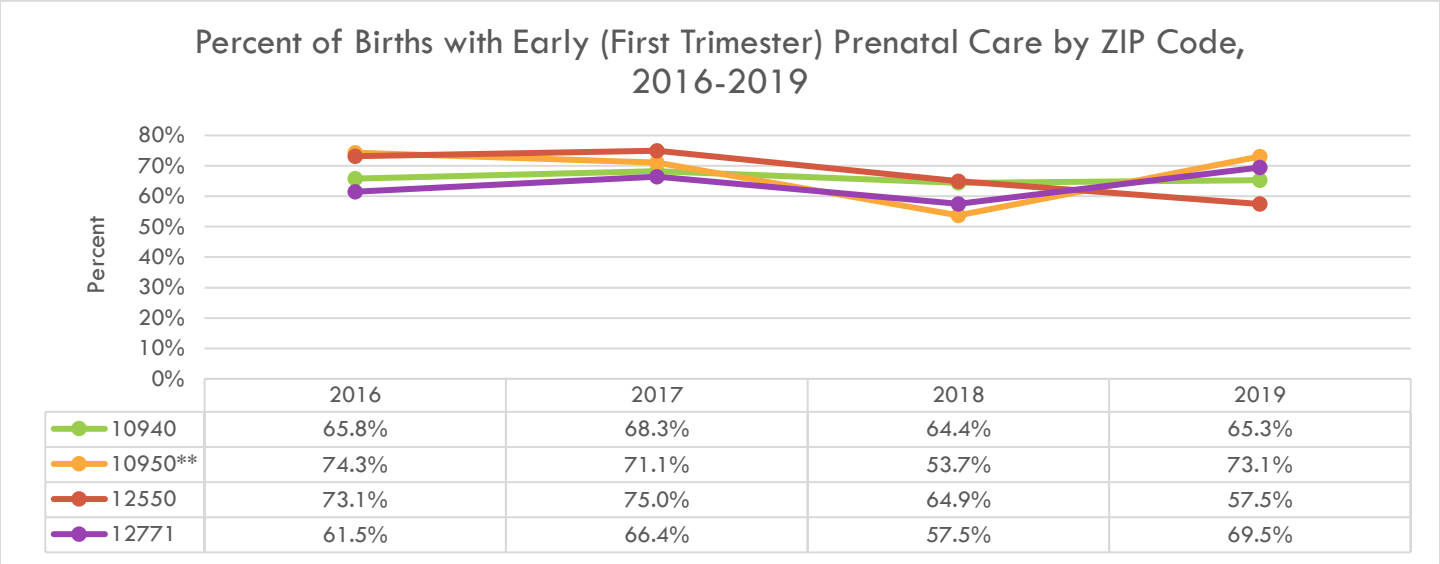
Figure 93



	2016	2017	2018	2019
Non-Hispanic White	75.4%	73.6%	64.2%	75.3%
Non-Hispanic Black	64.9%	64.0%	62.3%	65.4%
Hispanic	67.2%	69.2%	61.3%	59.9%
Other	70.1%	58.5%	55.3%	49.0%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 94

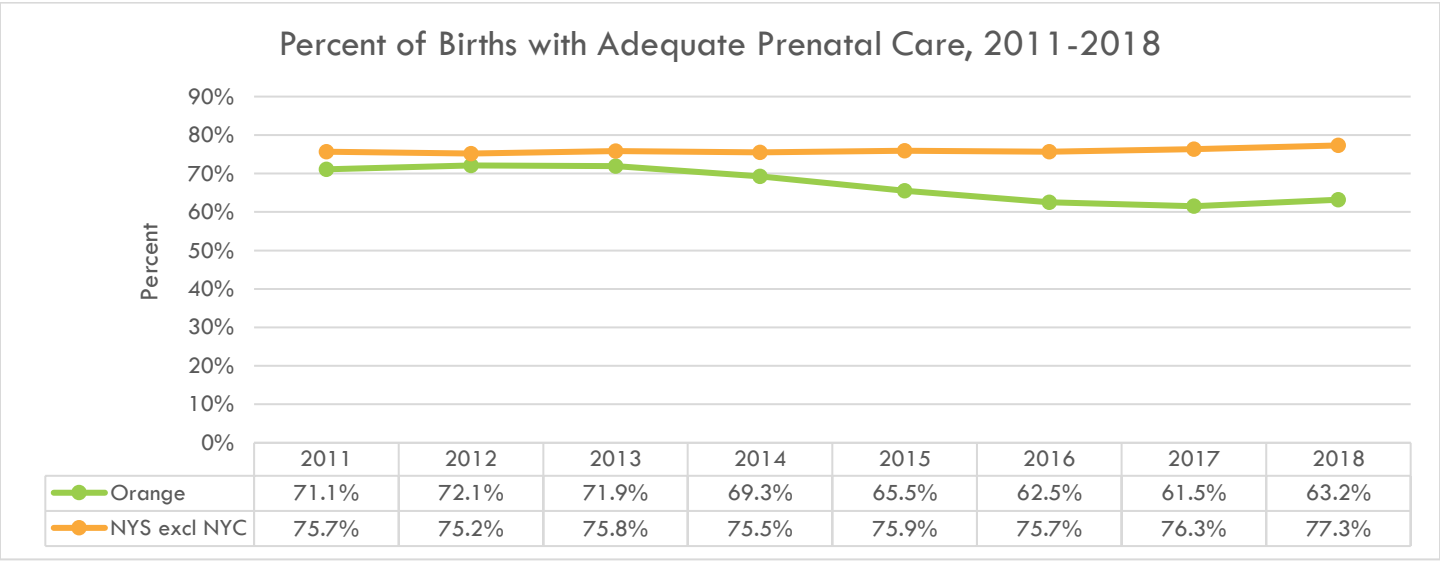


	2016	2017	2018	2019
10940	65.8%	68.3%	64.4%	65.3%
10950**	74.3%	71.1%	53.7%	73.1%
12550	73.1%	75.0%	64.9%	57.5%
12771	61.5%	66.4%	57.5%	69.5%

**: *Higher percentage of missing data than other ZIP codes. Interpret rates with caution.*
Note: 2018-2019 data does not include Orange County births or deaths recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Adequate prenatal care has decreased in Orange County from 2011 to 2018. In 2018, 63.2% of births in Orange County had adequate prenatal care. This is worse than NYS excluding NYC, where 77.3% of births had adequate prenatal care. While this number is a slight improvement from the previous year's rate of 61.5%, Orange County is still worse than it was in 2011, when the average was 71.1%. [see Figure 95].

Figure 95



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	71.1%	72.1%	71.9%	69.3%	65.5%	62.5%	61.5%	63.2%
NYS excl NYC	75.7%	75.2%	75.8%	75.5%	75.9%	75.7%	76.3%	77.3%

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=lb23&cos=33

From 2016 to 2019, an average of 5.1% of births in Orange County had late (last trimester) or no prenatal care. Births to younger mothers more frequently had late/no prenatal care [see Figure 96]. When stratifying by race/ethnicity, births of a race/ethnicity other than non-Hispanic White, non-Hispanic Black, or Hispanic were the most likely to have late/no prenatal care. Non-Hispanic Black and Hispanic births also more frequently had late/no prenatal care compared to non-Hispanic White births [see Figure 97]. Out of the major metropolitan areas, births given in ZIP codes 10940 and 12771 had the highest percentages of late or no prenatal care [see Table 38, Figure 98]. When looking county-wide, however, ZIP code 10996 had the highest percentage of births with late or no prenatal care [see Figure 99].

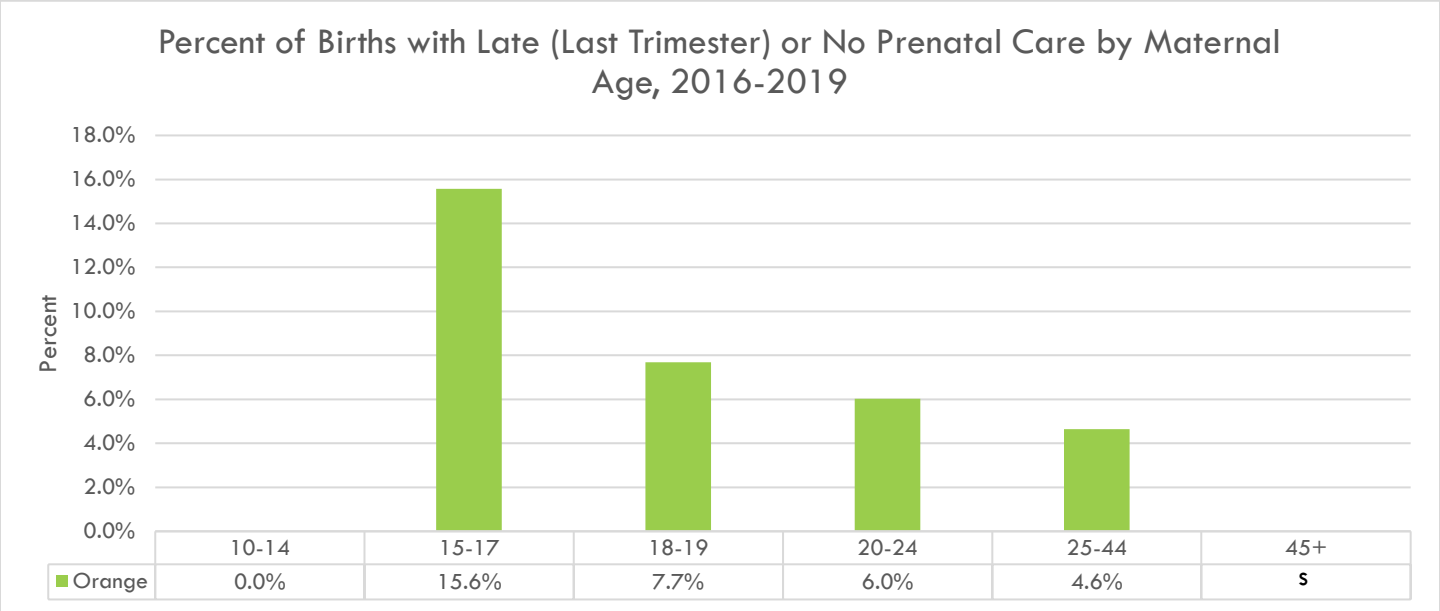
Table 38

Percent of Births with Late (Last Trimester) or No Prenatal Care by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
	#		#		#		#		Total #	
Orange County Total Births	4,760		4,866		4,417		4,512		18,555	
	#	%	#	%	#	%	#	%	Total #	Avg. %
Orange County Births with Late Prenatal Care	209	4.4%	236	4.8%	243	5.5%	255	5.7%	943	5.1%
Age Intervals										
10-14	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%
15-17	s	s	s	s	s	s	s	s	19	15.6%
18-19	s	s	12	7.4%	10	8.9%	12	9.4%	43	7.7%
20-24	56	5.5%	61	6.6%	53	6.0%	53	6.0%	223	6.0%
25-44	140	3.9%	157	4.2%	174	5.1%	184	5.3%	655	4.6%
45+	0	0.0%	s	s	s	s	0	0.0%	s	s
Race/Ethnicity										
Non-Hispanic White	84	2.7%	98	3.2%	98	3.6%	101	3.7%	381	3.3%
Non-Hispanic Black	35	8.2%	36	8.7%	44	10.0%	36	8.3%	151	8.8%
Hispanic	78	7.0%	84	7.0%	83	7.4%	97	8.4%	342	7.4%
Other	12	8.3%	18	11.3%	18	11.3%	21	13.5%	69	11.2%
ZIP Code										
10940	49	8.1%	48	7.6%	45	7.9%	42	7.1%	184	7.7%
10950**	26	1.7%	43	2.8%	22	1.8%	41	3.1%	132	2.4%
12550	42	5.7%	32	4.3%	44	6.3%	63	9.7%	181	6.4%
12771	15	9.3%	s	s	16	10.5%	s	s	47	7.5%

**: *Higher percentage of missing data than other ZIP codes. Interpret rates with caution.*
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

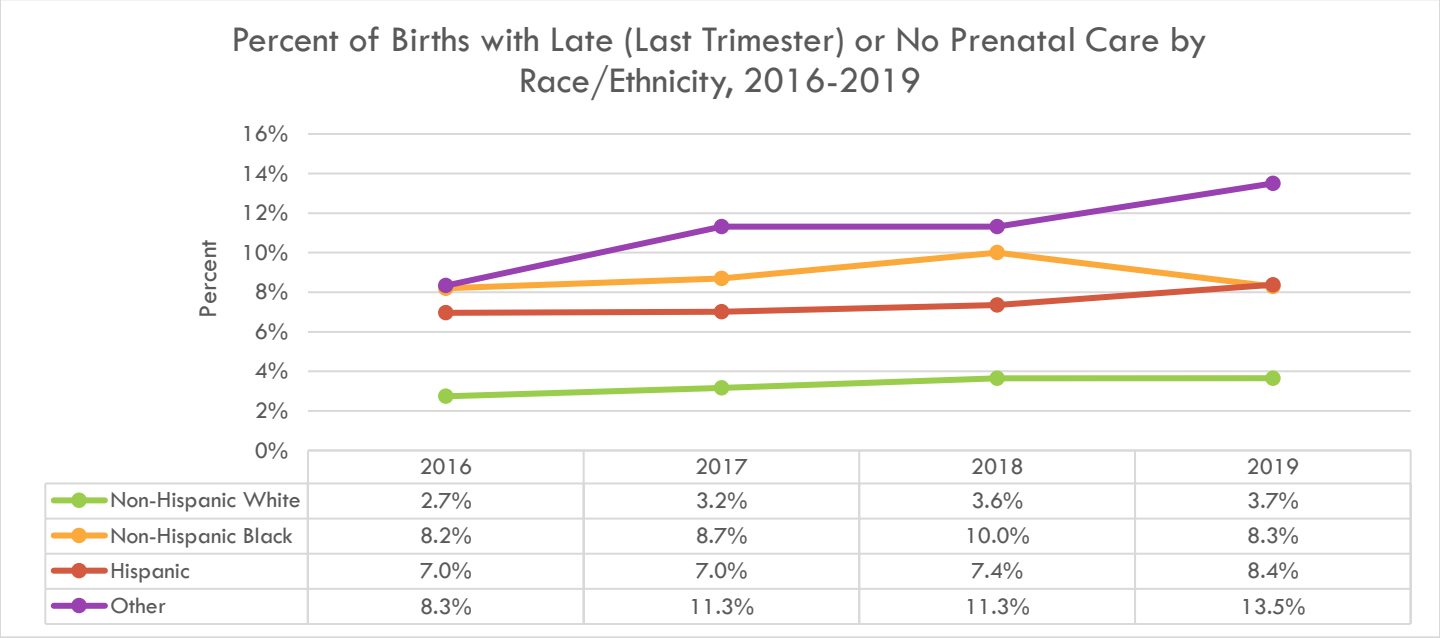
Figure 96



	10-14	15-17	18-19	20-24	25-44	45+
Orange	0.0%	15.6%	7.7%	6.0%	4.6%	s

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

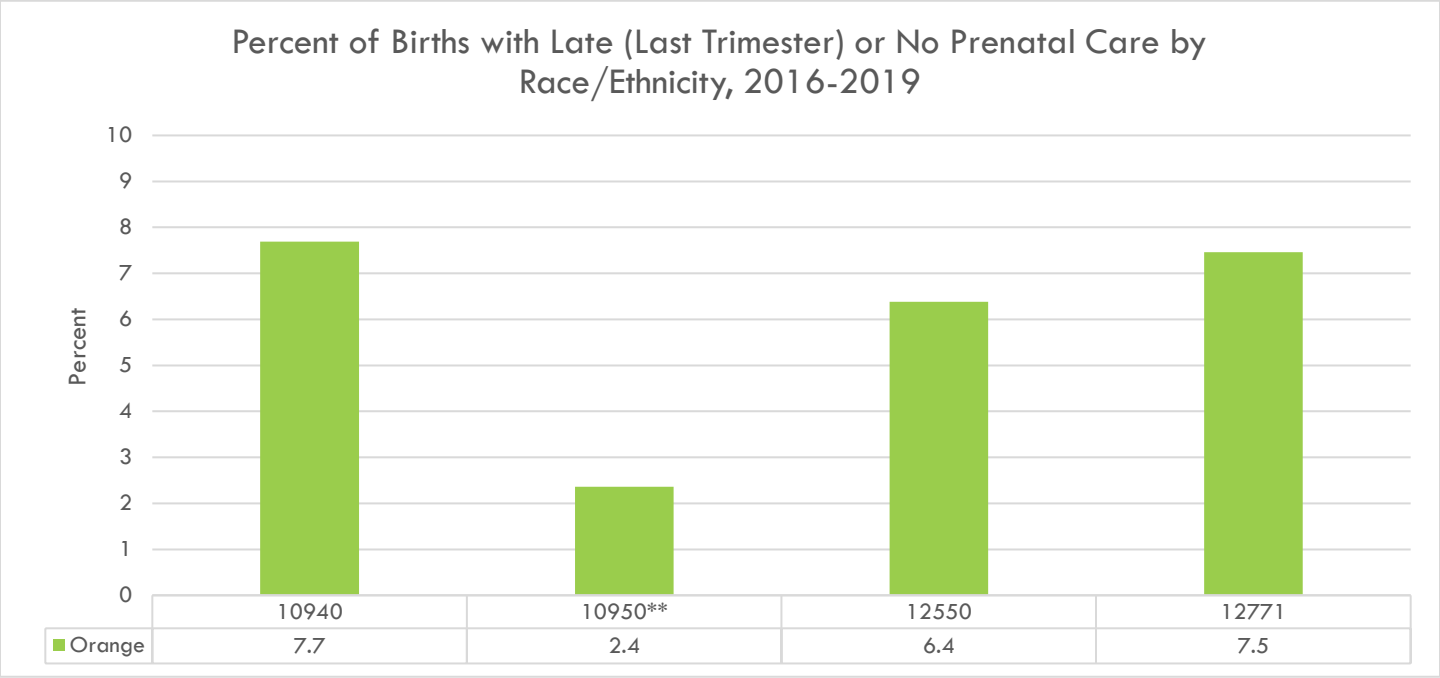
Figure 97



	2016	2017	2018	2019
Non-Hispanic White	2.7%	3.2%	3.6%	3.7%
Non-Hispanic Black	8.2%	8.7%	10.0%	8.3%
Hispanic	7.0%	7.0%	7.4%	8.4%
Other	8.3%	11.3%	11.3%	13.5%

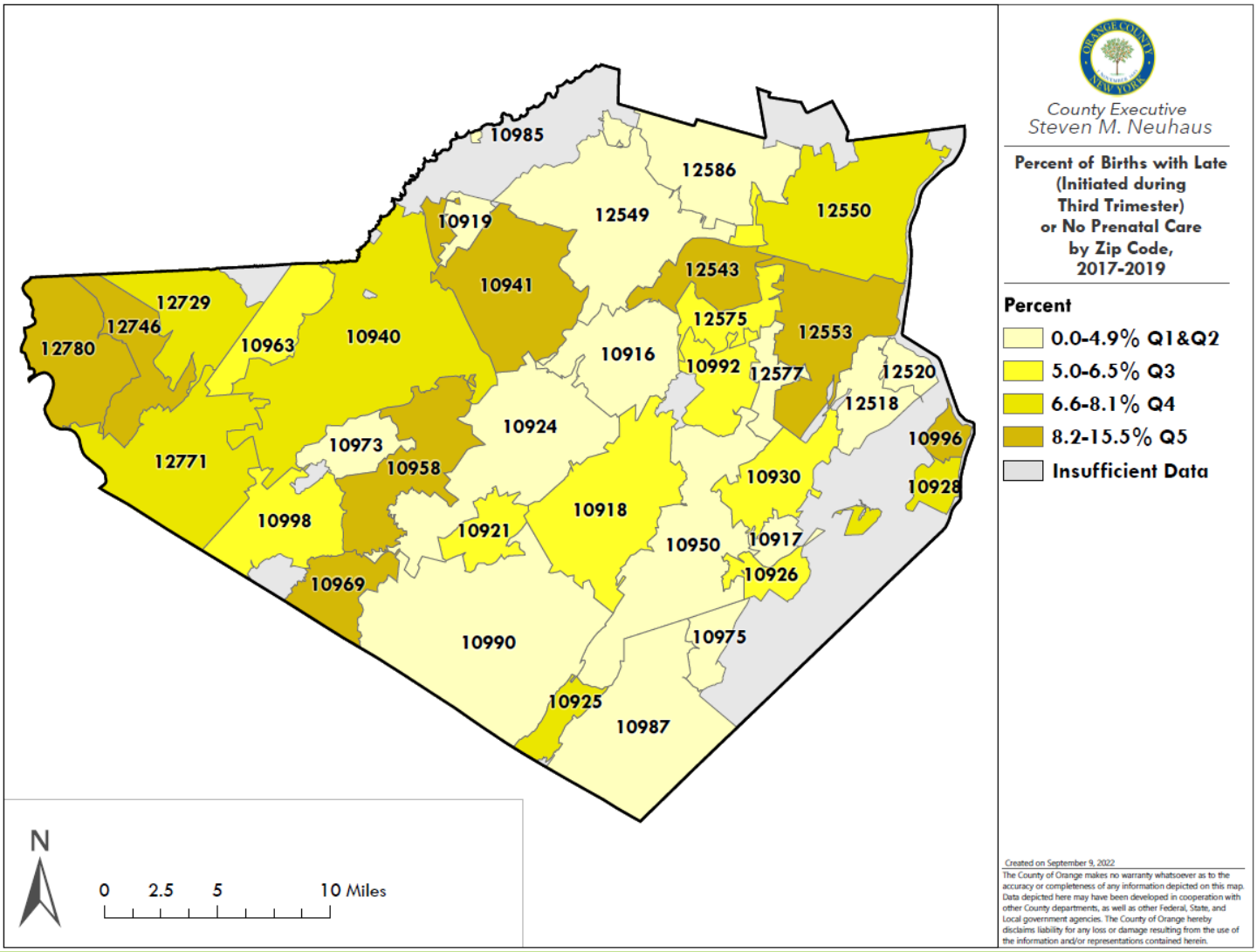
Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 98



**: *Higher percentage of missing data than other ZIP codes. Interpret rates with caution.*
Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 99



Zip Code	Percent	Zip Code	Percent	Zip Code	Percent
10916	1.0%	**10958**	9.9%	**12543**	9.5%
10917	1.9%	**10963**	5.6%	**12549**	3.8%
10918	5.8%	**10969**	8.6%	**12550**	6.7%
10919	3.6%	**10973**	3.3%	**12553**	8.2%
10921	5.2%	**10975**	0.0%	**12575**	6.3%
10924	4.1%	**10985**	0.0%	**12577**	0.0%
10925	7.1%	**10987**	1.4%	**12586**	4.7%
10926	6.0%	**10990**	2.4%	**12729**	6.6%
10928	7.7%	**10992**	6.4%	**12746**	10.3%
10930	6.5%	**10996**	15.5%	**12771**	7.1%
10940	7.4%	**10998**	5.9%	**12780**	11.1%
10941	8.5%	**12518**	2.9%		
10950	2.7%	**12520**	1.3%		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

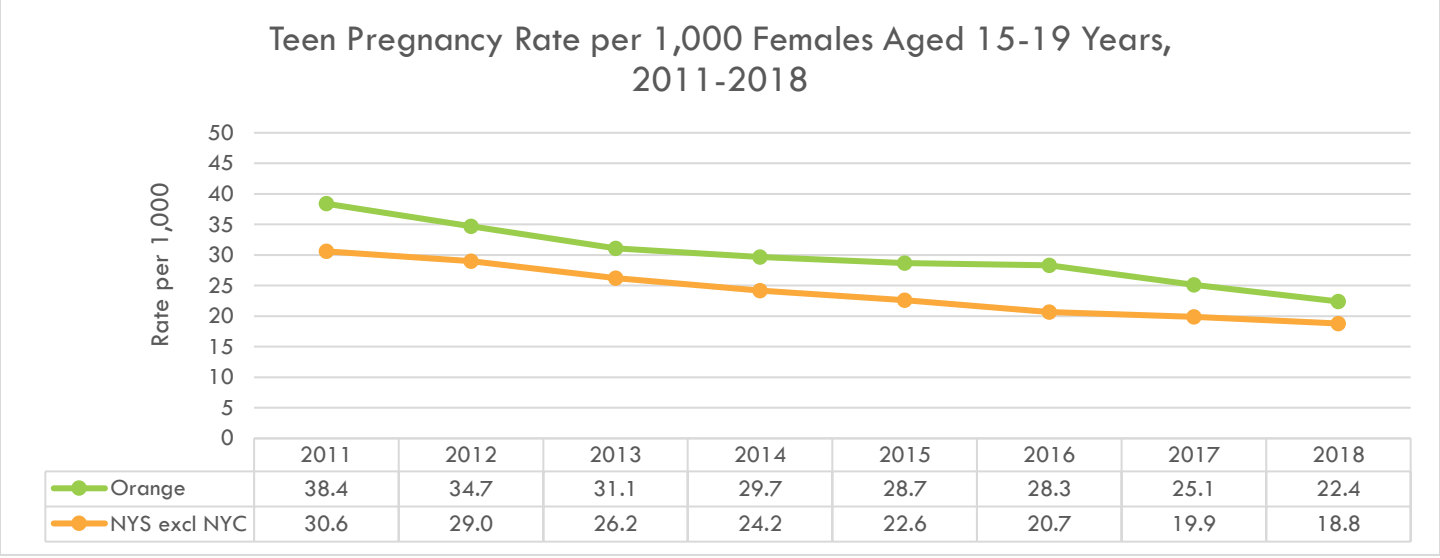
ADOLESCENT PREGNANCY

Teen pregnancy is currently at historic lows in NYS, and progress is being made nationwide.[38] Evidence suggests that this decline in NYS 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 US 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 US, 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, have more health problems, become incarcerated at some point during adolescence, give birth as a teenager, and experience unemployment as an adult.[38]

The rate of teen pregnancy in Orange County has been continuously decreasing since 2011. However, the current rate of 22.4 per 1,000 girls aged 15 to 19 years still exceeds the NYS excluding NYC rate of 18.8 per 1,000 [see Figure 100]. Teen pregnancy differs by ZIP code, with the highest rate occurring in ZIP code 10940 [see Figure 101].

From 2016 to 2019, an average of 0.7% of live births in Orange County were births given by teen mothers (17 years of age or younger) and this percentage fluctuated year by year. A majority of these teen births were by mothers aged 15 to 17 years. When stratifying by race/ethnicity, the largest percentage of teen births were to Hispanic mothers [see Figure 101, Table 39]. The highest rate of teen births in the county occurred in ZIP code 12729 [see Figure 103].

Figure 100

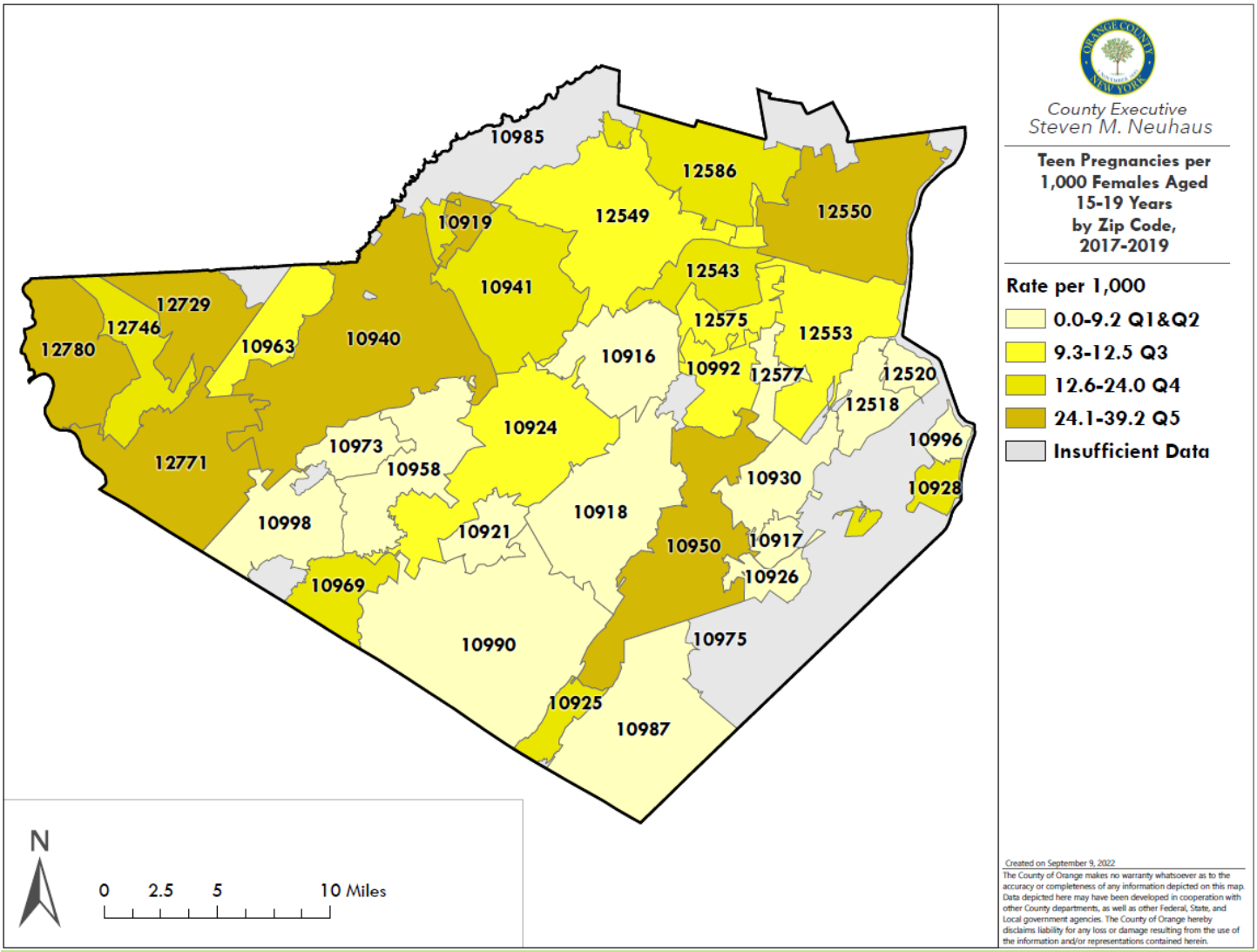


	2011	2012	2013	2014	2015	2016	2017	2018
Orange	38.4	34.7	31.1	29.7	28.7	28.3	25.1	22.4
NYS excl NYC	30.6	29.0	26.2	24.2	22.6	20.7	19.9	18.8

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Fb13&cos=33

[38] Centers for Disease Control and Prevention, 2021, https://www.cdc.gov/teenpregnancy/about/index.htm, accessed June 2022

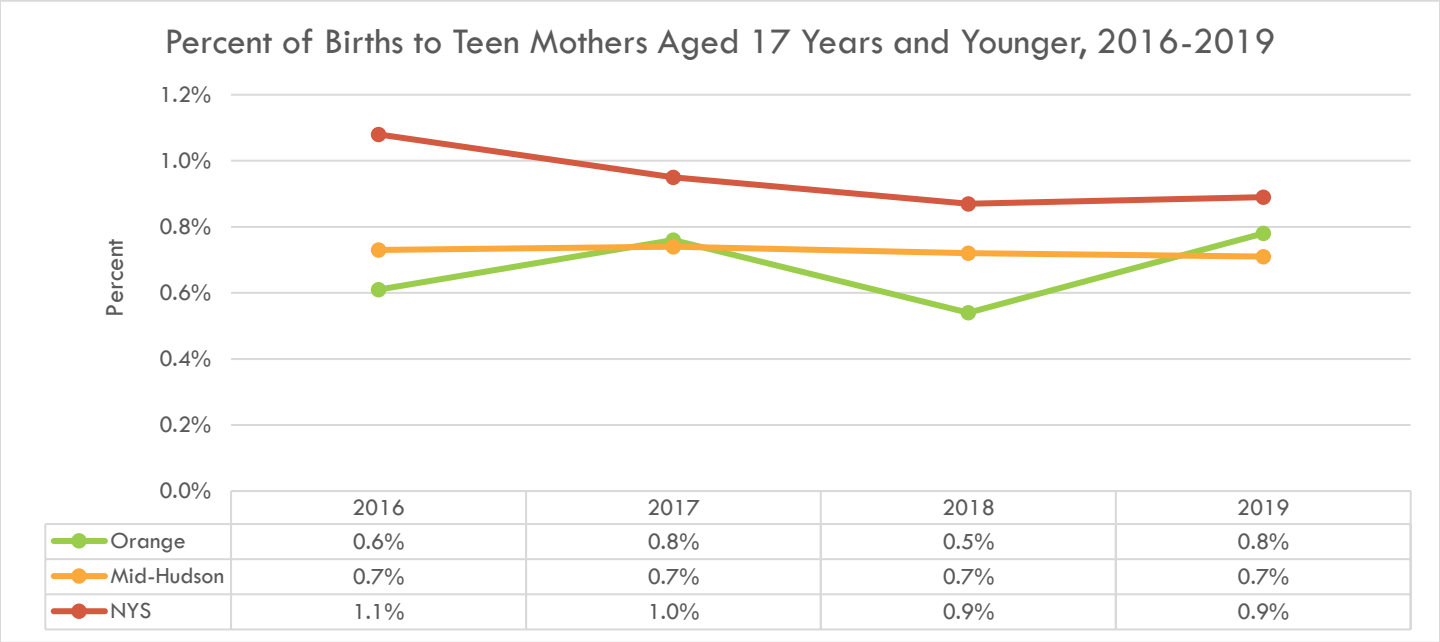
Figure 101



Zip Code	Rate per 1,000	Zip Code	Rate per 1,000	Zip Code	Rate per 1,000
10916	8.1	**10958**	8.4	**12543**	20.3
10917	0.0	**10963**	9.9	**12549**	11.1
10918	5.2	**10969**	21.7	**12550**	32.6
10919	30.3	**10973**	7.8	**12553**	9.9
10921	6.4	**10975**	s	**12575**	10.6
10924	10.2	**10985**	s	**12577**	9.1
10925	14.5	**10987**	3.6	**12586**	19.3
10926	8.5	**10990**	5.3	**12729**	31.3
10928	22.0	**10992**	9.6	**12746**	17.5
10930	6.1	**10996**	5.0	**12771**	28.9
10940	39.2	**10998**	9.2	**12780**	36.5
10941	22.8	**12518**	9.1		
10950	30.6	**12520**	6.7		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

Figure 102



	2016	2017	2018	2019
Orange	0.6%	0.8%	0.5%	0.8%
Mid-Hudson	0.7%	0.7%	0.7%	0.7%
NYS	1.1%	1.0%	0.9%	0.9%

Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

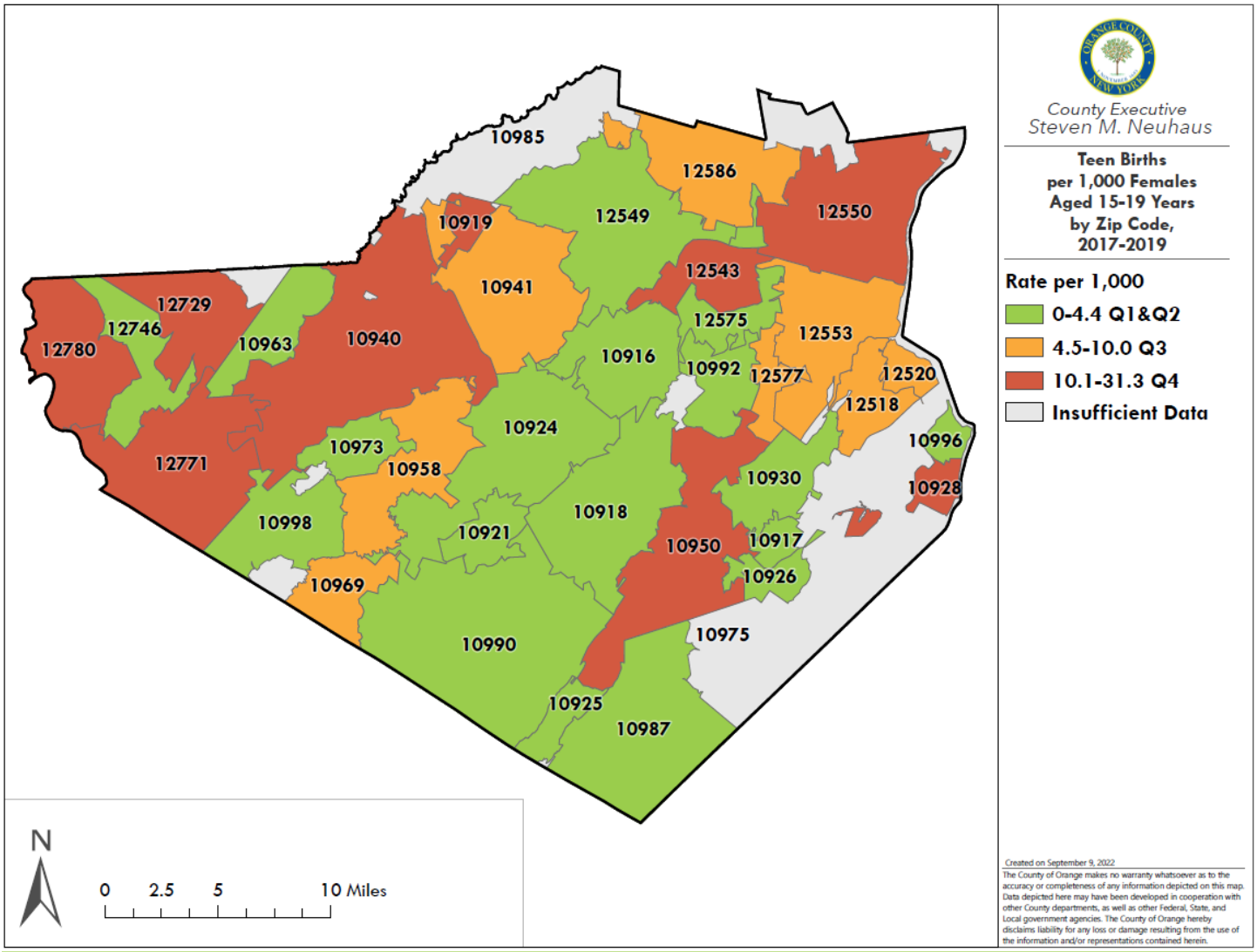
Table 39

Percent of Births to Teen Mothers Aged 17 Years and Younger by Race/Ethnicity, Age, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
	#		#		#		#		Total #	
Orange County Total Births	4,760		4,866		4,417		4,512		18,555	
	#	%	#	%	#	%	#	%	Total #	Avg. %
Orange County Teen Births	29	0.6%	37	0.8%	24	0.5%	35	0.8%	125	0.7%
Age Intervals										
10-14	0	0.0%	s	s	s	s	s	s	s	s
15-17	29	0.6%	36	0.7%	23	0.5%	34	0.8%	122	0.7%
18+	4,731	99.4%	4,829	99.2%	4,393	99.5%	4,477	99.2%	18,430	99.3%
Race/Ethnicity										
Non-Hispanic White	s	s	s	s	s	s	s	s	24	0.2%
Non-Hispanic Black	s	s	s	s	s	s	s	s	18	1.0%
Hispanic	17	1.5%	22	1.8%	15	1.3%	28	2.4%	82	1.8%
Other	0	0.0%	0	0.0%	0	0.0%	s	s	s	s
ZIP Code										
10940	s	s	s	s	s	s	12	2.0%	34	1.4%
10950	0	0.0%	s	s	0	0.0%	0	0.0%	s	s
12550	12	1.6%	16	2.1%	10	1.4%	17	2.6%	55	1.9%
12771	s	s	0	0.0%	s	s	s	s	s	s

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 103



Zip Code	Rate per 1,000	Zip Code	Rate per 1,000	Zip Code	Rate per 1,000
10916	4.0	**10958**	5.6	**12543**	11.6
10917	0.0	**10963**	0.0	**12549**	2.6
10918	1.5	**10969**	7.2	**12550**	18.5
10919	10.1	**10973**	3.9	**12553**	4.7
10921	0.0	**10975**	s	**12575**	0.0
10924	3.4	**10985**	s	**12577**	9.1
10925	2.9	**10987**	0.0	**12586**	6.7
10926	2.8	**10990**	2.9	**12729**	31.3
10928	14.7	**10992**	2.9	**12746**	0.0
10930	4.4	**10996**	1.2	**12771**	13.4
10940	18.9	**10998**	0.0	**12780**	10.4
10941	9.8	**12518**	4.6		
10950	27.0	**12520**	6.7		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

SELF-PAY OR MEDICAID BIRTHS/PREGNANCIES

Most births in Orange County (53.2%) are covered by Medicaid or self-pay. Births for certain age groups, races/ethnicities, and ZIP codes are more frequently covered by Medicaid/self-pay, including those for younger mothers and Hispanic mothers [see Table 40, Figure 107, Figure 105, Figure 106]. The percentage of Medicaid/self-pay births in the county has increased slightly from 2016 to 2019 and is higher than that in the rest of the Mid-Hudson Region and NYS excluding NYC [see Figure 104]. Out of the major metropolitan areas, ZIP code 10950 has the highest percentage of births covered by Medicaid/self-pay [see Figure 107, Figure 108].

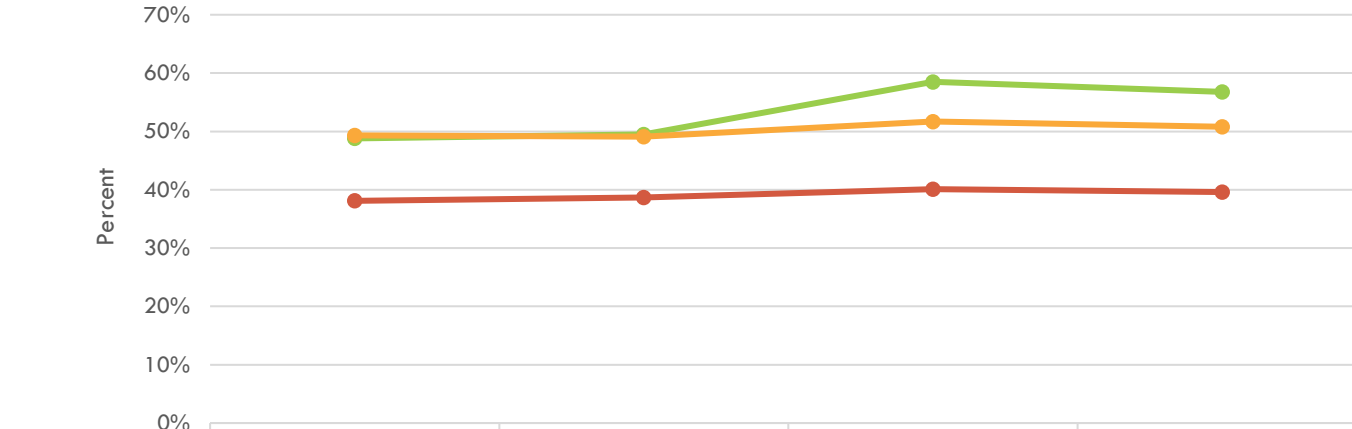
Table 40

Percent of Medicaid/Self-Pay (M/SP) Births by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
	#		#		#		#		Total #	
Orange County Total Births	4,760		4,866		4,417		4,512		18,555	
	#	%	#	%	#	%	#	%	Total #	Avg. %
Orange County Medicaid/Self-Pay (M/SP) Births	2,323	48.8%	2,409	49.5%	2,582	58.5%	2,561	56.8%	9,875	53.2%
Age Intervals										
10-14	0	0.0	0	0.0	s	s	s	s	s	s
15-17	19	65.5%	31	86.1%	20	87.0%	29	85.3%	99	81.1%
18-19	129	82.2%	122	75.3%	92	82.1%	107	83.6%	450	80.5%
20-24	669	65.91%	623	67.6%	708	80.7%	712	80.0%	2,712	73.2%
25-44	1,502	42.4%	1,627	43.6%	1,755	51.7%	1,708	49.5%	6,592	46.7%
45+	s	s	s	s	s	s	s	s	20	40.0%
Race/Ethnicity										
Non-Hispanic White	1,271	41.4%	1,326	42.9%	1,541	57.3%	1,509	54.6%	5,647	48.6%
Non-Hispanic Black	247	57.9%	237	57.2%	234	53.2%	235	54.1%	953	55.6%
Hispanic	750	66.9%	764	63.7%	741	65.7%	750	64.8%	3,005	65.2%
Other	55	38.19%	82	51.6%	66	41.5%	67	43.2%	270	43.8%
ZIP Code										
10940	353	58.6%	327	51.9%	298	52.0%	328	55.8%	1,306	54.6%
10950	842	56.4%	935	61.7%	1,122	89.8%	1,152	85.8%	4,051	72.4%
12550	481	64.9%	492	65.9%	451	64.8%	422	64.8%	1,846	65.1%
12771	83	51.6%	84	56.4%	83	54.2%	81	48.5%	331	52.5%

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

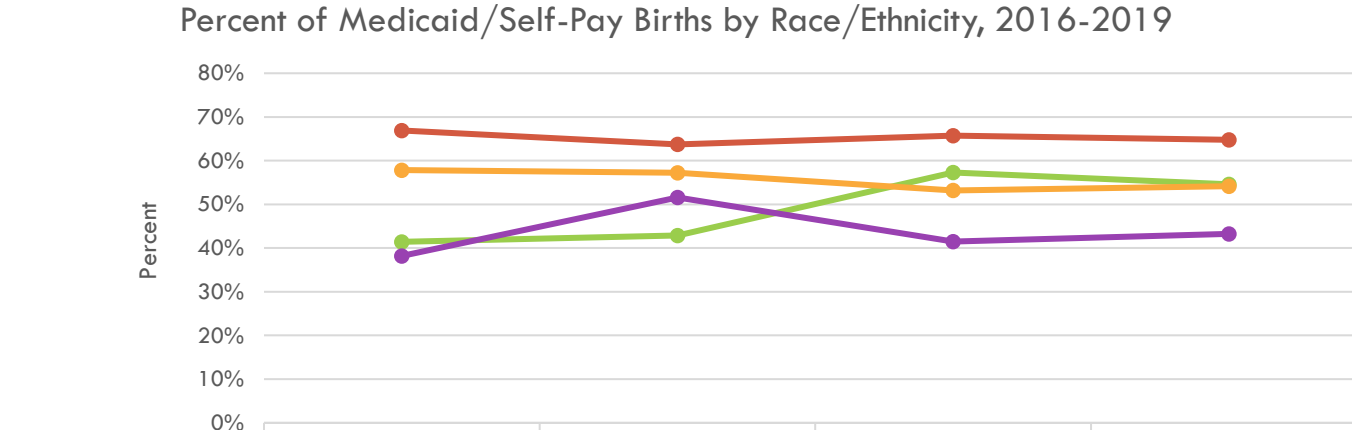
Figure 104



	2016	2017	2018	2019
Orange	48.8%	49.5%	58.5%	56.8%
Mid-Hudson	49.3%	49.1%	51.7%	50.8%
NYS excl NYC	38.1%	38.7%	40.1%	39.6%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

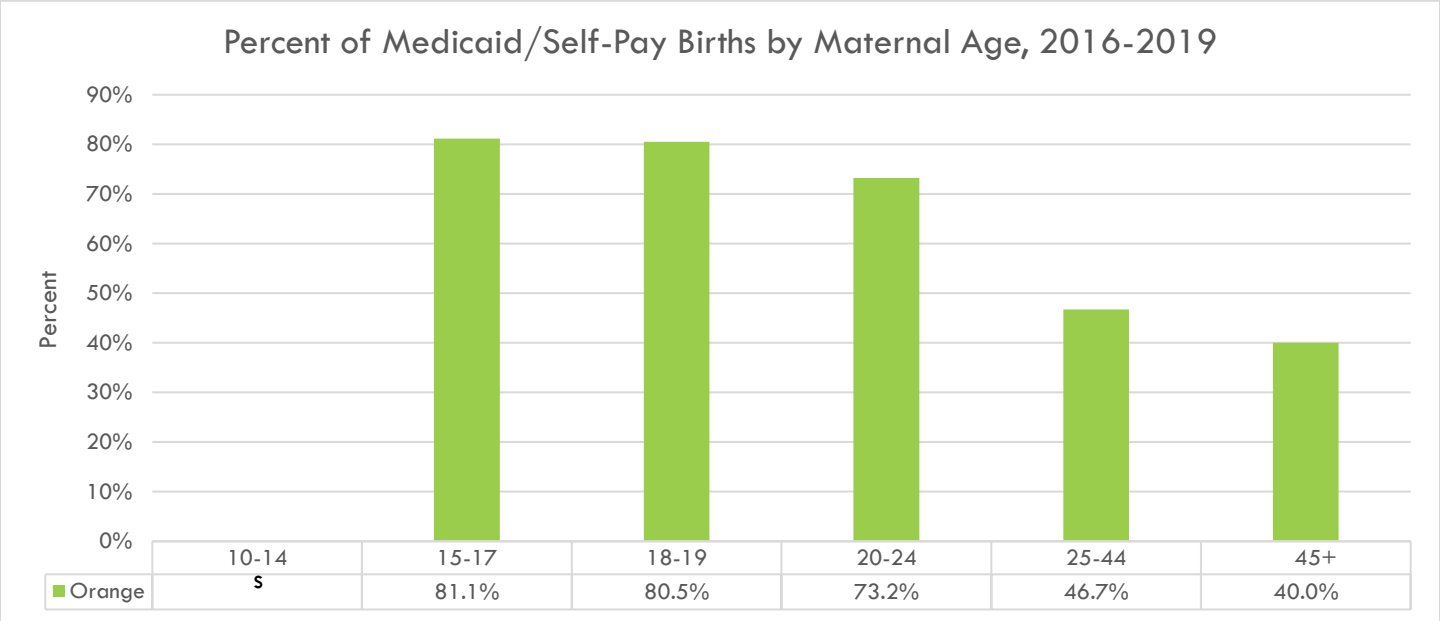
Figure 105



	2016	2017	2018	2019
Non-Hispanic White	41.4%	42.9%	57.3%	54.6%
Non-Hispanic Black	57.8%	57.2%	53.2%	54.1%
Hispanic	66.9%	63.7%	65.7%	64.8%
Other	38.2%	51.6%	41.5%	43.2%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

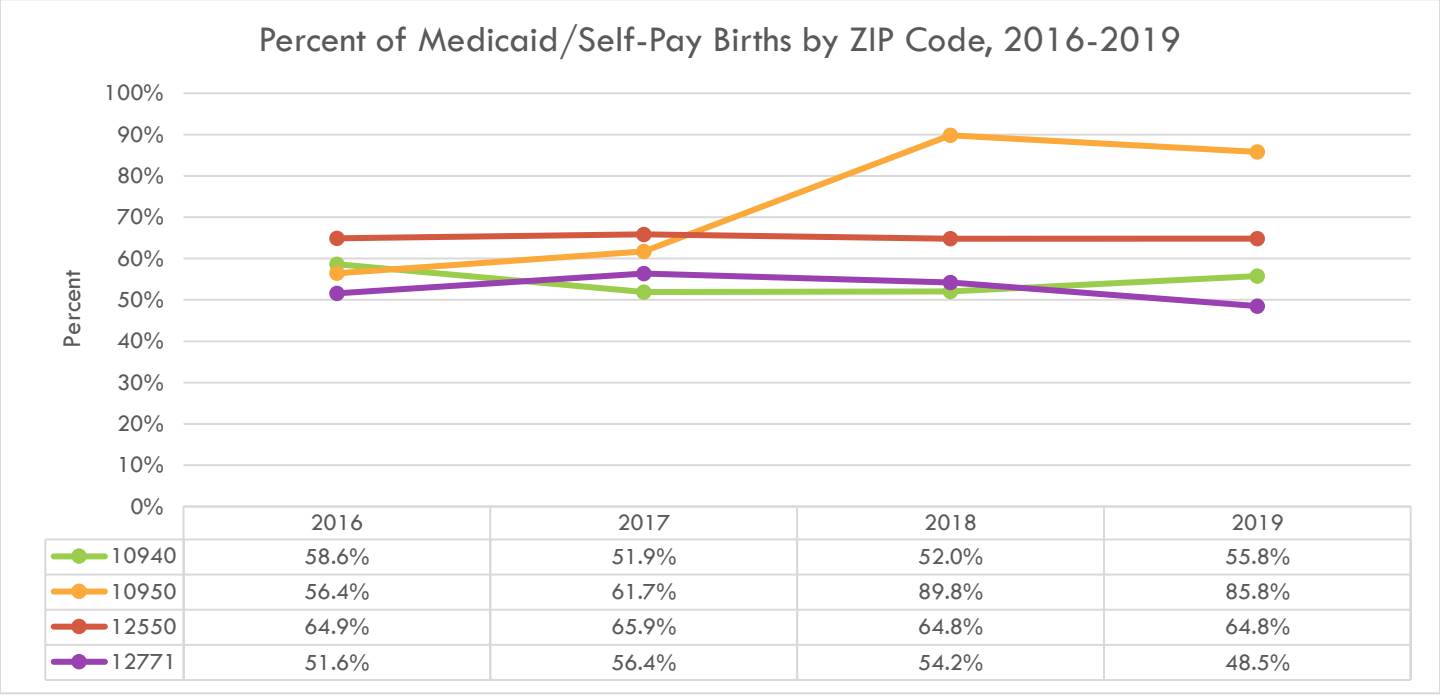
Figure 106



	10-14	15-17	18-19	20-24	25-44	45+
Orange	s	81.1%	80.5%	73.2%	46.7%	40.0%

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

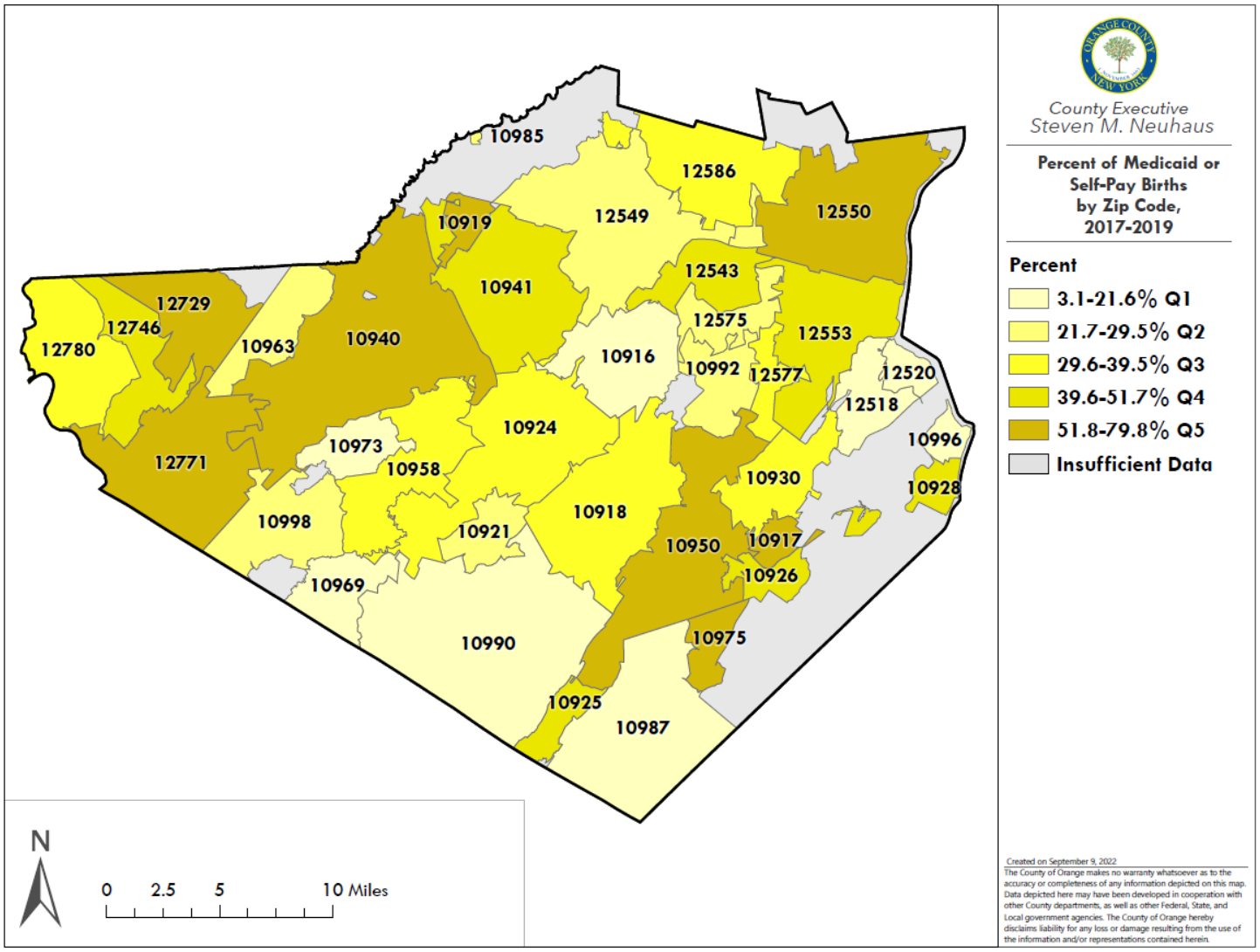
Figure 107



	2016	2017	2018	2019
10940	58.6%	51.9%	52.0%	55.8%
10950	56.4%	61.7%	89.8%	85.8%
12550	64.9%	65.9%	64.8%	64.8%
12771	51.6%	56.4%	54.2%	48.5%

Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 108



Zip Code	Percent	Zip Code	Percent	Zip Code	Percent
10916	20.8%	**10958**	29.6%	**12543**	42.1%
10917	57.4%	**10963**	22.6%	**12549**	23.4%
10918	31.9%	**10969**	14.3%	**12550**	65.1%
10919	53.6%	**10973**	21.3%	**12553**	39.7%
10921	29.5%	**10975**	54.5%	**12575**	23.1%
10924	30.7%	**10985**	27.3%	**12577**	34.8%
10925	43.5%	**10987**	16.2%	**12586**	35.7%
10926	41.6%	**10990**	20.3%	**12729**	52.6%
10928	45.8%	**10992**	26.8%	**12746**	48.3%
10930	39.1%	**10996**	3.1%	**12771**	52.7%
10940	53.1%	**10998**	27.7%	**12780**	38.1%
10941	42.1%	**12518**	19.0%		
10950	79.8%	**12520**	9.9%		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.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.[39] 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.

From 2017 to 2019, an average of 8.1% of births in Orange County were premature. This is lower than the state average. However, there are disparities by race/ethnicity and ZIP code. When stratifying by race/ethnicity, the percentage of premature non-Hispanic Black births in Orange County far exceeds every other group and is also higher than the state rate for that demographic. Further, there was a sharp increase in non-Hispanic Black premature births from 2018 to 2019 [see Table 41, Figure 109, Figure 110]. When looking at the county's major metropolitan areas, mothers who live in 12550, 12771, and 10940 have higher percentages of premature births than the 10950 ZIP code [see Table 41, Figure 111]. When looking at the rest of the county, ZIP codes 10975 and 10963 have the highest percent of premature births [see Figure 112].

[39] Mayo Clinic, 2021, https://www.mayoclinic.org/diseases-conditions/premature-birth/symptoms-causes/syc-20376730, accessed July 2022

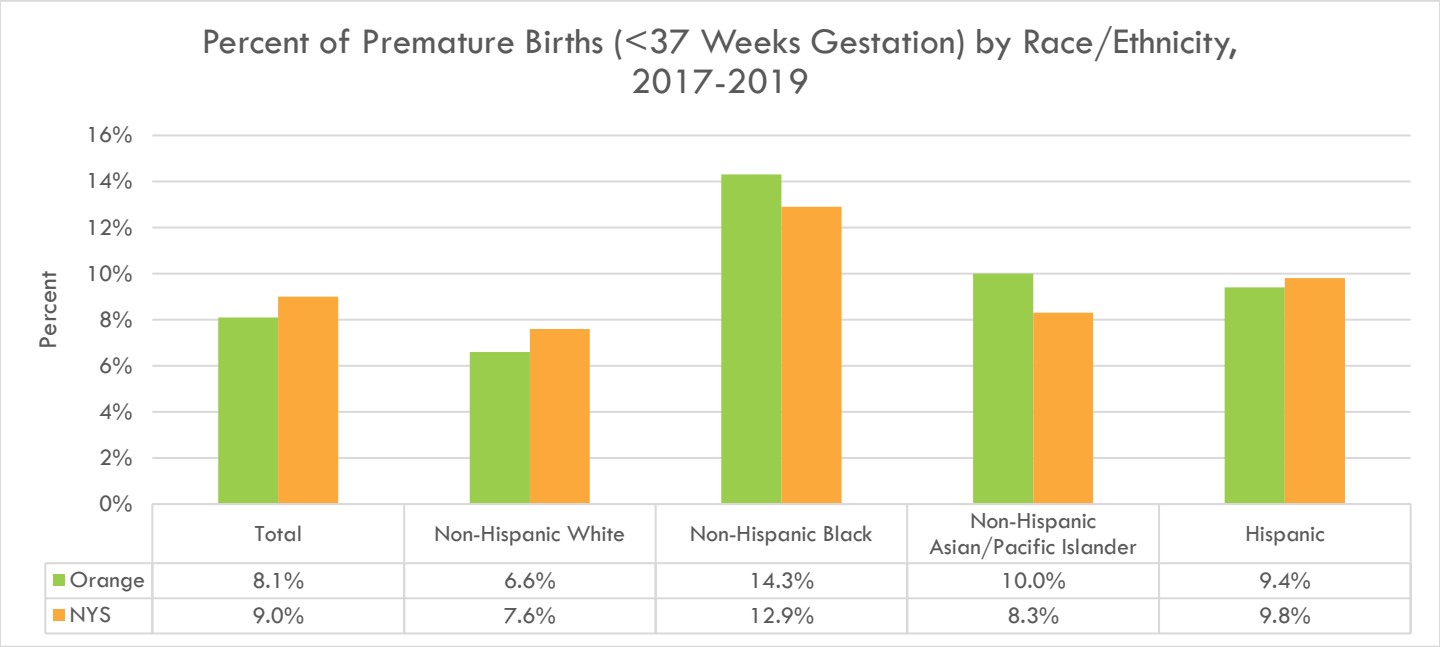
Table 41

Percent of Premature Births (<37 Weeks Gestation) by Age, Race/Ethnicity, and ZIP Code, 2016-2019

	2016		2017		2018		2019		Total	
	#		#		#		#		Total #	
Orange County Total Births	4,760		4,866		4,417		4,512		18,555	
	#	%	#	%	#	%	#	%	Total #	Avg. %
Orange County Premature Births	421	8.8%	400	8.2%	320	7.2%	365	8.1%	1,506	8.1%
Age Intervals										
10-14	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%
15-17	s	s	s	s	s	s	s	s	s	s
18-19	13	8.3%	15	9.3%	5	4.5%	10	7.8%	43	7.7%
20-24	78	7.7%	53	5.7%	48	5.5%	45	5.1%	224	6.0%
25-44	325	9.2%	325	8.7%	262	7.7%	308	8.9%	1220	8.6%
45+	s	s	s	s	s	s	s	s	s	s
Race/Ethnicity										
Non-Hispanic White	238	7.8%	208	6.7%	156	5.8%	169	6.1%	771	6.6%
Non-Hispanic Black	61	14.3%	51	12.3%	50	11.4%	77	17.7%	239	13.9%
Hispanic	102	9.1%	127	10.6%	97	8.6%	104	9.0%	430	9.3%
Other	20	13.9%	14	8.8%	17	10.7%	15	9.7%	66	10.7%
ZIP Code										
10940	64	10.6%	65	10.3%	61	10.6%	54	9.2%	244	10.2%
10950**	100	6.7%	71	4.7%	35	2.8%	48	3.6%	254	4.5%
12550	74	10.0%	93	12.4%	69	9.9%	76	11.7%	312	11.0%
12771	20	12.4%	17	11.4%	14	9.2%	19	11.4%	70	11.1%

s: Data are suppressed. The data do not meet the criteria for confidentiality.
***: Higher percentage of missing data than other ZIP codes. Interpret rates with caution.*
Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics and NYC DOHMH, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

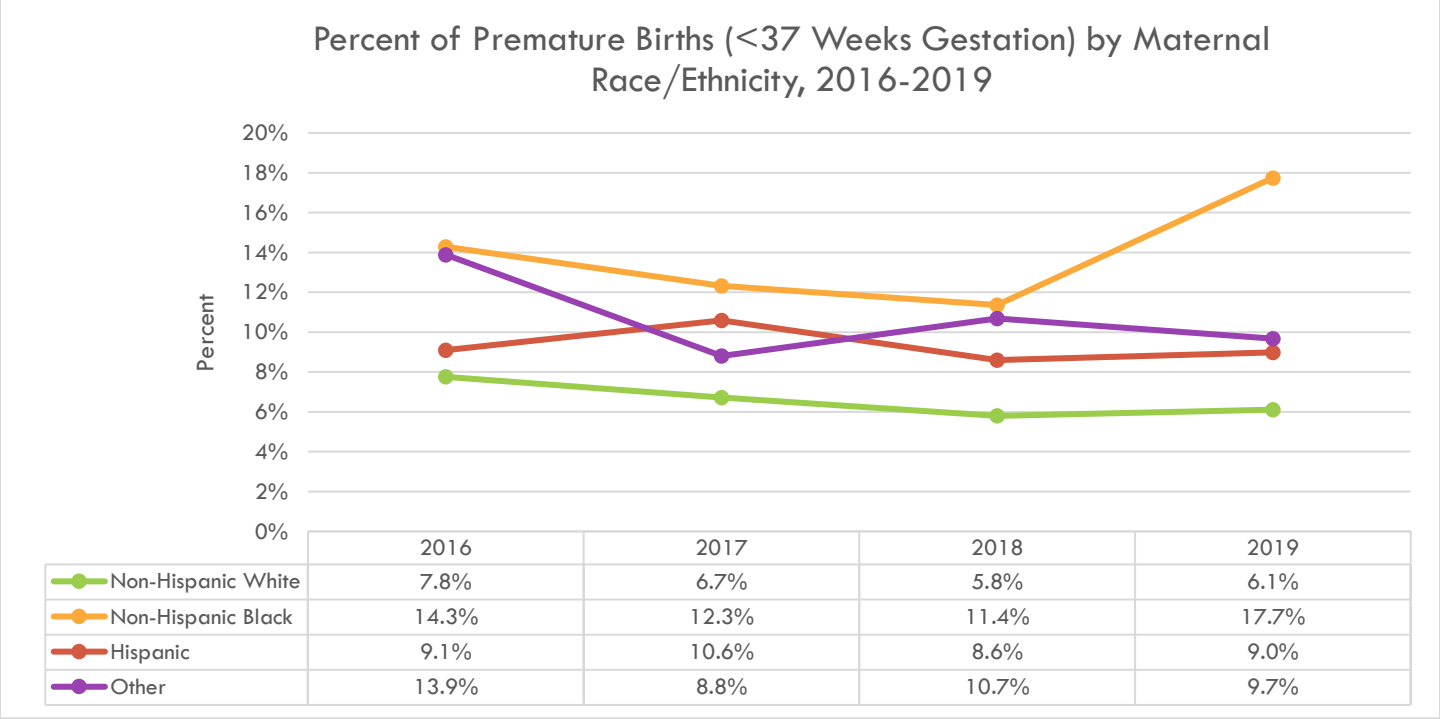
Figure 109



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	8.1%	6.6%	14.3%	10.0%	9.4%
NYS	9.0%	7.6%	12.9%	8.3%	9.8%

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

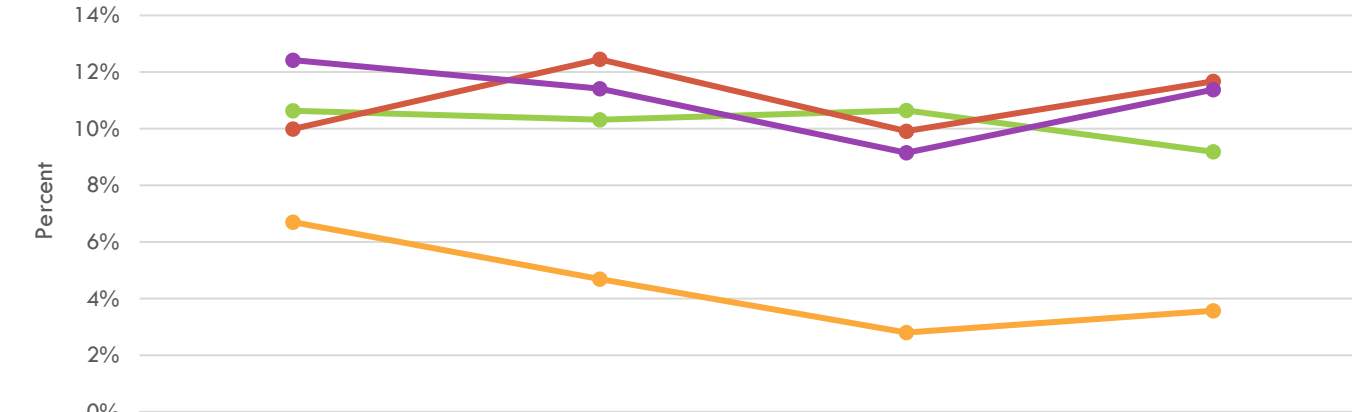
Figure 110



	2016	2017	2018	2019
Non-Hispanic White	7.8%	6.7%	5.8%	6.1%
Non-Hispanic Black	14.3%	12.3%	11.4%	17.7%
Hispanic	9.1%	10.6%	8.6%	9.0%
Other	13.9%	8.8%	10.7%	9.7%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

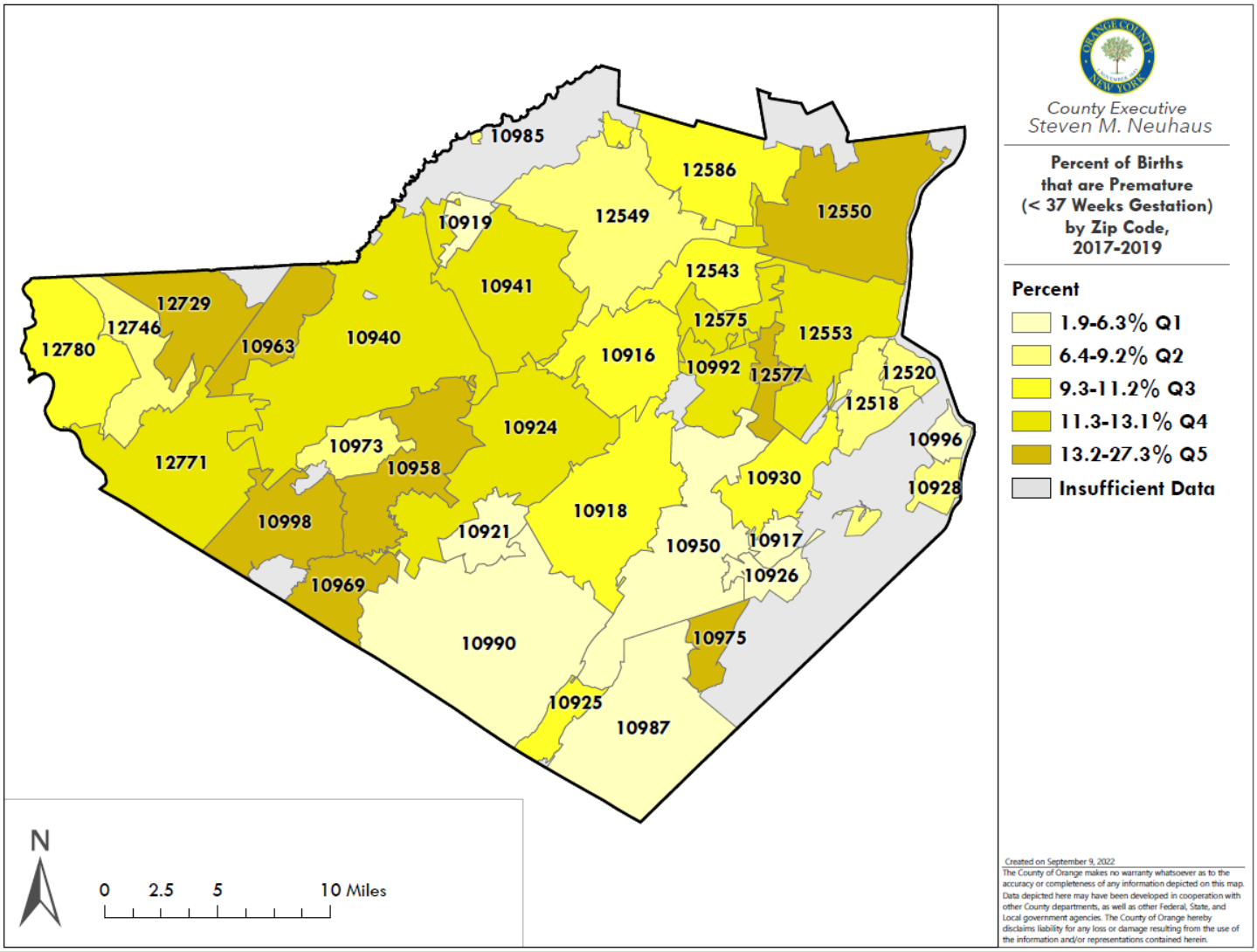
Figure 111



	2016	2017	2018	2019
10940	10.6%	10.3%	10.6%	9.2%
10950	6.7%	4.7%	2.8%	3.6%
12550	10.0%	12.4%	9.9%	11.7%
12771	12.4%	11.4%	9.2%	11.4%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 112



Zip Code	Percent	Zip Code	Percent	Zip Code	Percent
10916	10.9%	**10958**	14.8%	**12543**	10.3%
10917	1.9%	**10963**	22.2%	**12549**	7.2%
10918	9.9%	**10969**	14.3%	**12550**	13.7%
10919	3.6%	**10973**	6.6%	**12553**	12.5%
10921	5.1%	**10975**	27.3%	**12575**	12.3%
10924	12.1%	**10985**	9.1%	**12577**	15.2%
10925	9.4%	**10987**	4.1%	**12586**	10.0%
10926	5.6%	**10990**	6.2%	**12729**	13.2%
10928	8.9%	**10992**	11.4%	**12746**	6.9%
10930	9.8%	**10996**	4.9%	**12771**	12.1%
10940	11.7%	**10998**	13.4%	**12780**	11.1%
10941	11.3%	**12518**	7.7%		
10950	5.9%	**12520**	7.2%		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

LOW BIRTHWEIGHT BIRTHS

Low birthweight describes babies born weighing less than 2.5 kilograms (5 pounds, 8 ounces). Over 8% of all births in the US are low birthweight, and this percentage is increasing.[40] 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.

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.[40]

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.[40] Generally, the lower the birthweight, the greater the risk for complications.

In Orange County an average of 6.6% of total births were low birthweight from 2016 to 2019, which is lower than the NYS average. However, both within Orange County and NYS, there are disparities in low birthweight births based on race/ethnicity, maternal age, and ZIP code. Non-Hispanic Black babies in Orange County face the highest percentage of low birthweight compared to non-Hispanic White, Hispanic, and babies of other races. This disparity has persisted over time. There was a decrease in low birthweight births for non-Hispanic Black babies from 2016 to 2017, but the percentage has increased every year since, at a much steeper rate than that for other racial/ethnic groups [see Table 42, Figure 113, Figure 114]. Babies that have a low birthweight are also more often born to mothers who are younger than 20 years old [see Figure 115]. When looking at the three major metropolitan areas, low birthweight births are more common in 10940, 12550, and 12771 compared to the 10950 ZIP code [see Table 42, Figure 116]. When looking county-wide, the highest percentage of low birthweight births occurred in 10963, followed by 10958 [see Figure 117].

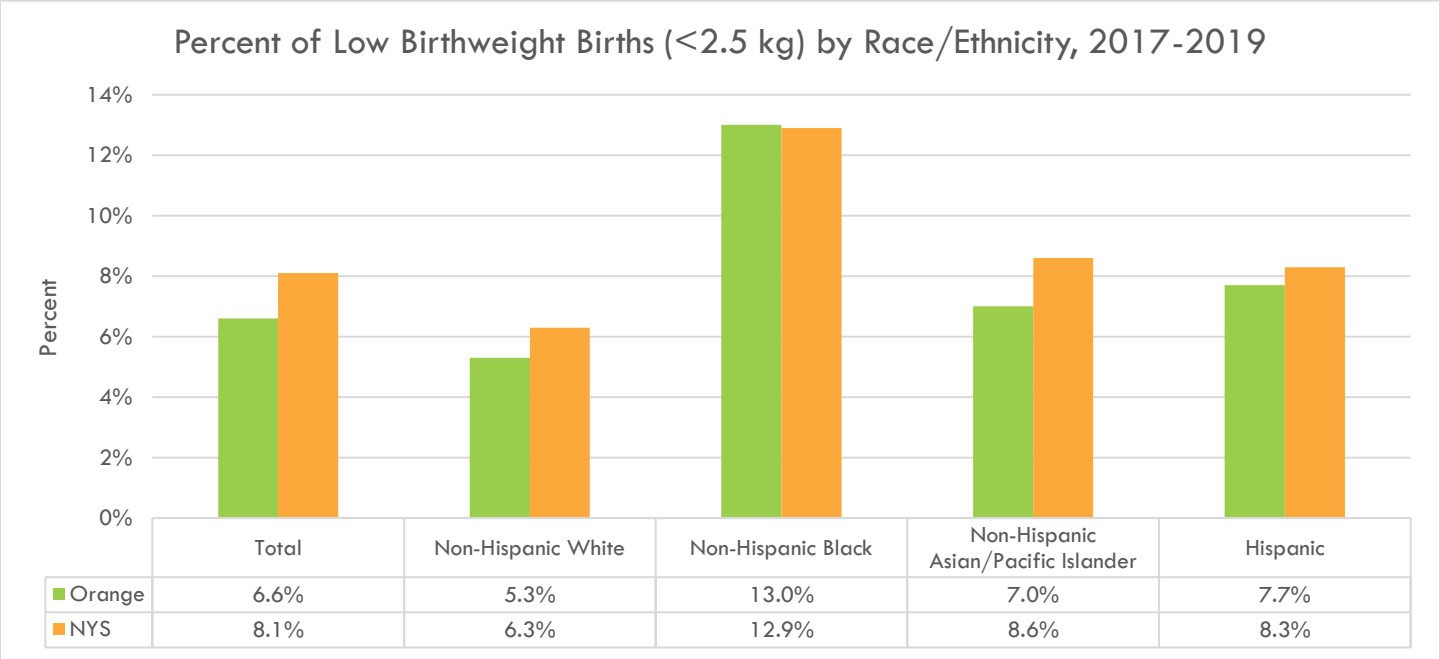
[40] Children's Hospital of Philadelphia, 2022, https://www.chop.edu/conditions-diseases/low-birthweight, accessed July 2022

Table 42

Percent of Low Birthweight Births (<2.500 kg) by Age, Race/Ethnicity, and ZIP Code, 2016-2019										
	2016		2017		2018		2019		Total	
	#		#		#		#		Total #	
Orange County Total Births	4,760		4,866		4,417		4,512		18,555	
	#	%	#	%	#	%	#	%	Total #	Avg. %
Orange County Low Birthweight Births	333	7.0%	296	6.1%	283	6.4%	304	6.7%	1216	6.6%
Age Intervals										
10-14	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0	0.0%
15-17	s	s	s	s	s	s	s	s	11	9.0%
18-19	12	7.6%	14	8.6%	s	s	10	7.8%	40	7.2%
20-24	73	7.2%	45	4.9%	45	5.1%	41	4.6%	204	5.5%
25-44	245	6.9%	231	6.2%	230	6.8%	252	7.3%	958	6.8%
45+	0	0.0%	s	s	s	s	0	0.0%	s	s
Race/Ethnicity										
Non-Hispanic White	175	5.7%	147	4.8%	143	5.3%	129	4.7%	594	5.1%
Non-Hispanic Black	55	12.9%	40	9.7%	53	12.0%	69	15.9%	217	12.7%
Hispanic	86	7.7%	98	8.2%	75	6.6%	92	7.9%	351	7.6%
Other	17	11.8%	11	6.9%	12	7.5%	14	9.0%	54	8.8%
ZIP Code										
10940	55	9.1%	52	8.3%	53	9.2%	46	7.8%	206	8.6%
10950	70	4.7%	54	3.6%	42	3.4%	42	3.1%	208	3.7%
12550	69	9.3%	62	8.3%	51	7.3%	64	9.8%	246	8.7%
12771	19	11.8%	13	8.7%	15	9.8%	15	9.0%	62	9.8%

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

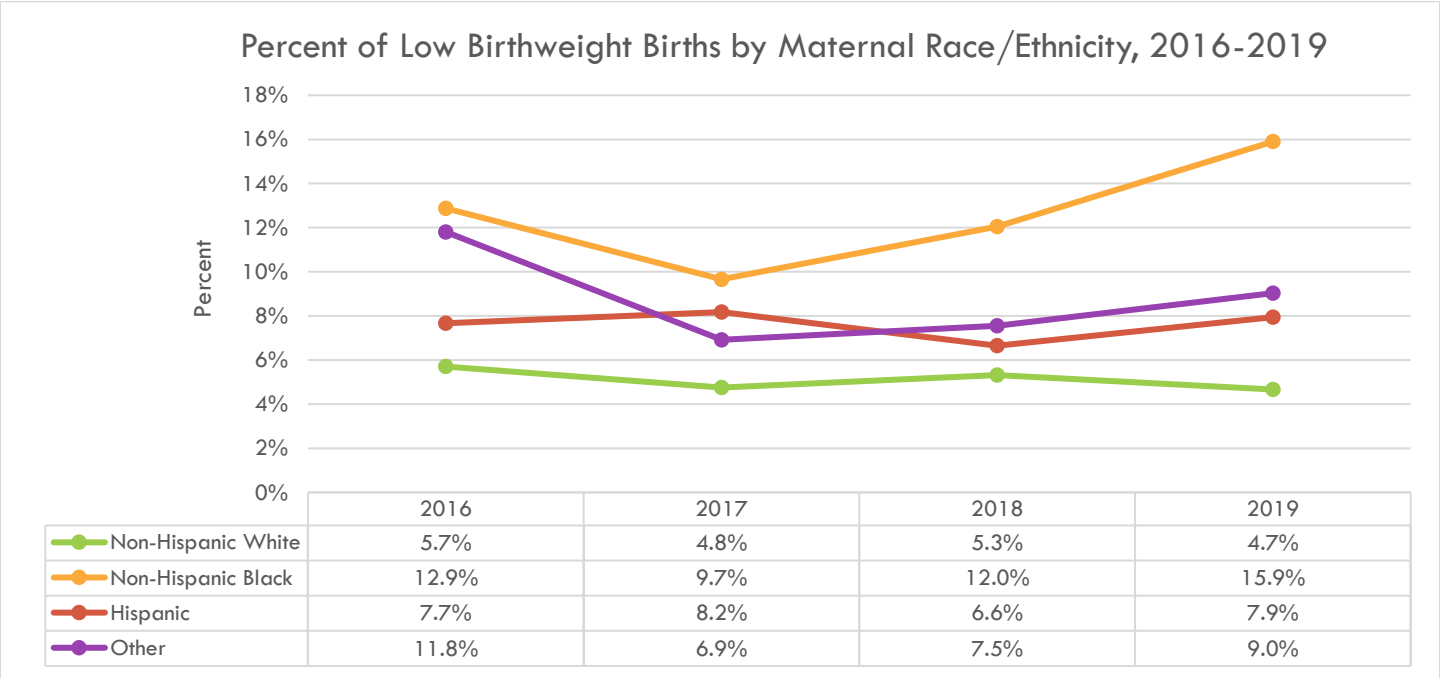
Figure 113



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	6.6%	5.3%	13.0%	7.0%	7.7%
NYS	8.1%	6.3%	12.9%	8.6%	8.3%

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

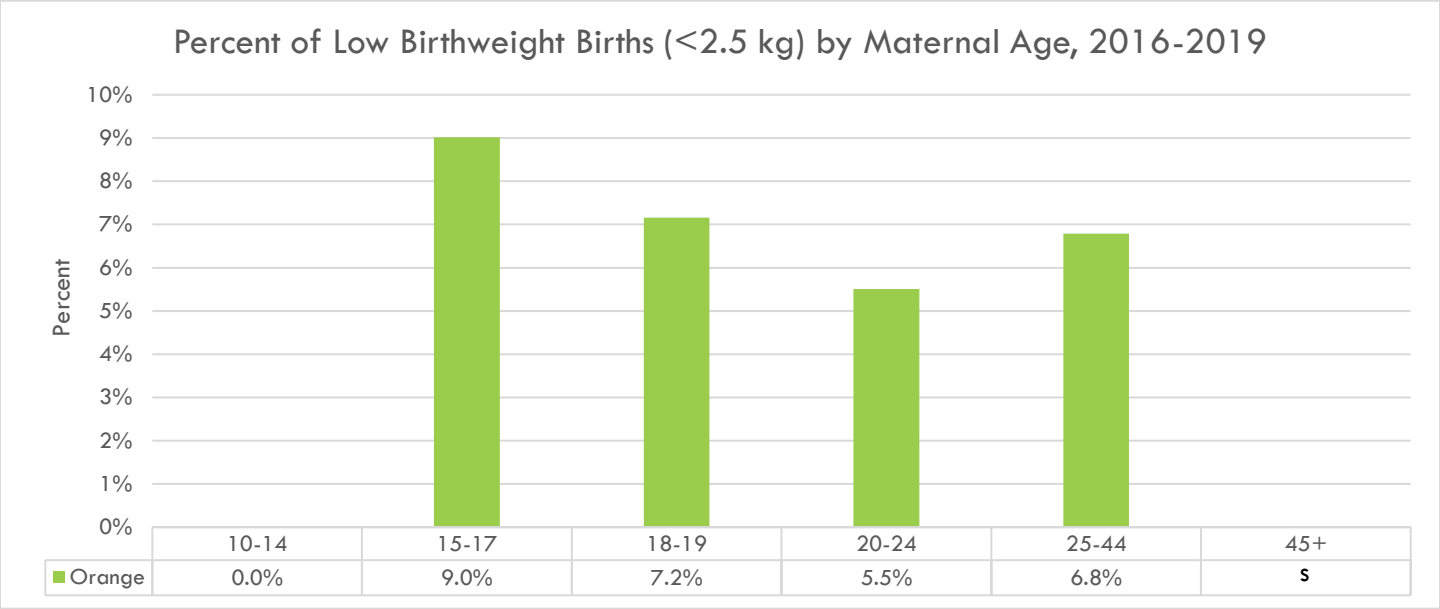
Figure 114



	2016	2017	2018	2019
Non-Hispanic White	5.7%	4.8%	5.3%	4.7%
Non-Hispanic Black	12.9%	9.7%	12.0%	15.9%
Hispanic	7.7%	8.2%	6.6%	7.9%
Other	11.8%	6.9%	7.5%	9.0%

Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

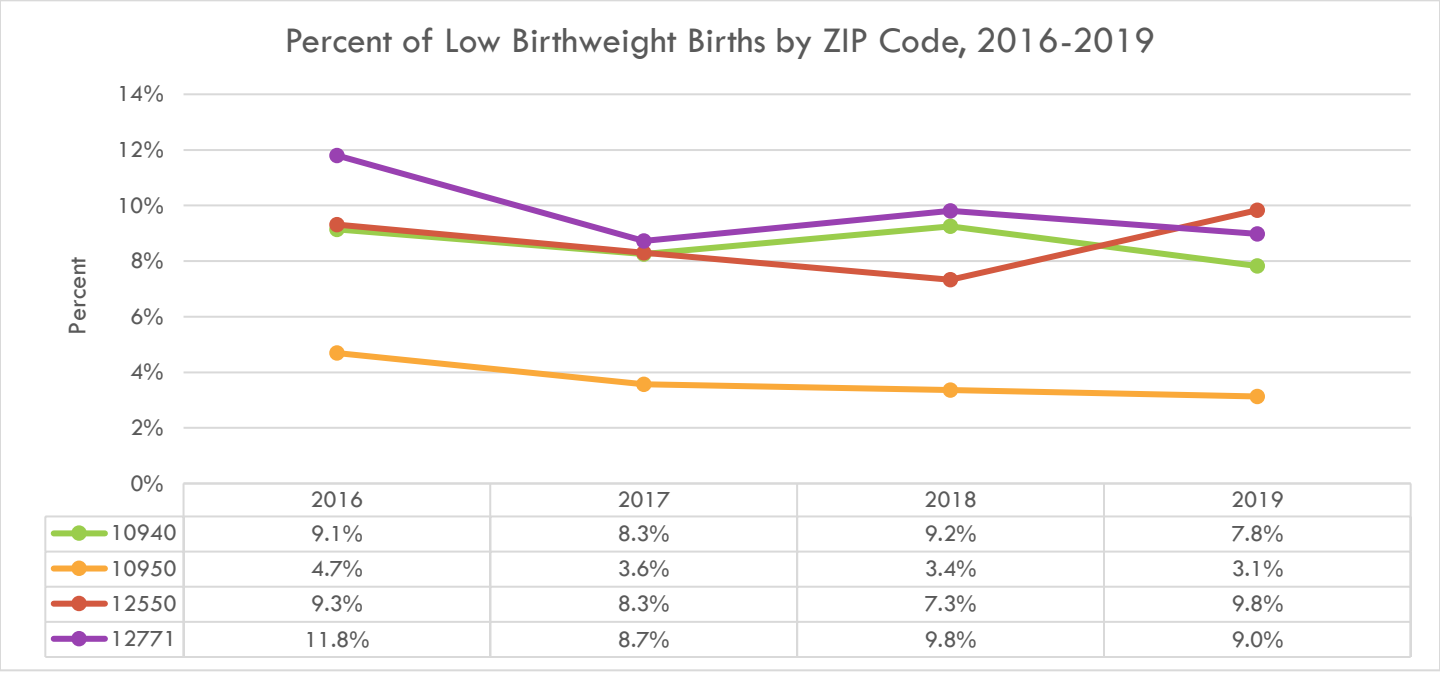
Figure 115



	10-14	15-17	18-19	20-24	25-44	45+
Orange	0.0%	9.0%	7.2%	5.5%	6.8%	s

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: 2018-2019 data does not include Orange County births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

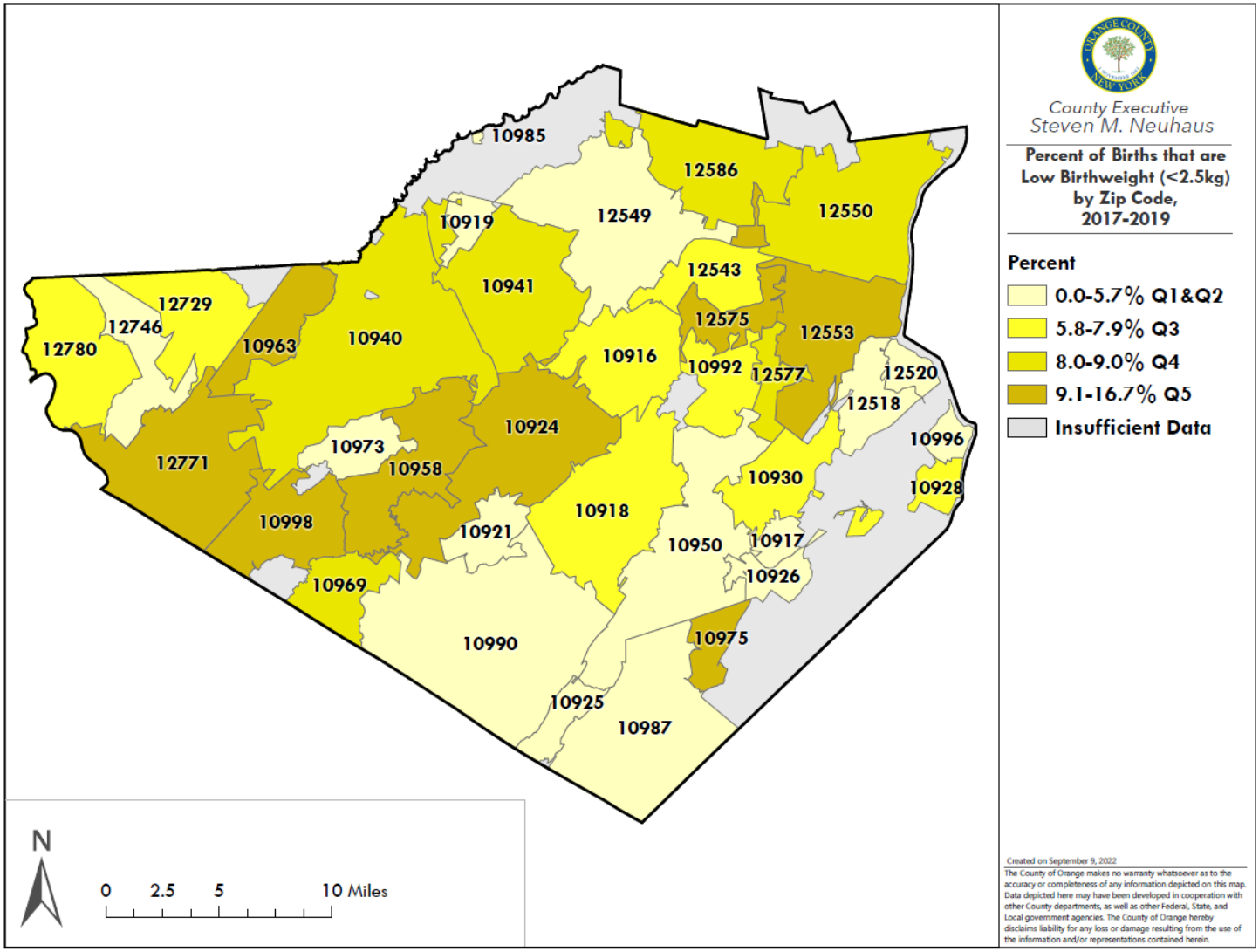
Figure 116



	2016	2017	2018	2019
10940	9.1%	8.3%	9.2%	7.8%
10950	4.7%	3.6%	3.4%	3.1%
12550	9.3%	8.3%	7.3%	9.8%
12771	11.8%	8.7%	9.8%	9.0%

Note: 2018-2019 data does not include Orange County Births recorded in NYC.
Source: NYS Department of Health, Bureau of Vital Statistics, Office of Vital Statistics
Created by the School of Public Health, University at Albany, 2021

Figure 117



Zip Code	Percent	Zip Code	Percent	Zip Code	Percent
10916	5.9%	**10958**	12.3%	**12543**	6.5%
10917	1.9%	**10963**	16.7%	**12549**	4.5%
10918	6.9%	**10969**	8.6%	**12550**	8.7%
10919	0.0%	**10973**	3.3%	**12553**	9.4%
10921	5.1%	**10975**	9.1%	**12575**	10.8%
10924	9.2%	**10985**	0.0%	**12577**	8.7%
10925	4.7%	**10987**	4.1%	**12586**	8.2%
10926	1.1%	**10990**	4.5%	**12729**	7.9%
10928	7.3%	**10992**	7.1%	**12746**	3.4%
10930	6.9%	**10996**	2.7%	**12771**	9.1%
10940	8.4%	**10998**	10.1%	**12780**	7.9%
10941	8.0%	**12518**	5.6%		
10950	4.5%	**12520**	2.4%		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

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.[41] The five leading causes of infant mortality in the US in 2020 were birth defects, preterm birth and low birthweight, sudden infant death syndrome (SIDS), injuries, and maternal pregnancy complications.

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.[42] 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.

Orange County had an average infant mortality rate of 3.6 per 1,000 live births from 2017 to 2019. This rate was better than the NYS rate and met the Healthy People 2020 objective; however, there is a large disparity amongst the non-Hispanic Black population, which has a rate of 11.0 infant deaths per 1,000 live births, compared to 2.2 for non-Hispanic White people. Though the infant mortality rate for all racial/ethnic groups decreased from 2015 to 2018, the rate for the non-Hispanic Black population remained much higher than all others [see Figure 118, Figure 119]. The highest rate of infant mortality in the county occurred in ZIP code 10930, with 23.2 deaths per 1,000 live births [see Figure 120]. 10930 also has the highest rate of neonatal deaths in the county, with 19.3 deaths per 1,000 live births [see Figure 121]. Although Orange County's infant mortality rate overall met Healthy People 2020's target rate of six infant deaths per 1,000 live births, there are many sub-populations in the county for which infant mortality is unacceptably high.

Figure 118

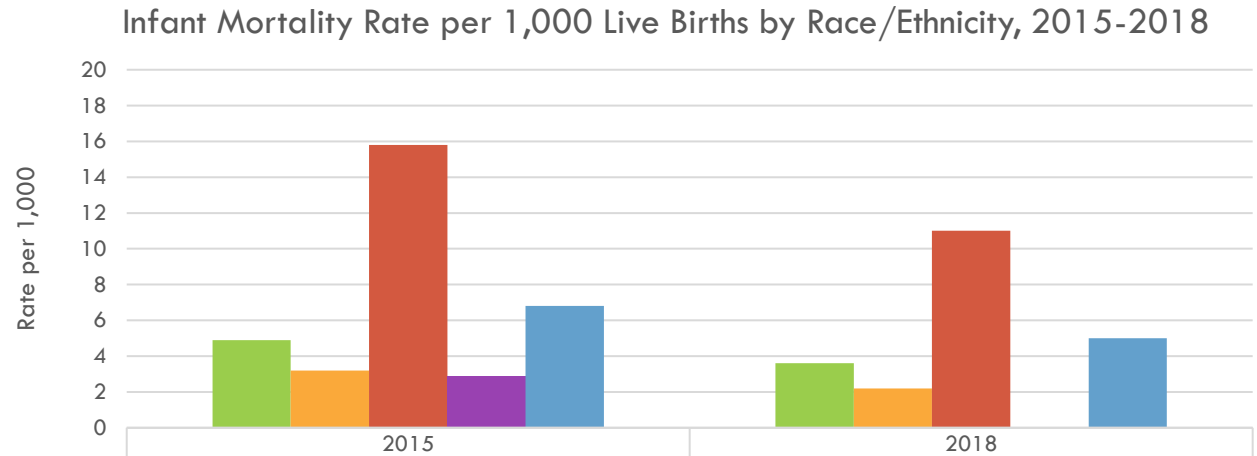
	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	3.6	2.2	11.0	0.0 *	5.0
NYS	4.4	3.3	8.8	2.0	3.9

*: *Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

[41] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm, accessed July 2022

[42] Healthy People 2020, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives, accessed July 2022

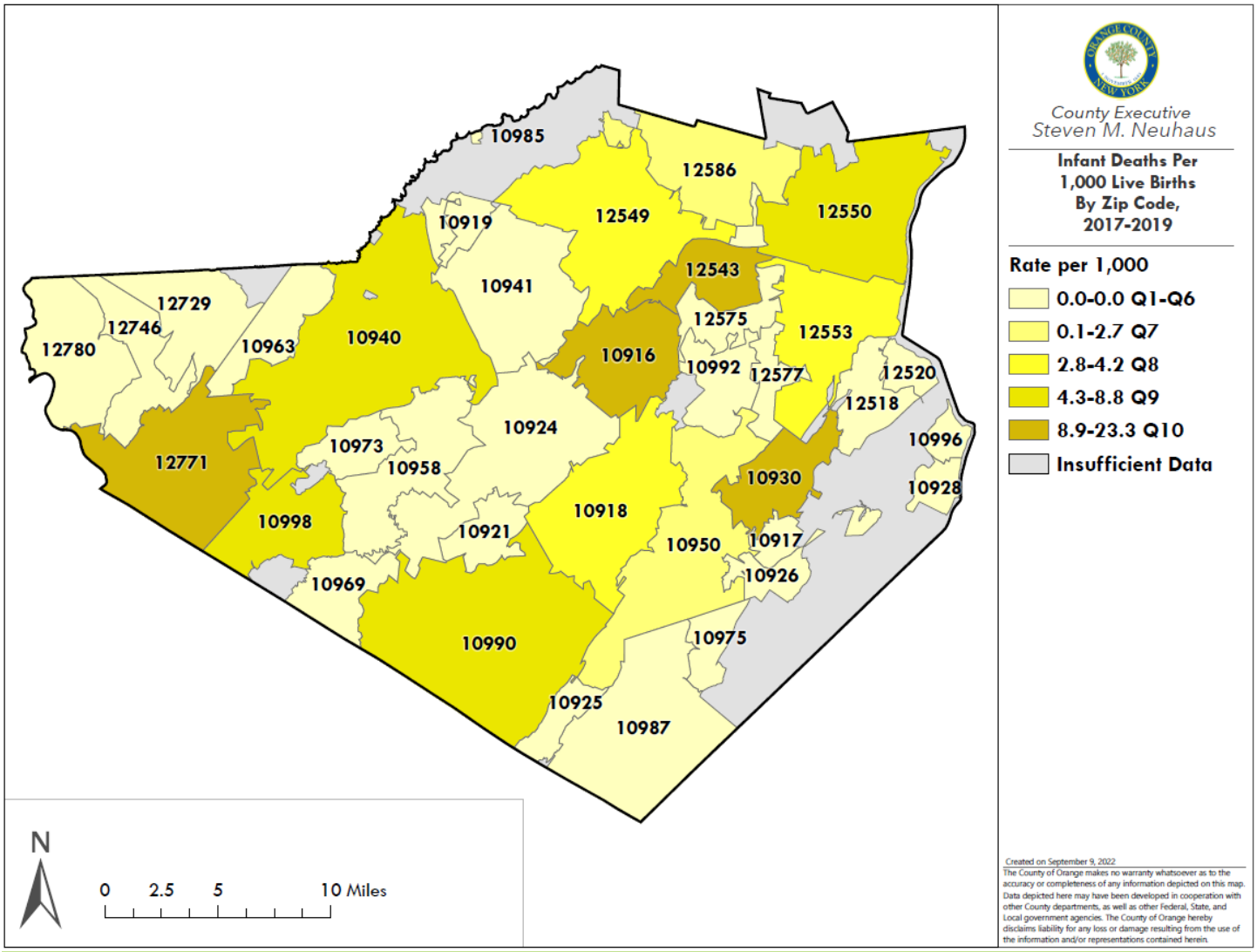
Figure 119



	2015	2018
Total	4.9	3.6
Non-Hispanic White	3.2	2.2
Non-Hispanic Black	15.8	11.0
Asian/Pacific Islander	2.9 *	0.0 *
Hispanic	6.8	5.0

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Note: Three-year averages for the years 2014-2016 and 2017-2019 are graphed above. Data are not available for 2016-2018.
Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm

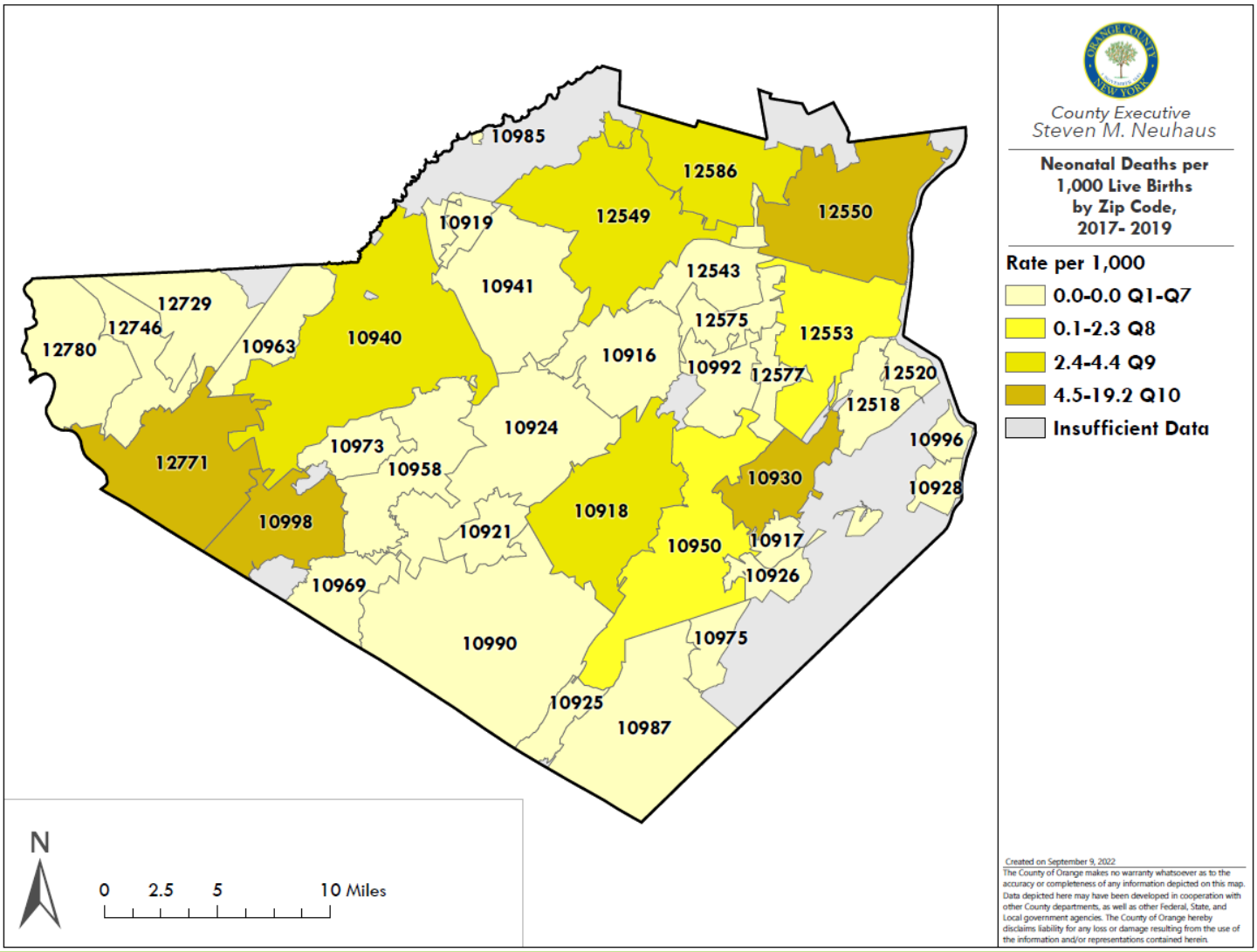
Figure 120



Zip Code	Rate per 1,000	Zip Code	Rate per 1,000	Zip Code	Rate per 1,000
10916	9.9	**10958**	0.0	**12543**	9.3
10917	0.0	**10963**	0.0	**12549**	3.4
10918	3.0	**10969**	0.0	**12550**	6.6
10919	0.0	**10973**	0.0	**12553**	3.6
10921	0.0	**10975**	0.0	**12575**	0.0
10924	0.0	**10985**	0.0	**12577**	0.0
10925	0.0	**10987**	0.0	**12586**	2.6
10926	0.0	**10990**	4.8	**12729**	0.0
10928	0.0	**10992**	0.0	**12746**	0.0
10930	23.2	**10996**	0.0	**12771**	10.4
10940	4.3	**10998**	8.4	**12780**	0.0
10941	0.0	**12518**	0.0		
10950	1.5	**12520**	0.0		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

Figure 121



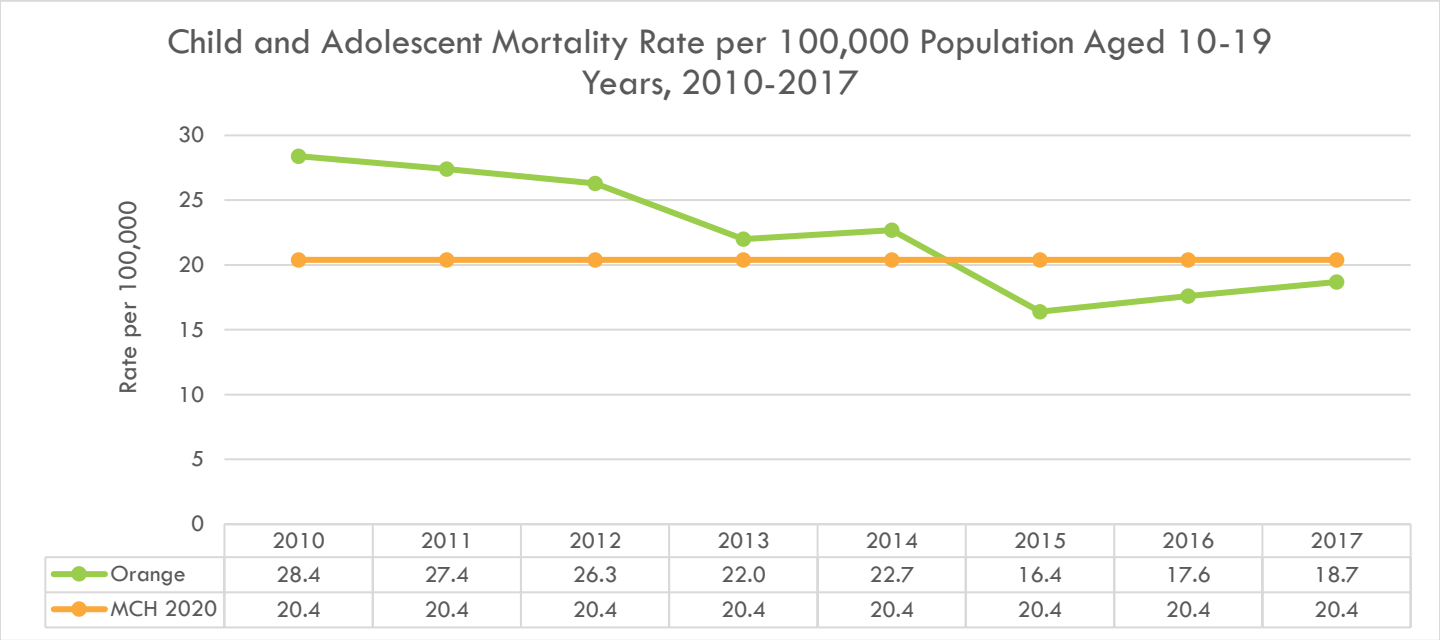
Zip Code	Rate per 1,000	Zip Code	Rate per 1,000	Zip Code	Rate per 1,000
10916	0.0	**10958**	0.0	**12543**	0.0
10917	0.0	**10963**	0.0	**12549**	3.4
10918	3.0	**10969**	0.0	**12550**	5.2
10919	0.0	**10973**	0.0	**12553**	1.2
10921	0.0	**10975**	0.0	**12575**	0.0
10924	0.0	**10985**	0.0	**12577**	0.0
10925	0.0	**10987**	0.0	**12586**	2.6
10926	0.0	**10990**	0.0	**12729**	0.0
10928	0.0	**10992**	0.0	**12746**	0.0
10930	19.3	**10996**	0.0	**12771**	8.3
10940	3.8	**10998**	8.4	**12780**	0.0
10941	0.0	**12518**	0.0		
10950	1.3	**12520**	0.0		

Source: Orange County: County/ZIP Perinatal Data Profile 2017-2019, 2022
https://www.health.ny.gov/statistics/chac/perinatal/county/2017-2019/orange.htm

CHILD HEALTH

Child and adolescent mortality in Orange County has overall decreased from 2010 to 2017. However, after a consistent decrease from 2010 to 2015, from 2015 to 2016 the rates started increasing again and have continued to do so. Despite this recent increase in child and adolescent mortality, the most recent rate of 18.7 per 10,000 in 2017 still meets the MCH 2020 goal [see Figure 122].

Figure 122



	2010	2011	2012	2013	2014	2015	2016	2017
Orange	28.4	27.4	26.3	22.0	22.7	16.4	17.6	18.7
MCH 2020	20.4	20.4	20.4	20.4	20.4	20.4	20.4	20.4

Note: Three-year averages for Orange County are graphed above.
Source: New York State Maternal and Child Health (MCH) Dashboard, 2020
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/mch_dashboard/mch_dashboard&p=ctr&ind_id=m39_0%20&cos=33

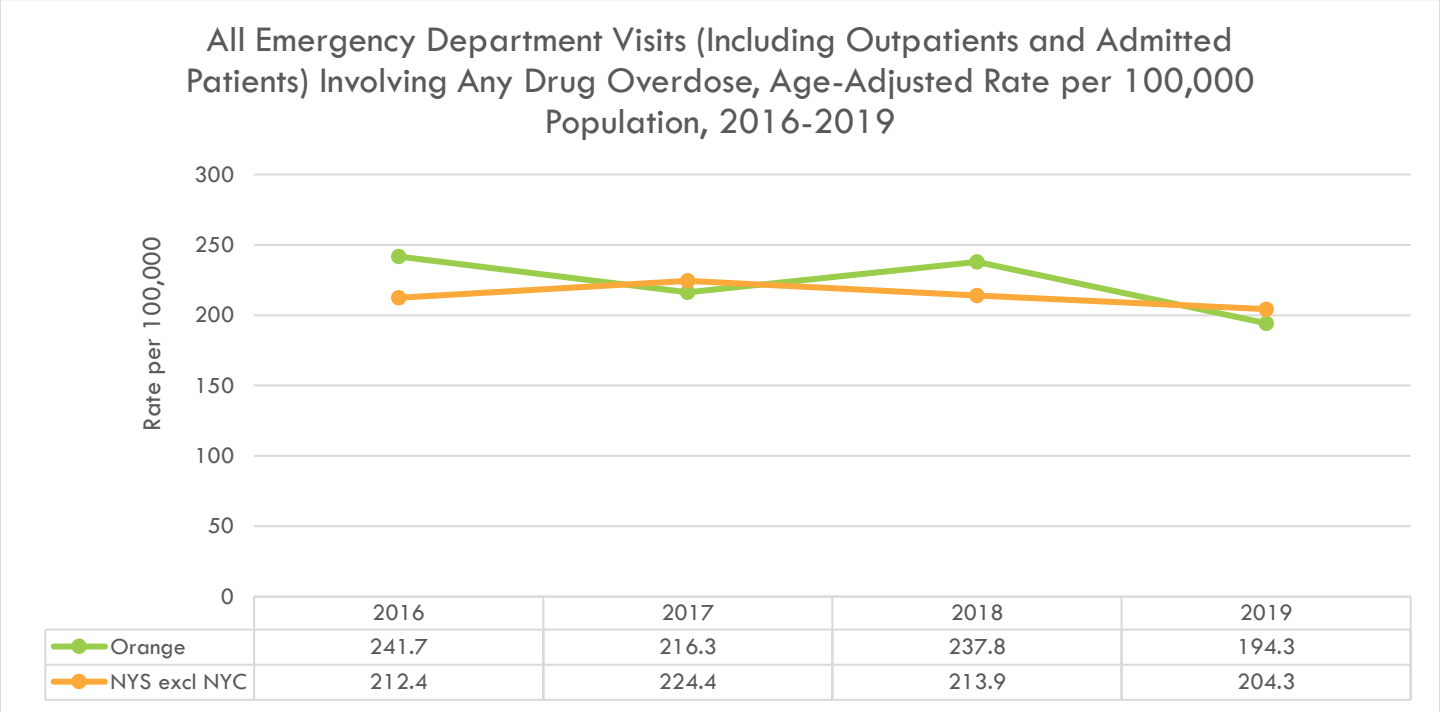
PROMOTE WELL-BEING AND PREVENT MENTAL HEALTH AND SUBSTANCE USE DISORDERS

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, including teenage pregnancy, HIV/AIDS, STIs, domestic violence, crime, homicide, and suicide.[43] According to the National Survey on Drug Use and Health (NSDUH), 40.3 million Americans aged 12 years and older battled a substance use disorder in 2020.[44]

The rate for all emergency department visits involving any drug overdose in Orange County has fluctuated over time. The most recent rate was 194.3 per 100,000 population in 2019, which is slightly lower than the rate for NYS excluding NYC [see Figure 123].

Figure 123



	2016	2017	2018	2019
Orange	241.7	216.3	237.8	194.3
NYS excl NYC	212.4	224.4	213.9	204.3

Note: Singe-year estimates are graphed above.
Source: NYSDOH Opioid Data Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=ctr&ind_id=op19%20&cos=33

[43] Healthy People 2020, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://www.healthypeople.gov/2020/topics-objectives/topic/substance-abuse, accessed July 2022

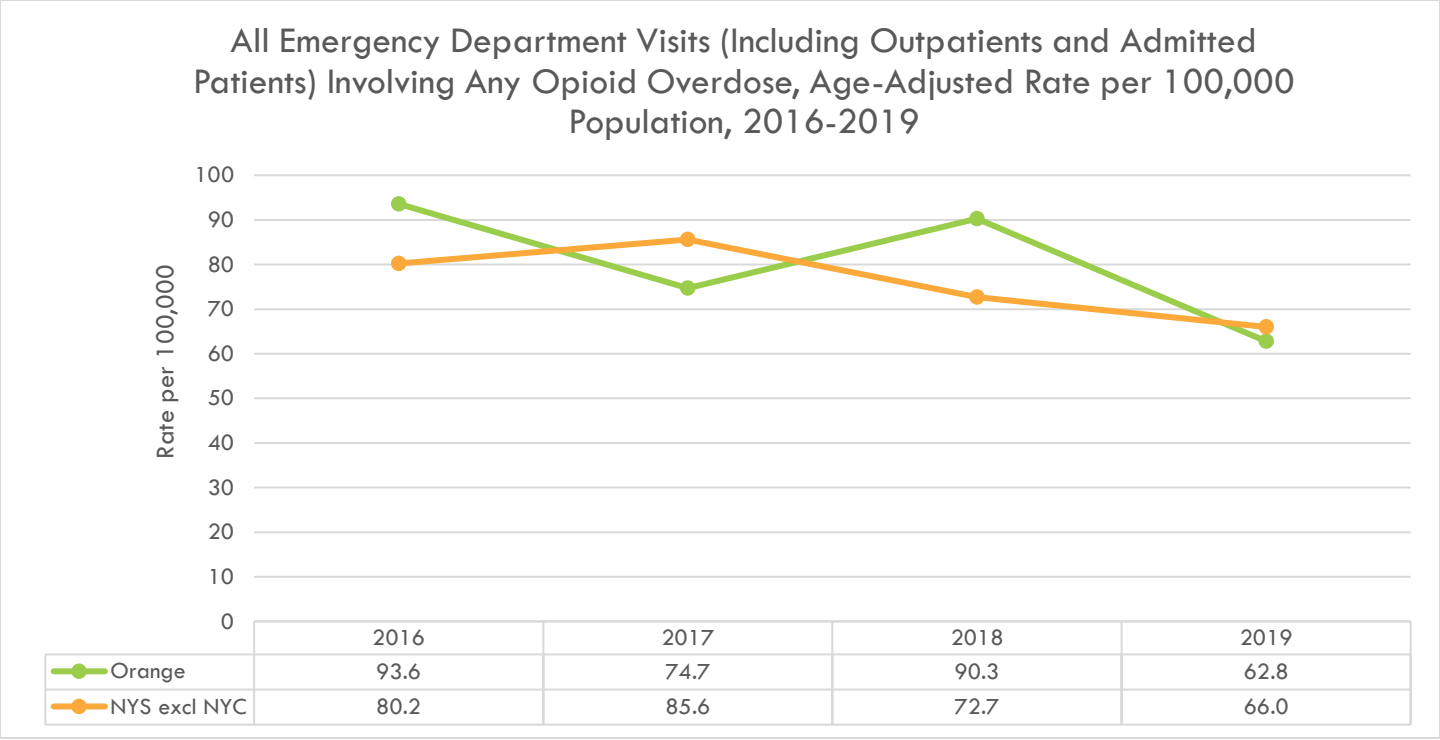
[44] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/dotw/substance-use-disorders/index.html#:~:text=According%20to%20the%202020%20National%20Survey%20on%20Drug,be%20an%20important%20health%20issue%20in%20our%20country., accessed July 2022

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. In 2019, 70% of drug overdoses in the US involved an opioid, and the amount of overdose deaths involving an opioid increased by over 6% from 2018.[45]

In 2019, the rate of all emergency department visits involving any opioid in Orange County was 62.8 per 100,000, which was an improvement from the previous year. It is also lower than the rate for NYS excluding NYC [see Figure 124]. However, overdose deaths in the county have increased steadily over time, from 7.0 per 100,000 in 2010 to 22.5 in 2018, and have consistently remained higher than that of NYS excluding NYC [see Figure 125]. Data from the Medical Examiner's Office indicate that the number of overdose-related opioid fatalities has increased every year since 2019, rising from 97 in 2019 to 121 in 2020 and 131 in 2021. Opioid-related overdose fatalities are highest for males and those aged 25 to 44 years [see Table 43, Figure 126, Figure 127, Figure 128].

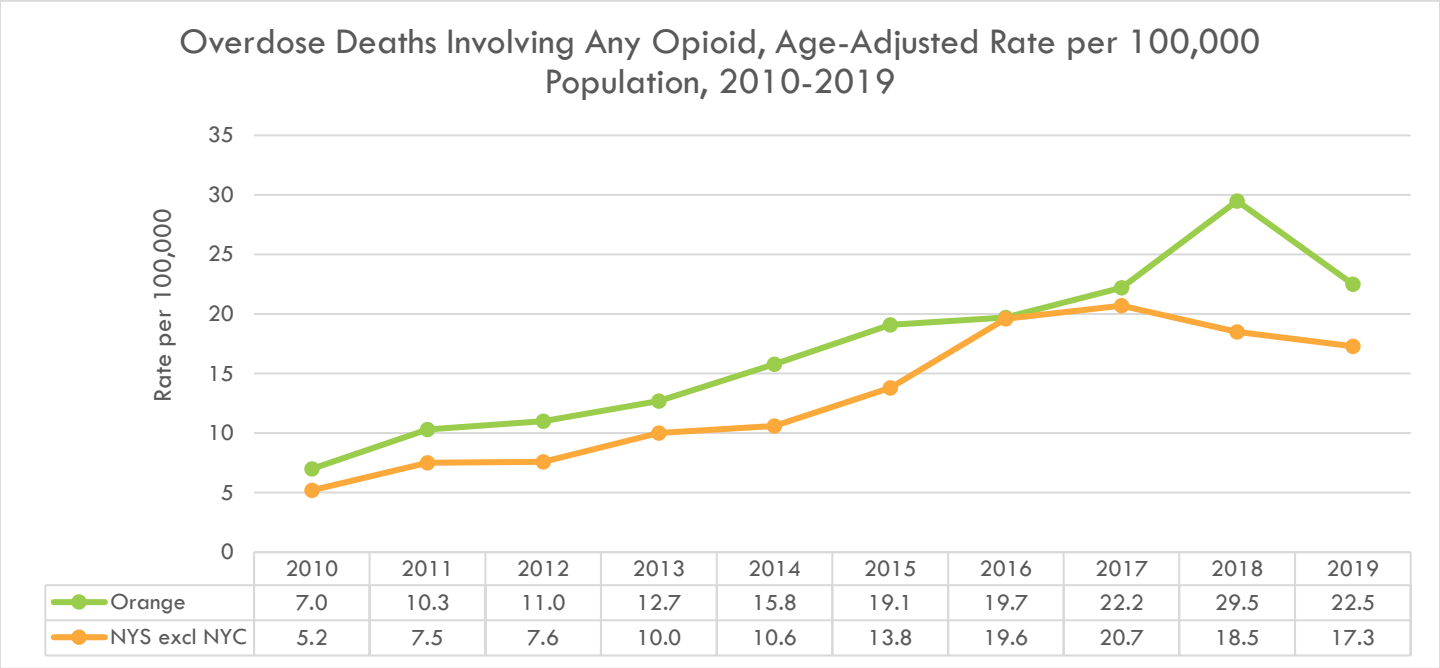
Figure 124



Source: NYSDOH Opioid Data Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=ctr&ind_id=op21%20&cos=33

[45] National Conference of State Legislatures, 2021, https://www.ncsl.org/research/health/the-other-epidemic-covid-19-and-opioid-overdose-magazine2021.aspx#:~:text=Deaths%20by%20opioid%20overdose%20have%20largely%20driven%20this,researchers%20term%20the%20%E2%80%9Cfirst%20wave%E2%80%9D%20of%20the%20epidemic., accessed November 2022

Figure 125



Source: NYSDOH Opioid Data Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=ctr&ind_id=op9%20&cos=33

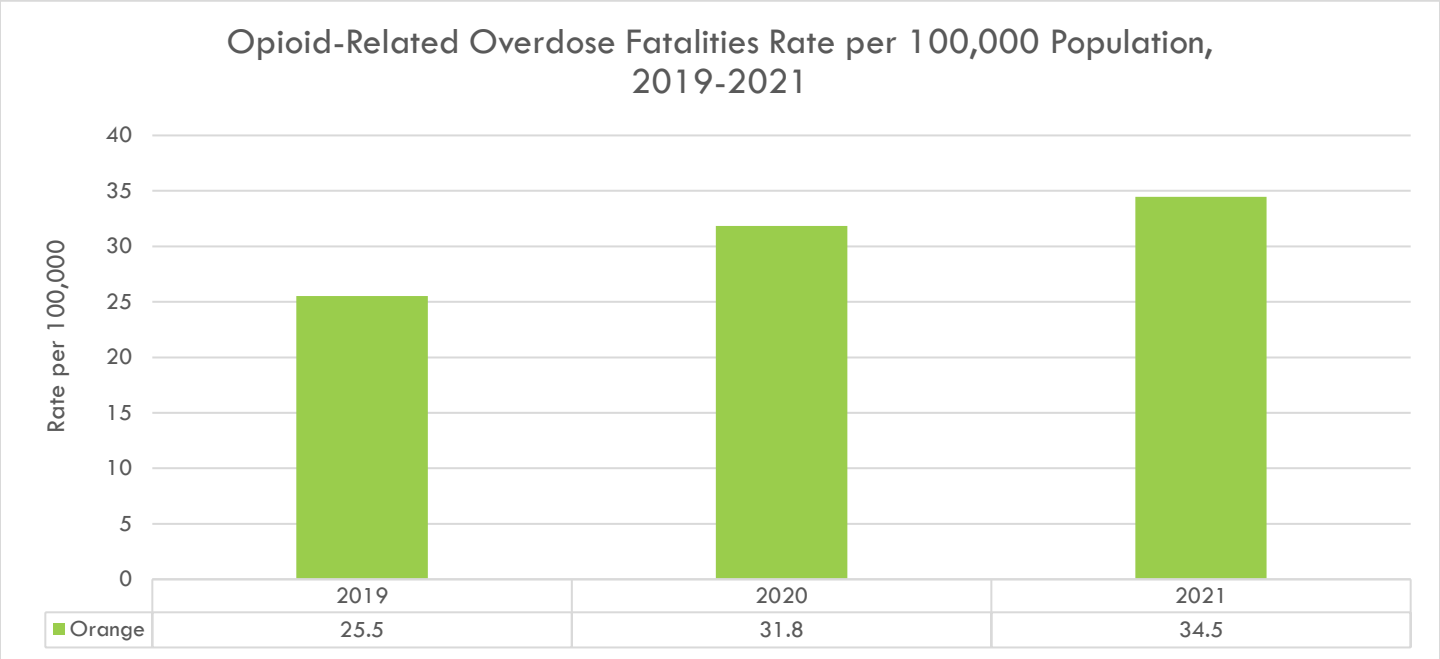
Table 43

Opioid-Related Overdose Fatalities Rate per 100,000 Population by Age and Gender, 2019-2021

	2019		2020		2021		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County Total	97	25.5	121	31.8	131	34.5	349	30.6
Age Intervals								
0-14	0	0.0	s	s	0	0.0	s	s
15-24	s	s	s	s	s	s	22	12.8
25-34	31	70.5	44	100.1	20	45.5	95	72.0
35-44	28	62.0	31	68.7	44	97.5	103	76.1
45-54	14	26.1	19	35.5	31	57.9	64	39.8
55-64	14	29.1	14	29.1	26	54.0	54	37.4
65-75	s	s	s	s	s	s	10	10.9
76+	0	0.0	0	0.0	0	0.0	0	0.0
Gender								
Males	75	39.4	87	45.7	91	47.8	253	44.3
Females	22	11.6	34	17.9	40	21.1	96	16.9

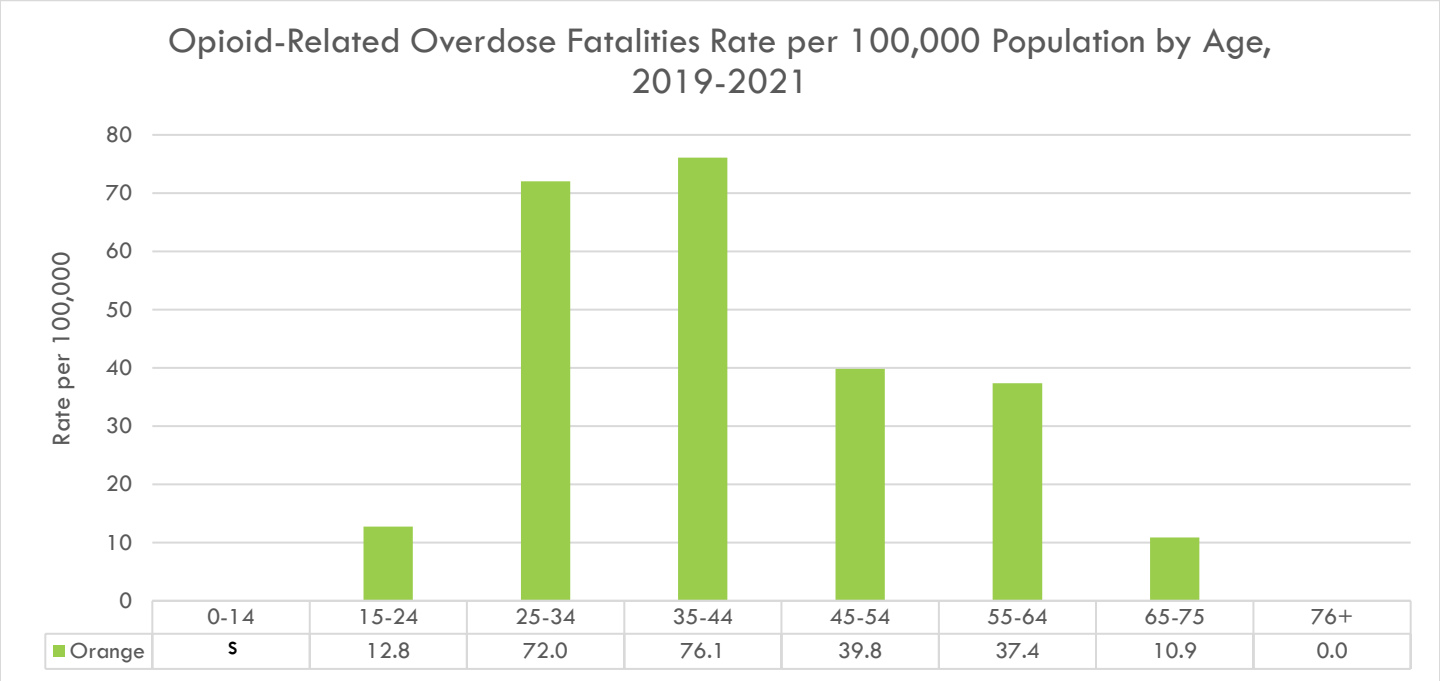
s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: All rates are calculated using 2019 ACS 5-year population estimates.
Source: Orange County Medical Examiner's Office, 2022

Figure 126



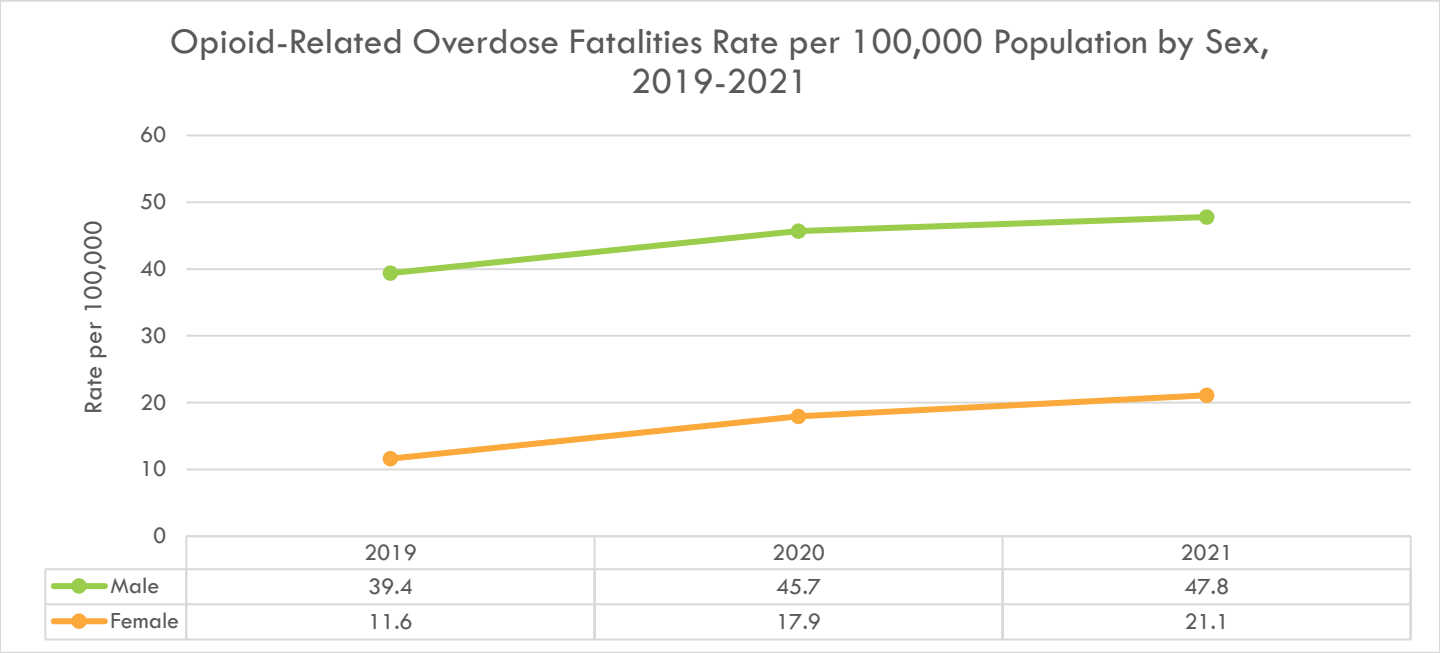
Note: All rates are calculated using 2019 ACS 5-year population estimates.
Source: Orange County Medical Examiner's Office, 2022

Figure 127



s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: All rates are calculated using 2019 ACS 5-year population estimates.
Source: Orange County Medical Examiner's Office, 2022

Figure 128



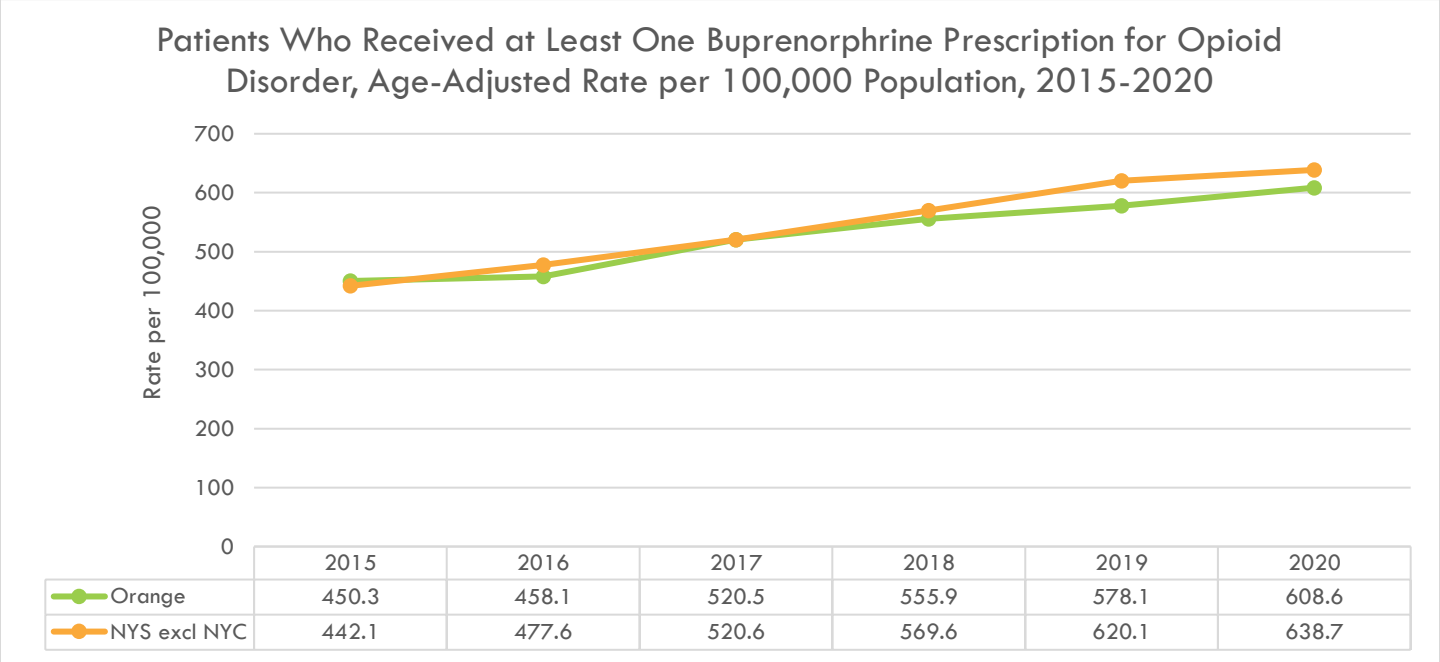
	2019	2020	2021
Male	39.4	45.7	47.8
Female	11.6	17.9	21.1

Note: All rates are calculated using 2019 ACS 5-year population estimates.
Source: Orange County Medical Examiner's Office, 2022

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.[46]

From 2015 to 2020, the rate of buprenorphine prescription for opioid disorder has steadily increased in both Orange County and NYS [see Figure 129].

Figure 129



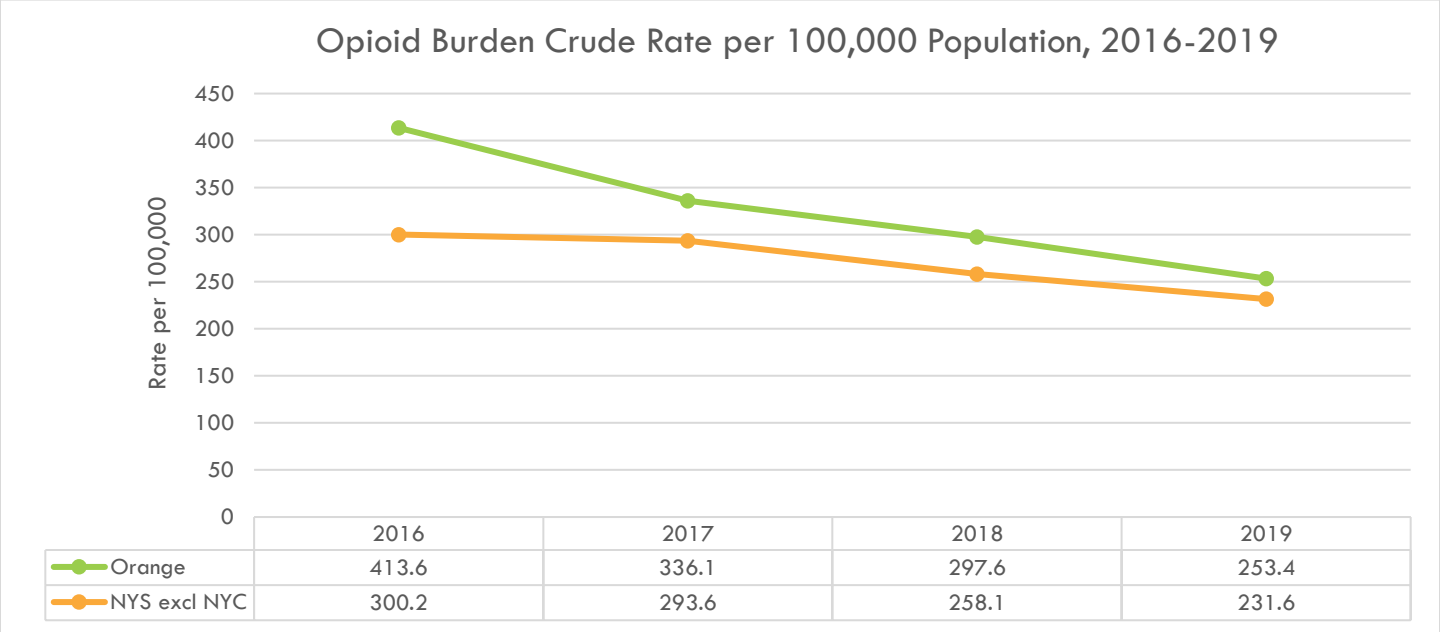
	2015	2016	2017	2018	2019	2020
Orange	450.3	458.1	520.5	555.9	578.1	608.6
NYS excl NYC	442.1	477.6	520.6	569.6	620.1	638.7

Source: NYSDOH Opioid Data Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=ctr&ind_id=op71%20&cos=33

[46] Substance Abuse and Mental Health Services Administration, 2022, https://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine, accessed July 2022

The overall opioid burden, which includes outpatient emergency department visits and hospital discharges for non-fatal opioid overdose, abuse, dependence, unspecified use, and opioid overdose deaths, has continuously decreased since 2016 in both Orange County and NYS excluding NYC. The most recent rate of opioid burden in Orange County was 253.4 per 100,000 in 2019, which, although lower than previous years, is still slightly higher than that of NYS excluding NYC [see Figure 130]. The opioid burden is highest for the non-Hispanic White population in Orange County [see Figure 131]. Figure 132 displays opioid burden by ZIP code. The ZIP codes with the highest opioid burden are shaded the darkest.

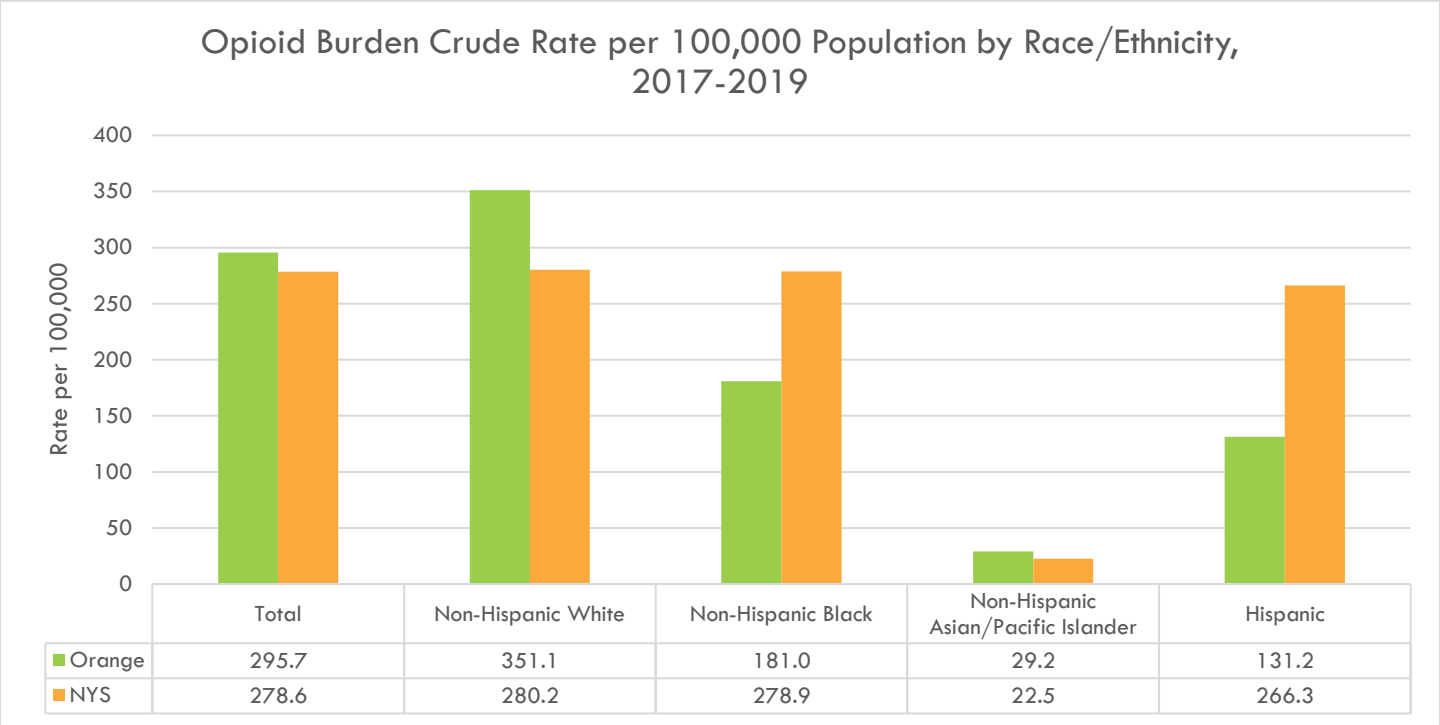
Figure 130



	2016	2017	2018	2019
Orange	413.6	336.1	297.6	253.4
NYS excl NYC	300.2	293.6	258.1	231.6

Note: Single-year estimates are graphed above.
Opioid burden includes opioid overdose deaths, non-fatal outpatient ED visits, and hospital discharges involving opioid abuse, poisoning, dependence, and unspecified use.
Source: NYSDOH Opioid Data Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=ctr&ind_id=op56%20&cos=33

Figure 131

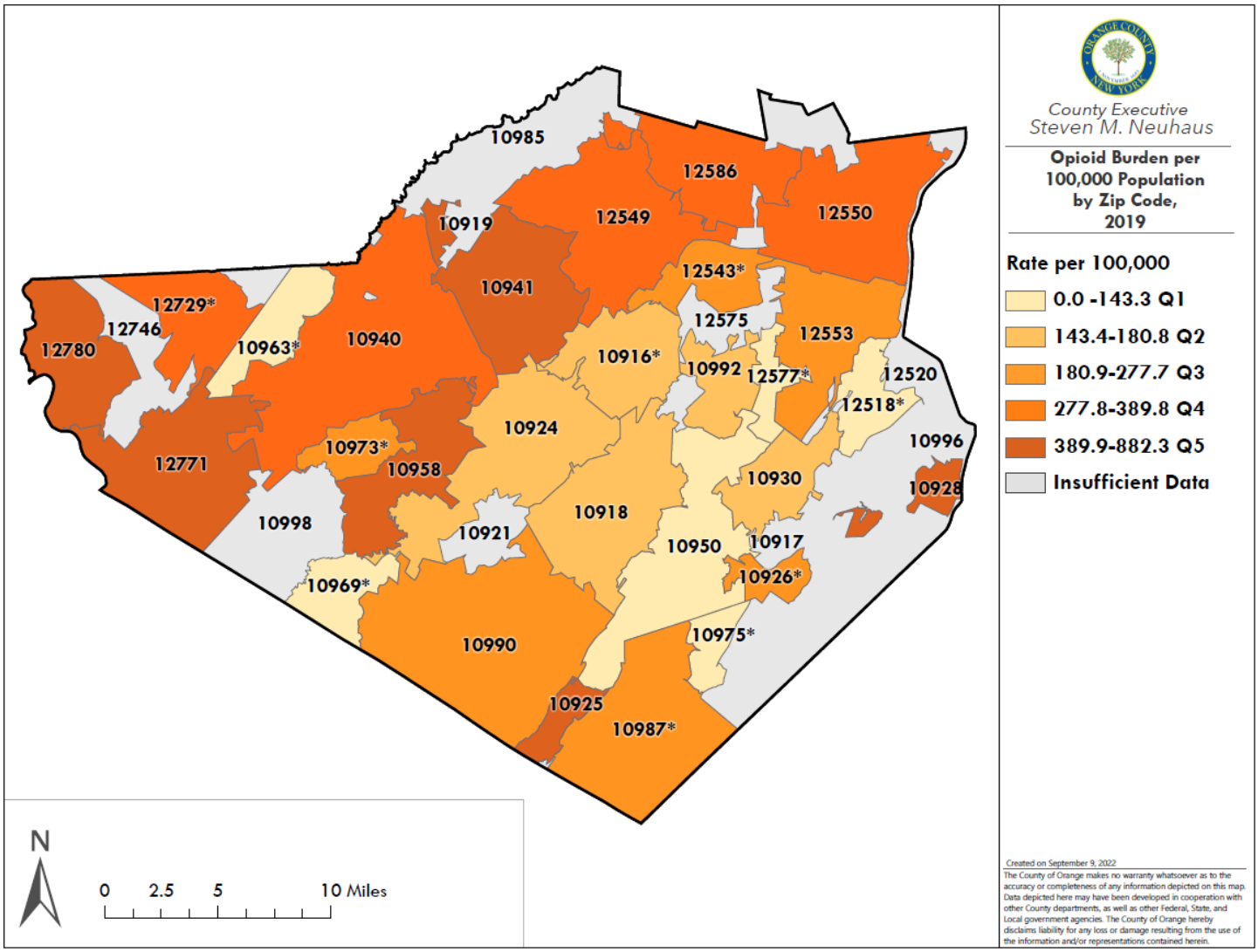


	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/Pacific Islander	Hispanic
Orange	295.7	351.1	181.0	29.2	131.2
NYS	278.6	280.2	278.9	22.5	266.3

Note: Opioid burden includes opioid overdose deaths, non-fatal outpatient ED visits, and hospital discharges involving opioid abuse, poisoning, dependence, and unspecified use.

Source: NYSDOH County Health Indicators by Race/Ethnicity (CHIRE), 2022
https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

Figure 132



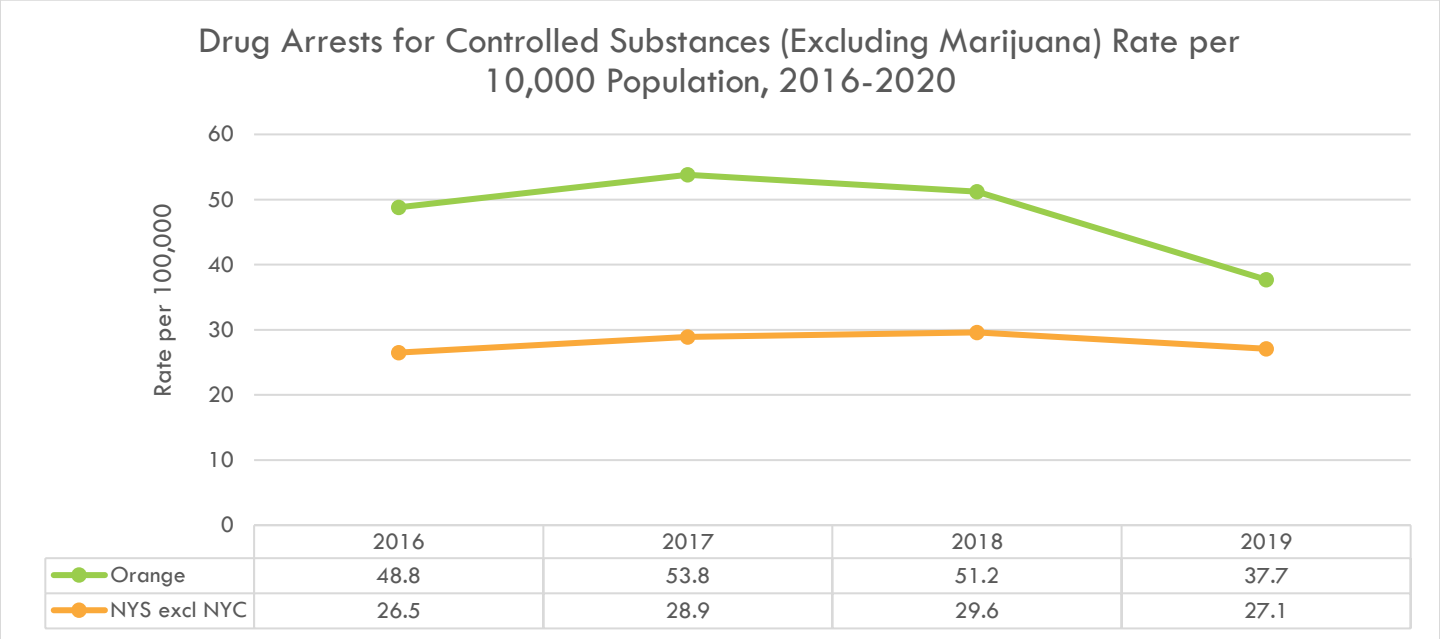
ZIP Code	Rate per 100,000	ZIP Code	Rate per 100,000	ZIP Code	Rate per 100,000
10916	151.1*	**10958**	410.6	**12543**	232.5*
10917	s	**10963**	0.0*	**12549**	301.5
10918	151.3	**10969**	0.0*	**12550**	340.9
10919	s	**10973**	242.7*	**12553**	245.6
10921	s	**10975**	0.0*	**12575**	s
10924	146.3	**10985**	s	**12577**	0.0*
10925	423.3	**10987**	185.6*	**12586**	281.4
10926	204.9*	**10990**	276.8	**12729**	314.5*
10928	507.9	**10992**	155.4	**12746**	s
10930	161.6	**10996**	s	**12771**	882.3
10940	358.6	**10998**	s	**12780**	741.4
10941	474.2	**12518**	116.3*		
10950	141.3	**12520**	s		

**: Fewer than 10 events in the numerator, therefore the rate is unstable.*
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=mp&ind_id=op56%20&cos=33

DRUG-RELATED ARRESTS

The rate of drug arrest (Penal Law Article 220 for Controlled Substances, excluding Penal Law Article 221 for Marijuana) in Orange County was 37.7 per 100,000 in 2019, which is a decrease from the previous year's rate of 51.2. Over time, the drug arrest rate has been consistently higher in Orange County compared to the rest of NYS excluding NYC [see Figure 133].

Figure 133



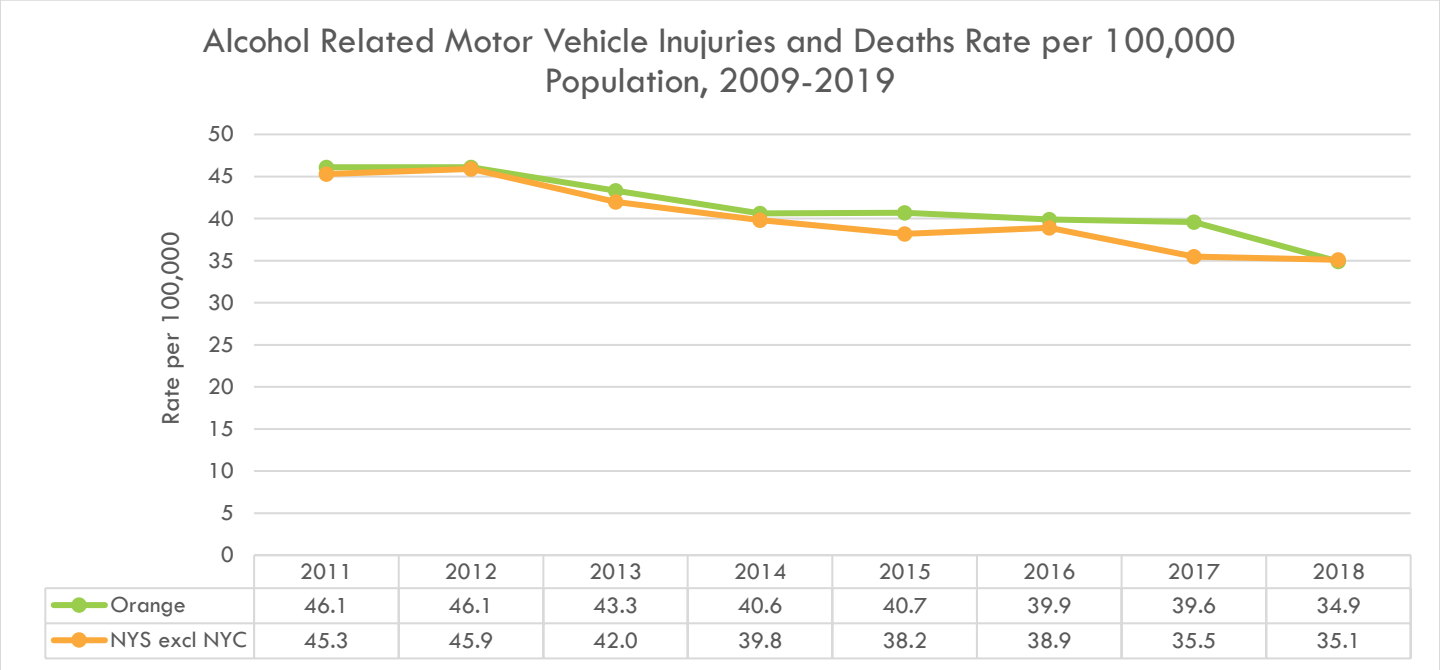
	2016	2017	2018	2019
Orange	48.8	53.8	51.2	37.7
NYS excl NYC	26.5	28.9	29.6	27.1

Note: Single-year estimates for both Orange County and NYS excluding NYC are graphed above.
Source: New York State Division of Criminal Justice Services, report provided to OASAS by special request, 2022
For public data sets, see: http://www.criminaljustice.ny.gov/crimnet/ojsa/arrests/index.htm

ALCOHOL

In Orange County, the most recently reported rate of alcohol-related motor vehicle injuries and deaths was 34.9 per 100,000, similar to the rate in NYS excluding NYC (35.1). From 2011 to 2018, the rates of alcohol-related motor vehicle injuries and deaths in both Orange County and NYS excluding NYC have decreased [see Figure 134].

Figure 134

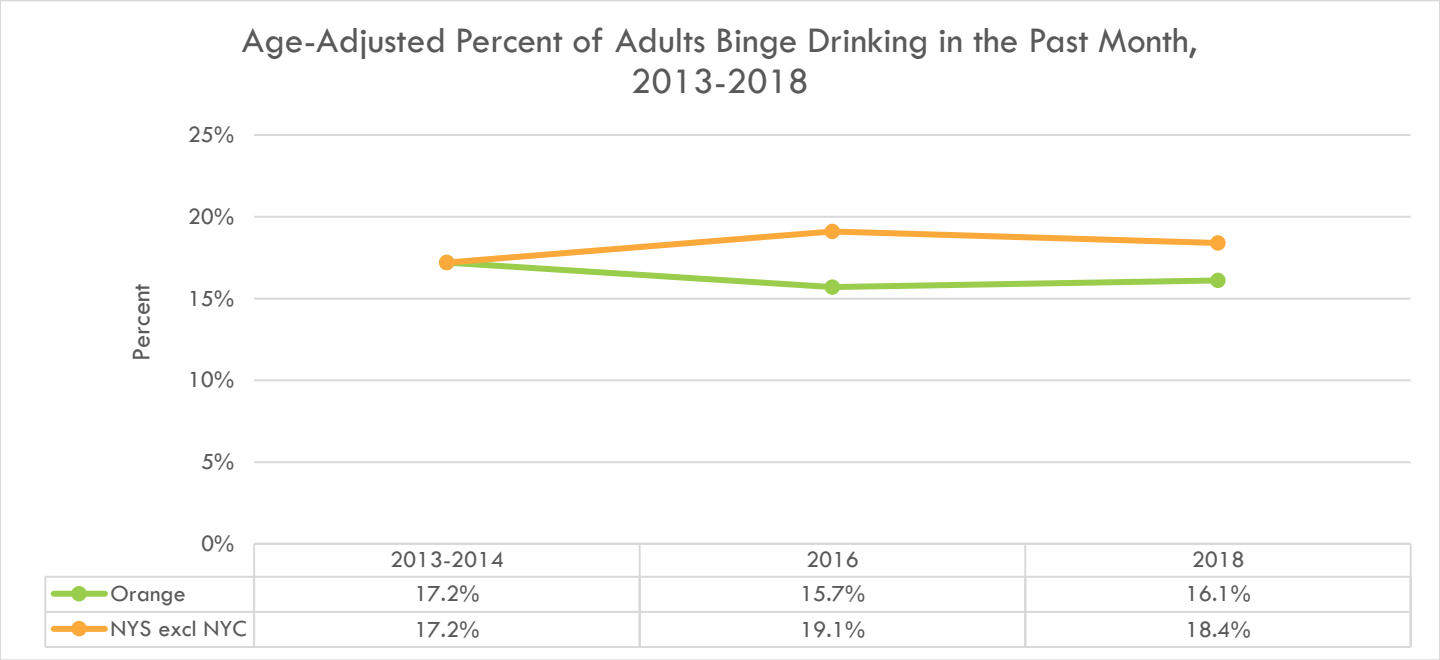


	2011	2012	2013	2014	2015	2016	2017	2018
Orange	46.1	46.1	43.3	40.6	40.7	39.9	39.6	34.9
NYS excl NYC	45.3	45.9	42.0	39.8	38.2	38.9	35.5	35.1

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Og107&cos=33

Binge drinking is defined as drinking five or more drinks on an occasion for men or four or more drinks on an occasion for women. The percentage of adults in Orange County who reported binge drinking in the past month has decreased slightly over time, from 17.2% in 2013-2014 to 16.1% in 2018. The rates of self-reported adult binge drinking are slightly lower in Orange County than in NYS excluding NYC [see Figure 135].

Figure 135

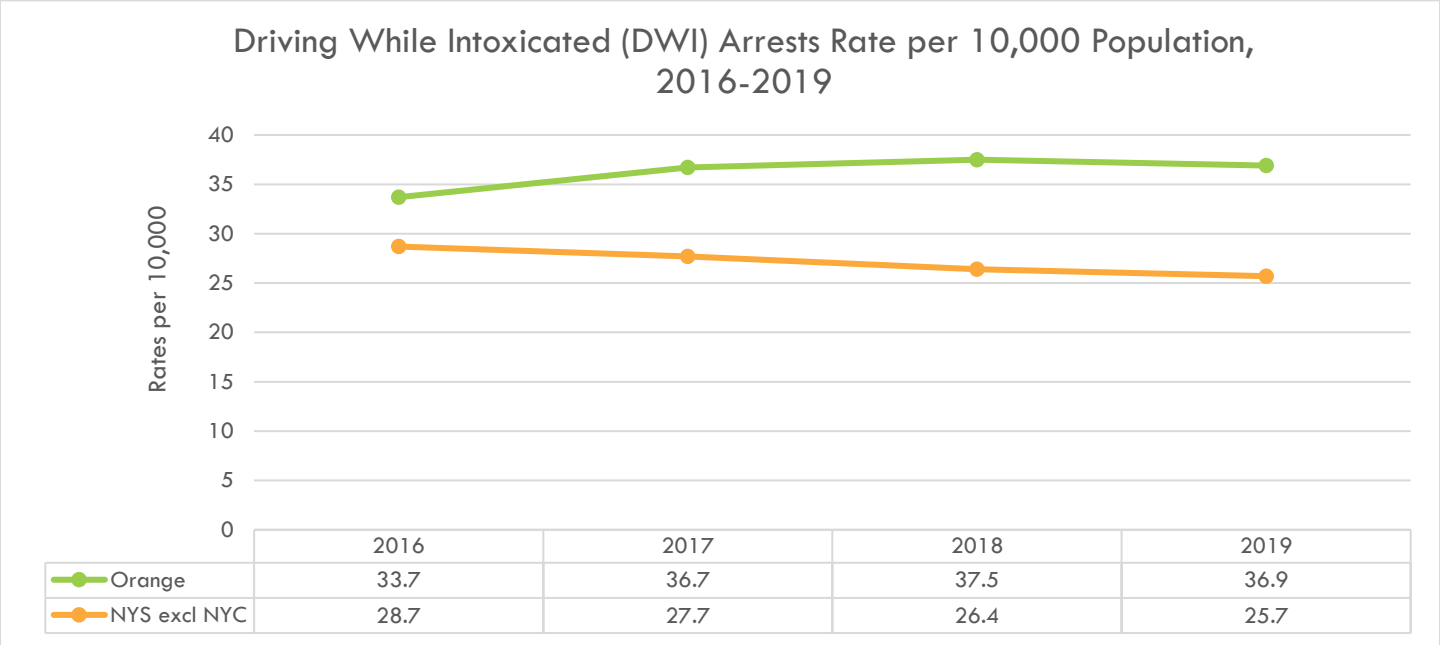


	2013-2014	2016	2018
Orange	17.2%	15.7%	16.1%
NYS excl NYC	17.2%	19.1%	18.4%

Note: Singe-year estimates for both Orange County and NYS excluding NYC are graphed above.
Source: NYSDOH Behavioral Risk Factor Surveillance System (BRFSS), 2018
https://health.data.ny.gov/Health/Behavioral-Risk-Factor-Surveillance-System-BRFSS-H/jsy7-eb4n

The rate of arrests for driving while intoxicated (DWI) has slightly increased over time in Orange County, from 33.7 per 10,000 in 2016 to 36.9 in 2019. This is the opposite of the trend seen in NYS excluding NYC, where DWI arrests have decreased over time. From 2016 to 2019, the rate of DWI arrests in Orange County has been consistently higher than in NYS excluding NYC [see Figure 136].

Figure 136



	2016	2017	2018	2019
Orange	33.7	36.7	37.5	36.9
NYS excl NYC	28.7	27.7	26.4	25.7

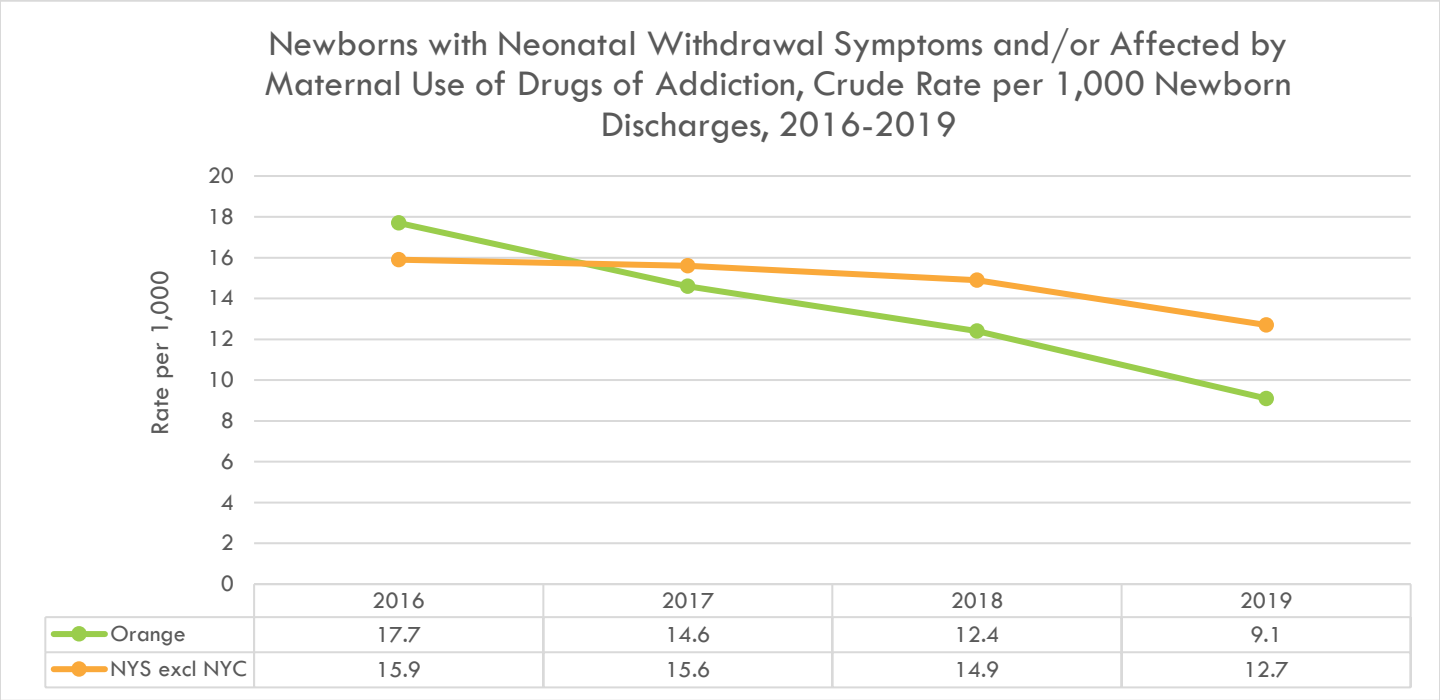
Note: Single-year estimates for both Orange County and NYS excluding NYC are graphed above.
Source: New York State Division of Criminal Justice Services, report provided to OASAS by special request, 2022
For public data sets, see: https://www.criminaljustice.ny.gov/crimnet/ojsa/arrests/index.htm

NEONATAL WITHDRAWL

Newborns who are exposed to certain substances during pregnancy, such as opioids, alcohol, and nicotine, may develop withdrawal symptoms post-birth, otherwise known as neonatal abstinence syndrome (NAS). NAS babies face significant risk of morbidity and mortality from neurodevelopmental effects. Long-term consequences include neurodevelopmental delays, behavioral issues, and, when left untreated, death.[47]

In Orange County, the rate of newborns with neonatal withdrawal symptoms or affected by maternal use of drug addiction has dropped notably over time, from 17.7 per 1,000 newborn discharges in 2016 to 9.1 in 2019. Orange County's rate was higher than that of NYS excluding NYC in 2016 but dropped below it by 2017 and has since remained lower [see Figure 137].

Figure 137



	2016	2017	2018	2019
Orange	17.7	14.6	12.4	9.1
NYS excl NYC	15.9	15.6	14.9	12.7

Note: Single-year estimates for both Orange County and NYS excluding NYC are graphed above.
Source: NYSDOH Opioid Data Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/opioid_dashboard/op_dashboard&p=ctr&ind_id=op34&cos=33

[47] Anbalagan, Saminathan, and Magda D. Mendez, 2022, https://www.ncbi.nlm.nih.gov/books/NBK551498/, accessed August 2022

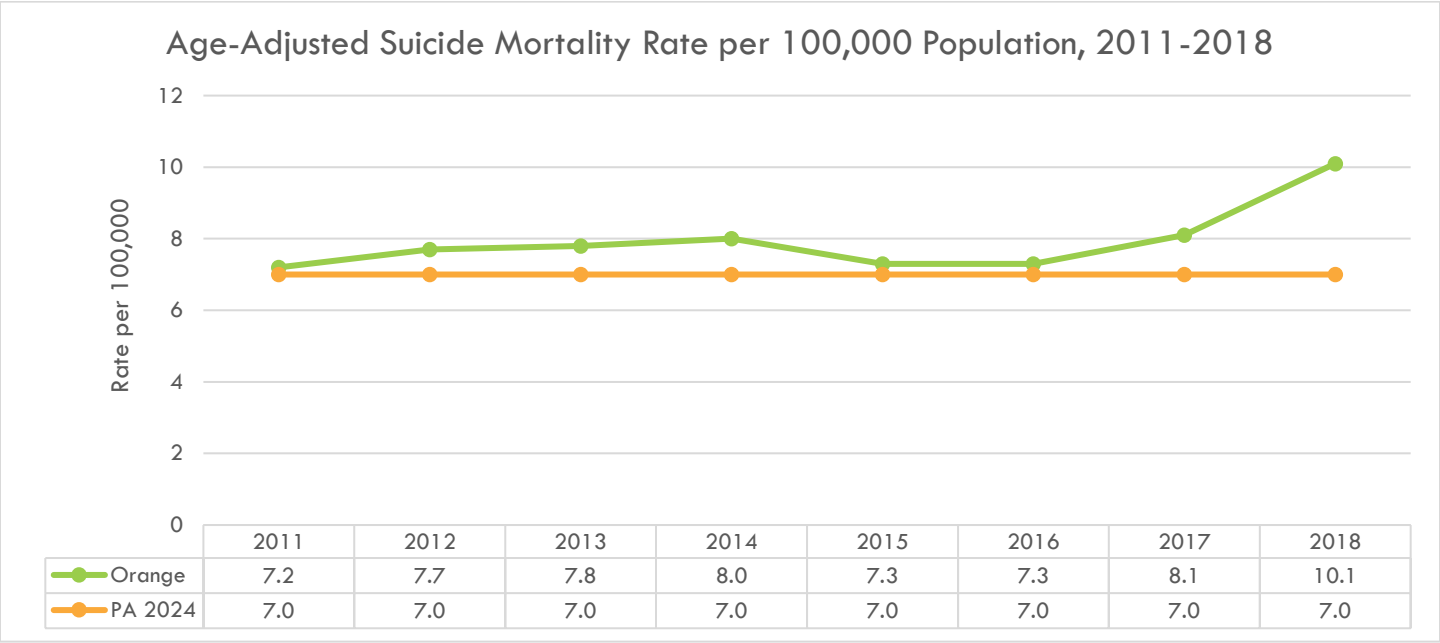
SUICIDE & SELF-INFLICTED INJURY

In the US, 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 2020, 12.2 million American adults considered attempting suicide and 46,000 died by suicide.[48] Protective factors, such as connectedness with family and friends, as well as access to health care services, can help prevent suicide.

Suicide mortality in Orange County remained relatively stable from 2011 to 2016, and it dropped to 7.3 in 2015, almost reaching the PA 2020 goal of 7.0 per 100,000. However, there has been a marked increase in suicide mortality beginning in 2016, reaching 10.1 per 100,000 in 2018, shifting the county far from its PA 2024 target goal [see Figure 138].

When looking specifically at youth suicides in the county, there was a steady increase in mortality from 2011 to 2014. From 2014 to 2016, suicide mortality decreased sharply, leveling out at a rate of 2.3 per 100,000 which met and surpassed the PA 2024 goal of 4.7 per 100,000 [see Figure 139].

Figure 138

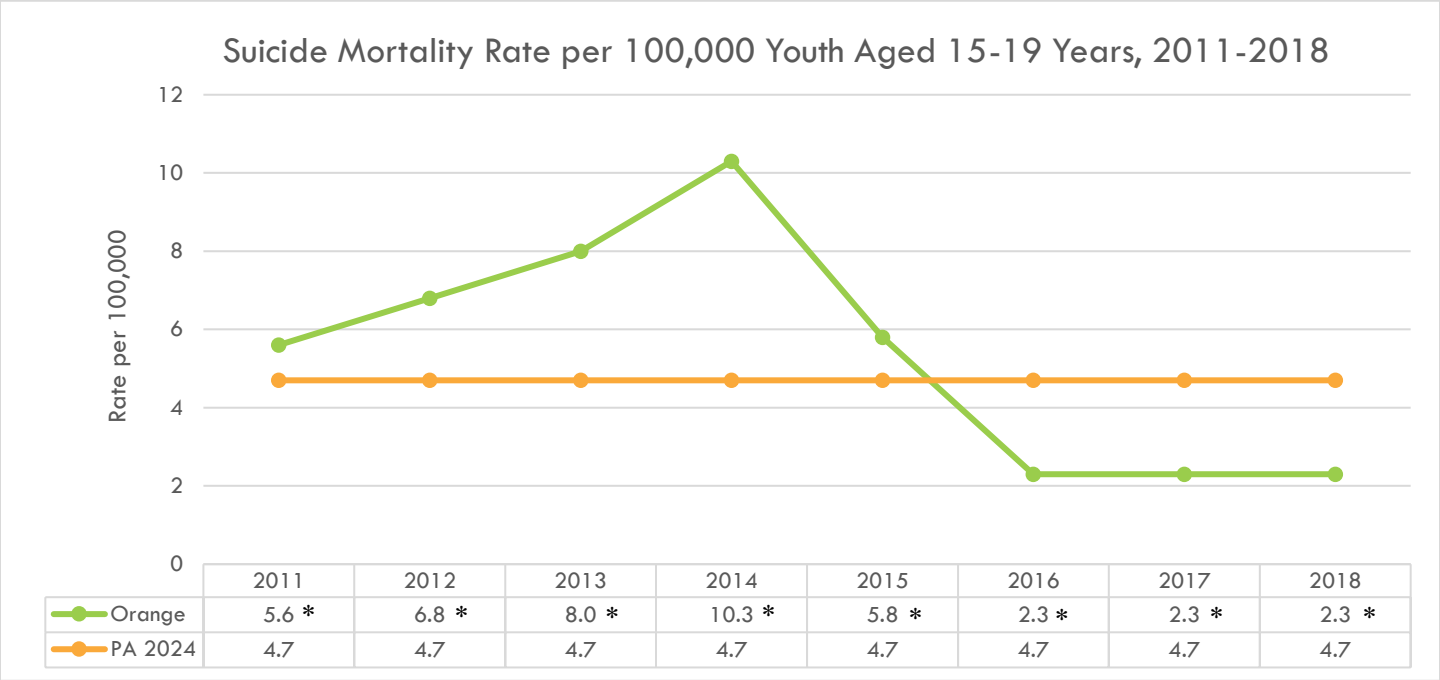


	2011	2012	2013	2014	2015	2016	2017	2018
Orange	7.2	7.7	7.8	8.0	7.3	7.3	8.1	10.1
PA 2024	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0

Note: Three-year averages for Orange County are graphed above.
Source: NYS Prevention Agenda Dashboard, 2022
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ctr&ind_id=pa83_0%20&cos=33

[48] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/violenceprevention/suicide/fastfact.html, accessed July 2022

Figure 139

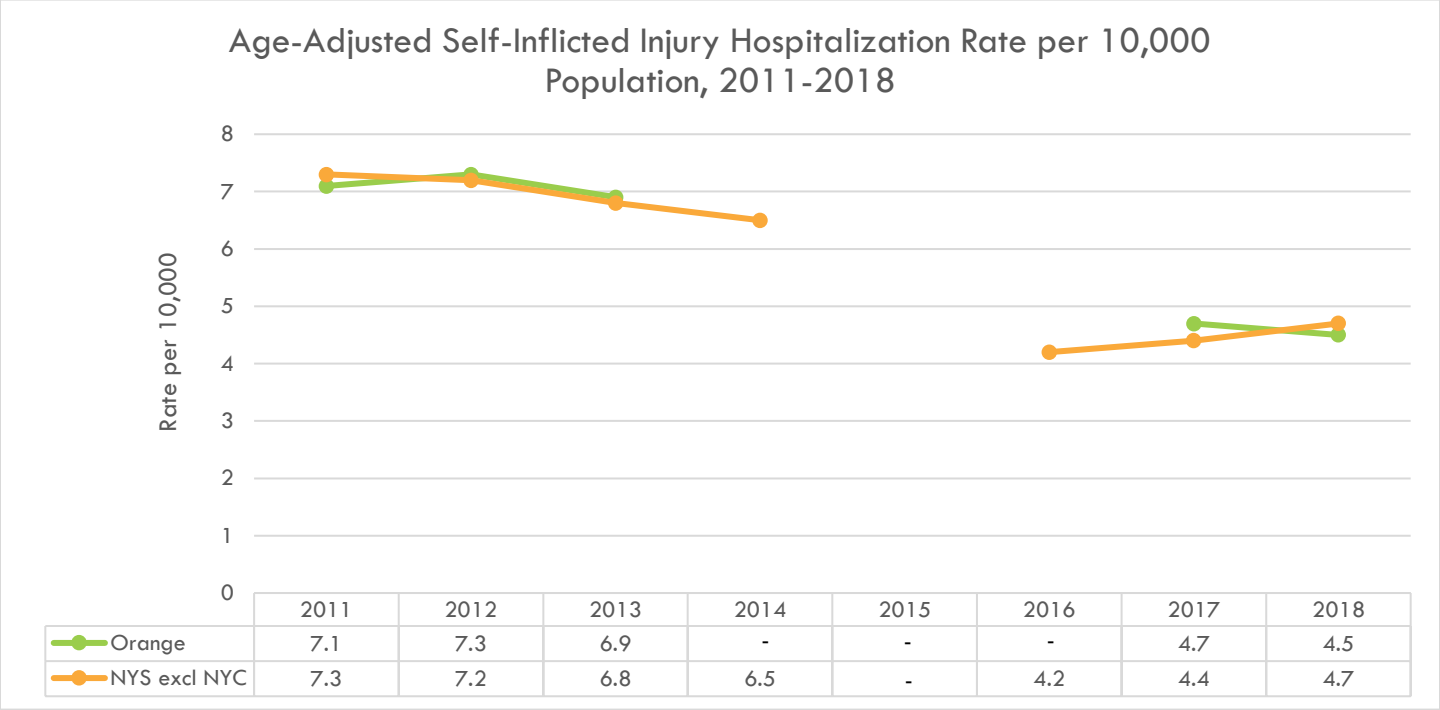


	2011	2012	2013	2014	2015	2016	2017	2018
Orange	5.6 *	6.8 *	8.0 *	10.3 *	5.8 *	2.3 *	2.3 *	2.3 *
PA 2024	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7

**: Fewer than 10 events in the numerator, therefore the rate/percentage is unstable.*
Note: Three-year averages for Orange County are graphed above.
Source: NYS Prevention Agenda Dashboard, 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ctr&ind_id=pa63_0%20&cos=33

The overall age-adjusted self-inflicted injury hospitalization rate in Orange County was 4.5 per 10,000 in 2018, which is not a significant change from the previous year's rate of 4.7 and is similar to the rate in NYS excluding NYC. For teens aged 15 to 19 years, the rate of self-inflected injury was higher than that of the total population at 7.1 per 10,000 in 2018. Though self-inflicted injuries for teens in Orange County are more frequent relative to the whole population, they were less frequent than self-inflicted injuries for teens in NYS excluding NYC. Note that the rates from 2016 onward cannot be compared with the rates from 2014 and prior due to SPARCS data transitioning from ICD-9-CM to ICD-10-CM diagnosis codes [see Figure 140, Figure 141].

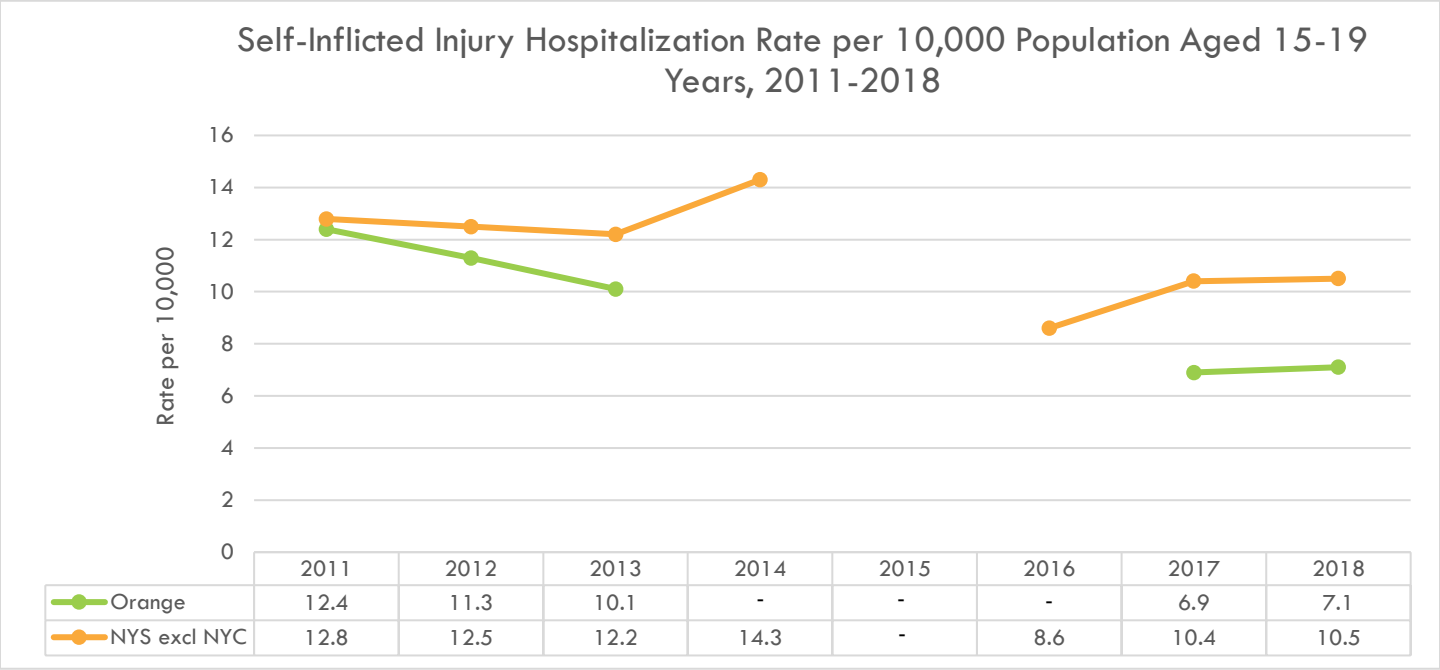
Figure 140



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	7.1	7.3	6.9	-	-	-	4.7	4.5
NYS excl NYC	7.3	7.2	6.8	6.5	-	4.2	4.4	4.7

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
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.
Source: NYSDOH Community Health Indicator Reports (CHIRS), Updated as of February 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Hh15&cos=33

Figure 141



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	12.4	11.3	10.1	-	-	-	6.9	7.1
NYS excl NYC	12.8	12.5	12.2	14.3	-	8.6	10.4	10.5

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
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.
Source: NYSDOH Community Health Indicator Reports (CHIRS), Updated as of February 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Hh16&cos=33

PREVENT COMMUNICABLE DISEASES

GENERAL COMMUNICABLE DISEASES

In NYS, there are over 60 communicable diseases reportable by law as required under the New York State Sanitary Code (10NYCRR.2.10.2.14). With the continuing threat of new and emerging diseases, it remains vital to investigate cases, monitor trends, and provide education to prevent the spread of disease in the community. Below are the most commonly reported communicable diseases, excluding STIs, in Orange County from 2018 to 2020. Influenza had the highest prevalence rate from 2018 to 2020 at 234.8 per 100,000 residents.

Table 44

General Communicable Disease Case Counts and Rate per 100,000 Residents, 2018-2020

Disease Code	2018		2019		2020		Total	
	#	Rate	#	Rate	#	Rate	Total #	Avg. Rate
Amebiasis	12	3.2	s	s	10	2.6	23	2.0
Anaplasmosis, *Anaplasma phagocytophilum*	7	1.9	9	2.4	5	1.3	21	1.8
Babesiosis	46	12.2	37	9.7	36	9.4	119	10.4
Botulism, Infant	0	0.0	0	0.0	s	s	s	s
Calicivirus, Outbreak Related (Norovirus)	0	0.0	s	s	0	0.0	s	s
Campylobacteriosis	60	15.9	35	9.2	s	s	99	8.7
Candida Auris	0	0.0	s	s	0	0.0	s	s
Cryptosporidiosis	s	s	45	11.8	s	s	53	4.6
Cyclospora	s	s	s	s	s	s	7	0.6
Dengue Fever	0	0.0	s	s	0	0.0	s	s
E Coli Shiga Toxin	8	2.1	15	3.9	s	s	27	2.4
Ehrlichiosis, *Ehrlichia chaffeenis*	0	0.0	0	0.0	s	s	s	s
Encephalitis, Unknown	0	0.0	s	s	0	0.0	s	s
Encephalitis, Bacterial	s	s	0	0.0	0	0.0	s	s
Giardiasis	27	7.1	28	7.4	24	6.3	79	6.9
Haemophilus influenzae, Invasive Not B	6	1.6	5	1.3	s	s	13	1.1
Herpes Inf, Infant =< 60 Days	0	0.0	s	s	0	0.0	s	s
Influenza	834	220.5	1042	274.1	801	209.6	2677	234.8
Influenza, Pediatric Death	0	0.0	s	s	s	s	s	s
Legionellosis	20	5.3	19	5.0	8	2.1	47	4.1
Listeriosis Non-Pregnancy	s	s	s	s	s	s	7	0.6
Lyme Disease	86	22.7	64	16.8	29	7.6	179	15.7
Malaria	s	s	s	s	s	s	s	s
Measles	8	2.1	50	13.2	0	0.0	58	5.1
Meningitis, Other Bacterial	0	0.0	s	s	s	s	s	s
Meningitis, Aseptic	9	2.4	6	1.6	s	s	17	1.5
Mumps	s	s	s	s	0	0.0	s	s
Pertussis	19	5.0	40	10.5	s	s	61	5.4

Table 44 (Continued)

Disease Code	2018		2019		2020		Total	
	#	Rate	#	Rate	#	Rate	Total #	Avg. Rate
Salmonellosis	42	11.1	51	13.4	29	7.6	122	10.7
Shigellosis	39	10.3	11	2.9	0	0.0	50	4.4
Strep Group A, Invasive	17	4.5	20	5.3	13	3.4	50	4.4
Strep Group B	31	8.2	40	10.5	32	8.4	103	9.0
Strep Pneumoniae	30	7.9	38	10.0	12	3.1	80	7.0
Typhoid	0	0.0	s	s	0	0.0	s	s
Vibrio	0	0.0	s	s	0	0.0	s	s
Yersiniosis	s	s	5	1.3	0	0.0	6	0.5

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: Only confirmed cases are displayed.
Source: Communicable Disease Electronic Surveillance System (CDESS), 2022

COVID-19

EXECUTIVE SUMMARY

This COVID-19 report analyzes data between March 2020 and March 2022. It examines multiple metrics, makes annual comparisons, and contextualizes Orange County to the surrounding area. The purpose of this report is to disseminate the findings on the impact COVID-19 has had on Orange County. It informs key stakeholders so they can identify and prioritize health needs for Orange County. These collective documents will allow the Orange County government to make public health policy decisions and allocate resources effectively and efficiently.

This report had a number of major findings. Orange County had the highest incidence of COVID-19 in the Mid-Hudson Region. It exceeds the US and NYS averages. Testing rates were very low in the county so the full extent may not be fully captured. Case fatality rates were also high in the region and had a strong correlation between preexisting comorbidities and death. Most of the infections were seen during the Omicron variant wave, while the most severe outcomes were during the Alpha variant. Non-Hispanic White populations accounted for majority of raw numbers, but racial/ethnic minorities had worst outcomes for all metrics relative to their share of the population. Finally, vaccination was very low in the county compared to the region, NYS, and the US. This may partially explain Orange County's worse than average outcomes in relation to COVID-19. See full report in Appendix D.

SEXUALLY TRANSMITTED INFECTIONS

HIV/AIDS

Human immunodeficiency virus (HIV) is a virus that attacks the body's immune system and is spread through certain body fluids, including blood, vaginal and rectal secretions, semen, and breast milk. No effective cure for HIV exists, but the virus can be controlled with proper medical care. If left untreated, HIV can lead to acquired immunodeficiency syndrome (AIDS). It is estimated that 91% of new HIV infections in the US are transmitted from undiagnosed people or those who have received a diagnosis but are not in care.[49] 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. The only way to know whether you have HIV is to be tested for it.[50]

HIV/AIDS infections continue to be a substantial public health issue in NYS and the US. From 2014 to 2018, there were a total of 109 HIV infections in Orange County, at an annual average rate of 5.8 infections per 100,000 population. This is lower than the rate in the rest of the Mid-Hudson Region and NYS excluding NYC. However, the rates have increased over time, from 3.5 per 100,000 in 2014 to 7.0 per 100,000 in 2018 [see Table 45]. When adjusting for age and stratifying by gender, age, and race, HIV/AIDS had disproportionate impacts. Males suffered higher incidence of both HIV and AIDS when compared to females. For HIV, the most frequently infected population was persons aged 50 to 59, closely followed by persons aged 25 to 29. For AIDS, however, the 50 to 59 years population by far had the highest infection rate. Where data are available, the non-Hispanic Black population suffered the highest rates of both HIV and AIDS, followed by the Hispanic population. However, the highest proportion of persons living with diagnosed HIV/AIDS was for those who identify their

[49] Healthy People 2020, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://www.healthypeople.gov/2020/topics-objectives/topic/hiv, accessed August 2022
[50] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/hiv/basics/whatishiv.html, accessed August 2022

race/ethnicity as "Other" compared to Non-Hispanic White, non-Hispanic Black, or Hispanic individuals [see Table 46, Figure 142, Figure 143, Figure 144].

Most HIV transmission in Orange County occurs through sexual contact, including between men who have sex with men (MSM) and sexual partners. The most common mode of transmission for AIDS infections in the county is heterosexual contact, followed by contact between MSM [see Table 47, Figure 145].

There have been 10,046 deaths among persons with diagnosed HIV/AIDS from 2014 to 2018 in NYS, 76 of which have occurred in Orange County. The mortality rate for HIV/AIDS in Orange County was lower than in most other counties in the Mid-Hudson Region, surpassing only the mortality rates in Putnam and Rockland Counties [see Table 48].

Table 45

HIV Case Count and Infection Rate per 100,000 Population by Region, 2014-2018

	2014		2015		2016		2017		2018		Total	
Region	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**#**	**Rate**	**Total #**	**Avg. Rate**
Orange County	13	3.5	11	3.0	34	9.1	25	6.7	26	7.0	109	5.8
Mid-Hudson	213	9.3	146	6.4	203	8.9	195	8.5	157	6.9	914	8.0
NYS excl NYC	844	7.5	739	6.6	739	6.6	703	6.3	592	5.3	3617	6.5

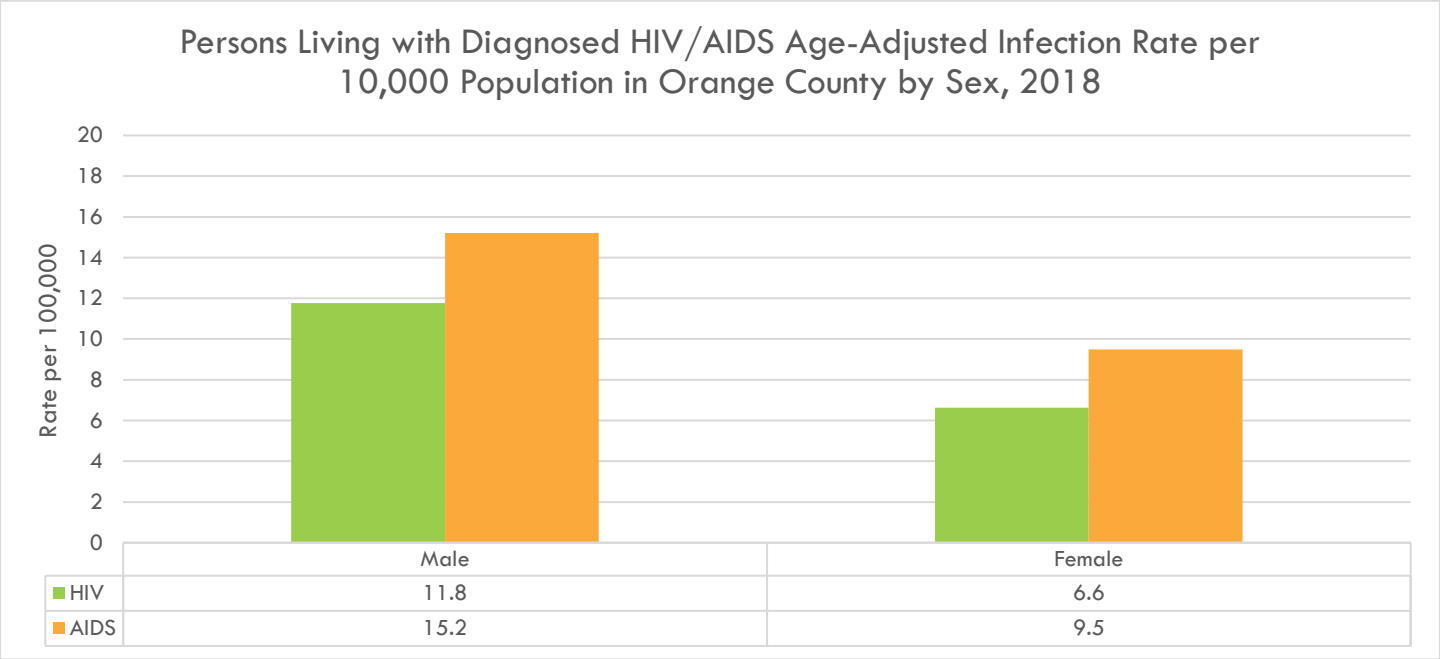
Note: All counts exclude individuals who were incarcerated at the time of diagnosis or at some point after.
Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: NYSDOH, AIDS Institute/Bureau of HIV/AIDS Epidemiology (BHAE), 2019
Created by the School of Public Health, University at Albany, 2021

Table 46

Persons Living with Diagnosed HIV/AIDS Age-Adjusted Infection Rate per 10,000 Population by Region, Gender, Race/Ethnicity, and Age, 2018																		
	HIV						AIDS						Total (HIV+ AIDS)					
	Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Gender																		
Male	223	11.8	608	5.3	7,347	n/a	288	15.2	870	7.6	9,328	n/a	511	27.0	1,478	12.9	16,675	n/a
Female	125	6.6	300	2.5	3,099	n/a	179	9.5	435	3.7	4,180	n/a	304	16.1	735	6.2	7,279	n/a
Age																		
<19	s	s	s	s	101	0.4	s	s	0	0.0	18	0.1	s	s	s	s	119	0.4
20-24	13	4.5	35	2.2	456	5.7	s	s	s	s	84	1.1	16	5.6	43	2.8	540	6.8
25-29	37	17.4	83	5.3	1,021	14.6	16	7.5	31	2.0	359	5.1	53	24.9	114	7.3	1,380	19.8
30-39	68	15.6	159	5.9	2,186	16.9	34	7.8	104	3.8	1,263	9.7	102	23.3	263	9.7	3,449	26.6
40-49	65	12.7	184	5.8	2,110	14.6	81	15.8	215	6.8	2,589	17.9	146	28.5	399	12.7	4,699	32.5
50-59	100	18.5	259	7.5	2,776	16.5	192	35.6	555	16.0	5,257	31.2	292	54.1	814	23.4	8,033	47.7
60+	59	8.4	177	3.5	1,796	7.0	141	20.0	391	7.8	3,937	15.3	200	28.4	568	11.3	5,733	22.4
Race																		
Non-Hispanic White	99	4.0	315	2.1	3,531	4.2	111	4.5	384	2.6	4,234	5.1	210	8.5	699	4.7	7,765	9.3
Non-Hispanic Black	88	21.9	229	9.1	2,978	31.1	122	30.3	323	12.8	3,812	39.8	210	52.2	552	22.0	6,790	71.0
Hispanic	111	14.9	248	5.6	2,624	21.3	167	22.4	395	8.9	3,409	27.6	278	37.2	643	14.5	6,033	48.9
Other	50	33.4	116	7.2	1,313	18.2	67	44.8	203	12.6	2,053	28.4	117	78.3	319	19.9	3,366	46.6

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

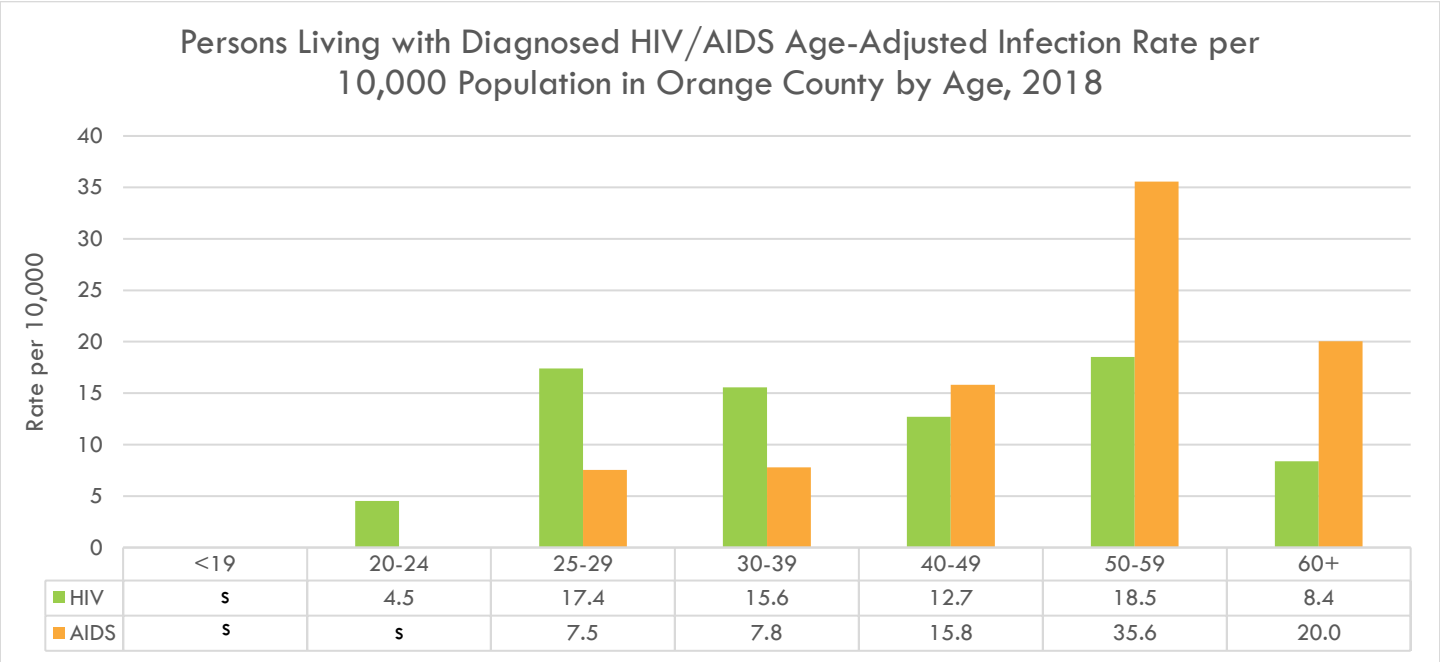
Figure 142



	Male	Female
HIV	11.8	6.6
AIDS	15.2	9.5

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

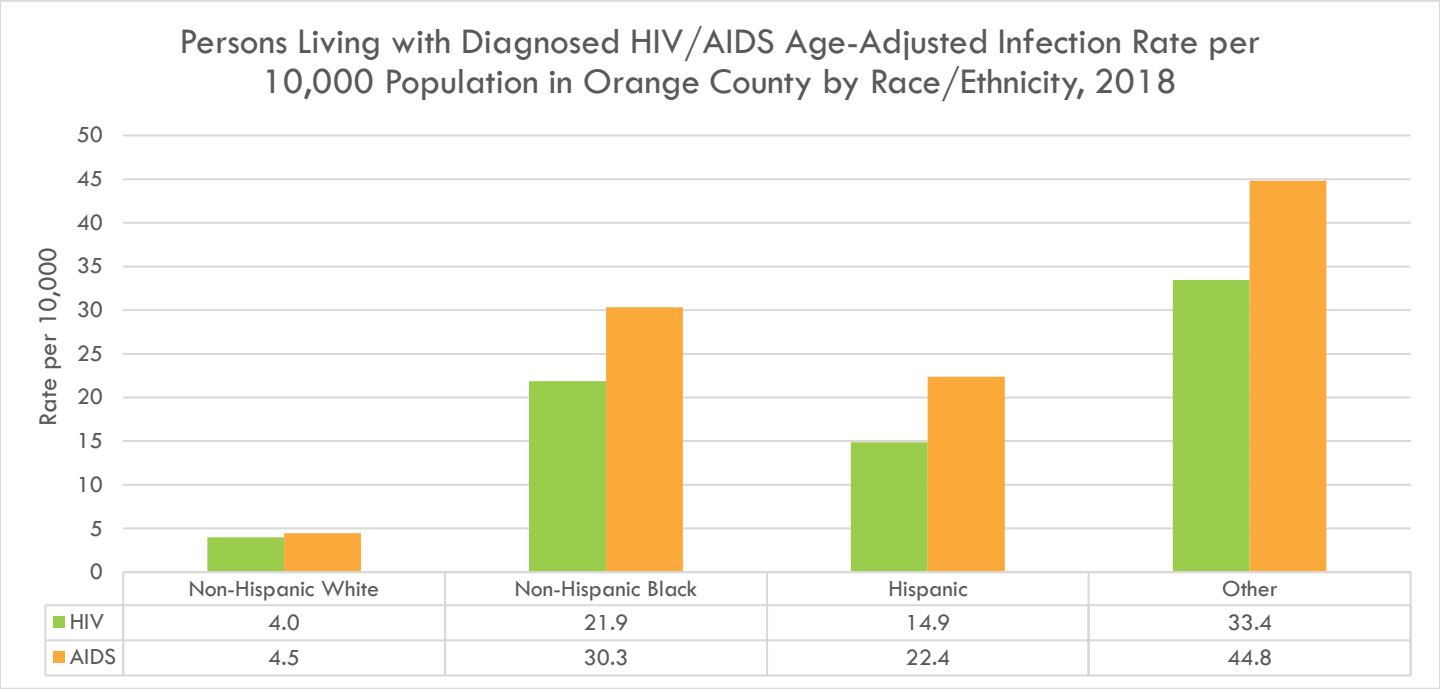
Figure 143



	<19	20-24	25-29	30-39	40-49	50-59	60+
HIV	s	4.5	17.4	15.6	12.7	18.5	8.4
AIDS	s	s	7.5	7.8	15.8	35.6	20.0

s: Data are suppressed. The data do not meet the criteria for confidentiality.
Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

Figure 144



	Non-Hispanic White	Non-Hispanic Black	Hispanic	Other
HIV	4.0	21.9	14.9	33.4
AIDS	4.5	30.3	22.4	44.8

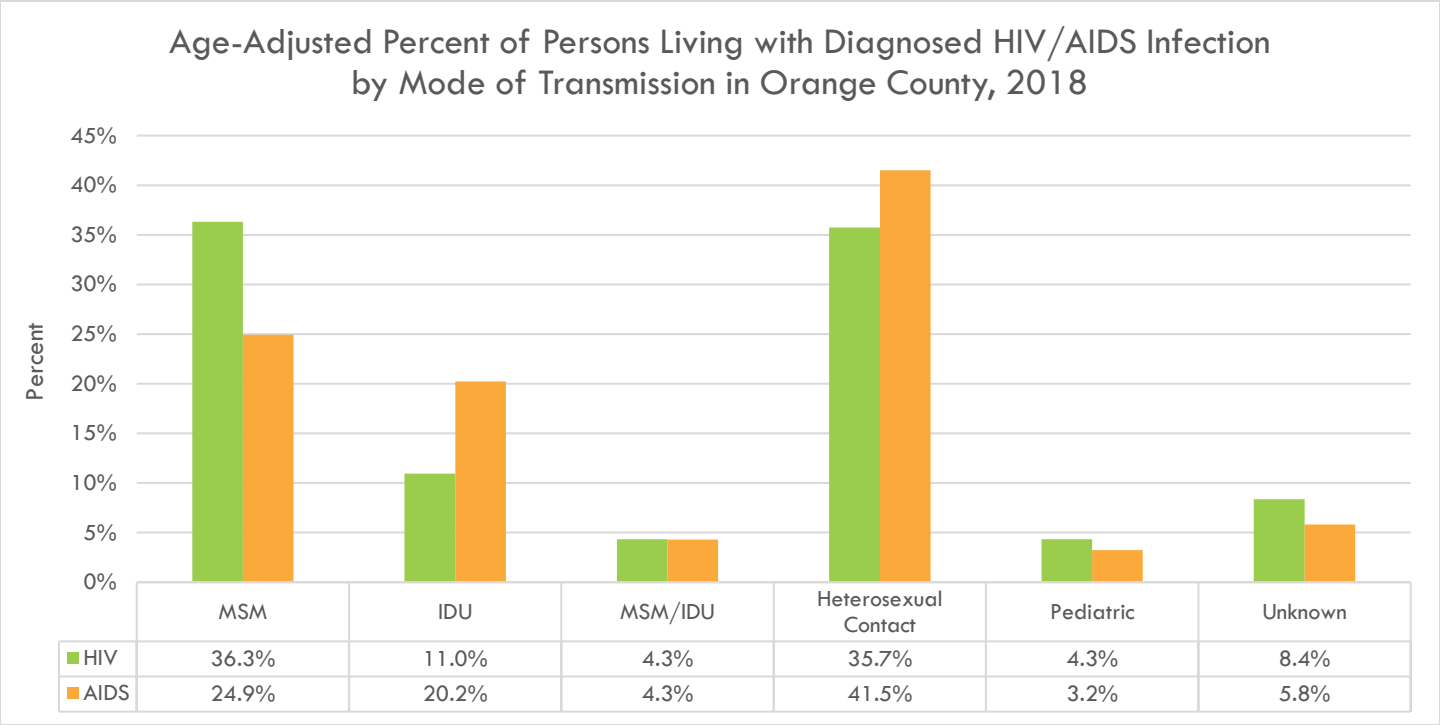
Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

Table 47

Age-Adjusted Percent of Persons Living with Diagnosed HIV/AIDS Infection by Mode of Transmission, 2018																		
	HIV						AIDS						Total (HIV+ AIDS)					
	Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC	
Mode of Transmission	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
MSM	126	36.3%	359	39.7%	4,855	46.5%	116	24.9%	374	28.8%	4,791	35.5%	242	29.8%	733	33.2%	9,646	40.3%
IDU	38	11.0%	129	14.3%	934	8.9%	94	20.2%	284	21.8%	2,268	16.8%	132	16.3%	413	18.7%	3,202	13.4%
MSM/IDU	15	4.3%	39	4.3%	433	4.1%	20	4.3%	76	5.8%	892	6.6%	35	4.3%	115	5.2%	1,325	5.5%
Heterosexual Contact	124	35.7%	279	30.8%	3,109	29.8%	193	41.5%	441	33.9%	4,114	30.5%	317	39.0%	720	32.7%	7,223	30.2%
Blood Products	0	0.0%	0	0.0%	15	0.1%	0	0.0%	0	0.0%	63	0.5%	0	0.0%	0	0.0%	78	0.3%
Pediatric	15	4.3%	28	3.1%	221	2.1%	15	3.2%	36	2.8%	269	2.0%	30	3.7%	64	2.9%	490	2.0%
Unknown	29	8.4%	71	7.8%	879	8.4%	27	5.8%	89	6.8%	1,111	8.2%	56	6.9%	160	7.3%	1,990	8.3%
Total	347	100.0%	905	100.0%	10,446	100.0%	465	100.0%	1,300	100.0%	13,508	100.0%	812	100.0%	2,205	100.0%	23,954	100.0%

s: Data are suppressed. The data do not meet the criteria for confidentiality.
IDU: Injecting Drug Users
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

Figure 145



IDU: Injecting Drug Users
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

Table 48

Deaths Among Persons with Diagnosed HIV/AIDS, 2014-2018

	2014	2015	2016	2017	2018	Total	
	#	#	#	#	#	Total #	Avg. Rate
NYS	2,151	2,051	2,107	1,979	1,758	10,046	12.8
Mid-Hudson	125	91	124	108	88	536	13.8
Sullivan	7	5	5	5	5	27	8.9
Ulster	12	13	9	11	3	48	6.6
Westchester	60	39	59	53	41	252	6.5
Dutchess	19	11	17	16	11	74	6.3
Orange	**17**	**15**	**14**	**14**	**16**	**76**	**5.0**
Rockland	9	7	16	7	10	49	3.8
Putnam	1	1	4	2	2	10	2.5

Note: Mortality counts include persons who were incarcerated at time of diagnosis or sometime after.
2018 data is incomplete and does not represent a true decrease, but instead a lag in reporting.
Rates are calculated using ACS 5-year population estimates.
Source: NYSDOH AIDS Institute/BHAE, 2019
Created by the School of Public Health, University at Albany, 2021

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 to 24 years.[51] Gonorrhea is spread by vaginal, anal, or oral sex with an infected partner. Pregnant women with gonorrhea can also pass the infection to babies during childbirth.

Healthy People 2020 aimed to reduce gonorrhea rates among females aged 15 to 44 years to 251.9 cases per 100,000 population and to 194.8 new cases per 100,000 for males aged 15 to 44 years by the year 2020.[52] Orange County met these goals, having an overall case rate of 77.8 per 100,000 population in 2019, 67.8 per 100,000 females, and 88.5 per 100,000 males [see Table 49]. Despite having met the Healthy People 2020 goal, the gonorrhea case rates in Orange County have increased, from 60.0 in 2013 to 77.8 in 2019. From 2018 to 2019, the case rate jumped by more than 10 per 100,000. There are also disparities in which populations are the most affected by gonorrhea. When stratifying by race/ethnicity, the non-Hispanic Black population in Orange County had the highest rates of gonorrhea from 2013 to 2019. Males also had a higher rate of gonorrhea than females, and those aged 20 to 24 had higher rates than any other age group [see Figure 146, Figure 147, Figure 148, Figure 149].

[51] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea.htm, accessed August 2022
[52] Healthy People 2020, Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services, https://wayback.archive-it.org/5774/20220414132554/https://www.healthypeople.gov/2020/topics-objectives/topic/sexually-transmitted-diseases/objectives, accessed August 2022

Table 49

Gonorrhea Case Counts and Age-Adjusted Infection Rates per 100,000 Population by Gender, Race/Ethnicity, and Age, 2014-2019																		
	2014						2015						2016					
	Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Gender																		
Male	95	50.4	511	47.1	3,539	65.3	111	62.5	583	54.6	4,678	86.8	155	85.7	779	72.4	5,710	106.7
Female	108	63.2	466	45.0	3,077	58.6	96	56.3	435	41.5	4,041	77.1	69	39.9	388	37.1	4,309	83.3
Total	203	55.6	977	45.9	6,616	61.8	207	58.6	1,018	48.0	8,719	81.8	224	62.9	1,167	54.9	10,019	94.9
Race/Ethnicity																		
Non-Hispanic White	47	21.2	193	15.8	1,689	22.5	36	17.2	173	14.1	2,194	29.3	63	26.5	230	18.1	2,762	37.3
Non-Hispanic Black	108	256.1	410	143.1	3,423	291.1	89	211.8	414	146.9	4,577	389.3	82	197.3	401	141.3	4,819	416.3
Non-Hispanic American Indian/ Alaska Native	0	0.0	0	0.0	22	53.7	0	0.0	s	s	43	96.7	0	0.0	s	s	43	96.3
Non-Hispanic Asian/Native Hawaiian/Pacific Islander	s	s	s	s	47	8.9	0	0.0	s	s	63	12.0	s	s	17	15.1	101	18.8
Hispanic	36	43.9	151	31.5	635	45.9	24	29.1	135	27.7	814	58.0	35	43.2	191	39.0	899	63.6
Unknown	10	0.0	218	0.0	800	0.0	58	0.0	290	0.0	1,028	0.0	43	0.0	326	0.0	1395	0.0
Total	203	55.6	977	45.9	6,616	61.8	207	58.6	1,018	48.0	8,719	81.8	224	62.9	1,167	54.9	10,019	94.9
Age																		
0-14	s	s	s	s	63	3.2	0	0.0	s	s	92	4.7	s	s	s	s	74	3.8
15-19	28	96.6	170	102.9	1,361	173.7	25	86.5	160	97.5	1,709	221.1	23	79.5	164	100.9	1,836	240.6
20-24	74	255.8	310	199.6	2,088	258.1	64	220.9	307	196.8	2,745	343.1	52	179.5	324	207.7	2,845	360.5
25-29	41	202.7	184	141.8	1,285	186.9	39	187.5	197	150.2	1,730	249.0	52	241.0	242	182.4	2,039	291.6
30-34	27	126.3	121	92.1	727	111.6	26	122.1	133	101.2	938	143.7	35	162.4	173	131.0	1,180	179.6
35-39	s	s	64	47.6	380	60.8	19	87.7	82	60.6	498	78.8	24	109.0	93	67.9	691	107.8
40-44	s	s	53	35.1	261	37.7	15	63.5	47	32.4	350	52.8	s	s	46	32.8	429	67.5
45-49	s	s	30	17.7	199	25.2	10	37.1	38	22.8	286	37.1	s	s	46	28.1	320	42.3
50-54	s	s	16	8.8	131	15.0	s	s	28	15.6	199	23.1	s	s	27	15.3	277	33.1
55-59	s	s	15	9.0	86	10.4	s	s	14	8.3	96	11.4	11	41.9	29	17.0	202	23.9
60+	s	s	s	s	35	1.4	s	s	s	s	76	3.0	s	s	14	2.7	124	4.8
Total	203	54.1	977	42.2	6,616	59.0	207	55.0	1,018	43.9	8,719	77.9	224	59.3	1,167	50.3	10,019	89.7

Table 49 (Continued)

	2017						2018						2019					
	Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Gender																		
Male	184	98.5	998	92.6	6,152	115.5	136	73.4	921	85.7	6,456	121.5	169	88.5	1,131	104.4	7,055	133.1
Female	110	62.7	528	50.4	4,468	86.8	105	59.7	531	50.8	4,738	92.3	119	67.8	604	57.7	4,868	95.1
Total	294	80.3	1,526	71.8	10,620	101.1	241	66.0	1,452	68.5	11,194	106.9	288	77.8	1,735	81.2	11,923	114.1
Race/Ethnicity																		
Non-Hispanic White	58	27.0	330	27.1	2,824	38.8	52	24.1	283	23.2	3,104	42.7	56	25.5	346	28.0	3,319	46.3
Non-Hispanic Black	127	283.5	495	173.8	4,934	423.1	93	205.7	500	174.9	5,146	439.9	117	248.2	671	232.9	5,483	468.1
Non-Hispanic American Indian/Alaska Native	0	0.0	s	s	30	73.6	0	0.0	0	0.0	32	74.6	0	0.0	0	0.0	39	90.5
Non-Hispanic Asian/Native Hawaiian/Pacific Islander	s	s	17	15.4	130	23.6	s	s	13	11.9	104	18.0	s	s	28	24.7	134	24.0
Hispanic	58	67.1	217	44.0	990	69.5	43	50.5	232	46.6	1,103	76.4	64	74.1	336	67.2	1,215	84.2
Unknown	49	0.0	464	0.0	1,712	0.0	52	0.0	424	0.0	1,705	0.0	49	0.0	354	0.0	1,733	0.0
Total	294	80.3	1,526	71.8	10,620	101.1	241	66.0	1,452	68.5	11,194	106.9	288	77.8	1,735	81.2	11,923	114.1
Age																		
0-14	0	0.0	11	2.6	66	3.4	0	0.0	12	2.8	58	3.0	s	s	s	s	71	3.7
15-19	41	141.8	234	145.5	1,850	245.8	36	124.7	186	116.5	1,821	244.7	42	145.5	240	150.3	1,854	249.2
20-24	101	350.8	458	295.1	3,049	391.1	70	244.4	386	251.9	3,253	423.6	84	293.2	473	308.7	3,262	424.8
25-29	60	267.2	305	225.9	2,209	313.8	50	216.6	339	245.6	2,406	339.1	69	298.9	374	271.0	2,622	369.6
30-34	28	129.2	180	135.6	1,318	198.8	29	132.4	203	152.0	1,361	203.1	24	109.6	209	156.5	1,567	233.9
35-39	24	107.7	129	93.5	783	120.5	16	70.3	105	75.1	808	122.6	21	92.2	154	110.1	933	141.6
40-44	16	72.2	68	48.9	413	66.0	14	62.8	73	52.5	473	75.6	14	62.8	79	56.8	511	81.6
45-49	10	38.3	59	36.9	304	41.3	14	55.3	67	43.2	375	52.7	15	59.3	70	45.1	362	50.9
50-54	s	s	44	25.5	308	37.8	s	s	34	20.2	284	36.0	s	s	52	30.9	318	40.4
55-59	s	s	24	14.1	173	20.5	s	s	26	15.3	187	22.4	s	s	45	26.4	227	27.2
60+	s	s	14	2.7	144	5.4	s	s	21	3.9	166	6.1	s	s	27	5.0	192	7.0
Total	294	77.4	1,526	65.8	10,620	95.2	241	63.1	1,452	62.5	11,194	100.5	288	75.4	1,735	74.7	11,923	107.0

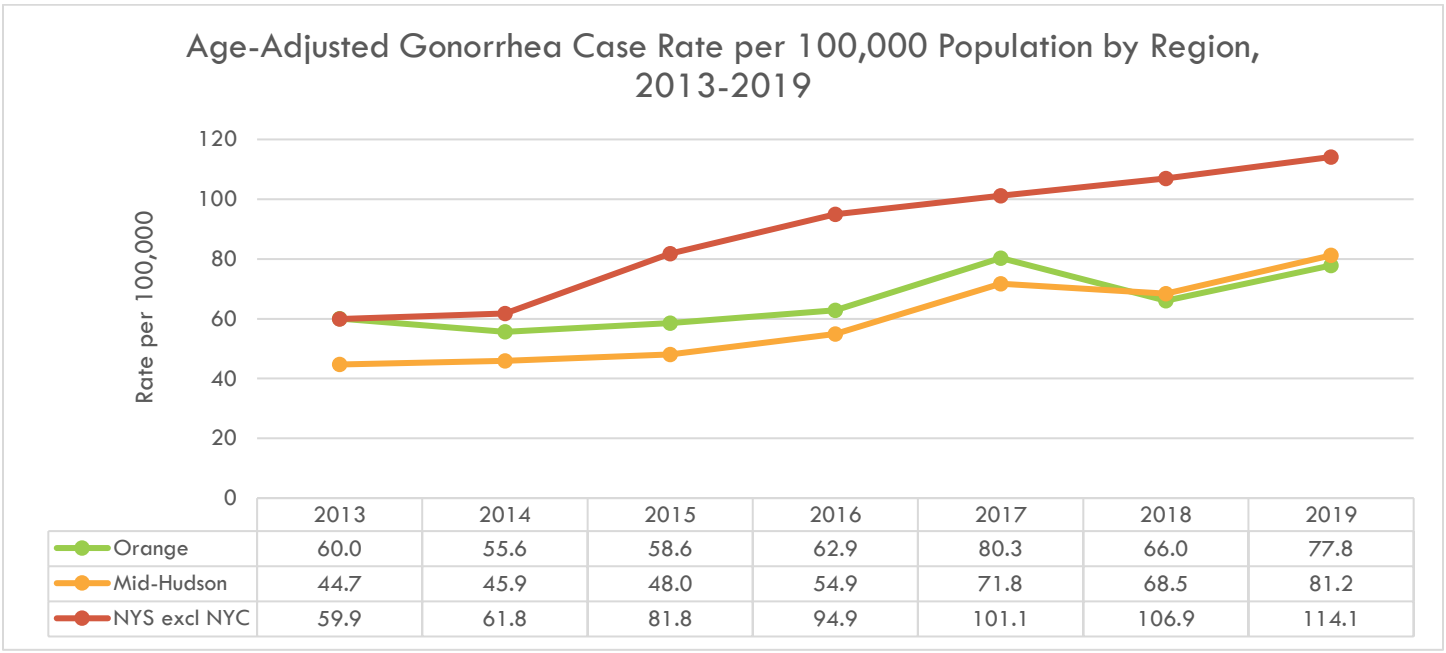
s: Data are suppressed. The data do not meet the criteria for confidentiality.

Note: All rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).

Source: 2014-2017 SPARCS Data

Created by the School of Public Health, University at Albany, 2021

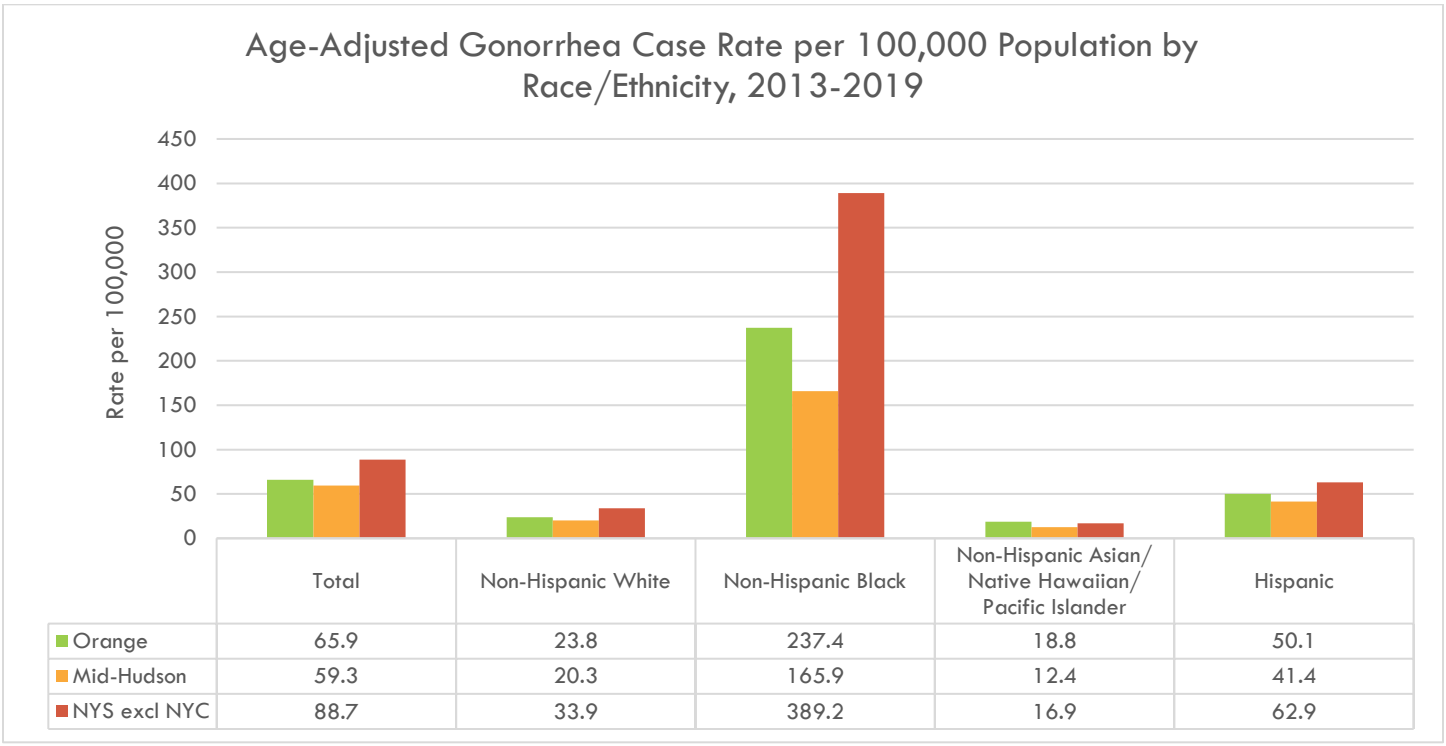
Figure 146



	2013	2014	2015	2016	2017	2018	2019
Orange	60.0	55.6	58.6	62.9	80.3	66.0	77.8
Mid-Hudson	44.7	45.9	48.0	54.9	71.8	68.5	81.2
NYS excl NYC	59.9	61.8	81.8	94.9	101.1	106.9	114.1

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

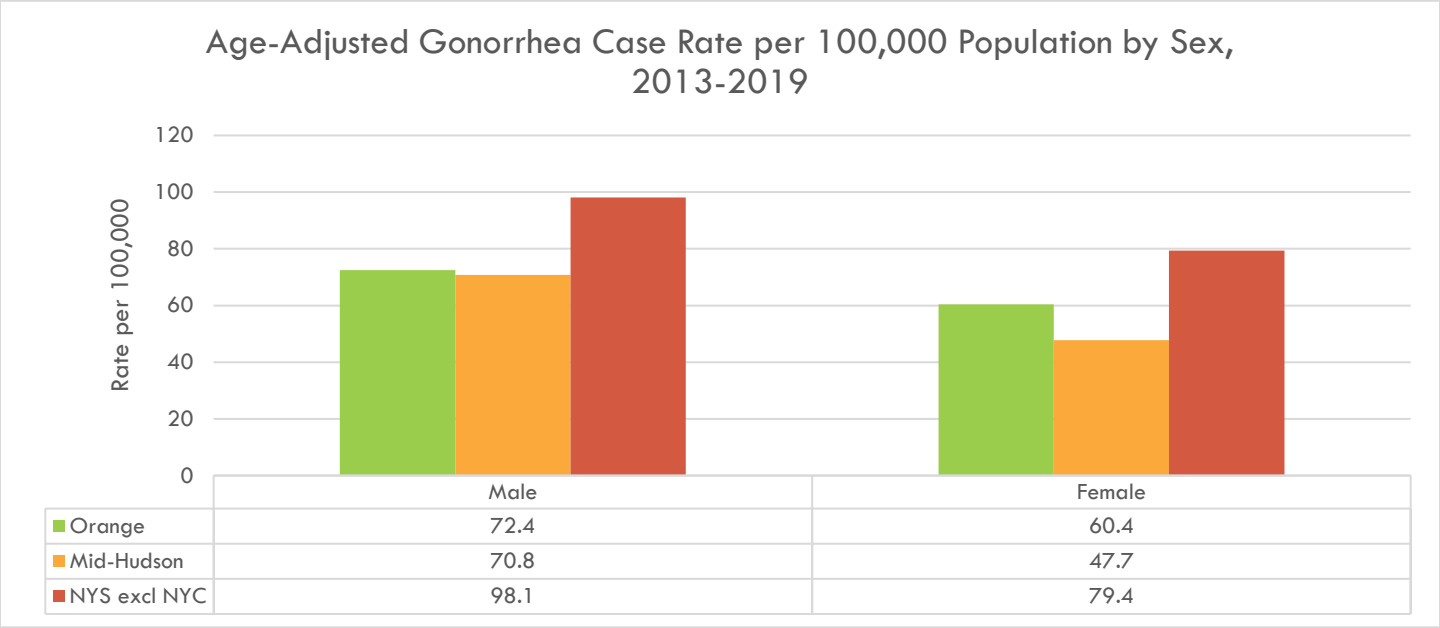
Figure 147



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian/ Native Hawaiian/ Pacific Islander	Hispanic
Orange	65.9	23.8	237.4	18.8	50.1
Mid-Hudson	59.3	20.3	165.9	12.4	41.4
NYS excl NYC	88.7	33.9	389.2	16.9	62.9

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

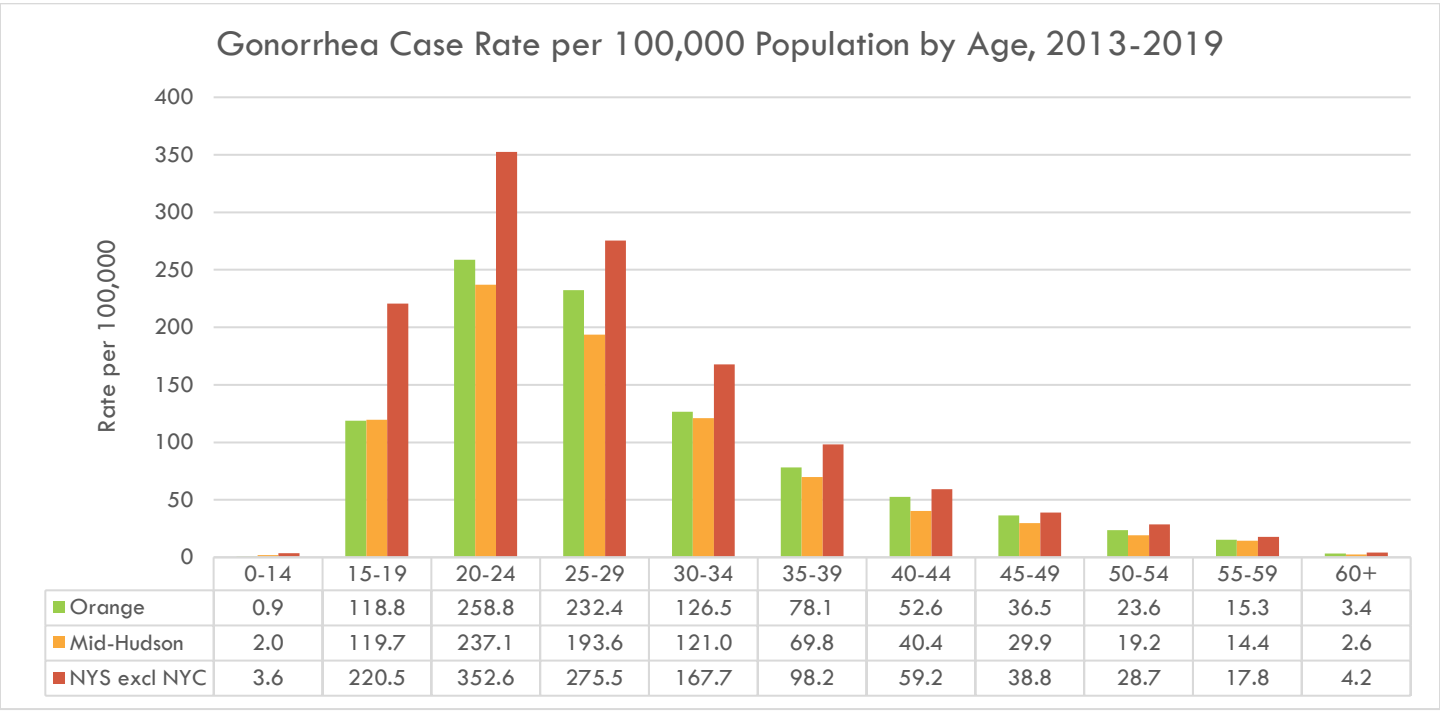
Figure 148



	Male	Female
Orange	72.4	60.4
Mid-Hudson	70.8	47.7
NYS excl NYC	98.1	79.4

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 149



	0-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+
Orange	0.9	118.8	258.8	232.4	126.5	78.1	52.6	36.5	23.6	15.3	3.4
Mid-Hudson	2.0	119.7	237.1	193.6	121.0	69.8	40.4	29.9	19.2	14.4	2.6
NYS excl NYC	3.6	220.5	352.6	275.5	167.7	98.2	59.2	38.8	28.7	17.8	4.2

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

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. Someone who was treated for chlamydia in the past can still become infected again through unprotected sex with another person who has chlamydia. Pregnant women can also pass chlamydia to their babies during childbirth.[53]

Chlamydia case rates have been increasing consistently in Orange County since 2013, rising from 291.6 per 100,000 in 2013 to 452.0 in 2019 [see Figure 150]. The non-Hispanic Black population in the county has been the most affected by gonorrhea, with an annual average of 724.5 cases per 100,000 population from 2013 to 2019. Chlamydia is much more common amongst females than males, at an annual average rate of 532.7 cases per 100,000 compared to 223.5, respectively. The case rates are highest for 20- to 24-year-olds. All these trends are consistent with those of NYS excluding NYC [see Figure 150, Figure 151, Figure 152, Figure 153].

[53] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/std/chlamydia/stdfact-chlamydia.htm, accessed August 2022

Table 50

Chlamydia Case Count and Age-Adjusted Infection Rate per 100,000 Population by Gender, Race/Ethnicity, and Age, 2014-2019

	2014						2015						2016					
	Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Gender																		
Male	331	168.7	1,975	178.5	11,832	212.7	377	191.1	2,176	197.2	12,862	232.7	452	229.5	2,521	229.3	13,956	255.0
Female	845	481.4	4,947	466.9	27,013	503.6	839	475.4	4,972	467.1	27,998	525.9	958	533.9	5,390	504.8	28,845	545.6
Total	1,176	311.8	6,922	318.0	38,845	354.0	1,216	321.0	7,148	327.9	40,860	375.3	1,410	367.1	7,911	362.6	42,801	396.3
Race/Ethnicity																		
Non-Hispanic White	320	133.6	1,427	111.2	13,803	178.4	332	141.2	1,448	112.7	14,224	186.4	311	129.9	1,528	119.1	14,666	194.6
Non-Hispanic Black	311	724.1	1,498	514.8	11,258	925.2	296	660.9	1,605	552.9	11,644	954.9	325	724.9	1,719	589.3	11,970	987.2
Non-Hispanic American Indian/Alaska Native	s	s	s	s	143	296.6	s	s	s	s	175	359.9	s	281.9	17	305.9	141	303.2
Non-Hispanic Asian/Native Hawaiian/Pacific Islander	s	s	51	49.1	392	72.5	s	s	55	52.7	470	84.8	s	s	96	89.0	538	95.0
Hispanic	324	385.0	1,433	290.5	4,546	318.7	233	275.1	1,256	254.0	4,684	327.2	253	285.2	1,662	332.4	5,503	380.3
Unknown	209	0.0	2,506	0.0	8,703	0.0	347	0.0	2,776	0.0	9,663	0.0	507	0.0	2,889	0.0	9,983	0.0
Total	1,176	311.8	6,922	318.0	38,845	354.0	1,216	321.0	7,148	327.9	40,860	375.3	1,410	367.1	7,911	362.6	42,801	396.3
Age																		
0-14	s	s	44	10.0	372	18.8	s	s	50	11.5	347	17.8	s	s	49	11.3	386	20.0
15-19	323	1114.6	1,769	1071.2	10,777	1375.8	311	1076.0	1,723	1050.2	11,248	1455.0	398	1376.2	2,002	1231.2	11,507	1508.3
20-24	462	1597.1	2,668	1718.0	15,541	1920.7	504	1739.3	2,847	1824.8	16,210	2026.1	574	1981.4	3,117	1998.0	16,776	2125.5
25-29	221	1092.7	1281	987.2	6506	946.2	209	1004.6	1261	961.6	6909	994.5	243	1126.2	1387	1045.6	7478	1069.5
30-34	63	294.6	525	399.8	2,825	433.8	87	408.5	564	429.0	2,924	448.0	95	440.7	632	478.5	3,217	489.5
35-39	43	201.7	269	200.0	1,272	203.6	43	198.5	306	226.0	1,485	235.0	44	199.8	324	236.5	1,541	240.3
40-44	24	96.4	161	106.7	694	100.1	26	110.1	155	106.9	745	112.3	19	83.7	158	112.8	773	121.7
45-49	16	58.5	81	47.7	380	48.1	18	66.7	103	61.8	446	57.8	16	59.8	84	51.2	487	64.4
50-54	s	s	69	38.0	252	28.8	s	s	76	42.2	289	33.6	s	s	87	49.3	332	39.7
55-59	s	s	32	19.2	148	17.9	s	s	34	20.1	152	18.1	s	s	43	25.2	185	21.9
60+	s	s	23	4.7	78	3.1	s	s	29	5.8	105	4.1	s	s	27	5.2	114	4.4
Total	1,176	313.4	6,922	299.1	38,845	346.2	1,216	323.3	7,148	308.6	40,860	365.0	1,410	373.0	7,911	341.3	42,801	383.3

Table 50 (Continued)

	2017						2018						2019					
	Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC		Orange		Mid-Hudson		NYS excl NYC	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
Gender																		
Male	518	259.3	2,792	254.2	15,240	279.7	518	253.5	3,175	289.4	16,375	303.0	595	295.3	3,358	305.4	16,914	313.0
Female	1,024	574.5	5,601	526.8	29,913	569.8	1,045	582.8	5,648	531.9	30,850	591.8	1,143	640.0	6,069	573.1	31,270	600.4
Total	1,542	402.1	8,393	386.1	45,153	420.8	1,563	403.8	8,823	406.9	47,225	443.7	1,738	452.0	9,427	435.0	48,184	452.9
Race/Ethnicity																		
Non-Hispanic White	314	137.9	1,511	120.4	14,610	196.7	311	133.8	1,481	117.9	14,800	202.0	331	143.0	1,735	138.0	14,735	201.2
Non-Hispanic Black	343	727.1	1,503	519.5	12,329	1,013.4	341	709.4	1,543	536.3	12,710	1,051.6	425	879.7	2,069	714.0	13,706	1,131.9
Non-Hispanic American Indian/Alaska Native	s	419.7	19	386.1	133	288.7	s	s	s	s	180	397.9	0	0.0	s	s	179	392.5
Non-Hispanic Asian/Native Hawaiian/Pacific Islander	20	160.0	77	71.1	640	111.5	11	81.4	54	49.8	584	97.6	8	56.7	89	81.9	700	117.3
Hispanic	306	345.3	1,270	252.4	5,437	373.3	337	371.9	1,194	235.2	5,584	377.8	357	395.9	1,879	369.5	6,377	431.7
Unknown	554	0.0	4,013	0.0	12,004	0.0	561	0.0	4,542	0.0	13,367	0.0	617	0.0	3,645	0.0	12,487	0.0
Total	1,542	402.1	8,393	386.1	45,153	420.8	1,563	403.8	8,823	406.9	47,225	443.7	1,738	452.0	9,427	435.0	48,184	452.9
Age																		
0-14	s	s	56	13.0	331	17.2	s	s	59	13.8	339	17.8	s	s	69	16.1	383	20.1
15-19	416	1,439.2	2,083	1,295.5	12,180	1,618.2	460	1,593.1	2,211	1,384.7	12,774	1,716.6	403	1,395.7	2,271	1,422.3	12,556	1,687.4
20-24	611	2,122.4	3,260	2,100.2	17,573	2,254.0	636	2,220.2	3,358	2,191.6	18,047	2,350.0	712	2,485.5	3,544	2,313.0	18,466	2,404.5
25-29	293	1,305.1	1,516	1,123.1	8,003	1,137.0	231	1,000.8	1,584	1,147.7	8,398	1,183.7	332	1,438.4	1,774	1,285.3	8,511	1,199.6
30-34	99	456.7	634	477.4	3,314	499.8	105	479.3	700	524.2	3,607	538.3	135	616.3	809	605.9	3,857	575.7
35-39	55	246.8	362	262.3	1,676	258.0	61	267.9	393	281.0	1,825	276.9	61	267.9	407	291.0	1,970	298.9
40-44	31	139.9	213	153.3	853	136.4	33	148.1	232	166.7	953	152.2	40	179.5	233	167.4	986	157.5
45-49	15	57.5	119	74.5	529	71.9	11	43.5	122	78.6	540	75.9	15	59.3	132	85.0	583	82.0
50-54	s	s	72	41.7	333	40.9	s	s	61	36.3	327	41.5	16	59.0	79	47.0	411	52.2
55-59	s	s	43	25.2	216	25.7	s	s	63	37.0	235	28.1	s	s	57	33.4	255	30.5
60+	s	s	35	6.7	130	4.9	s	s	39	7.3	174	6.4	s	s	50	9.3	196	7.2
Total	1,542	406.0	8,393	361.7	45,153	404.9	1,563	409.2	8,823	380.0	47,225	423.8	1,738	455.0	9,427	406.0	48,183	432.4

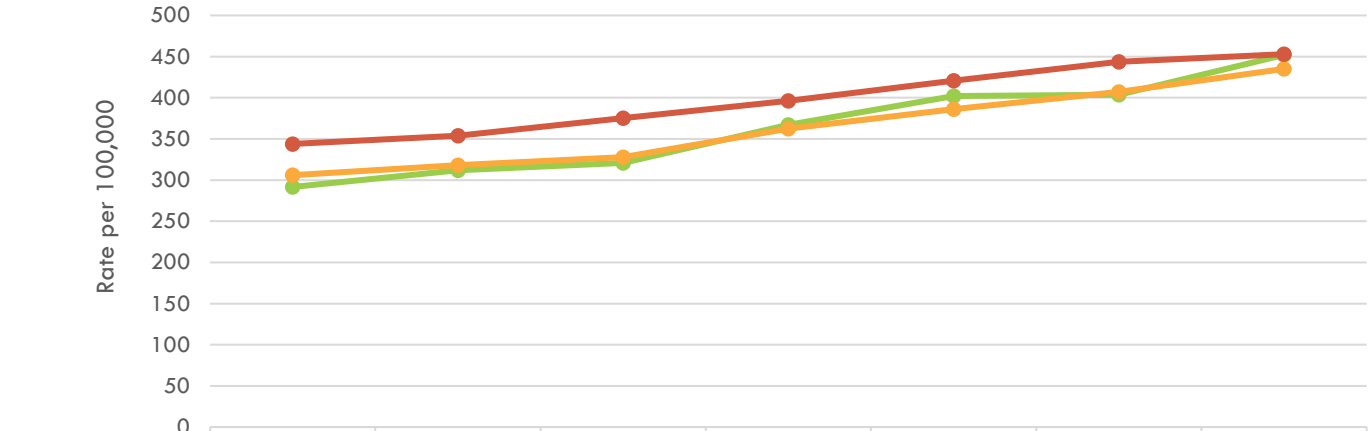
s: Data are suppressed. The data do not meet the criteria for confidentiality.

Note: All rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).

Source: 2014-2017 SPARCS Data

Created by the School of Public Health, University at Albany, 202

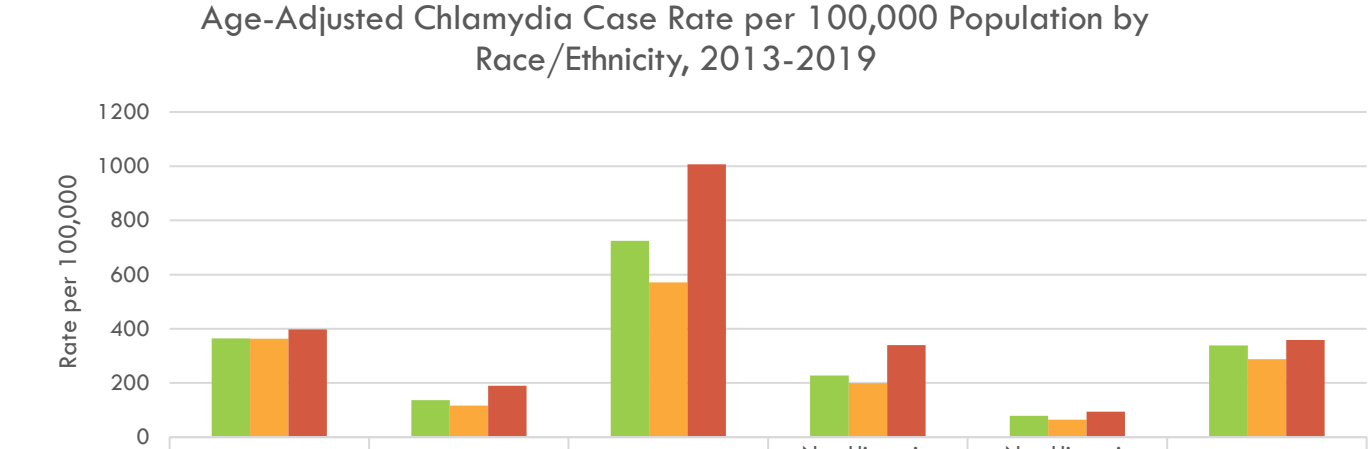
Figure 150



	2013	2014	2015	2016	2017	2018	2019
Orange	291.6	311.8	321.0	367.1	402.1	403.8	452.0
Mid-Hudson	305.9	318.0	327.9	362.6	386.1	406.9	435.0
NYS excl NYC	343.9	354.0	375.3	396.3	420.8	443.7	452.9

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

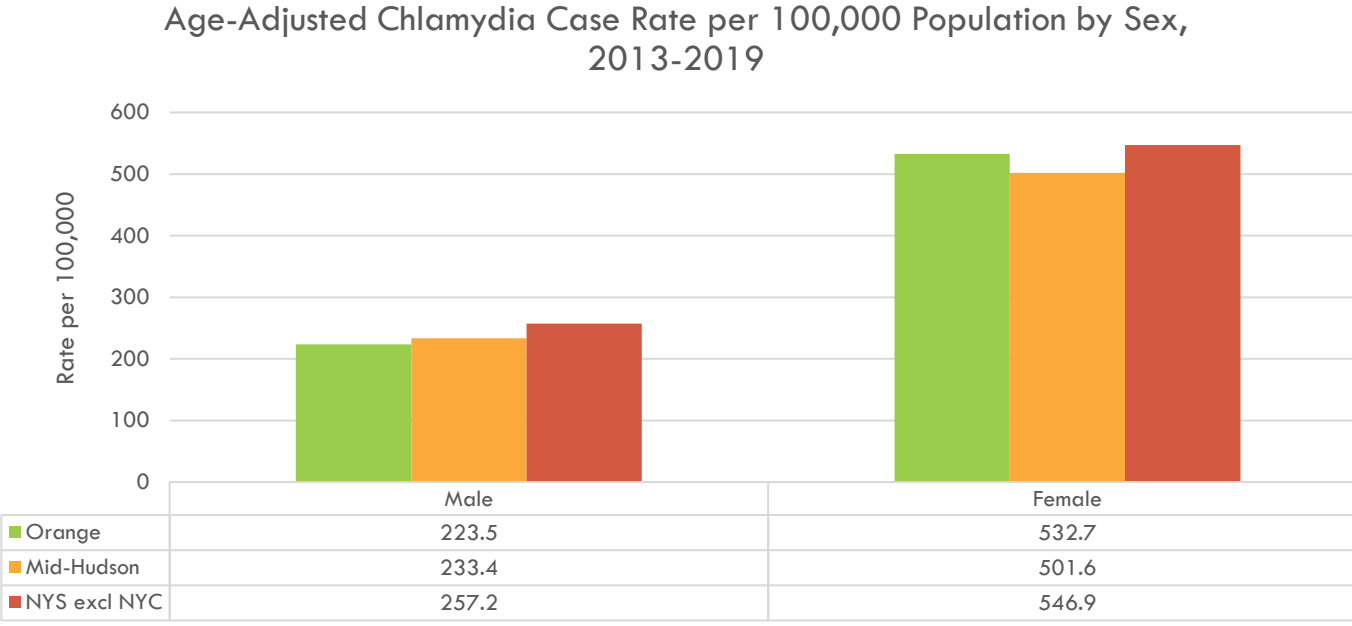
Figure 151



	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic American Indian/Alaska Native	Non-Hispanic Asian/Native Hawaiian/Pacific Islander	Hispanic
Orange	364.2	137.1	724.5	228.2	79.0	338.2
Mid-Hudson	363.2	117.1	570.9	199.8	64.5	287.5
NYS excl NYC	398.1	189.8	1006.3	340.0	94.3	358.5

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

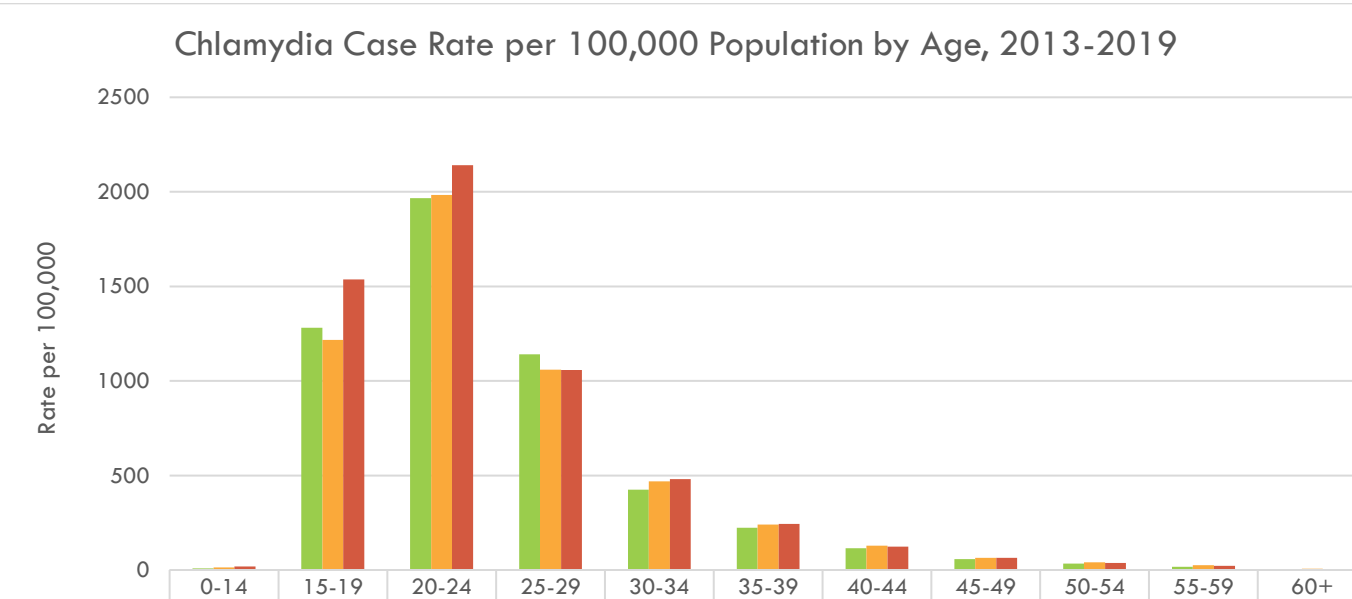
Figure 152



	Male	Female
Orange	223.5	532.7
Mid-Hudson	233.4	501.6
NYS excl NYC	257.2	546.9

Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

Figure 153



	0-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60+
Orange	9.1	1281.5	1967.2	1140.2	425.5	223.5	114.3	57.4	33.8	16.5	5.3
Mid-Hudson	12.8	1216.7	1983.0	1059.9	468.7	241.1	128.1	63.7	41.1	25.3	6.1
NYS excl NYC	19.2	1536.7	2141.2	1057.5	481.4	243.1	123.3	63.8	37.5	22.2	4.7

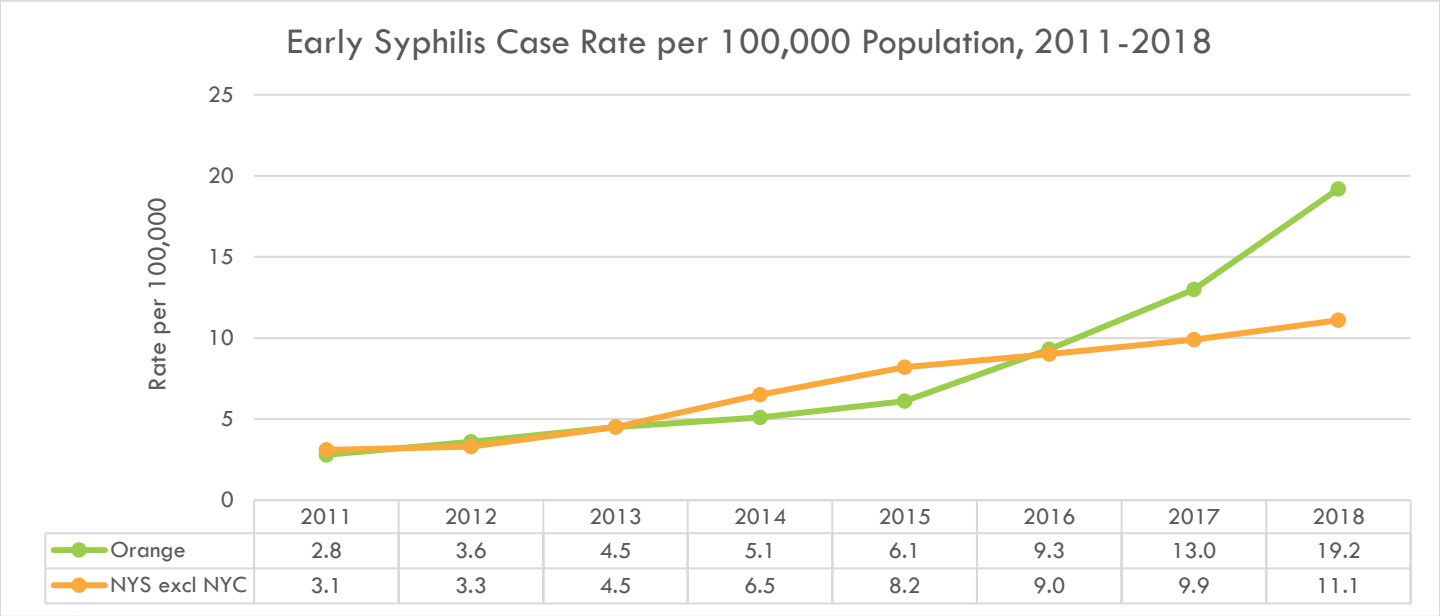
Note: Rates are calculated using population estimates from the National Institute of Health's Surveillance, Epidemiology, and End Results Program (SEER).
Source: 2014-2017 SPARCS Data
Created by the School of Public Health, University at Albany, 2021

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. 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. [54]

Syphilis cases have been increasing dramatically in Orange County since 2011, rising from a rate of 2.8 per 100,000 in 2011 to 19.2 in 2018. Current rates of syphilis in the county surpass those of NYS excluding NYC [see Figure 154].

Figure 154



	2011	2012	2013	2014	2015	2016	2017	2018
Orange	2.8	3.6	4.5	5.1	6.1	9.3	13.0	19.2
NYS excl NYC	3.1	3.3	4.5	6.5	8.2	9.0	9.9	11.1

Note: Three-year averages for Orange County and single-year estimates for NYS excluding NYC are graphed above.
Source: NYSDOH Community Health Indicator Reports (CHIRS), 2021
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ctr&ind_id=Gg45&cos=33

[54] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/std/syphilis/stdfact-syphilis.htm, accessed July 2022

VIRAL HEPATITIS

Hepatitis is a term used to describe inflammation of the liver. It may be caused by a variety of factors including heavy alcohol use, some medications, toxins, and certain medical conditions. However, hepatitis is often caused by a virus, most commonly the hepatitis A, hepatitis B, or hepatitis C virus.[55] Hepatitis may be acute or chronic, which may produce progressive liver damage in the long term.

Hepatitis A is primarily foodborne, spread through contaminated water or food. Though it is the easiest of the hepatitis viruses to transmit, it is typically mild and the least likely to cause liver damage. Hepatitis B is transmitted by exposure to contaminated blood, bodily fluids, used needles and syringes, and from an infected mother to her baby during childbirth. Hepatitis B is chronic and may lead to long-term liver damage, liver cancer, and liver cirrhosis. Hepatitis C is only transmitted through infected blood and from an infected mother to her baby during childbirth. Like hepatitis B, it can also cause liver cancer and cirrhosis.[56]

In 2020, Orange County had 53 new cases of hepatitis B, which was the highest number of cases in the Mid-Hudson Region. However, the rate of newly reported hepatitis cases in the county was 13.8 per 100,000 population, which is slightly lower than the rate for the Mid-Hudson Region and NYS excluding NYC. The rate of newly reported hepatitis B cases in Orange County has been decreasing over time, from 16.2 per 100,000 population in 2018 to 13.8 in 2020 [see Table 51, Figure 155]

Orange County also had the highest number (150) of hepatitis C cases in the Mid-Hudson Region in 2020. The rate of newly reported hepatitis C cases in the county has decreased substantially over time, from 75.1 per 100,000 population in 2018 to 39.0 in 2020. Despite this decreasing trend, the rate of new hepatitis C cases in Orange County has consistently remained higher than that of the Mid-Hudson Region and NYS excluding NYC [see Table 52, Figure 156].

Table 51

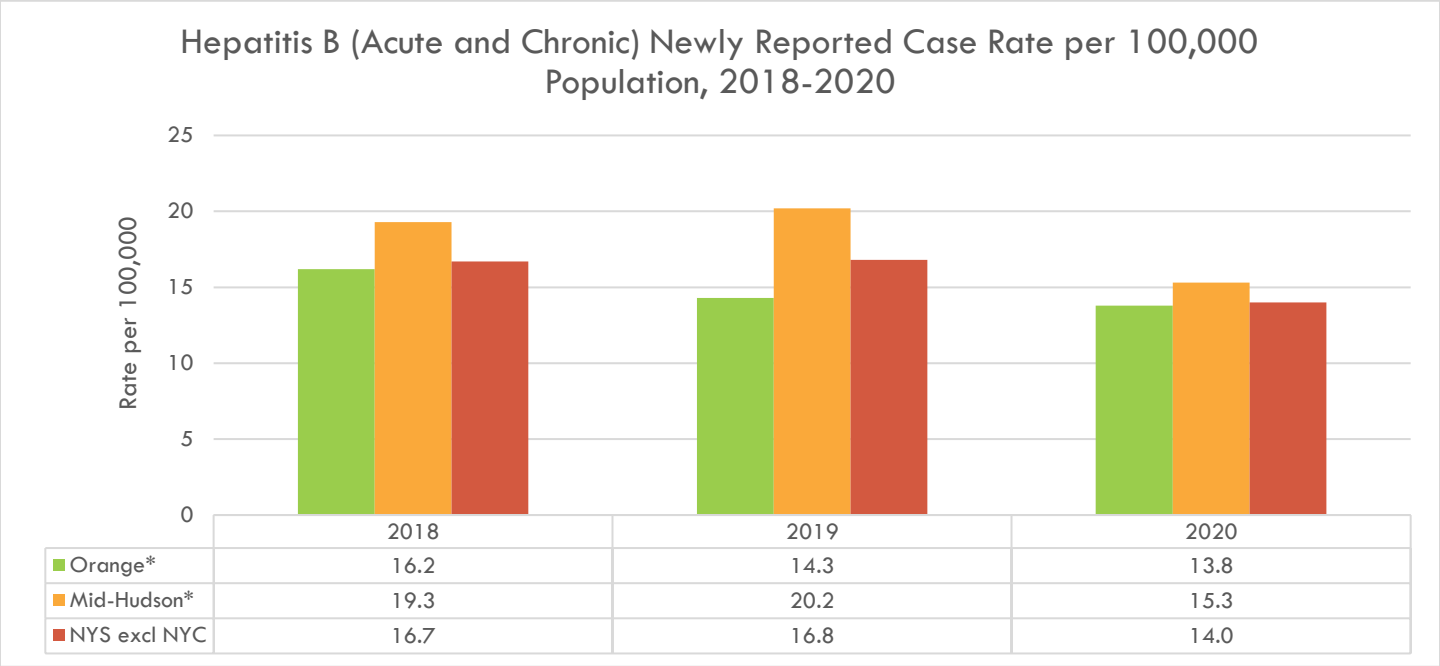
Hepatitis B (Acute and Chronic) Newly Reported Case Counts and Rates per 100,000 Population, 2018-2020						
	2018		2019		2020	
	#	Rate	#	Rate	#	Rate
Orange*	62	16.2	55	14.3	53	13.8
Mid-Hudson*	450	19.3	470	20.2	356	15.3
NYS excl NYC	1862	16.7	1870	16.8	1556	14.0

**: Geographic assessments exclude persons incarcerated in Department of Corrections and Community Supervision (DOCCS) facilities.*
Note: Mid-Hudson includes Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.
Source: NYS Department of Health, 2020
https://www.health.ny.gov/diseases/communicable/hepatitis/hepatitis_c/providers/surveillance_reports.htm

[55] Centers for Disease Control and Prevention, 2020, https://www.cdc.gov/hepatitis/abc/index.htm, accessed October 2022

[56] Johns Hopkins Medicine, 2022, https://www.hopkinsmedicine.org/health/conditions-and-diseases/hepatitis, accessed October 2022

Figure 155



*: *Geographic assessments exclude persons incarcerated in Department of Corrections and Community Supervision (DOCCS) facilities.*
Note: Mid-Hudson includes Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.
Source: NYS Department of Health, 2020
https://www.health.ny.gov/diseases/communicable/hepatitis/hepatitis_c/providers/surveillance_reports.htm

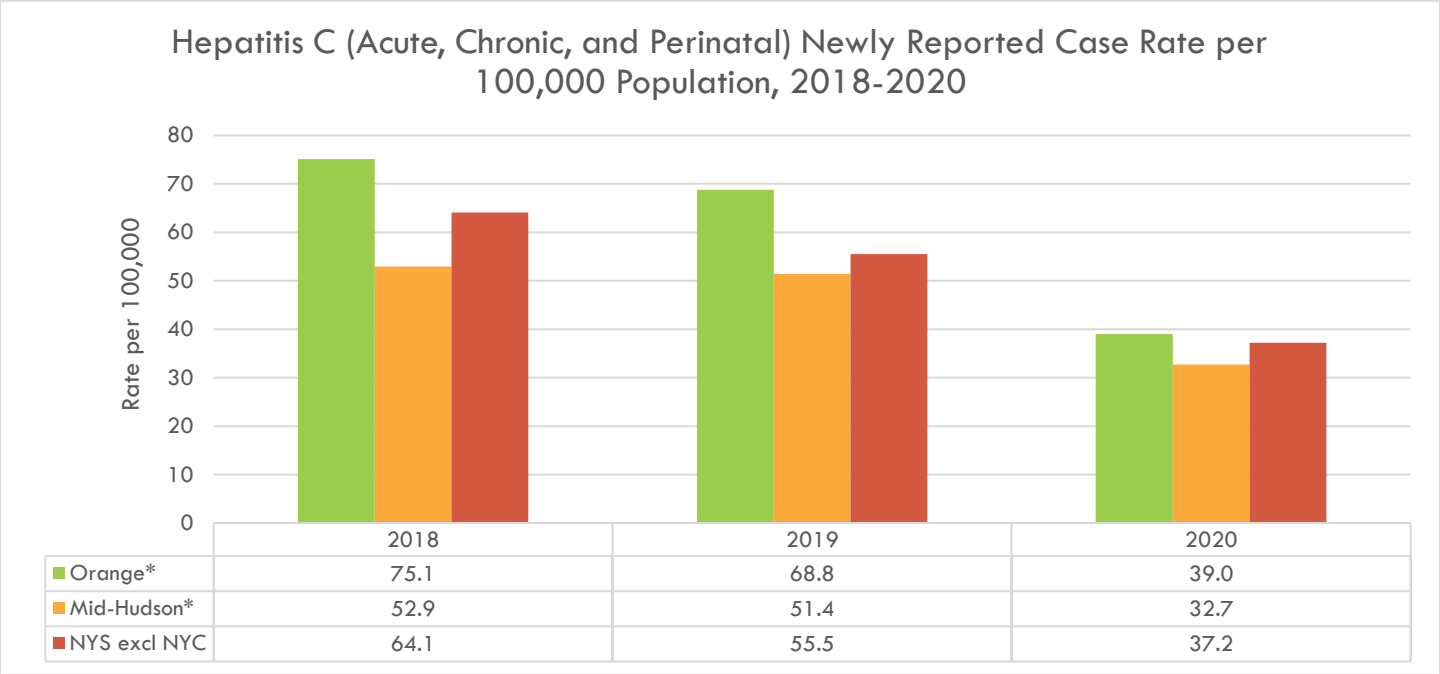
Table 52

Hepatitis C (Acute, Chronic, and Perinatal) Newly Reported Case Counts and Rates per 100,000 Population, 2018-2020

	2018		2019		2020	
	#	Rate	#	Rate	#	Rate
Orange*	287	75.1	265	68.8	150	39.0
Mid-Hudson*	1229	52.9	1195	51.4	760	32.7
NYS excl NYC	7148	64.1	6175	55.5	4131	37.2

*: *Geographic assessments exclude persons incarcerated in Department of Corrections and Community Supervision (DOCCS) facilities.*
Note: Mid-Hudson includes Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.
Source: NYS Department of Health, 2020
https://www.health.ny.gov/diseases/communicable/hepatitis/hepatitis_c/providers/surveillance_reports.htm

Figure 156



	2018	2019	2020
Orange*	75.1	68.8	39.0
Mid-Hudson*	52.9	51.4	32.7
NYS excl NYC	64.1	55.5	37.2

**: Geographic assessments exclude persons incarcerated in Department of Corrections and Community Supervision (DOCCS) facilities.*
Note: Mid-Hudson includes Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.
Source: NYS Department of Health, 2020
https://www.health.ny.gov/diseases/communicable/hepatitis/hepatitis_c/providers/surveillance_reports.htm

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

The Hanlon Method

WHAT IS THE HANLON METHOD?

The Hanlon Method is a technique created by J.J Hanlon to prioritize health problems. This method was originally published in 1984 and had been revised overtime to develop the most accurate outcome of data. The trusted Hanlon Method minimizes personal bias and prioritizes health problems utilizing baseline data and numerical values. This method guides the decision-making process to select health priorities and focuses on four criteria of health problems: size of the problem, seriousness of the problem, estimated effectiveness of the solution, and PEARL factors (propriety, economics, acceptability, resources, and legality). The method was created to not only be able to rank diseases, but non disease-oriented problems as well. In order to rank these problems, standardized information is factored into a formula for every problem. This equation requires the size of the problem, the seriousness of the problem, the effectiveness of the intervention, inequity, and institutional positioning. Once this information is factored in, the health problem will be ranked amongst the others, and the priority health problems will be evident. There are many advantages to the Hanlon Method and it has made a notable contribution to health and strategic planning. This adopted method is used by the Centers for Disease Control, World Health Organizations, and county governments.

HOW WAS THE HANLON METHOD UTILIZED?

For the Orange County Community Health Assessment, a modified Hanlon Method was utilized to determine health priorities. A total of 31 health indicators from the five Prevention Agenda areas were analyzed. The size and seriousness of the problem were utilized to select the top 5 health priorities in Orange County, while the effectiveness of the solution and PEARL were addressed in the planning process. The highest possible obtainable score was 30 representing the most pressing concerns. The final scores ranged from 12-26 and the top 5 ranged from 26-22.

TRENDS

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

Health Priorities

Based on use of
Hanlon Method

T-1 - Childhood Immunizations
Prevent communicable disease

T-1 - Chronic Lower Respiratory Disease
Prevent chronic disease

3 - Physical Activity
Prevent chronic disease

T-4 - Breast Cancer
Prevent chronic disease

T-4 - Diabetes
Prevent chronic disease

T-4 - Binge Drinking
Prevent chronic disease

7 - Child Overweight and Obesity
Prevent chronic disease

T-8 - Cigarette Smoking
Prevent chronic disease

T-8 - Cardiovascular Disease
Prevent chronic disease

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

CHILDHOOD IMMUNIZATIONS

A way to create immunity and protection from some diseases

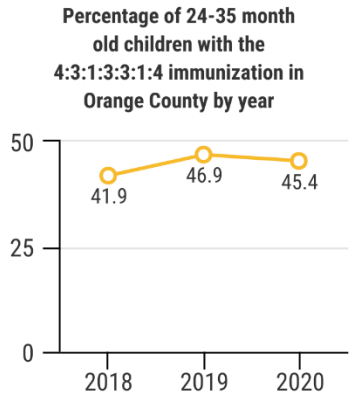
Benefits to Childhood Immunization

1. Immunizations can save a child's life
2. Vaccines are very safe and effective
3. Immunizations protect others as well as yourself
4. Less time off from school and work

Orange County Health Priority

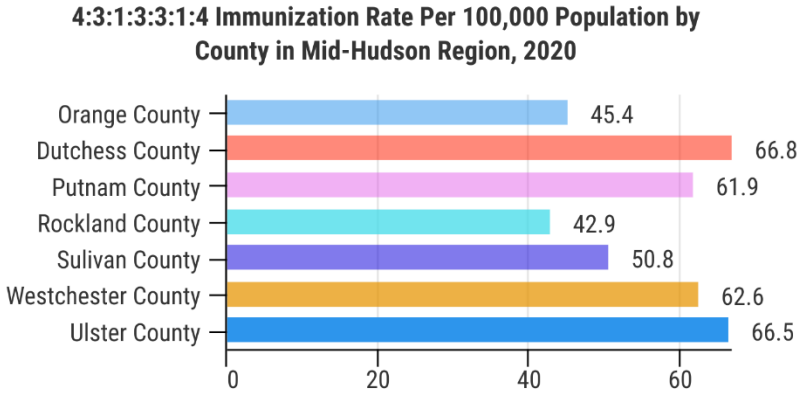
#T-1

The percentage of 24-35 month-old children with the completed immunization series has been **DECREASING** recently



Orange County has the 2nd **LOWEST** 4:3:1:3:3:1:4* immunization series rate in the Mid-Hudson Region

*4+DTaP, 3+Polio, 1+MMR, 3+Hib, 3+HepB, 1+Varicella, 4+PCV



https://kidshealth.org/en/parents/vaccine.html#:~:text=Immunization%20(vaccination)%20is%20a%20way,bacteria%20(such%20as%20pneumococcus)
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ctr&ind_id=pa40_0%20&cos=33.
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ig&ind_id=pa40_0
https://www.vaccines.gov/get-vaccinated/for_parents/five_reasons
https://www.cdc.gov/vaccines/imz-managers/coverage/nis/child/figures/downloads/0708-4313314.pdf

Last Updated 10/25/2022

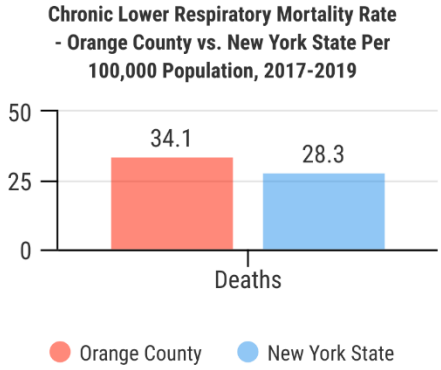
ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

CHRONIC LOWER RESPIRATORY DISEASE

Is characterized by shortness of breath caused by airway obstruction

Annually in Orange County

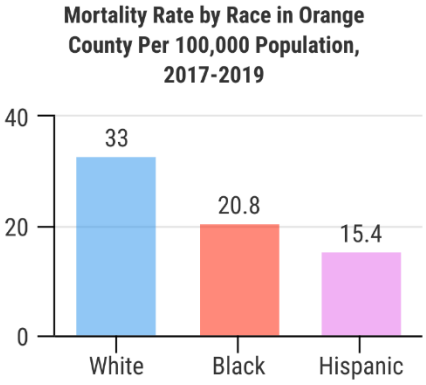
34.1
Deaths



Orange County Health Priority

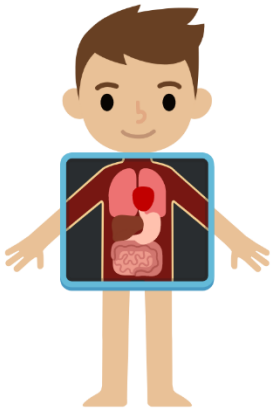
#T-1

Whites have a mortality rate that is nearly **2X higher** than **Blacks** and over **2X** higher **Hispanics**



Reduce Your Risk

1. No smoking
2. Prevent infections
3. Get vaccinated for COVID-19 and the flu
4. Exercise
5. Minimize exposure to outdoor air pollution



Risk Factors

Include, but are not limited to:

- Tobacco
- Smoke
- Air pollution
- Chemicals
- Airborne dust particles

https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Md30a
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm
https://www.who.int/health-topics/chronic-respiratory-diseases#tab=tab_1
https://www.lung.org/lung-health-diseases/wellness/protecting-your-lungs

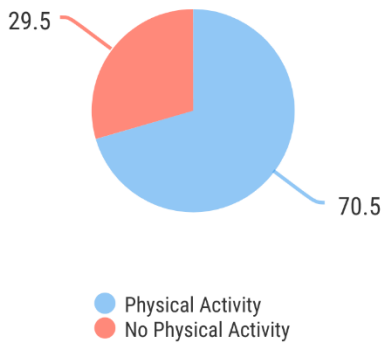
Last Updated: 10/25/2022

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

PHYSICAL ACTIVITY

Refers to all movement during leisure time, transporting to and from places, or as part of a person's occupation

Orange County has the **LOWEST** percentage of adults who participate in leisure-time physical activity in the past **30 days in** Mid-Hudson Region



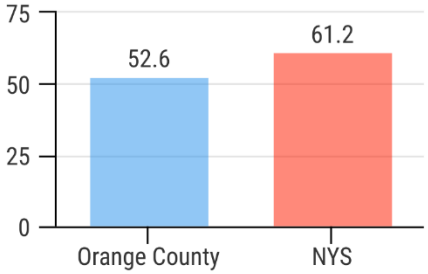
Orange County Health Priority

#3

Benefits

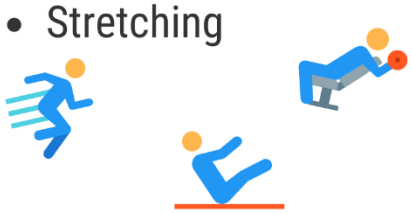
1. Weight management
2. Reduce health risk
3. Strengthen bones and muscles
4. Improves the ability to participate in daily activities
5. Reduce the risk of falling or injuries
6. Increase of longevity

Percentage of Adults with Disabilities who Participate in Leisure-Time Physical Activity in Orange County Per 100,000 Population, 2018

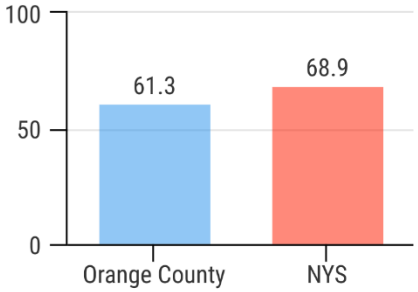


Types of Physical Activity

- Aerobic
- Muscle-strengthening
- Bone strengthening
- Stretching



Percentage of Adults who Participate in Leisure-Time Physical Activity, Aged 65+ Years in Orange County, Per 100,000 Population, 2018



https://www.who.int/news-room/fact-sheets/detail/physical-activity
https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Jg76
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=%2FEBI%2FPHIG%2Fapps%2Fdashboard%2Fpa_dashboard&p=ch&cos=33

Last Updated: 10/25/2022

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

BREAST CANCER

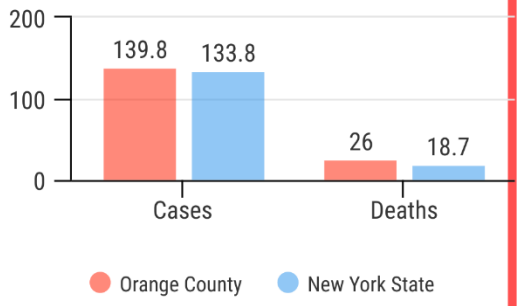
A form of cancer that affects the cells of the breast

Annually in Orange County

139.8 Cases

26 Deaths

Breast Cancer - Orange County vs. New York State Per 100,000 Population, 2016-2018



Orange County Health Priority

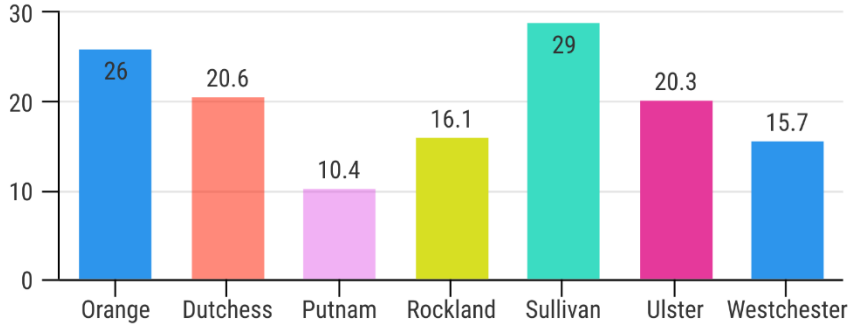
#T-4

Reduce Your Risk

1. Maintain a healthy weight
2. Engage in physical activity
3. Limit or avoid alcohol consumption
4. Schedule an annual mammogram

Orange County has the 2nd **Highest** Breast Cancer Mortality Rate in the **Mid-Hudson Region**

Breast Cancer Mortality Rate Per 100,000 Population by County in Mid-Hudson Valley, 2016-2018



Risk Factors

Include, but are not limited to:

- Taking birth control
- Not having children
- Lack of physical activity
- Excessive drinking

https://www.health.ny.gov/statistics/community/minority/county/orange.htm
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=ch
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4783613/pdf/jgo-07-S1-S32.pdf
https://www.cancer.org/cancer/colon-rectal-cancer/about/what-is-colorectal-cancer.html
https://www.cancer.org/latest-news/six-ways-to-lower-your-risk-for-colon-cancer.html
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=it&ind_id=Ag10

Last Updated: 10/25/2022

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

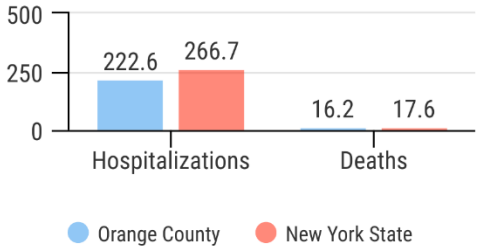
DIABETES

Condition in which the body does not properly process food to use as energy

Annually in Orange County

16.2
Deaths

Diabetes - Orange County vs. New York State per 100,000 Population for Hospitalizations and per 10,000 Population for Deaths 2017-2019

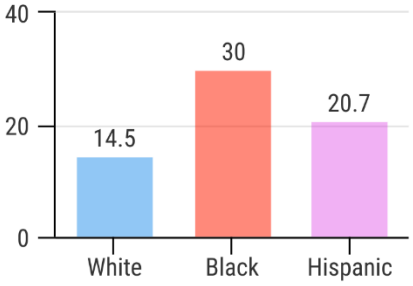


Orange County Health Priority

#T-4

Blacks have a mortality rate that is 2X Higher than Whites and Hispanics

Mortality Rate by Race in Orange County Per 100,000 Population, 2017-2019



Reduce Your Risk

1. Get enough daily physical activity
2. Eat diets high in fiber and whole grains
3. Maintain a healthy weight

*Pre-diabetes means you have a higher than normal blood sugar level, but it's not high enough to be considered type 2 diabetes

Risk Factors

Type 1 Diabetes

- Age
- Family history
- Genetics
- Geography

Type 2 Diabetes

- Overweight
- Age
- Lack of physical activity
- Have ever given birth to a baby who weighed more than 9 pounds
- Have pre-diabetes

12.0%
of adults in Orange County have pre-diabetes*

https://www.cdc.gov/media/presskits/aahd/diabetes.pdf
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Dd22a
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Dh12a
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm
https://www.cdc.gov/diabetes/basics/risk-factors.html

Last Updated: 10/25/2022

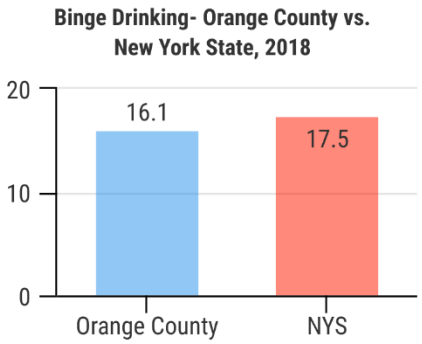
ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

BINGE DRINKING

Consuming large quantities of alcohol in a single session

16.1%

of adults in Orange County reported they binge drank during the past month



Orange County Health Priority

#T-4

Prevention

1. Limit alcohol use
2. Do not supply alcohol to underaged individuals
3. Do not encourage intoxicated individuals to keep drinking
4. Find healthy alternatives to cope with stress and emotions

Short Term Health Risks

- Injuries, such as motor vehicle crashes, falls, drownings, and burns
- Violence, including homicide, suicide, sexual assault, and intimate partner violence
- Alcohol poisoning
- Risky sexual behaviors, including unprotected sex or sex with multiple partners

Long Term Health Risks

- High blood pressure
- Heart disease
- Stroke
- Cancer (breast, mouth, throat, esophagus, liver, colon)
- Learning and memory problems
- Social problems

https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=ig&ind_id=pa73_0
https://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

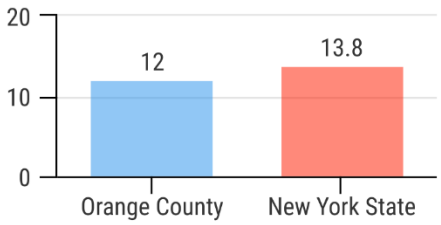
CHILD OVERWEIGHT AND OBESITY

Classified as having a body mass index (BMI) at or above the 85th percentile

12.0%

of children aged **2 to 4** in Orange County are obese

Percentage of Children (aged 2-4 years) with Obesity (95th Percentile of Higher) vs New York State, 2015-2017



Orange County Health Priority

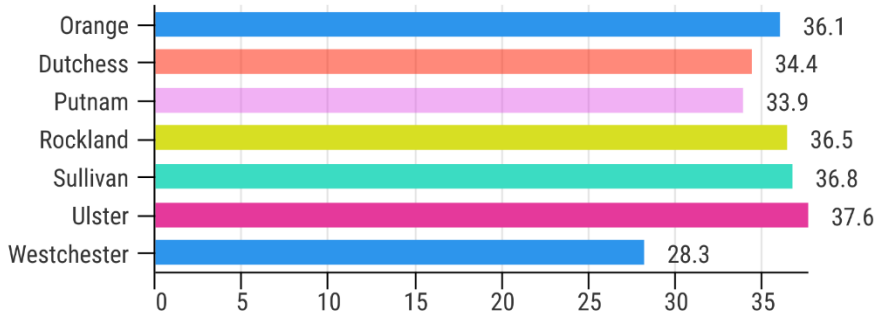
#7

Reduce Your Risk

1. Eating healthy food and drinking plenty of water
2. Making mealtimes a family affair
3. Helping children find a physical activity they enjoy
4. Getting adequate sleep
5. Limiting screen time

Orange County has the 4th **Highest** Percentage of Student Obesity in the **Mid-Hudson Region**

Percentage of Students Overweight or Obese in Elementary, Middle, and High School, 2016-2018



Risk Factors

Include, but are not limited to:

- Genetics
- Unhealthy diet
- Liquid calories
- Physical inactivity
- Sedentary Behavior

https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html#:~:text=Obesity%20is%20defined%20as%20a,of%2022.9%20kg%2Fm2.
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=%2FEBI%2FPHIG%2Fapps%2Fchir_dashboard%2Fchir_dashboard&p=cct&cos1=33&cos2=55&cos3=48&cos4=51
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4408699/

Last Updated: 10/26/22

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

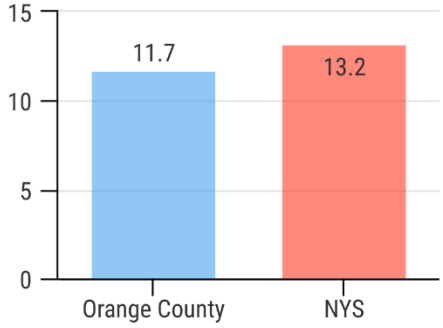
CIGARETTE SMOKING

Contains nicotine, which is an addictive drug

11.7%

of adults in Orange County are current smokers

Percentage of Adults Who Are Current Smokers in Orange County vs. New York State, 2018

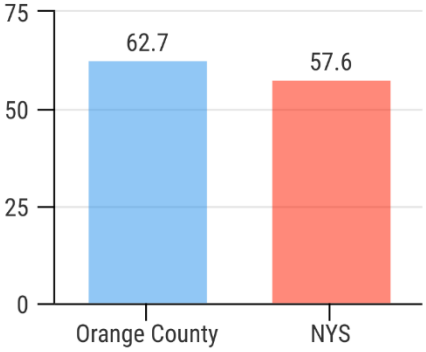


Orange County Health Priority

#T-8

Cigarette smoking is a risk factor for **lung cancer**

Lung and Bronchus Cancer Incidence Rate- Orange County vs. New York State Per 100,000 Population, 2018



Health Effects of Smoking

1. Cigarette smoking is the leading cause of preventable death in the United States
2. Smokers are more likely to develop heart disease, stroke, and lung cancer
3. Smoking harms nearly every organ in the body and affects a person's overall health negatively

Call To Action

- Free quit coaching, tips, and tools: 1-866-NY-QUITS
- Freedom from Smoking at Garnet Health: 1-844-694-2763
- Group clinics: Lung.org

https://www.health.gov.au/health-topics/smoking-and-tobacco/about-smoking-and-tobacco/what-is-smoking-and-tobacco
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Og108
https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Ag7a

Last Updated: 10/26/22

ORANGE COUNTY COMMUNITY HEALTH ASSESSMENT 2022

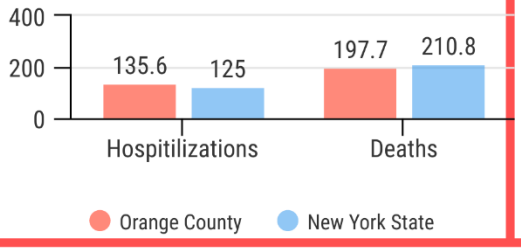
CARDIOVASCULAR DISEASE

Conditions affecting the heart or blood vessels

Annually in Orange County

197.7
Deaths

Cardiovascular Disease- Orange County vs. New York State Hospitalizations per 10,000 Population and Deaths per 100,000 Population, 2017-2019

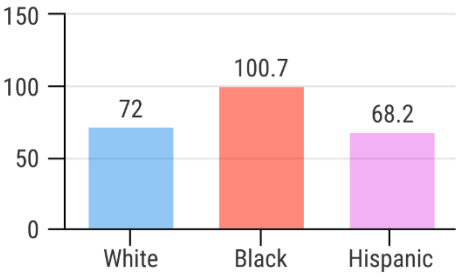


Orange County Health Priority

#T-8

Blacks have a hospitalization rate that is **HIGHER** than Whites and Hispanics

Hospitalization by Race in Orange County Per 10,000 Population, 2017-2019



Reduce Your Risk

1. Control blood pressure
2. Eat a healthy diet
3. Exercise regularly
4. Keep cholesterol levels under control
5. Manage stress
6. Avoid smoking and drinking

Risk Factors

That **can't** be changed

- Increasing age
- Male gender
- Genetics

That **can** be changed:

- Smoking tobacco
- High blood cholesterol
- Having high blood pressure

https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Bd1a
https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/chir_dashboard/chir_dashboard&p=igh&ind_id=Bh1a
https://medlineplus.gov/howtopreventheartdisease.html
https://www.heart.org/en/health-topics/heart-attack/understand-your-risks-to-prevent-a-heart-attack
https://www.health.ny.gov/statistics/community/minority/county/newyorkstate.htm

Last Updated: 10/26/22

COMMUNITY THEMES AND STRENGTHS ASSESSMENT

OVERVIEW

The Community Themes and Strengths Assessment provides an opportunity to learn more about the community's thoughts, opinions, and needs. This assessment specifically focused on identifying residents' perception of the community strengths, where to focus resources to improve quality of life, and top health issues. To ensure residents were able to provide input, multiple opportunities were provided and extensive outreach and media were used to announce the various surveys and sessions. Online opportunities were provided via the Community Asset Survey and the Mid-Hudson Region Community Health Survey. During listening sessions and at community events residents were able to discuss their concerns or participate in a Rock Voting exercise. Providers and partners were invited to give their input during the Public Health Summit and online via the Mid-Hudson Partner Survey.

Combined with the other assessments, findings were used to select CHIP priorities and will be shared extensively with the community and partners to identify opportunities for change.

SUMMARY

Overarching themes from all the surveys and listening sessions include:

Strengths:

- Low crime and safe neighborhoods
- Access to good education
- Parks and recreation

Areas to Focus Resources to Improve Quality of Life:

- Better jobs and economy
- Access to basic healthcare
- Improve public transportation
- More affordable housing

Top Health Issues:

- Drug use (prescription and illegal)
- Mental health (depression, anxiety, stress)
- Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.)

PUBLIC HEALTH SUMMIT

The Orange County Public Health Summit was held on June 28, 2022 with approximately 100 partners including hospitals, health care providers, community-based organizations, and academia to review the current state of health in Orange County, identify and discuss the forces that impact the health of residents, provide input on selecting the two Prevention Agenda Priorities for the 2022-2024 CHIP, and participate in breakout sessions to discuss current efforts, assets, and barriers in each of the five priority areas. This year's theme, "A Collaborative Approach to Community Health Planning," emphasized the need to engage all segments of the community to improve health outcomes together.

An overview of the most recently available data was provided to participants covering:

- Secondary data overview in each of the five NYSDOH Prevention Agenda areas
- Preliminary findings of the Community Asset Survey
- 2022 Community Partner Survey and focus groups with local human service providers data overview
- Preliminary results from resident's priority area choices though Rock Voting

A representative from the NYSDOH Center for Environmental Health provided an overview of the current science and advances in wastewater surveillance, along with discussions of the current COVID-19 wastewater surveillance efforts across NYS with an emphasis on Orange County's robust program. Wastewater surveillance is an important tool to help predict trends in disease prevalence prior to receiving laboratory results. At the time of the summit, Orange County had six wastewater treatment facilities participating in the statewide network.

J. Lawler presenting to community partners, OCDOH Public Health Summit 2022

A Forces of Change Assessment (FOCA) was also performed to identify the forces that impact the health of our residents and the local public health system's ability to operate. The FOCA was conducted for the first time at the Public Health Summit. Nearly 90 partners participated in the brainstorming session. For an overview of the FOCA, see page 295.

Following the FOCA, attendees had the opportunity to attend one of five health priority breakout sessions. Each breakout session discussed the following questions, as they pertain to the priority areas:

- What are we currently doing in this area?
- What coalition, task force, or partner is working in this area?
- What do we need to do?
- Are there any evidence-based interventions that are currently being used or could be used?
- Who else needs to be involved?

Prior to breakout group discussions, summit participants were asked to vote on the two priority areas the health departments, hospitals, and community should focus on for the next three years. The two priority areas identified were:

1) Promote Well-Being and Prevent Mental and Substance Use Disorders
2) Promote Healthy Women, Infants, and Children

Full results can be found below.

Priority Area	1st Choice Votes	2nd Choice Votes
Prevent Chronic Diseases	5	14
Promote a Healthy and Safe Environment	2	15
Promote Healthy Women, Infants, and Children	24	25
Promote Well-Being and Prevent Mental and Substance Use Disorders	29	23
Prevent Communicable Diseases	5	6

Each breakout sessions' themes can be found below:

- Preventing Chronic Diseases workgroup focused on needs for chronic disease treatment and prevention navigators and directories across the county, as well as connecting patients to providers that speak their native language.
- Promoting a Healthy and Safe Environment workgroup discussed decreasing water contamination, substance abuse, gang violence, mitigation of food insecurity, language barriers, and senior concerns.
- Promoting Healthy Women, Infants, and Children workgroup discussed the importance of building community, systemic change, policy change, and implementing doula programs to decrease the maternal mortality rate amongst non-Hispanic Black and Hispanic women.
- Promoting Well-Being and Prevent Mental Health and Substance Use Disorder emphasized the importance of preventative mental health care, increased community engagement, partner accountability, language barriers, lack of funding, and focusing on advocacy.
- Preventing Communicable Diseases group discussed the need for on-demand PrEP, substance abuse treatment, hepatitis C testing, syringe and needle exchange programs, sex worker support, and reducing hospital acquired infections.

Preventing Chronic Disease Breakout Room, OCDOH Public Health Summit 2022

A link to the video of the summit prior to the breakout sessions can be found here: https://us02web.zoom.us/rec/play/fVX_TYXOQ0QXkm4gnv24J1aGRHicilYAxZyGbbaqiFQVliEpgKZHhoB2c2OZ3JkthZgtTA9m7azx_OL8.cLqMFs92MPlAoLhg?continueMode=true&_x_zm_rtaid=mlHvndKQSVu_5J1NKMmuxw.1668693953190.1874dd71aee70deaf563f20ad1ae198a&_x_zm_rhtaid=833

COMMUNTIY PARTNER FOCUS GROUPS AND SURVEY

OVERVIEW

Though the various Community Themes and Strengths Assessments gather information from a variety of sources and from various segments of the population, there are some groups that many not be fully accounted for. To ensure that all members of the local public health system and community are included in the CHA process, community partner focus groups and an online survey were created. Special focus was placed on agencies and partners that work with low-income individuals, veterans, seniors, people experiencing homelessness, LGBTQ+ members, and residents with a mental health diagnosis. In order to ensure that the needs of these populations were met, focus groups were conducted with partners that serve these populations. The reason for doing focus groups with partners, rather than directly surveying the target population through convenience sampling, was that a convenience sample risks only accounting for those who are already accessing services and care. The hope in surveying partners was that they would have an idea of what obstacles and barriers these population face when accessing services. An online survey was also created so that partners that could not attend a focus group could also provide input.

The Orange County Department of Health conducted two focus groups. The first was with the Joint Membership of Health and Community Agencies (JMHCA). Their focus is on providing residents of Orange County with a welcoming, comprehensive, and seamless service delivery system for recovery, health, and wellness. The second was with the Changing the Orange County Addiction Treatment Ecosystem. Discussions were centered around the survey questions distributed prior to the focus groups. Focus group attendees included organizations such as Rehabilitation Support Services, Regional Economic Community Action Program (RECAP Inc.), Mental Health Association, Action Towards Independence, Fearless!, Orange County Department of Mental Health, and the American Lung Association. In addition, the survey was emailed out to human service providers throughout Orange County through the JMHCA, Changing the Ecosystem, and Resiliency Committee listservs.

The online survey was also shared, and 45 responses were collected from providers that serve various underserved populations, including persons with disabilities, people with a substance use disorder, persons with a mental health diagnosis, persons experiencing homelessness, low-income individuals, and veterans.

The survey showed that the top three issues that affect health in Orange County were:

- Access to affordable, decent, and safe housing
- Access to mental health providers
- Access to affordable, reliable, personal, and public transportation

The survey also showed that the top three barriers to people achieving better health in Orange County were:

- Drug and/or alcohol use
- Knowledge of existing resources
- Health literacy

Issues highly impacting health in the communities as listed by survey respondents include:

- Mental health and substance abuse issues
- Maternal and child health issues
- Chronic disease
- Health disparities

The focus groups had similar findings and gave an opportunity for agency providers to expand upon these issues and barriers. Of note was the discussion about the surge in mental health needs and substance use specific to youth and the need to expand services specific to youth, implement prevention programs, and work with schools to expand education and prevention opportunities.

MAJOR SURVEY FINDINGS

A lack of affordable and/or consistent transportation is a major issue for many residents of Orange County. This includes lacking the financial means to get to and from appointments/work, a lack of available public transportation, and an absence of knowledge of the transportation options that are available (n=13).

Affordable and safe housing is a challenge for many. This leaves many people homeless or, at the least, economically distressed (n=7).

Language barriers between the residents and service providers exist which can cause confusion and lack of adequate care (n=4).

An overall lack of knowledge of the resources that are available to the community exists. While there are many programs in place to assist residents, they can only be utilized when there is a knowledge and understanding of these services (n=6).

Mental health/addiction issues continue to plague our communities. This is in the form of mental health stigma, lack of providers, and the large number of individuals who are facing active addiction (n=7).

Figure 157

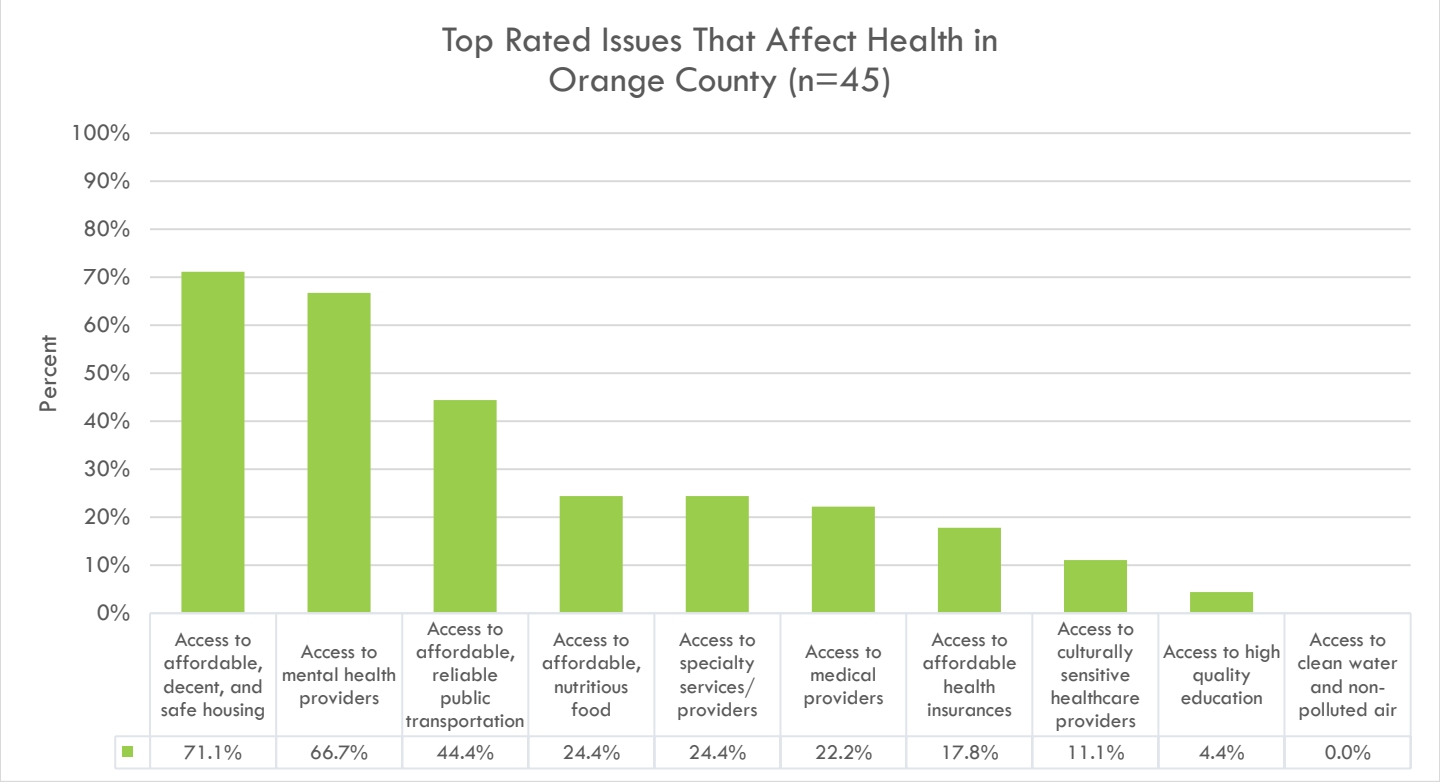


Figure 158

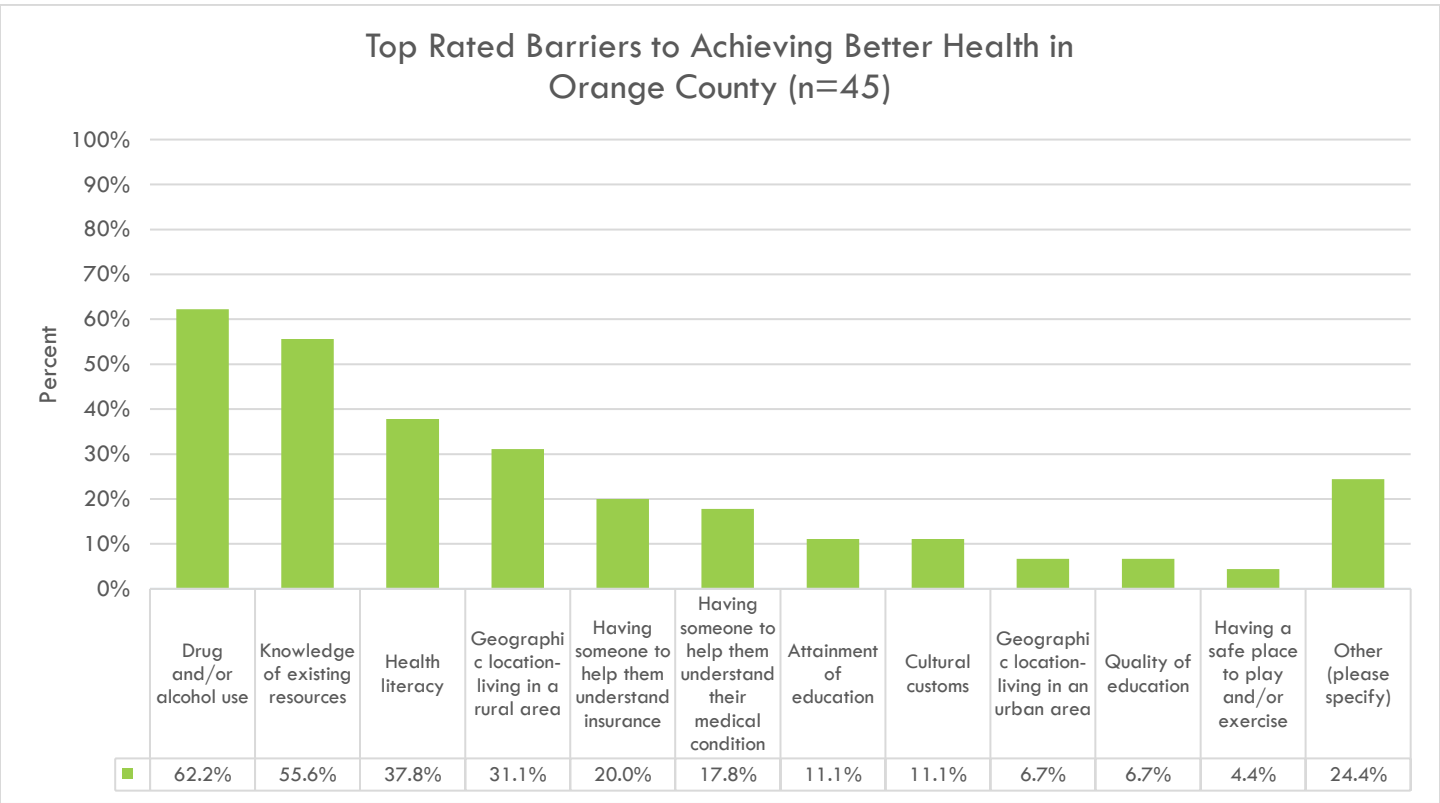
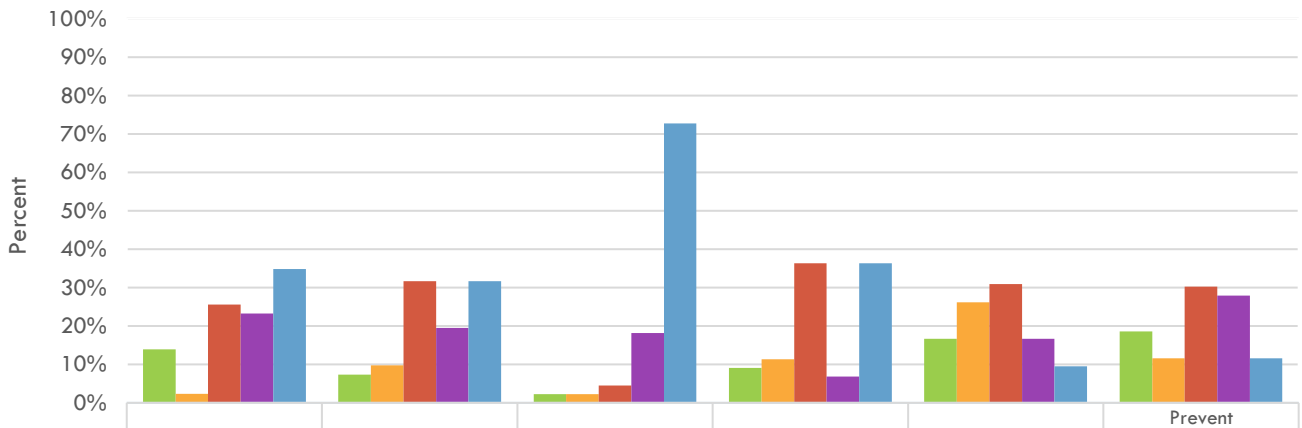


Figure 159



	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)	13.95%	7.32%	2.27%	9.09%	16.67%	18.60%
2	2.33%	9.76%	2.27%	11.36%	26.19%	11.63%
3	25.58%	31.71%	4.55%	36.36%	30.95%	30.23%
4	23.26%	19.51%	18.18%	6.82%	16.67%	27.91%
5 (highly impacted)	34.88%	31.71%	72.73%	36.36%	9.52%	11.63%

IMPACT OF COVID-19

As a result of the COVID-19 pandemic, some of the existing issues in mental health have worsened. Available mental health providers have declined while mental health issues among the community have increased (n=11).

The COVID-19 pandemic has also opened the door to virtual appointments for healthcare. While this has its benefits, there are also drawbacks to the lack of face-to-face interaction that comes with an in-person visit. Many residents are hesitant to come in-person due to COVID-19 concerns and/or they enjoy the convenience of not having to leave home. Providers are also hesitant to bring too many people into the office for fear of spreading COVID-19, as well as entering the homes of their patients for in-home care (n=30).

SPECIFIC RECOMMENDATIONS

- Holistic care management services dedicated to address the social determinants of health in every touch point in the systems where a client or patient may show up to address root causes of health issues.
- Continuing to break down the silos of care for the complicated systems that patients/clients must navigate to address their health issues.
- Expand availability of tele-health/tele-video services and broadband expansion for those that struggle with mental health issues, homelessness, and substance use.

- Need for prioritization from local leaders to address the social determinants of health, such as poverty, housing, and transportation, and develop strategic opportunities for communities to work together and to build community awareness of these issues.

COMMUNITY ASSET SURVEY

OVERVIEW

The OCDOH developed a Community Asset Survey (CAS) to assess residents' perceptions of community strengths, weaknesses, and prominent health issues. The survey began with two demographic questions, which asked if the respondent lived in Orange County as well as their ZIP code. Three primary questions followed, asking residents to choose from a list what they feel the greatest strengths of the community are, where the community should focus efforts to improve quality of life, and what the most important health issues are. See Appendix F for a complete list of survey questions.

METHODOLOGY

The survey was created and tested in February 2022 and was piloted with Orange County employees before community-wide dissemination. The survey was advertised through both physical and digital flyers posted around the community and on social media. It was administered via SurveyMonkey and could be completed by residents either online by scanning a QR code on their phone or using a provided tablet, or on paper, which would later be input into SurveyMonkey by OCDOH staff. All responses were kept anonymous. English and Spanish surveys were offered, and the majority of responses were in English.

A convenience sample was used to collect responses. Previous online surveys have over-sampled women and those aged over 65 and under-sampled residents with lower incomes. To ensure a broader sample of residents, OCDOH Public Health Fellows administered in-person surveys targeting underrepresented populations in the community, including underrepresented ZIP codes. In-person survey locations included: OCDOH community listening sessions (Port Jervis, Middletown, Blooming Grove, Chester, Cornwall, Pine Bush, Goshen, Newburgh), farmer's markets (Goshen, Port Jervis, Cornwall), libraries (Middletown Thrall Library, Newburgh Free Library), Desmond Center for Community Health and Wellness events at Mount Saint Mary College, Senior Health and Fitness Day, and Newburgh Illuminated. As surveys were gathered, responses were studied to identify underrepresented ZIP codes and OCDOH traveled to these ZIP codes to gather participants.

In addition to OCDOH outreach, hospitals in Orange County shared the survey link with staff and residents. Two federally qualified health centers, Sun River Health and Ezras Choilim Health Center, shared the link with their staff and patients. Orange County Government shared the link with employees, and OCDOH posted the link on its Facebook page. Partner agencies also shared the link with their staff and clients.

RESULTS

Through the efforts of the OCDOH and partners, a total of 1,215 surveys were administered. Respondents who answered that they do not live in Orange County were excluded from the final sample. Respondents who lived in Orange County but only answered the demographic questions were also removed. Those who answered at least one question following the demographic section were included in the final sample. A total of 931 survey responses that met these criteria were included in the analysis.

For each survey question, respondents were able to select their top three choices from a pre-determined list of responses, as well as select "Other" as their answer and provide personal feedback about topics not listed as options. During data analysis, each of the "Other" responses was thoroughly reviewed. If the response fit into any of the categories on the pre-determined list, that response was removed as an "Other" response and re-categorized into the appropriate category. Final counts and percentages reflect this re-categorization of data.

ZIP CODE REPRESENTATION

OCDOH targeted certain ZIP codes in its convenience sample, attempting to achieve a representative sample of the Orange County population with a distribution of responses similar to the Orange County population. Per the US Census, the ten most populated ZIP codes in Orange County represent 62.3% of the population, and 66.8% of the survey responses were from these ZIP codes. Out of the ten most populated areas, a majority of residents live in 12550 (Newburgh), 10950 (Monroe), and 10940 (Middletown). Newburgh residents were underrepresented, making up 14.3% of the county population but only 8.7% of the sample. Middletown residents were also slightly underrepresented, making up 12.9% of the Orange County population but only 11.4% of the sample. Monroe residents were slightly overrepresented in the sample, making up 13.9% of Orange County and 14.2% of survey respondents. There were some ZIP codes without any representation, including Arden (10910), Bellvale (10912), Central Valley (10917), Middletown (10943), New Milford (10959), Southfields (10975), Sterling Forest (10979), Thompson Ridge (10985), West Point (10997) and Vails Gate (12584). Table 53 includes a complete list of ZIP code responses and representation in the CAS.

Table 53

Distribution of Community Asset Survey Respondents by ZIP Code, 2020				
ZIP Code	**Number of Responses**	**ZIP Code Population**	**Percent of Orange County Population**	**Percent of Survey Respondents (who Indicated Their ZIP Code)**
10950	106	53,013	13.9%	14.2%
10940	85	49,430	12.9%	11.4%
12550	65	54,503	14.3%	8.7%
10924	58	13,538	3.5%	7.8%
12553	47	26,665	7.0%	6.3%
10941	34	13,384	3.5%	4.6%
10918	31	12,286	3.2%	4.2%
12771	25	14,408	3.8%	3.4%
10990	24	20,735	5.4%	3.2%
10930	22	9,789	2.6%	3.0%
12549	21	11,453	3.0%	2.8%
12586	20	11,774	3.1%	2.7%
10916	17	4,582	1.2%	2.3%
10998	17	3,428	0.9%	2.3%
10992	16	8,830	2.3%	2.2%
10921	14	3,812	1.0%	1.9%
12566	14	11,886	3.1%	1.9%
10958	13	3,236	0.8%	1.7%
12518	12	5,861	1.5%	1.6%
10928	11	4,132	1.1%	1.5%
12520	11	2,970	0.8%	1.5%
10963	8	4,367	1.1%	1.1%
12577	8	1,929	0.5%	1.1%
12543	7	3,586	0.9%	0.9%
10925	5	3,886	1.0%	0.7%
10926	5	3,482	0.9%	0.7%
10987	5	3,499	0.9%	0.7%
10919	4	1,286	0.3%	0.5%
10922	4	1,778	0.5%	0.5%
10973	4	2,510	0.7%	0.5%
12721	4	5,881	1.5%	0.5%
10981	3	P.O. Box	P.O. Box	0.4%
12575	3	1,930	0.5%	0.4%
12589	3	17,843	4.7%	0.4%
12780	3	2,165	0.6%	0.4%

Table 53 (Continued)

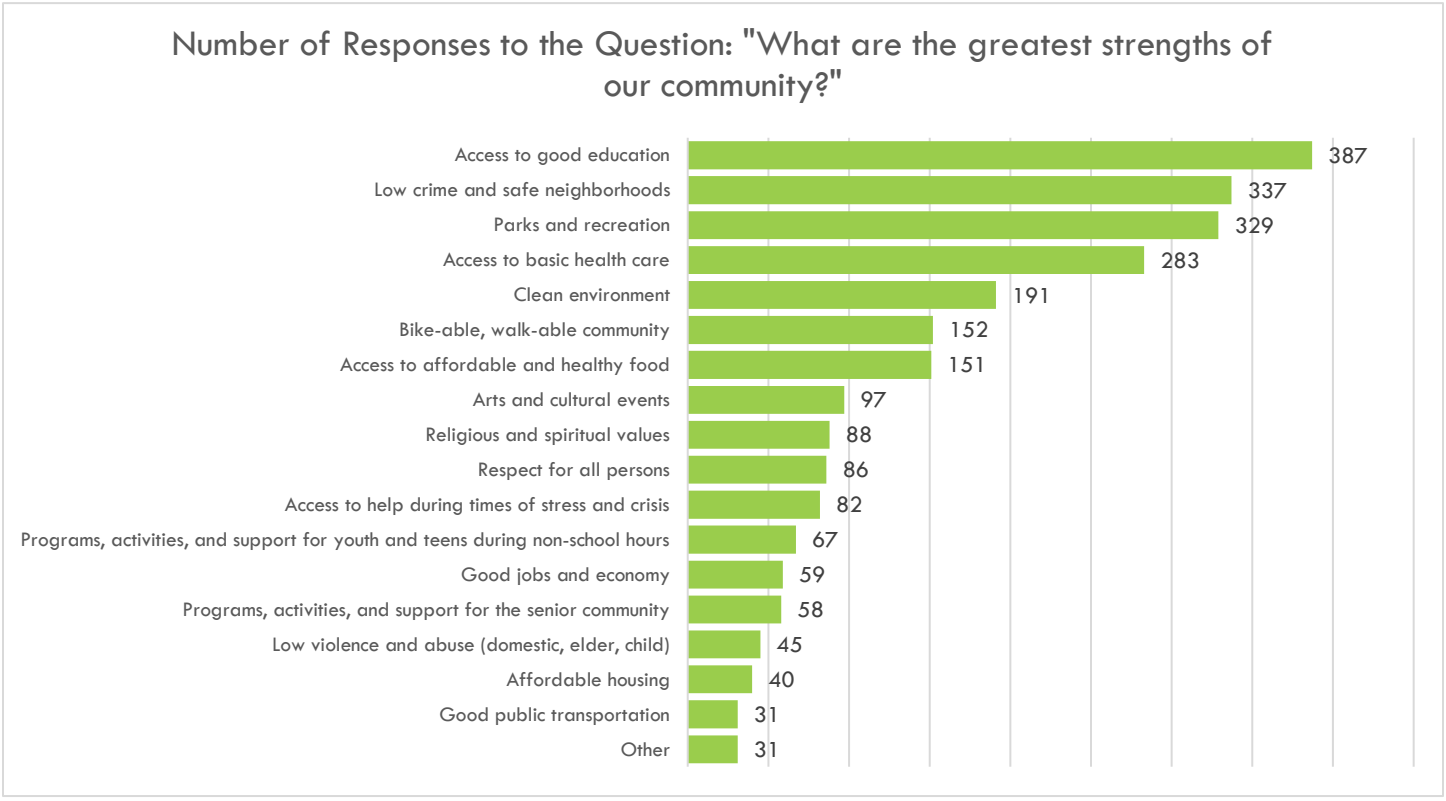
ZIP Code	Number of Responses	ZIP Code Population	Percent of Orange County Population	Percent of Survey Respondents (who Indicated Their ZIP Code)
10915	2	79	0.0%	0.3%
10969	2	1,098	0.3%	0.3%
10988	2	596	0.2%	0.3%
12729	2	1,650	0.4%	0.3%
10914	1	391	0.1%	0.1%
10932	1	47	0.0%	0.1%
10933	1	417	0.1%	0.1%
10953	1	112	0.0%	0.1%
10996	1	6,342	1.7%	0.1%
12746	1	663	0.2%	0.1%
12785	1	1,390	0.4%	0.1%
10910	0	P.O. Box	P.O. Box	0.0%
10912	0	P.O. Box	P.O. Box	0.0%
10917	0	1,650	0.4%	0.0%
10943	0	P.O. Box	P.O. Box	0.0%
10959	0	P.O. Box	P.O. Box	0.0%
10975	0	91	0.0%	0.0%
10979	0	36	0.0%	0.0%
10985	0	149	0.0%	0.0%
10997	0	P.O. Box	P.O. Box	0.0%
12584	0	P.O. Box	P.O. Box	0.0%

"WHAT ARE THE GREATEST STRENGHTS OF OUR COMMUNITY?"

Following two demographic questions, the third question in the CAS was "What are the greatest strengths of our community?" Respondents were able to select their top three choices from a pre-determined list of responses, as well as to provide their personal feedback if they had a response that was not listed as an option.

The top five responses from Orange County residents when asked to select community strengths were: access to good education (387), low crime and safe neighborhoods (337), parks and recreation (329), access to basic healthcare (283), and clean environment (191) [see Figure 160]. When residents wrote in responses that were not on the pre-selected list, recurring themes were: quiet, scenic, and tranquil surroundings; proximity to NYC, Pennsylvania, and New Jersey; people help one another and come to each other's aide; good police and fire departments.

Figure 160

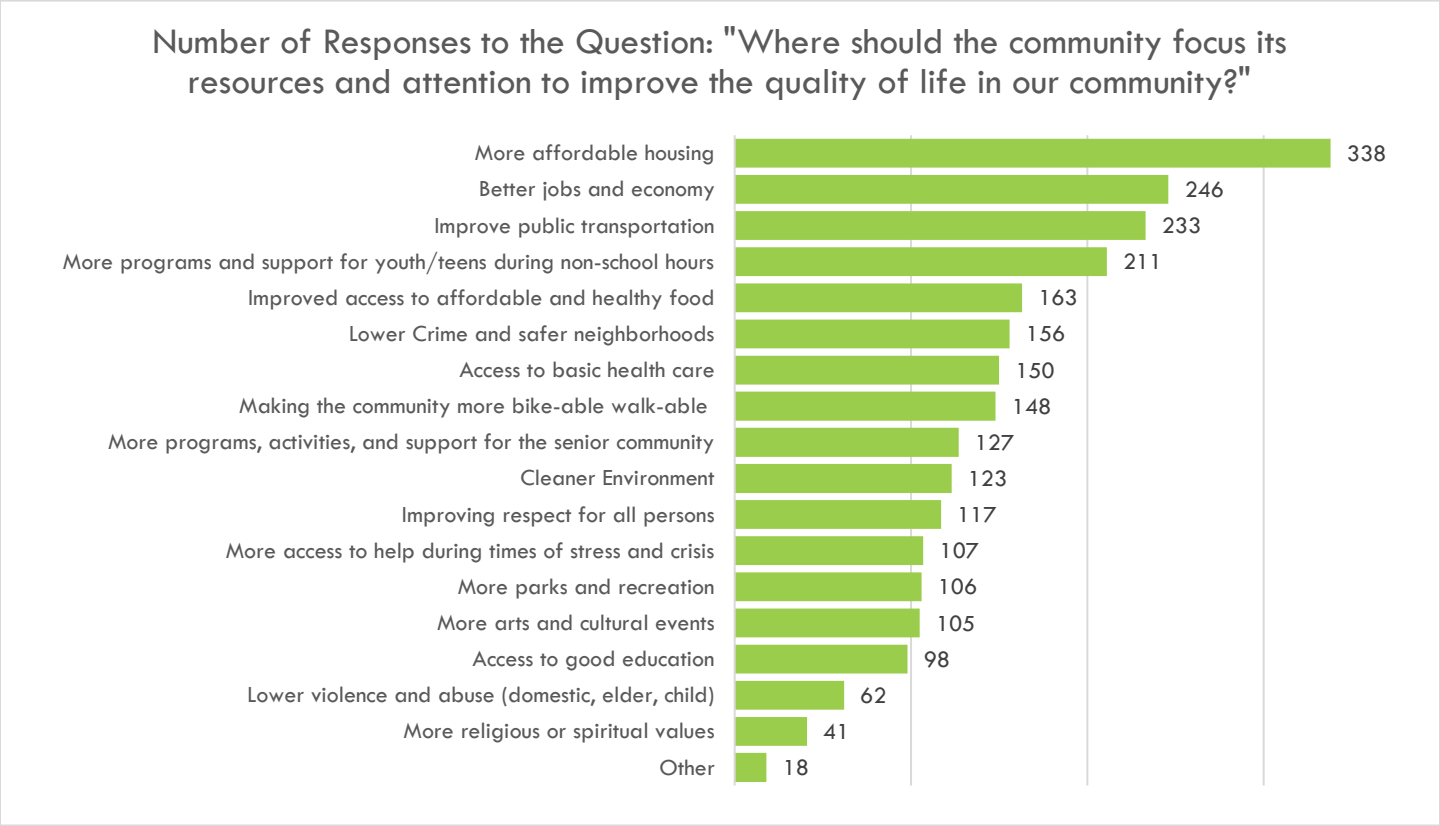


"WHERE SHOULD THE COMMUNITY FOCUS ITS RESOURCES AND ATTENTION TO IMPROVE THE QUALITY OF LIFE IN OUR COMMUNITY?"

The next question asked, "Where should the community focus its resources and attention to improve the quality of life in our community?" Respondents were once again able to select their top three choices from a pre-determined list of responses and to provide feedback if they had a response not included in the list.

The top five responses from Orange County residents when asked where the community should focus resources and attention to improve the quality of life were: more affordable housing (338), better jobs and economy (246), improving public transportation (233), more programs and support for youth and teens during non-school hours (211), and improving access to affordable and healthy foods (163) [see Figure 161]. When residents wrote in responses that were not on the pre-selected list, recurring themes were: lower taxes, more inclusive programs and activities for persons with disabilities, mental health programs, preservation of historic sites and neighborhoods, and reducing high-density housing.

Figure 161

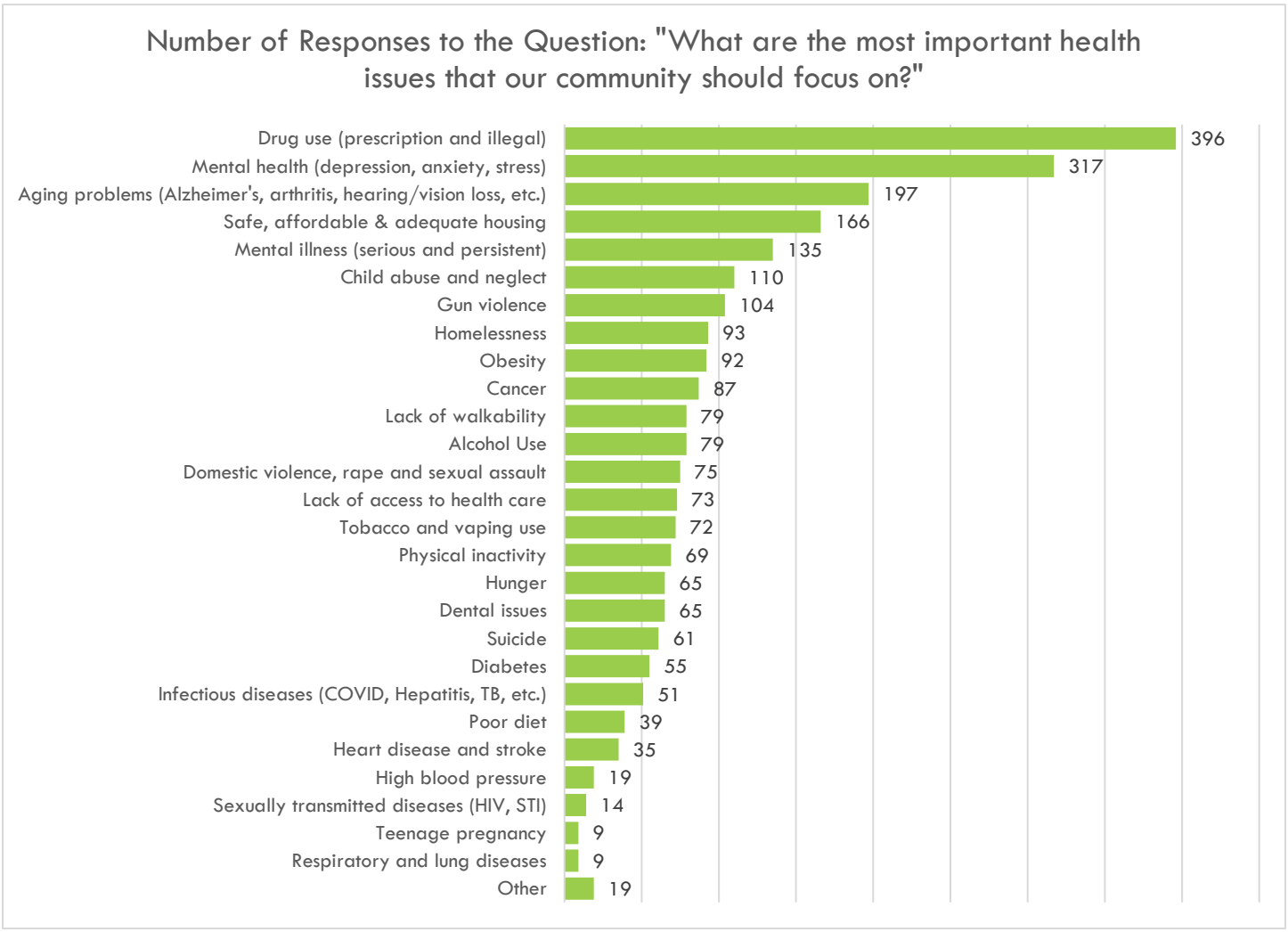


"WHAT ARE THE MOST IMPORTANT HEALTH ISSUES THAT OUR COMMUNITY SHOULD FOCUS ON?"

The final survey question asked residents "What are the most important health issues that our community should focus on?" Respondents selected their top three choices and/or provided feedback when their preferred responses were not listed as options.

The top five responses from Orange County residents when asked about the most important health issues were: drug use (prescription and illegal) (396); mental health (depression, anxiety, stress) (317); aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.) (197); safe, affordable, and adequate housing (166); and mental illness (serious and persistent) (135) [see Figure 162]. When residents wrote in responses that were not on the pre-selected list, recurring themes were: lower taxes, clean environment, road conditions, public transportation, affordable health care, inclusivity, and awareness of the developmentally disabled.

Figure 162



Residents' responses for what they felt were the most important health issues were categorized by Prevention Agenda (PA) priority area. Most responses fell into the priority area of "Promote Well-Being, Prevent Mental Health Issues and Substance Use Disorder" (38.5%), followed by "Prevent Chronic Disease" (31.9%) [see Figure 163]. See Figure 164 for a complete list of resident's rankings of health issues by PA priority area.

Figure 163

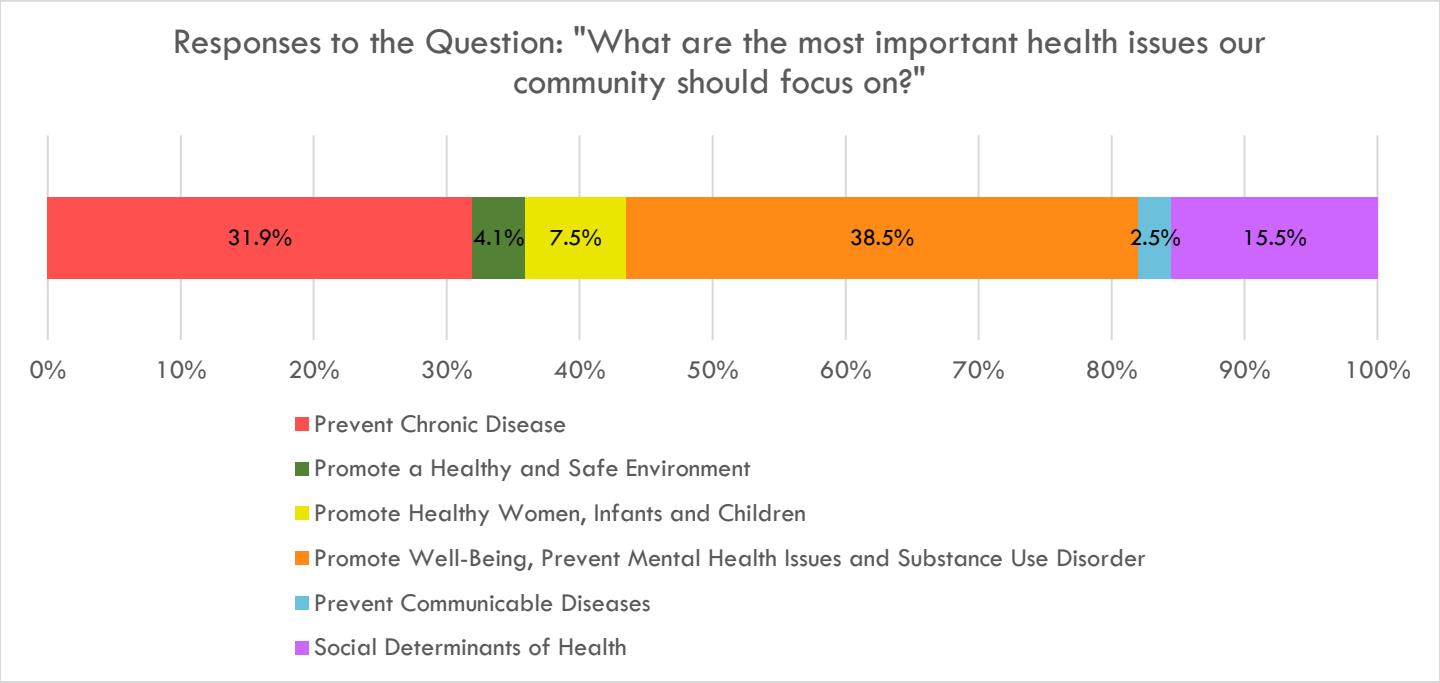
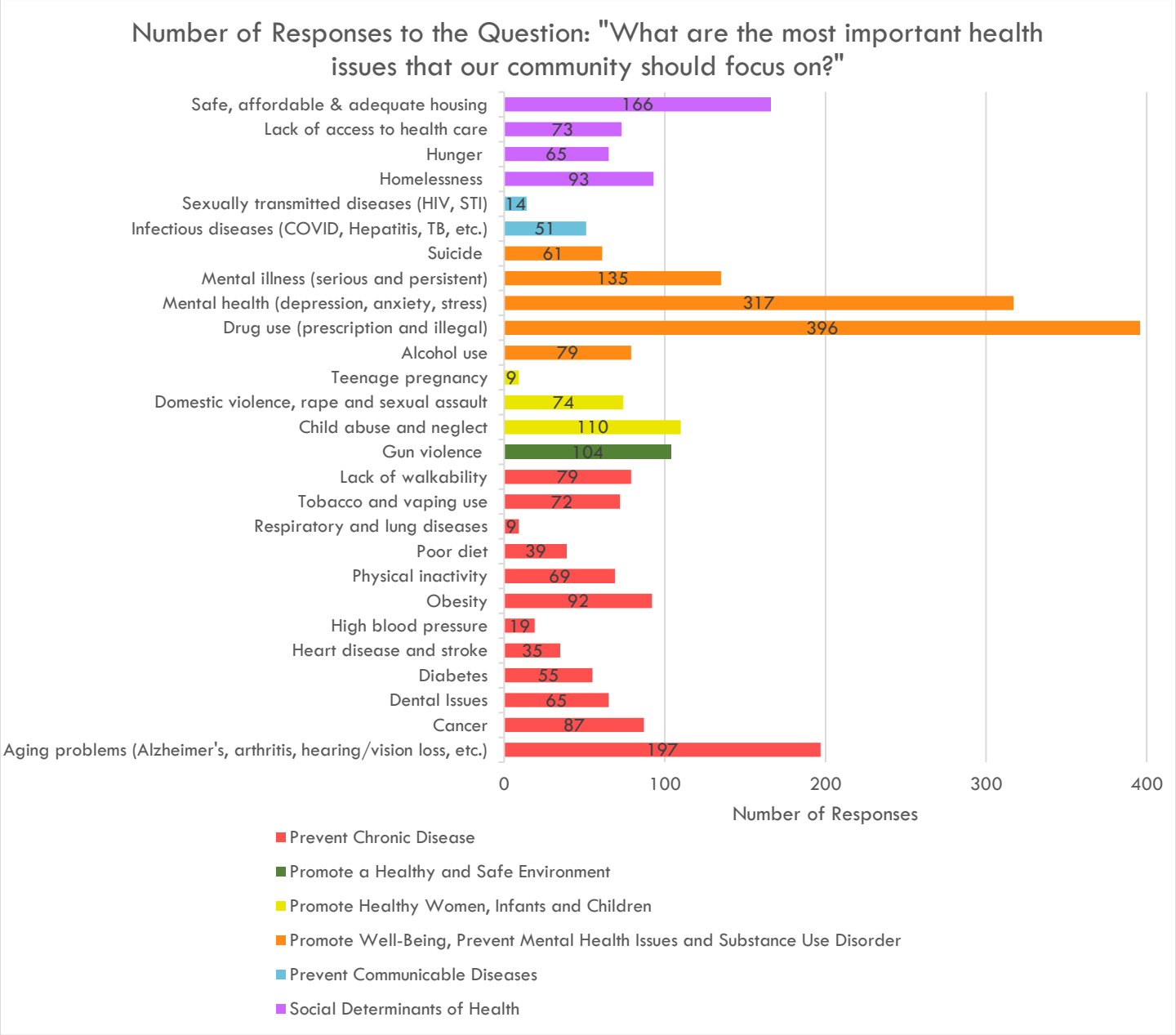


Figure 164


Number of Responses to the Question: "What are the most important health issues that our community should focus on?"
Safe, affordable & adequate housing
166
Lack of access to health care
73
Hunger
65
Homelessness
93
Sexually transmitted diseases (HIV, STI)
14
Infectious diseases (COVID, Hepatitis, TB, etc.)
51
Suicide
61
Mental illness (serious and persistent)
135
Mental health (depression, anxiety, stress)
317
Drug use (prescription and illegal)
396
Alcohol use
79
Teenage pregnancy
9
Domestic violence, rape and sexual assault
74
Child abuse and neglect
110
Gun violence
104
Lack of walkability
79
Tobacco and vaping use
72
Respiratory and lung diseases
9
Poor diet
39
Physical inactivity
69
Obesity
92
High blood pressure
19
Heart disease and stroke
35
Diabetes
55
Dental Issues
65
Cancer
87
Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.)
197
0
100
200
300
400
Number of Responses
Prevent Chronic Disease
Promote a Healthy and Safe Environment
Promote Healthy Women, Infants and Children
Promote Well-Being, Prevent Mental Health Issues and Substance Use Disorder
Prevent Communicable Diseases
Social Determinants of Health

SURVEY RESPONSES BY ZIP CODE AND GEOGRAPHIC CLASSIFICATION

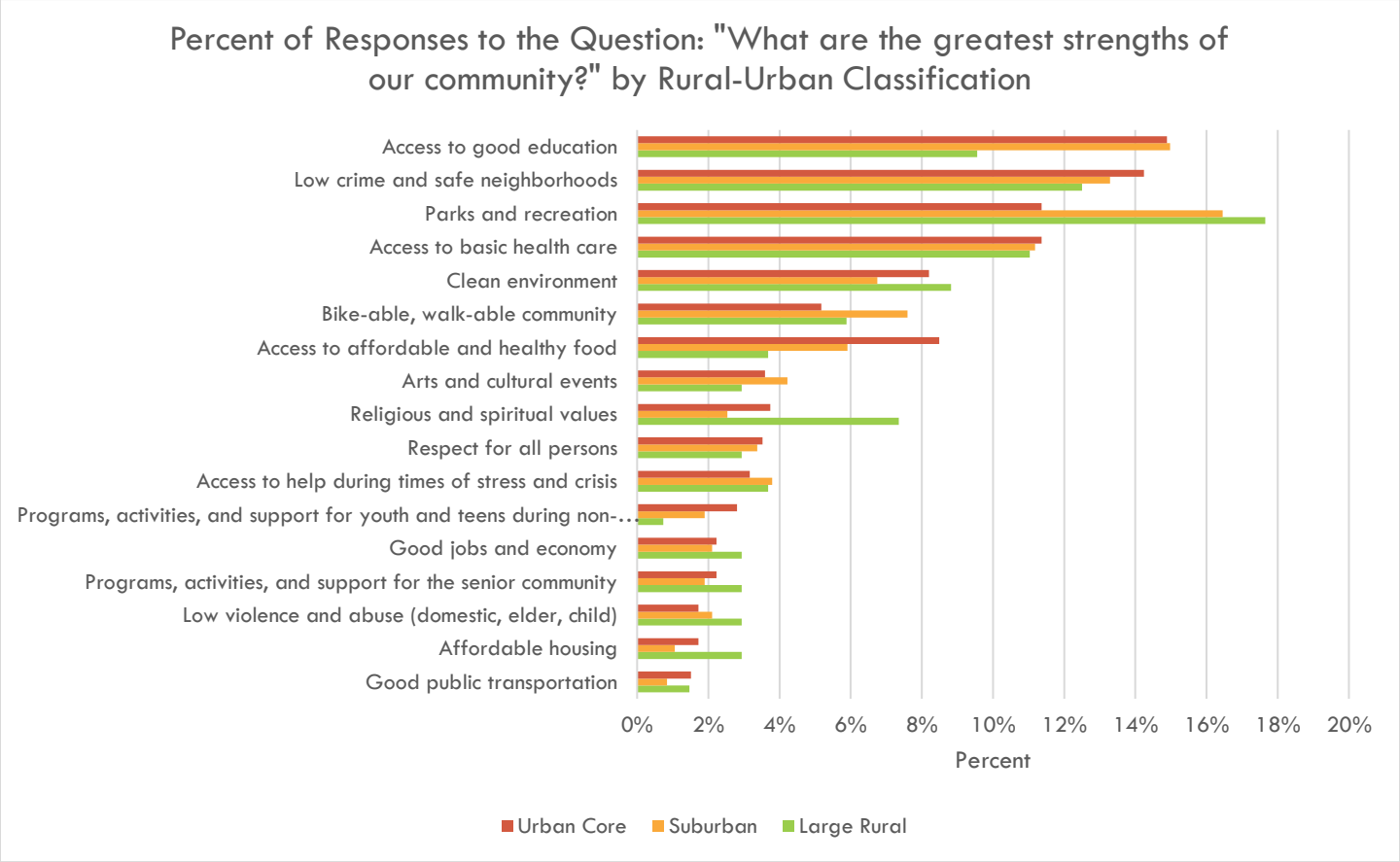
Although many of the same themes were present throughout the county, survey responses revealed that each community is unique and may have different needs to address overall health. To enable the analysis of survey responses by geographic region, ZIP codes were classified using the US Department of Agriculture's rural-urban commuting area (RUCA) codes, which were developed based on population size, population density, and daily commuting patterns.[57] For the purposes of this analysis, RUCA codes were combined into three categories using a pre-existing consolidation scheme that incorporates the concept of residents' potential access to services and resources.[58] Following this scheme, ZIP codes were labeled as either "urban core," "suburban," or "large rural." Urban core is defined as a contiguous built-up area of 50,000 people or more, suburban includes areas with 30% or more of their commuting flows to urban cores, and large rural describes towns with populations of 10,000 to 49,999 and surrounding rural areas with 10% or more of primary commuting to these towns/secondary commuting flows of 10% or more to urban cores.[58]

There were key differences in the responses between urban core, suburban, and large rural communities. Respondents from urban core areas were less likely to identify parks and recreation and having a bikeable, walkable community as a strength compared to those from suburban and large rural areas. Suburban communities were the least likely to identify a clean environment, presence of religious and spiritual values, affordable housing, and good public transportation as strengths. While access to good education was a dominant strength in urban core and suburban communities, a much lower proportion of respondents from large rural areas identified education as a strength. Large rural communities were also the least likely to select access to affordable and healthy food, and programs/activities/support for youth and teens during non-school hours as strengths. On the other hand, large rural communities more often identified religious and spiritual values and affordable housing as strengths [see Figure 165].

[57] U.S. Department of Agriculture, 2020, https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx, accessed November 2022

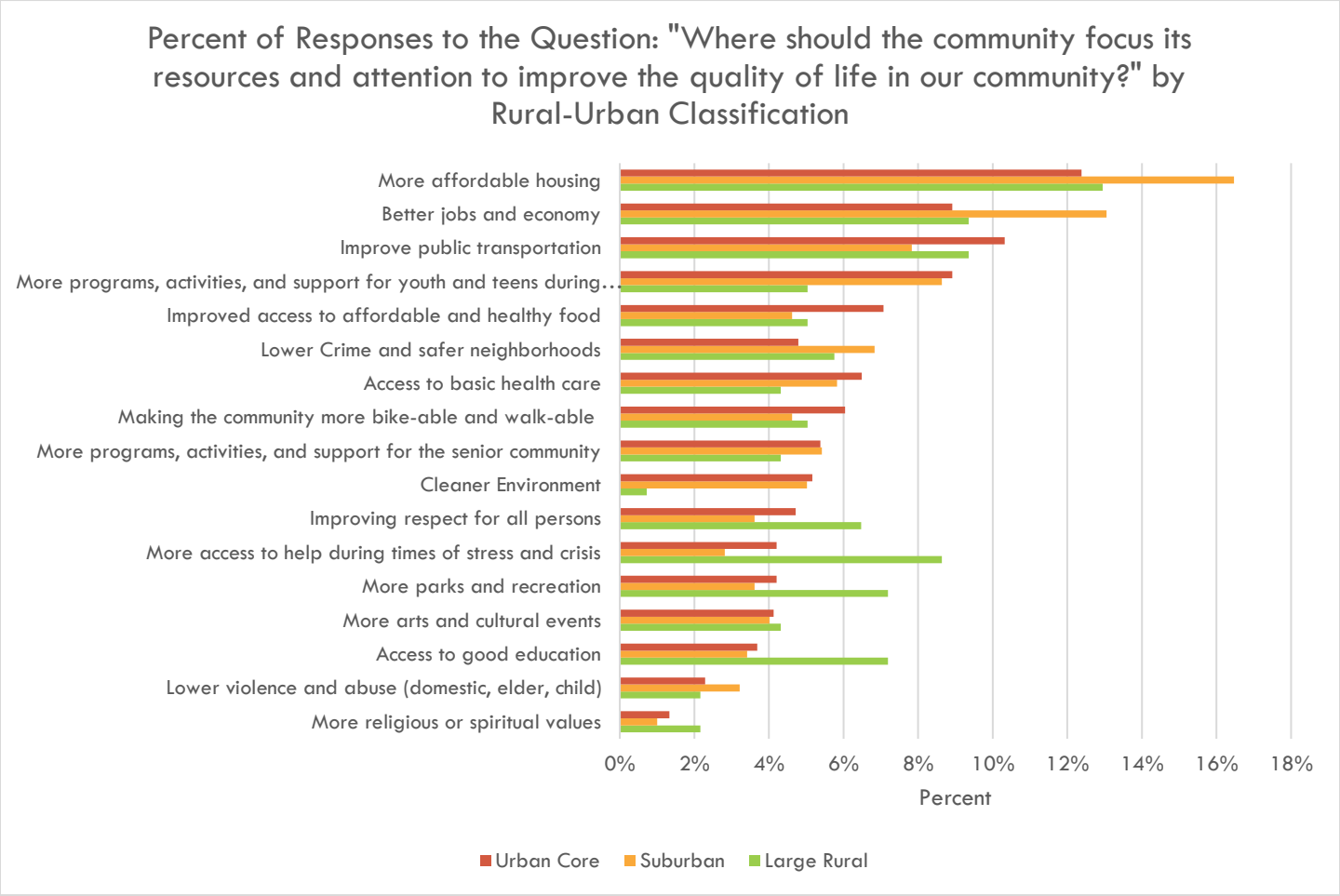
[58] Washington State Department of Health, 2016, https://doh.wa.gov/sites/default/files/legacy/Documents/1500//RUCAGuide.pdf, accessed November 2022

Figure 165


Percent of Responses to the Question: "What are the greatest strengths of our community?" by Rural-Urban Classification
Access to good education
Low crime and safe neighborhoods
Parks and recreation
Access to basic health care
Clean environment
Bike-able, walk-able community
Access to affordable and healthy food
Arts and cultural events
Religious and spiritual values
Respect for all persons
Access to help during times of stress and crisis
Programs, activities, and support for youth and teens during non-…
Good jobs and economy
Programs, activities, and support for the senior community
Low violence and abuse (domestic, elder, child)
Affordable housing
Good public transportation
0%
2%
4%
6%
8%
10%
12%
14%
16%
18%
20%
Percent
Urban Core
Suburban
Large Rural

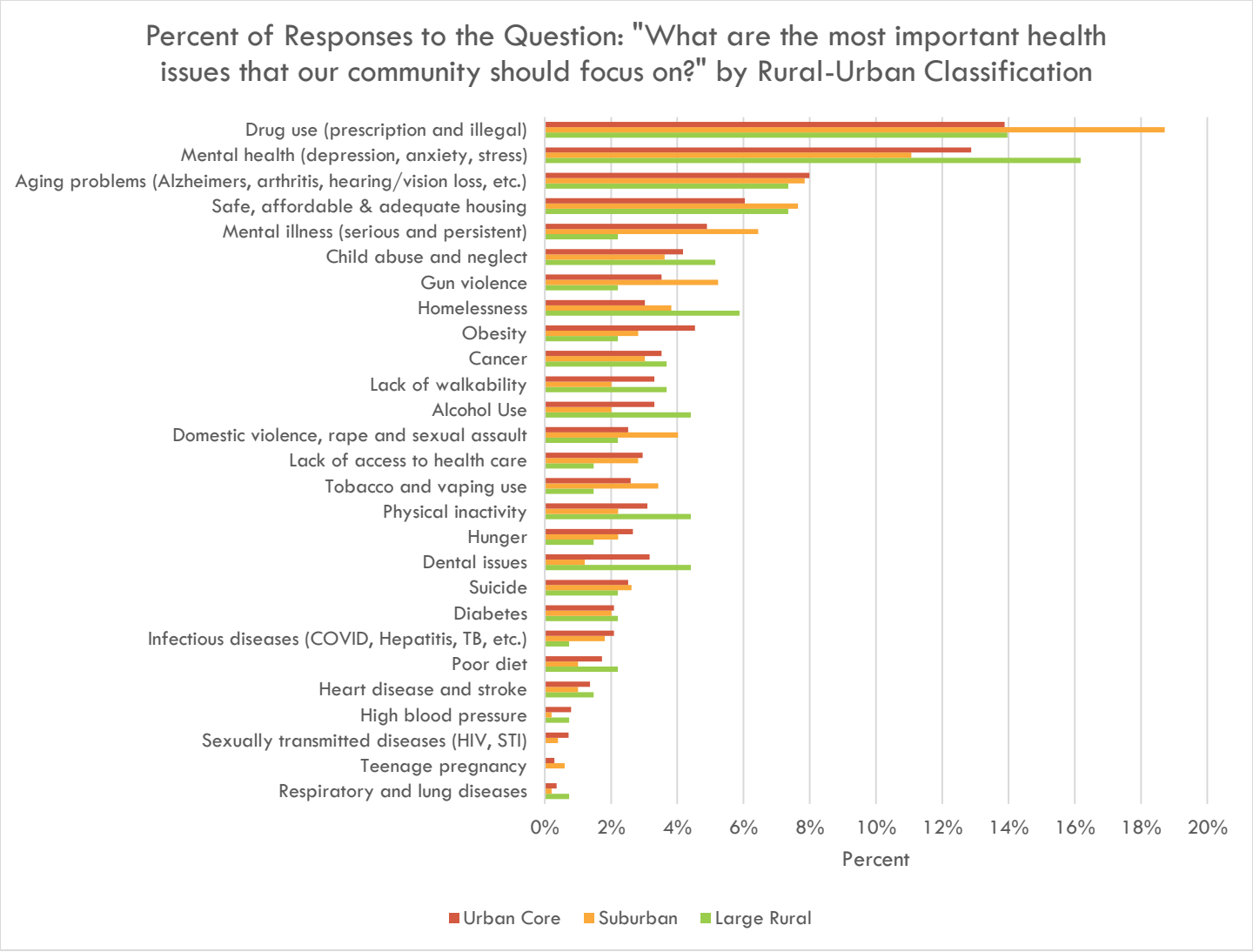
Responses to the question of where resources should be focused to improve quality of life also differed by geographic classification. Compared to suburban and urban core communities, large rural areas were more likely to prioritize more access to help during times of stress and crisis, access to good education, more parks and recreation, improving respect for all persons, and more religious/spiritual values. Suburban communities placed more focus on more affordable housing, better jobs and economy, lower crime and safer neighborhoods, and lower violence and abuse when compared to large rural and urban core areas. Compared to large rural and suburban residents, respondents from urban core communities were more likely to prioritize improving access to affordable/healthy food, making the community more bikeable/walkable, and improving public transportation [see Figure 166].

Figure 166



There were also some geographic differences in community perceptions of the most important health issues. Though drug use was the most identified health issue overall, suburban communities most overwhelmingly selected drug use as an issue to focus on. Mental health was also a commonly selected health issue but stood out in large rural communities. Homelessness, alcohol use, child abuse and neglect, physical inactivity, and dental issues were also issues more frequently identified by residents from large rural areas. Obesity was a health issue more commonly identified by urban core residents compared to suburban and large rural communities [see Figure 167].

Figure 167



Differences were also found when examining responses from ZIP codes within each geographic classification. For example, Monroe, Middletown, and Newburgh are all classified as “urban core” areas, but Newburgh identified improving public transportation as the number one area to focus resources, while Monroe, Middletown, and Goshen all selected more affordable housing as their top choice. See Table 54 for a complete list of the top three responses for each survey question by ZIP Code. For the purposes of small sample size, only the ten ZIP codes with the most responses are included in the table.

Table 54

Top Three Responses to Survey Questions by ZIP Code

Survey Question	Rank	10950 Monroe	10940 Middletown	12550 Newburgh	10924 Goshen	12553 New Windsor
What are the greatest strengths of our community?	#1	Low crime and safe neighborhoods (48)	Access to good education (36)	Access to good education (36)	Access to good education (25)	Access to good education (16)
	#2	Access to good education (36)	Parks and recreation (28)	Access to basic health care (21)	Low crime and safe neighborhoods (23)	Access to affordable and healthy food (15)
	#3	Access to basic health care (35)	Access to basic health care (27)	Low crime and safe neighborhoods (21)	Parks and recreation (21)	Access to basic health care (15)
Where should the community focus its resources and attention to improve the quality of life in our community?	#1	More affordable housing (44)	More affordable housing (32)	Improve public transportation (20)	More affordable housing (19)	Improve public transportation (11)
	#2	Improve public transportation (34)	Better jobs and economy (25)	More programs, activities, and support for youth and teens during non-school hours (19)	More programs, activities, and support for youth and teens during non-school hours (18)	More affordable housing (10)
	#3	Better jobs and economy (30)	Improve public transportation (20)	More affordable housing (18)	Better jobs and economy (15)	Better jobs and economy (9)
What are the most important health issues that our community should focus on?	#1	Mental health (depression, anxiety, stress) (32)	Drug use (prescription and illegal) (31)	Drug use (prescription and illegal) (33)	Drug use (prescription and illegal) (26)	Mental health (depression, anxiety, stress) (15)
	#2	Drug use (prescription and illegal) (27)	Mental health (depression, anxiety, stress) (25)	Mental health (depression, anxiety, stress) (18)	Mental health (depression, anxiety, stress) (21)	Drug use (prescription and illegal) (14)
	#3	Obesity (27)	Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.) (16)	Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.) (13)	Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.) (15)	Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.) (11)

Table 54 (Continued)

Survey Question	Rank	10941 Town of Wallkill	10918 Chester	12771 Port Jervis	10990 Warwick	10930 Woodbury
What are the greatest strengths of our community?	#1	Parks and recreation (15)	Low crime and safe neighborhoods (14)	Parks and recreation (13)	Access to good education (11)	Low crime and safe neighborhoods (10)
	#2	Access to affordable and healthy food (11)	Access to good education (9)	Low crime and safe neighborhoods (12)	Low crime and safe neighborhoods (11)	Access to good education (9)
	#3	Access to basic health care (11)	Bikeable, walkable community (8)	Access to good education (8)	Parks and recreation (9)	Clean environment (8)
Where should the community focus its resources and attention to improve the quality of life in our community?	#1	Improve public transportation (11)	Better jobs and economy (10)	Improve public transportation (9)	More affordable housing (13)	Improve public transportation (8)
	#2	More affordable housing (9)	More affordable housing (10)	More affordable housing (9)	Improve public transportation (7)	More affordable housing (8)
	#3	Cleaner Environment (7)	More programs, activities, and support for youth and teens during non-school hours (8)	Making the community more bikeable and walkable (7)	More arts and cultural events (6)	More programs, activities, and support for youth and teens during non-school hours (7)
What are the most important health issues that our community should focus on?	#1	Mental health (depression, anxiety, stress) (16)	Drug use (prescription and illegal) (15)	Drug use (prescription and illegal) (14)	Drug use (prescription and illegal) (12)	Mental health (depression, anxiety, stress) (12)
	#2	Drug use (prescription and illegal) (11)	Mental health (depression, anxiety, stress) (11)	Mental health (depression, anxiety, stress) (13)	Mental health (depression, anxiety, stress) (9)	Drug use (prescription and illegal) (8)
	#3	Safe, affordable & adequate housing (9)	Safe, affordable & adequate housing (10)	Safe, affordable & adequate housing (5)	Gun violence (7)	Safe, affordable & adequate housing (5)

Note: Due to small sample size, only the ten ZIP codes with the most responses are included in this table.
Numbers represent response count.

ROCK VOTING

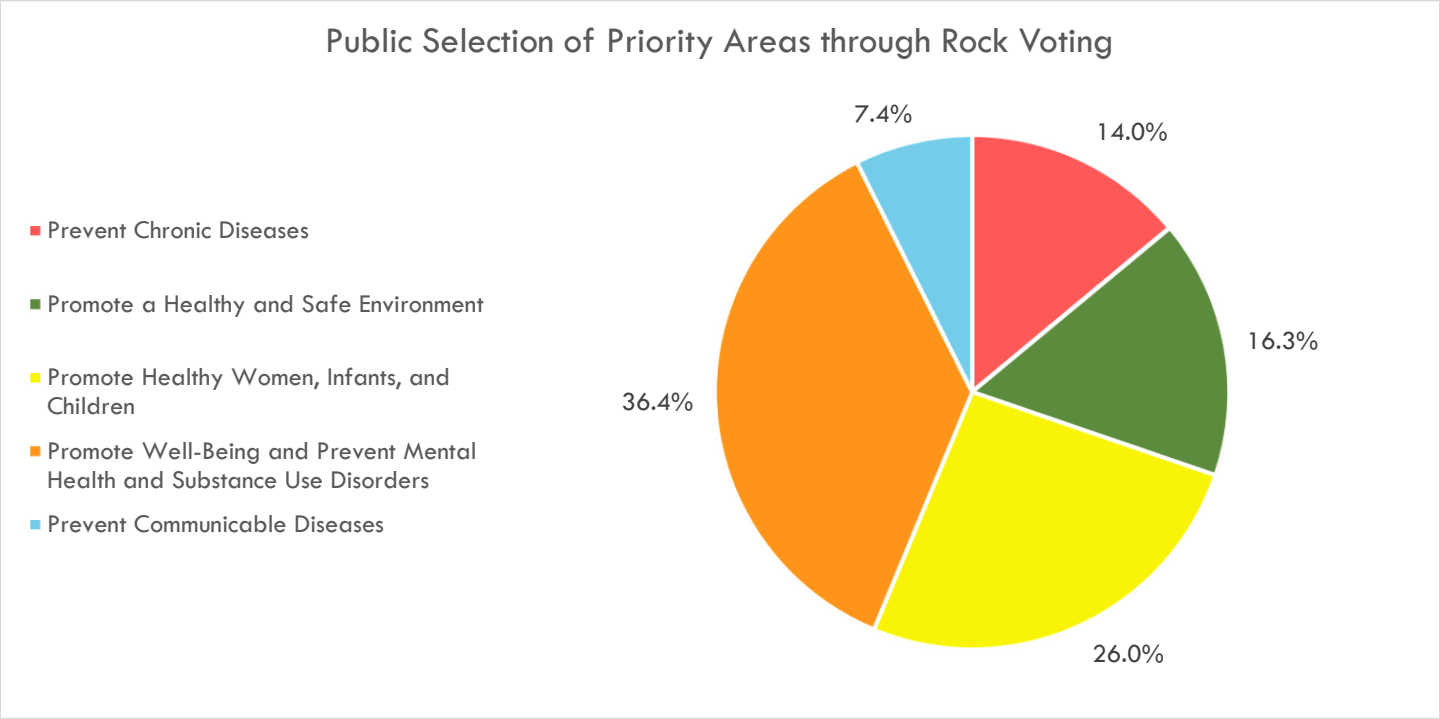
Rock Voting Jars, Orange County Department of Health, 2022

The New York State Prevention Agenda outlines five priority areas in health improvement efforts: Preventing Chronic Disease; Promoting Well-Being and Preventing Mental Health and Substance Use Disorders; Promoting a Safe and Healthy Environment; Preventing Communicable Disease; and Promoting Healthy Women, Infants, and Children. Local health departments and hospitals select two of these five priority areas to focus their community health improvement plans on, based on a variety of factors including demographic data, health and behavioral indicators, and community feedback. The OCDOH invited county residents to participate in "Rock Voting," an interactive method of assessing community perceptions of the highest priority Prevention Agenda areas. Each participant was given two rocks and presented with labeled jars representing the five priority areas. They were tasked with placing their rocks in the two areas they perceived as needing the most attention. Over 1,500 community members participated in the activity from April 2022 to August 2022. Survey locations included the farmer's markets of Goshen, Newburgh, Middletown, Port Jervis, and Warwick; Senior Health and Fitness Day; yoga events hosted by the Desmond Center; Freedom Fest; National Night Out in Newburgh, Middletown, Port Jervis, Wallkill, New Windsor, and Crawford; Deacon Jack Seymour Food Pantry in Newburgh; and Listening Sessions hosted by the OCDOH in Port Jervis, Middletown, Blooming Grove, Chester, Crawford, and Goshen.

Rock Voting at a Desmond Center Event, Mount St. Mary College, 2022

The top two priority areas that residents voted for were: Promoting Well-Being and Preventing Mental Health and Substance Use Disorders (36.4%) and Promoting Healthy Women, Infants, and Children (26.0%) [see Figure 168].

Figure 168



Source: Orange County Department of Health, 2022

LISTENING SESSIONS

BACKGROUND

Listening sessions were conducted by the OCDOH at municipalities throughout the county to reintroduce the OCDOH to the public since the beginning of the COVID-19 pandemic and to discuss current health concerns within each community as part of the Community Health Assessment process. OCDOH hosted listening sessions in Port Jervis, Middletown, Blooming Grove (Washingtonville), Chester, Newburgh, Cornwall, Crawford (Pine Bush), and Goshen, between April 2022 and June 2022. Listening sessions were advertised through various formats including social media platforms; street outreach; coalitions with community members, including the faith-based community; and posting flyers in heavily trafficked businesses including post offices, laundromats, libraries, and small businesses like food service, retail, and beauty shops.

During each listening session, a presentation about OCDOH's services was provided to attendees and the remaining time was spent discussing the community's health concerns. Attendees completed the Community Assessment Survey to help determine the most pressing issues in the county and participated in Rock Voting to provide their opinion on the health priority areas to be addressed through the Community Health Improvement Plan. The former Commissioner of Health, Dr. Irina Gelman, was present at all listening sessions along with staff from the Divisions of Epidemiology, Community Health Outreach, and Health Equity.

Town of Cornwall Listening Session, 2022

FINDINGS

OCDOH was able to gather valuable information from community members during the open floor discussion. Although listening sessions were hosted in various parts of the county, main areas of concern were often similar. Common themes discussed include mental health, affordable housing, the need for increased OCDOH outreach efforts, and questions pertaining to communicable diseases.

Mental health was overwhelmingly an area of concern in most of the listening sessions. Middletown attendees discussed mental health decline amongst students and educators during and following the COVID-19 pandemic. Blooming Grove attendees discussed the need to receive assistance from OCDOH on how to discuss mental health, especially within primary school-aged students and parents. Suicide prevention in schools was discussed by Chester attendees, with suggestions for a follow-up system for students who have attempted suicide in the past. Newburgh attendees emphasized the importance of mental health resources, such as therapy being made apparent and available in schools. Lack of mental health beds on the eastern side of Orange County was highlighted by Cornwall attendees, stating that the nearest adult inpatient mental health facility is Garnet Health Medical Center in Middletown and that there are no inpatient mental health facilities specifically for children in the county at all. Goshen attendees stressed the lack of health insurance coverage for mental health services and how this creates barriers in accessing professional help. Mental health concerns persist throughout all areas of Orange County.

Affordable housing was discussed in three of the eight listening sessions. Newburgh attendees mentioned how the current housing crisis is contributing to the mental health crisis. Cornwall attendees discussed the need for affordable housing programs in their town, with one attendee relaying a personal excerpt about a family who was struggling to keep their children enrolled in the Cornwall Central School District due to inflation of housing costs. Lack of affordable senior housing was discussed by Goshen attendees, stating that waitlists to get into current affordable senior housing can take about two to five years and the quality of the current housing is poor. Affordable housing is a concern for all age groups and is related to other public health concerns, including mental health, homelessness, and poverty.

Many listening session attendees requested increased outreach efforts from OCDOH, including creating a better rapport with community members across the county. Port Jervis attendees discussed the disconnect between their community and OCDOH, stating that OCDOH's methods of disseminating information and providing services does not necessarily align with older generations and people of all cultures. Middletown attendees requested that OCDOH become more involved in the school systems, especially with outreach pertaining to mental health. Blooming Grove attendees discussed increasing contact between OCDOH and local business and associations in order to normalize conversations about health within their community. If OCDOH, school districts, and local businesses work in concert, many health gaps in the county may be identified and addressed in a more productive manner.

Almost every listening session participated in discussions regarding communicable disease, such as COVID-19 and/or Mpox (Monkeypox). Port Jervis attendees relayed their positive feedback for vaccination clinics within Orange County and their hopes for them to continue. They also voiced their concerns with the availability of at-home COVID-19 tests and vaccine mandates for healthcare workers. Middletown attendees inquired about the decision-making process for school closings in response to an influx of COVID-19 infection in the county. COVID-19 testing and travel questions were asked and answered during the Chester listening session. Goshen attendees asked about the next COVID-19 booster and when the most effective time to receive boosters is. Crawford/Pine Bush and Goshen attendees requested clarification on MPox and its impact in Orange County.

Town of Blooming Grove Listening Session, 2022

FUTURE

As of August 2022, the OCDOH has been able to host eight listening sessions in 2022, with plans to host more throughout the county. Discussions held in each listening session were constructive and informative for both the public and OCDOH. An increase in listening session advertisement and outreach should ensure a larger audience, which may lead to more robust conversations. Overall, listening sessions have proven to be a conducive way for OCDOH and local community members to connect and discuss pertinent health concerns and elicit feedback for community input on Orange County's health needs.

Village of Chester Listening Session, 2022

MID-HUDSON REGION COMMUNITY HEALTH SURVEY

INTRODUCTION

The Siena College Research Institute (SCRI), on behalf of seven Mid-Hudson Region Health Departments, conducted a public opinion survey of 5,699 Mid-Hudson Region residents from March 14 to May 22, 2022. The Mid-Hudson Region is comprised of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties in NYS. Residents aged 18 years and older were interviewed from within those counties in NYS to ensure representative county-wide samples. The margin of error for the total sample of 5,699 is +/- 2.1%, including the design effects resulting from weighting with a 95% confidence interval. This means that in 95 out of every 100 samples of the same size and type, the results we obtain would vary by no more than plus or minus 2.1 percentage points from the result we would get if we could interview every member of the population. The overall sample of 5,699 was weighted by age, gender, reported race/ethnicity, income, and county using the 2015-2020 American Community Survey 5-year estimates to ensure statistical representativeness.

METHODOLOGY AND DESIGN

Within Orange County, a total of 996 residents aged 18 or older completed the survey. The margin of error for the total sample of 996 is +/- 3.4%, including the design effects resulting from weighting with a 95% confidence interval. There was a total of 172 respondents who completed the survey on a cell phone, 323 who completed it on a landline, 100 who completed the survey via the online panel, and 401 who completed it via online recruitment by the county. The county-wide sample of 996 was weighted by age, gender, reported race/ethnicity, income, and county using the 2016-2020 American Community Survey 5-year estimates to ensure statistical representativeness.

SCRI made calls between 1:00 pm and 9:00 pm Monday through Thursday, and between 2:00 pm and 8:00 pm on Sundays. Landline telephone numbers were purchased from ASDE Survey Sampler and cell phone numbers were purchased from Dynata (formerly Survey Sampling International). Up to seven calls were placed to each phone number to establish if the phone number was in service. Telephone surveys were conducted in English or Spanish.

The online sample was provided by Lucid, a market research platform that runs an online exchange for survey respondents. The samples drawn from this exchange matched a set of demographic quotas on age, gender, and region. Respondents were sent from Lucid directly to survey software operated by the Siena College Research Institute. All respondents that took the survey online completed an attention check prior to taking the survey. Additional attention checks were placed in the survey to ensure proper attention was being paid throughout the entire survey. Online panel surveys were conducted in English. The online recruitment from each county included distributing the survey URL to community partners, promoting the survey on social media, and providing access to the survey at community events. The online recruitment survey was conducted in English and Spanish.

In 2018, SCRI conducted a similar survey for the Mid-Hudson Region. In that iteration, respondent data was collected via RDD dual-frame telephone interviews and augmented using the Lucid panel. In 2018, each county's oversample of ZIP codes with residents with the lowest levels of income were included in the unweighted samples.

In both 2018 and 2022, each county estimate was similarly weighted to the most current demographic estimates of the county's population by age, gender, reported race/ethnicity, and income. As such, and despite sampling

design differences, the final weighted estimates by county and the final weighted regional estimates from 2018 and 2022 can be fairly compared to one another.

NATURE OF THE SAMPLE

A total of 996 surveys were collected. Weighted proportions of demographic categories are presented below.

Table 55

Respondent Demographic Breakdown	
	Orange
TOTAL COUNT	996
Gender	
Male	48%
Female	49%
Age	
18 to 34	29%
35 to 49	24%
50 to 64	24%
65 and older	20%
Ethnicity	
White	63%
Non-White	33%

RESULTS

Summary results for Orange County are included below. To see a full report of Orange County's survey results, see Appendix G. The Mid-Hudson Region Community Health Survey was also completed in 2018, and an interactive dashboard including the full dataset and additional comparisons between 2018 and 2022 can be found here: https://orangecountynydoh.shinyapps.io/Siena-Survey/

Please note that percentages may not add up to 100% due to rounding. 'Don't know' and 'Refused' have been combined into 'Don't know/Refused." Due to spacing issues, any values less than or equal to 3% may not appear on the chart.

COVID-19 PANDEMIC IMPACT

The COVID-19 pandemic had a significant impact on the residents of Orange County. The following set of questions were meant to gauge just how affected our citizens were in various areas of not just their health, but their everyday life. As a result, COVID-19 ELC funds were used to conduct the survey.

Long COVID, or post-COVID conditions, is a wide range of new, returning, or ongoing health problems people may experience more than four weeks after being first infected with SARS-CoV-2. Even people who did not have any symptoms can experience long COVID, which can present as different types and combinations of health problems and can range in lengths of time, according to the Centers for Disease Control and Prevention (CDC). 28% of homeowners reported experiencing long COVID in their household, compared to 17% of renters. 32% of homes with veterans reported experiencing long COVID, compared to 21% without any veterans living in the home. Interestingly, those with higher income levels had higher incidences of long COVID, as displayed in Figure 170.

Survey Question 42: *(If COVID in Household) Have you or any other household member had ongoing COVID symptoms that have lasted more than four weeks - otherwise known as long-COVID?*

Figure 169

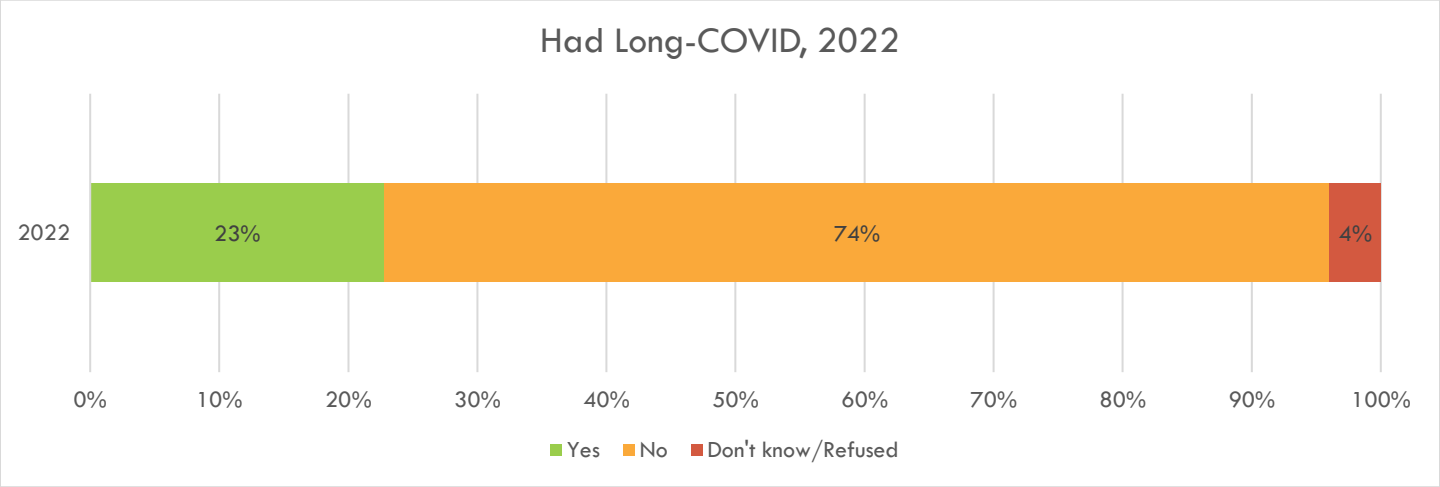
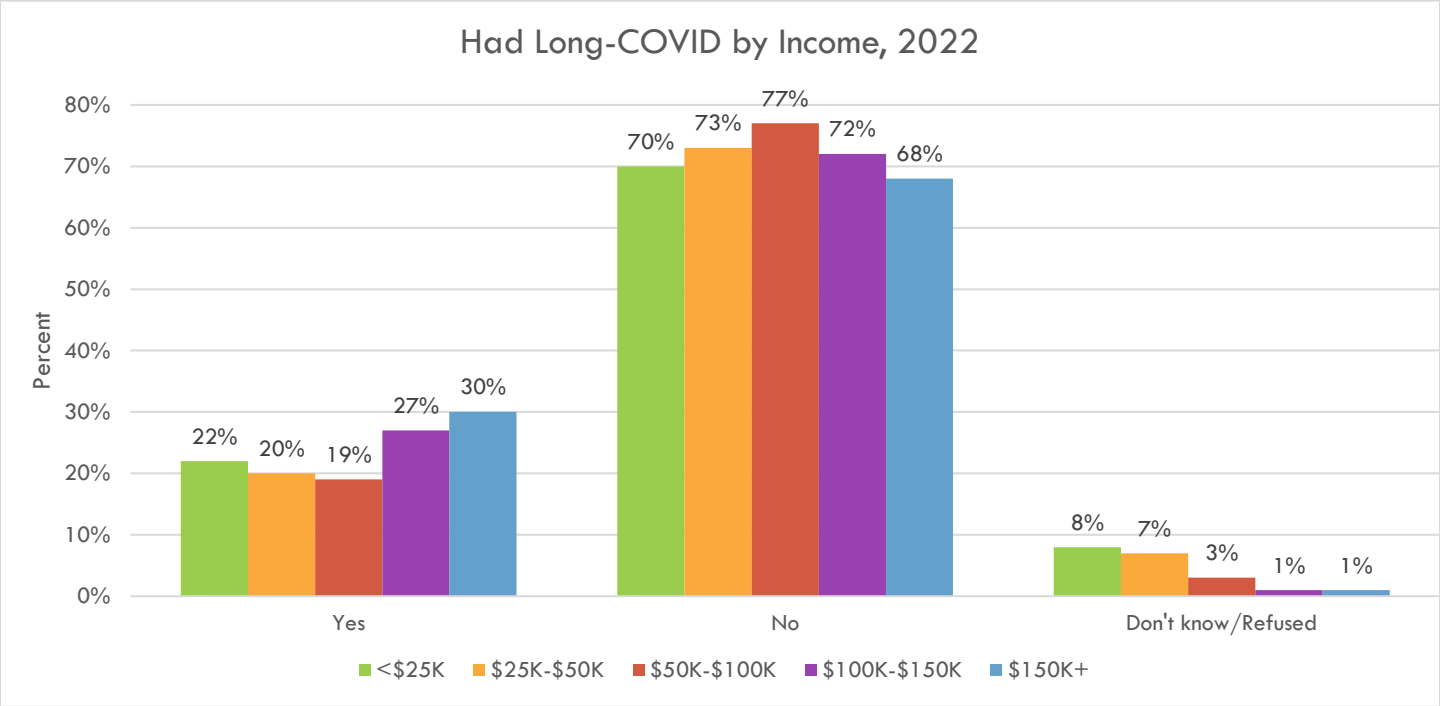


Figure 170


Had Long-COVID by Income, 2022
Percent
80%
70%
60%
50%
40%
30%
20%
10%
0%
22%
20%
19%
27%
30%
70%
73%
77%
72%
68%
8%
7%
3%
1%
1%
Yes
No
Don't know/Refused
<$25K
$25K-$50K
$50K-$100K
$100K-$150K
$150K+

The majority of individuals (65%) reported no change in their physical health due to COVID-19. 21% of non-White people reported improved physical health, compared to 9% of White people. Of those people between the ages of 18 and 34 years, 19% reported improved health. This is compared to 6% of those 55 years and older.

Survey Question 43: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your physical health***

Figure 171

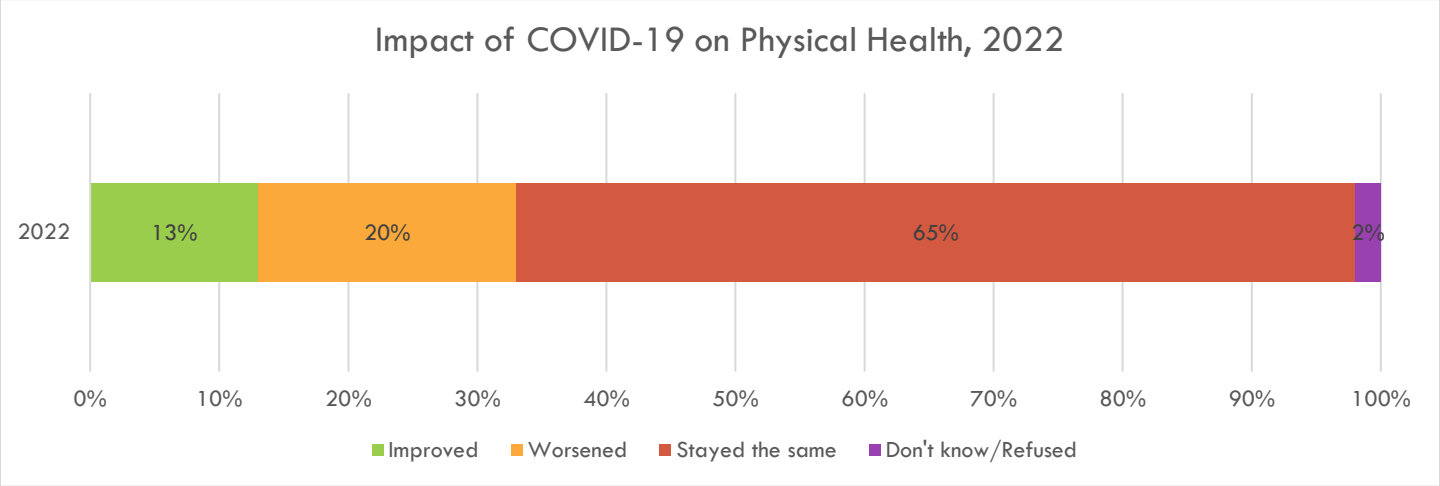
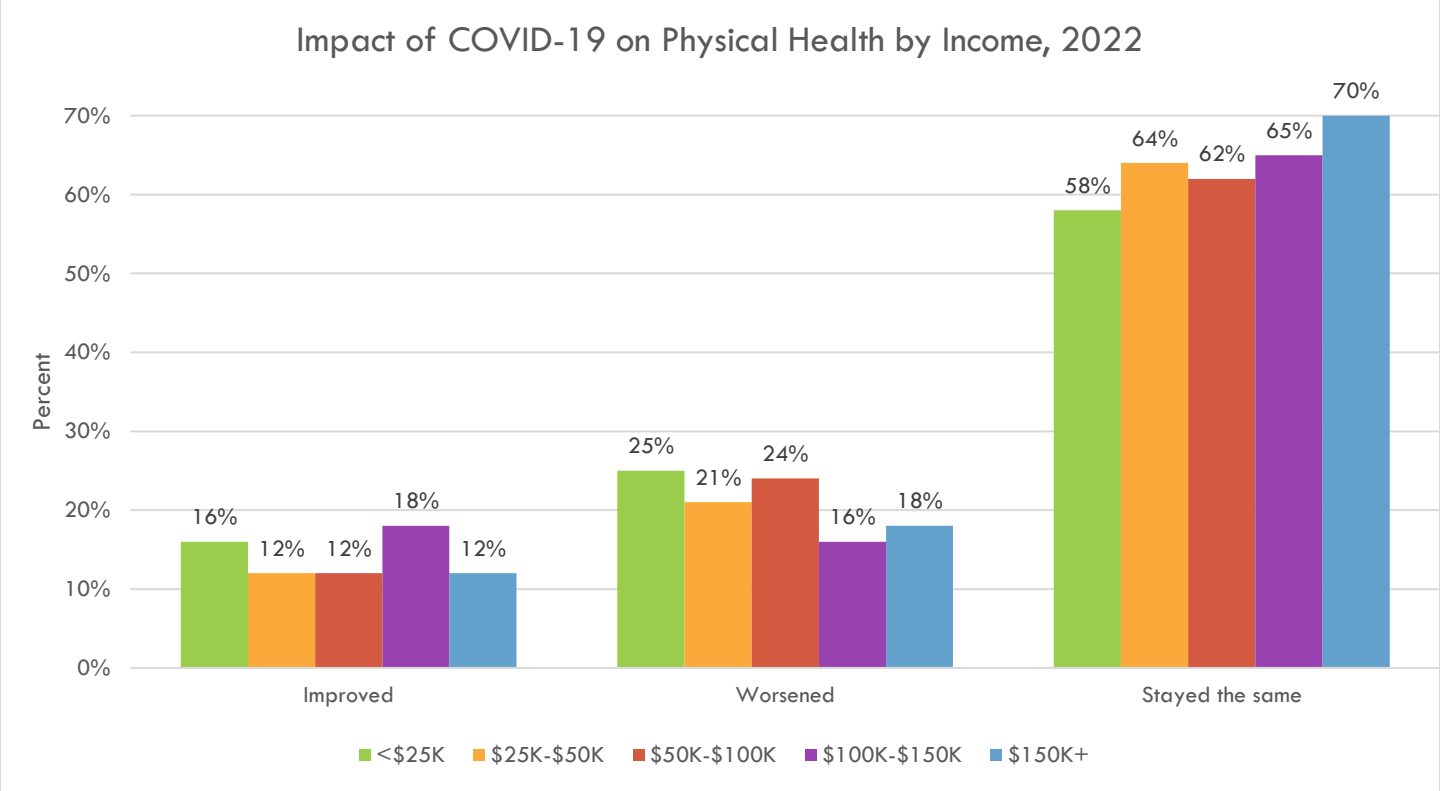


Figure 172



Mental health is another important factor to consider as it relates to COVID-19. 30% of females reported worsened mental health due to COVID-19, compared to 17% of males. Only 6% of those 55 years and older reported worsened mental health compared to 31% of those 18 to 34 years and 29% in the 35 to 54 age range.

Survey Question 44: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your mental health***

Figure 173

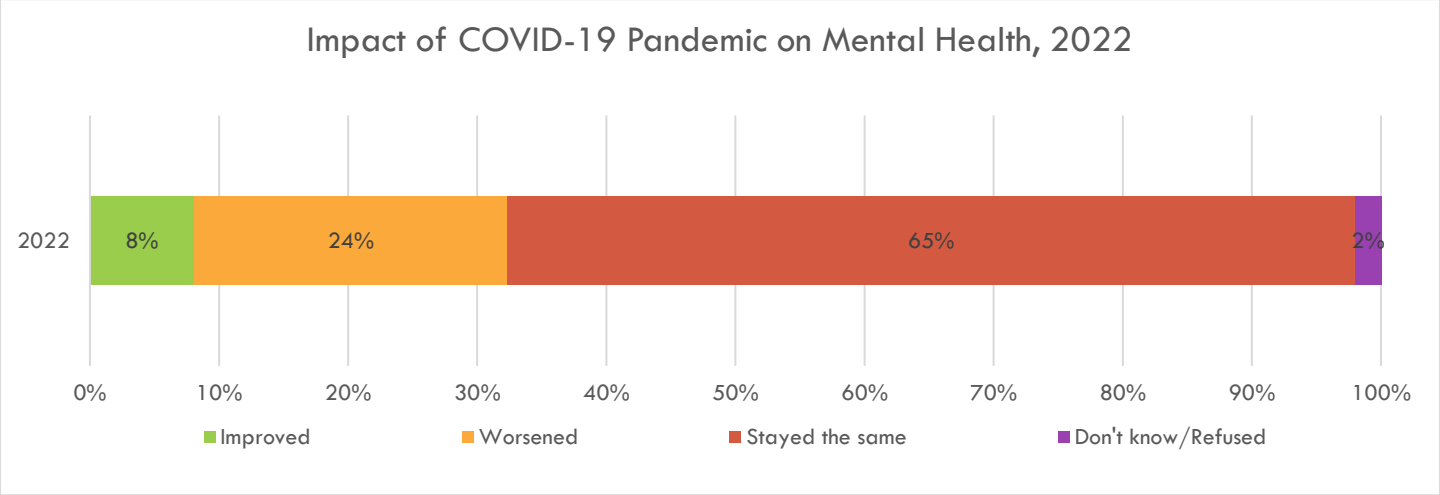
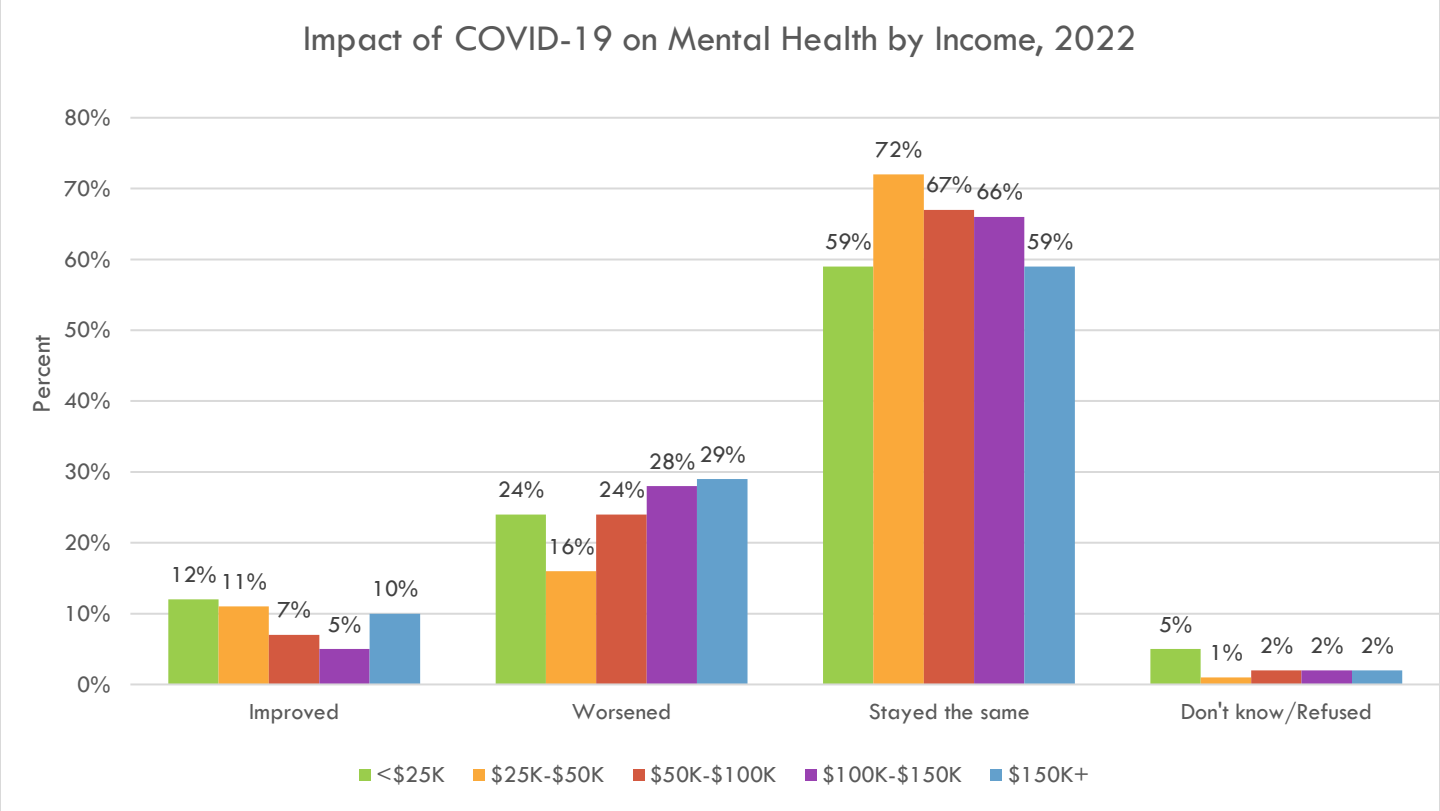


Figure 174



The ability to obtain affordable, nutritious food due to COVID-19 was worsened for many but was particularly hard for certain subgroups. 37% of renters reported that this worsened, compared to 20% of homeowners. 33% of homes with children had a harder time obtaining nutritious, affordable food, while only 22% of homes without children had a harder time. Of those earning $150k and more, only 22% said they had a harder time, compared to 34% of those making $25k or less.

Survey Question 45: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to obtain affordable food that is nutritious***

Figure 175

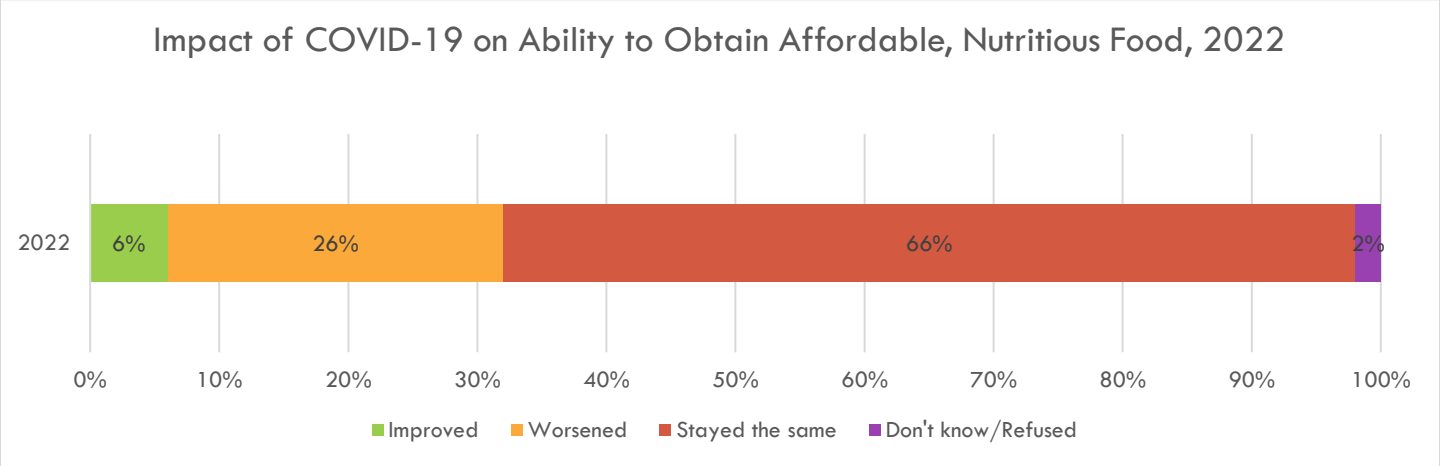
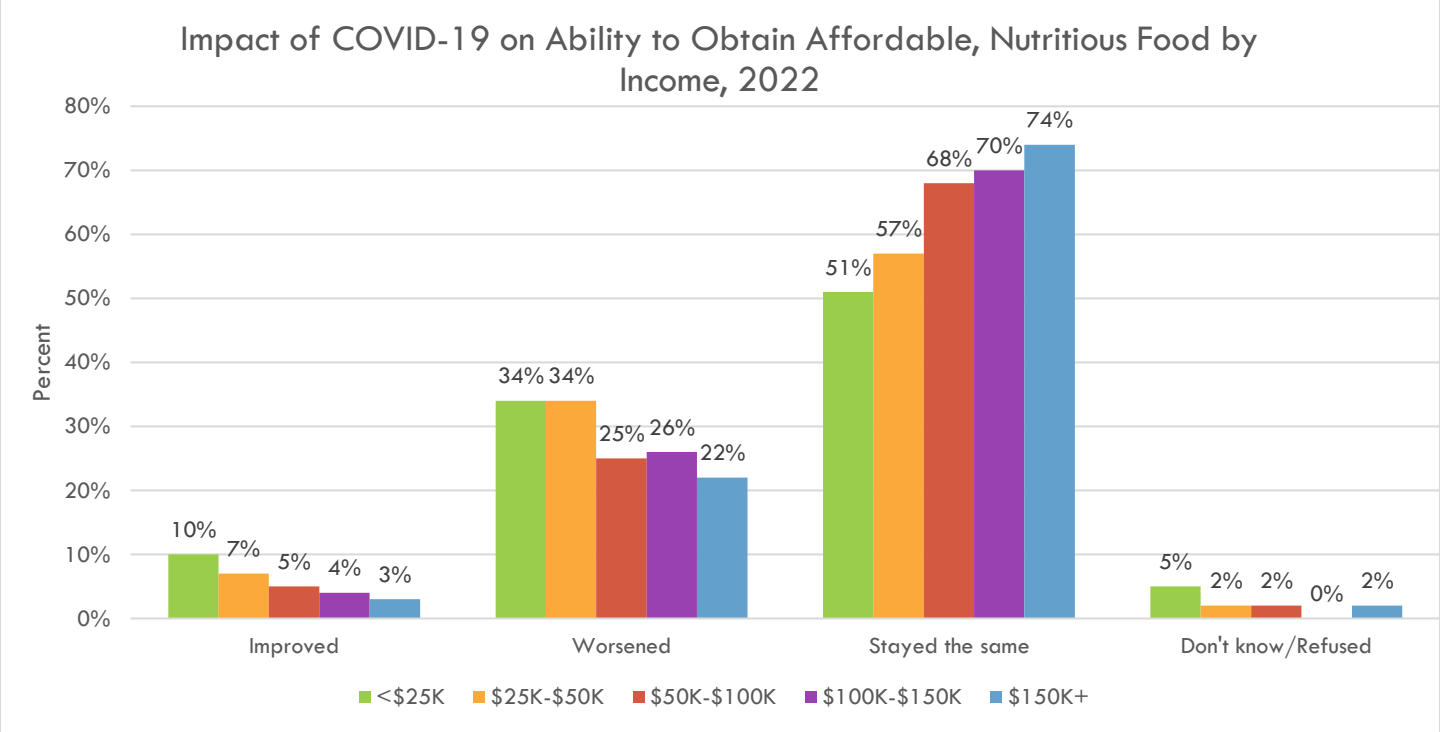


Figure 176



Maintaining employment that pays a living wage, or the minimum income needed for a worker to meet his/her basic needs, was worsened for some because of COVID-19. 24% of non-White people, compared to 12% of White people, saw this worsen. Of those aged 55 years and older, only 8% reported this worsened, while 22% of people aged 18 to 34 said it worsened.

Survey Question 46: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to maintain employment that pays at least a living wage***

Figure 177

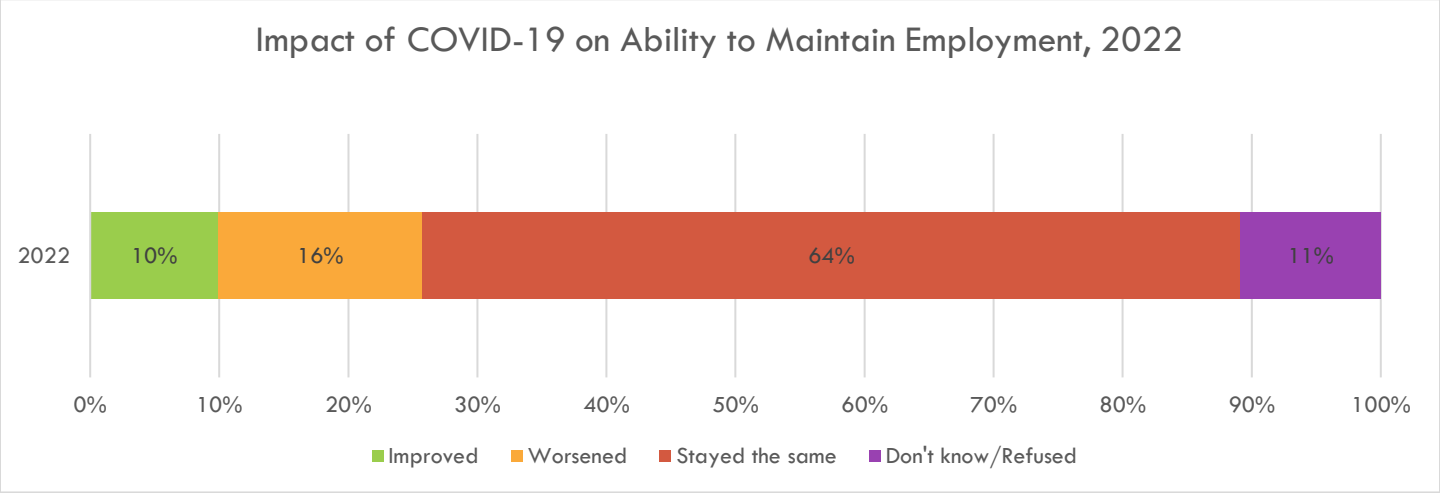
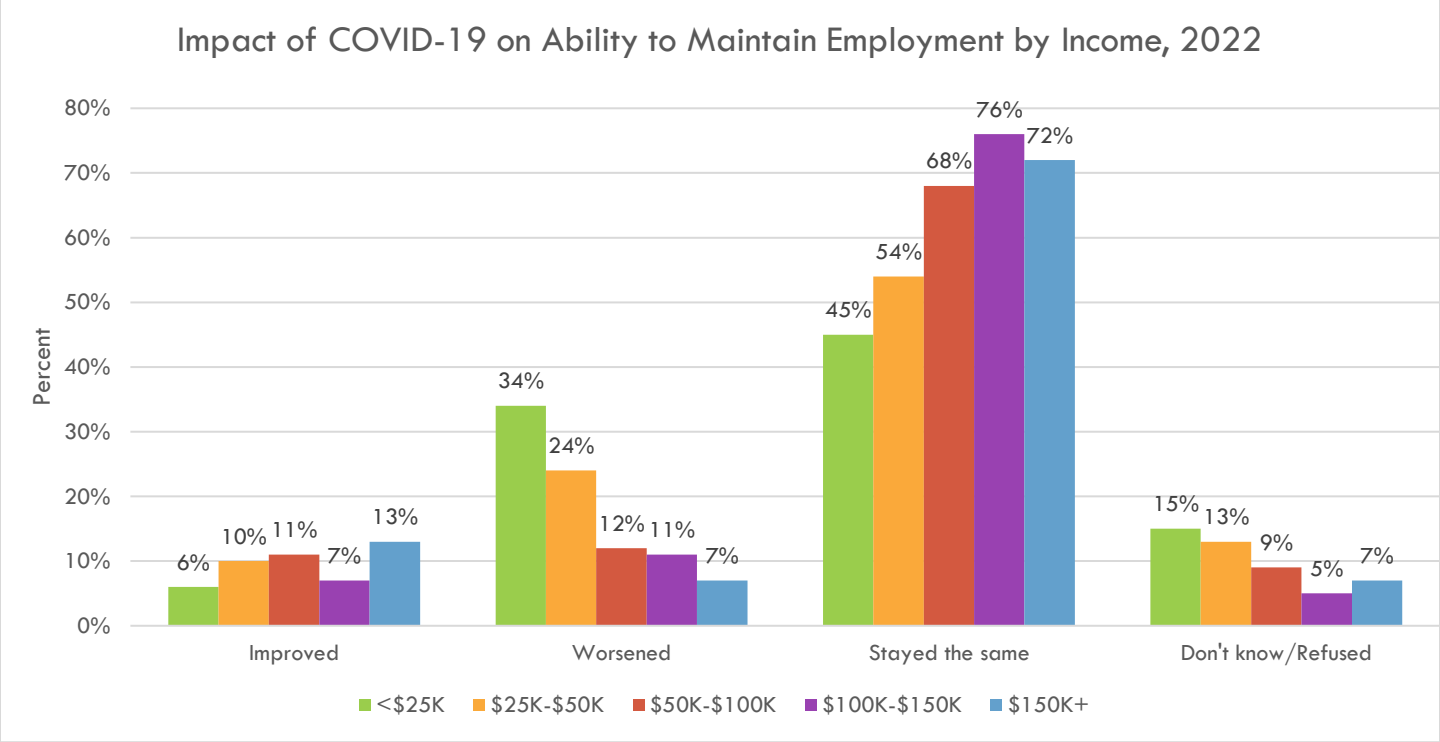


Figure 178



Housing affordability was affected by COVID-19 for some people. We see a stark difference in the ability to afford housing due to COVID-19 from White people to non-White people. Only 17% of White people said this worsened, compared to 36% of non-White people. Another glaring difference is seen with 40% of renters saying this worsened, compared to 12% of homeowners. Age was another interesting determinant. 34% of those aged 18 to 34 said housing affordability worsened, compared to 9% of those aged 55 years and older.

Survey Question 47: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to afford housing***

Figure 179

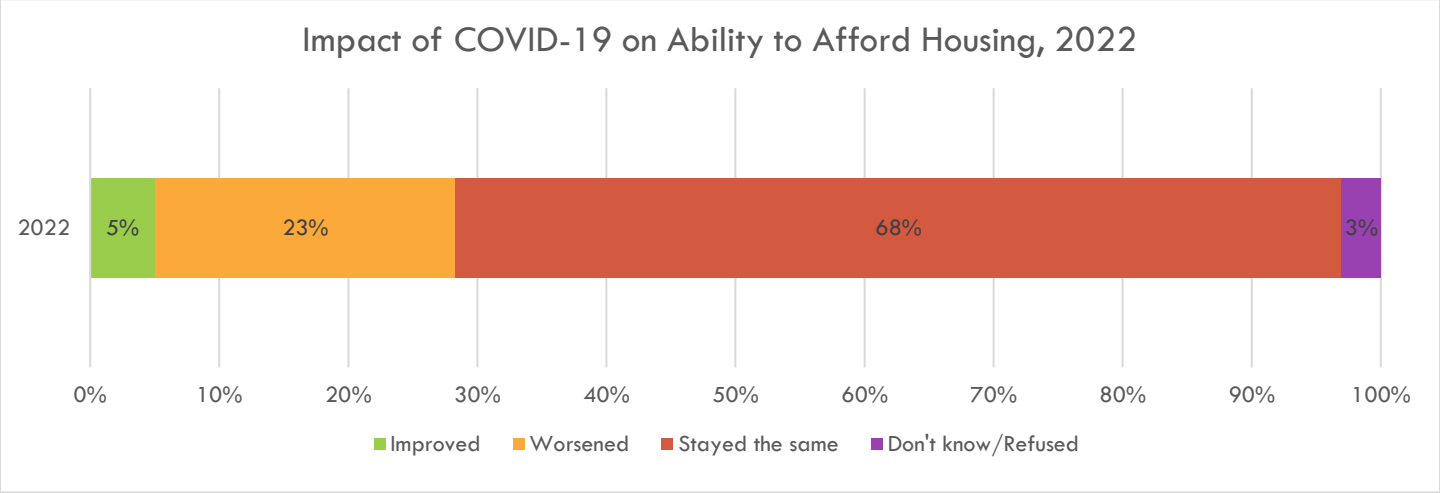
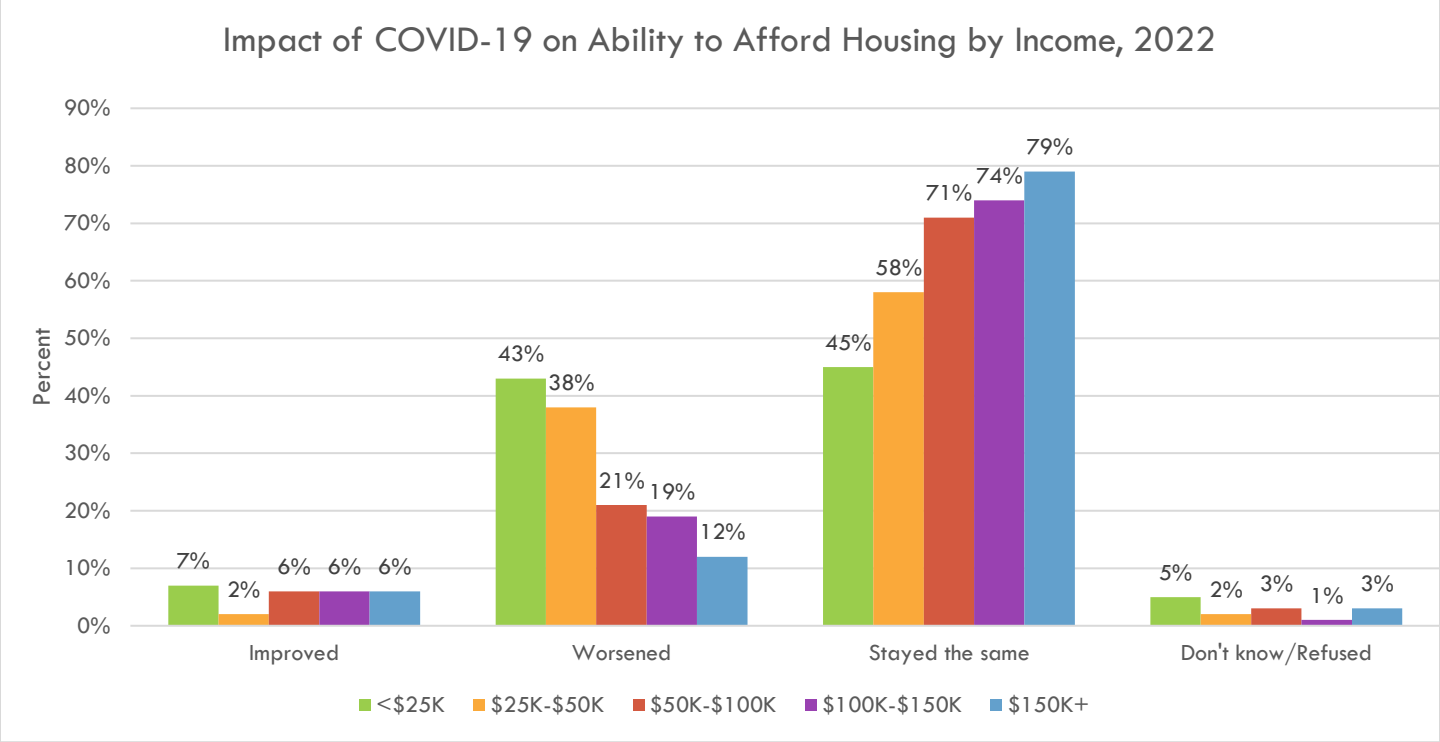


Figure 180



Finding available, quality childcare was impacted by COVID-19 for some. 16% of renters reported this worsening, while only 6% of homeowners said it worsened. Of non-White people, 18% reported this worsening, while only 5% of White people said it worsened.

Survey Question 48: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened, or stayed the same?* ***Your ability to find available, quality childcare***

Figure 181

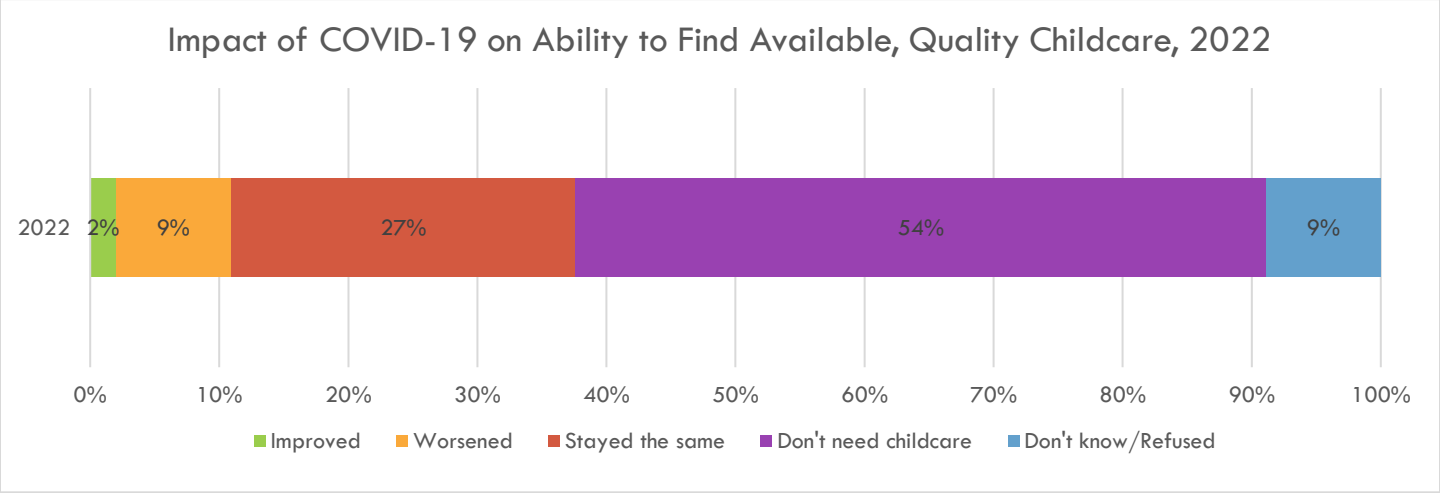
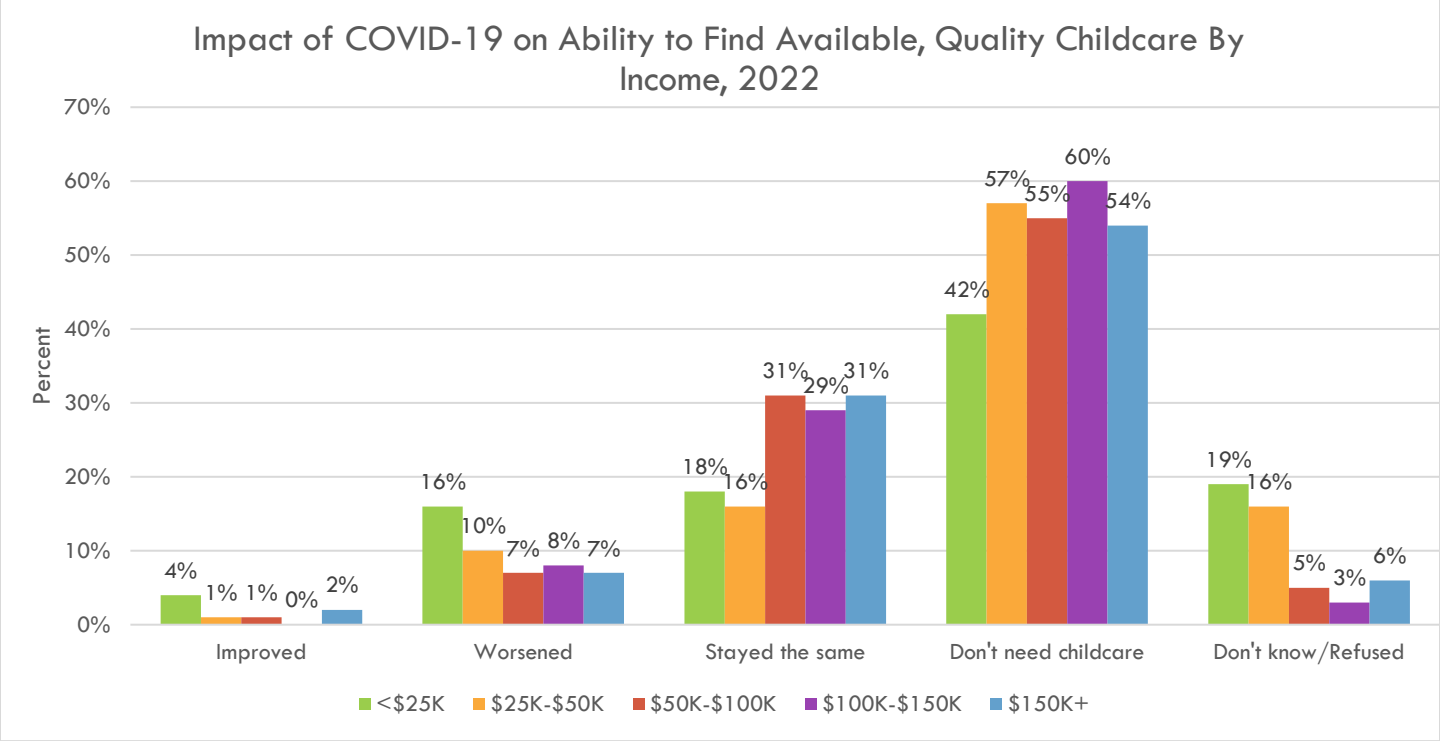


Figure 182



Survey Question 49: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened, or stayed the same?* ***Your ability to obtain care or to care for any member of your household that has a disability or chronic illness***

Figure 183

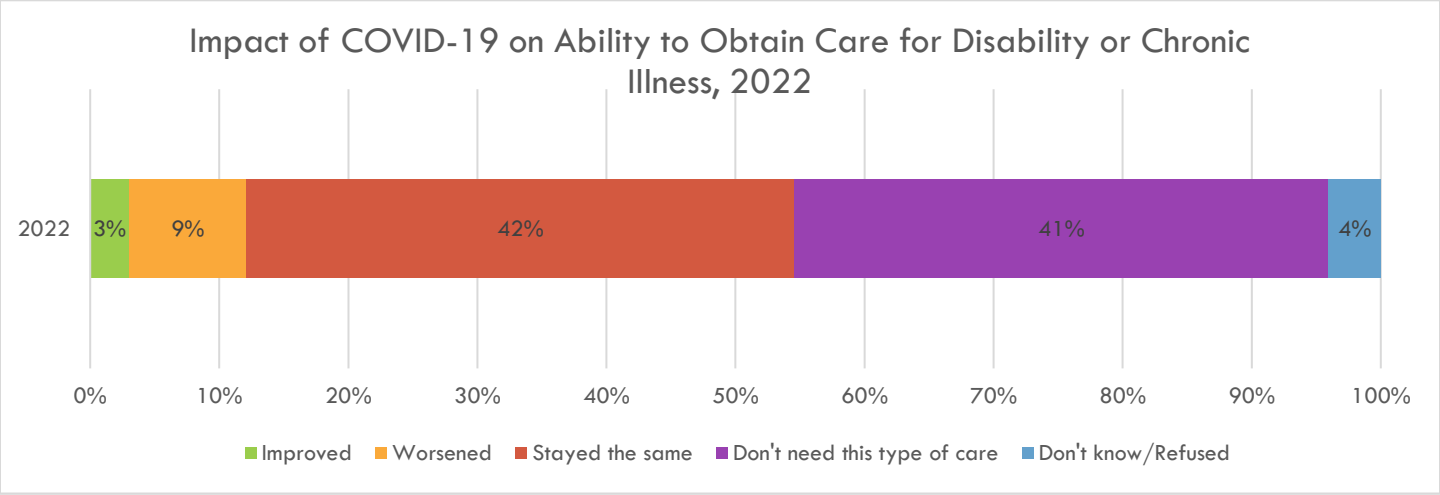
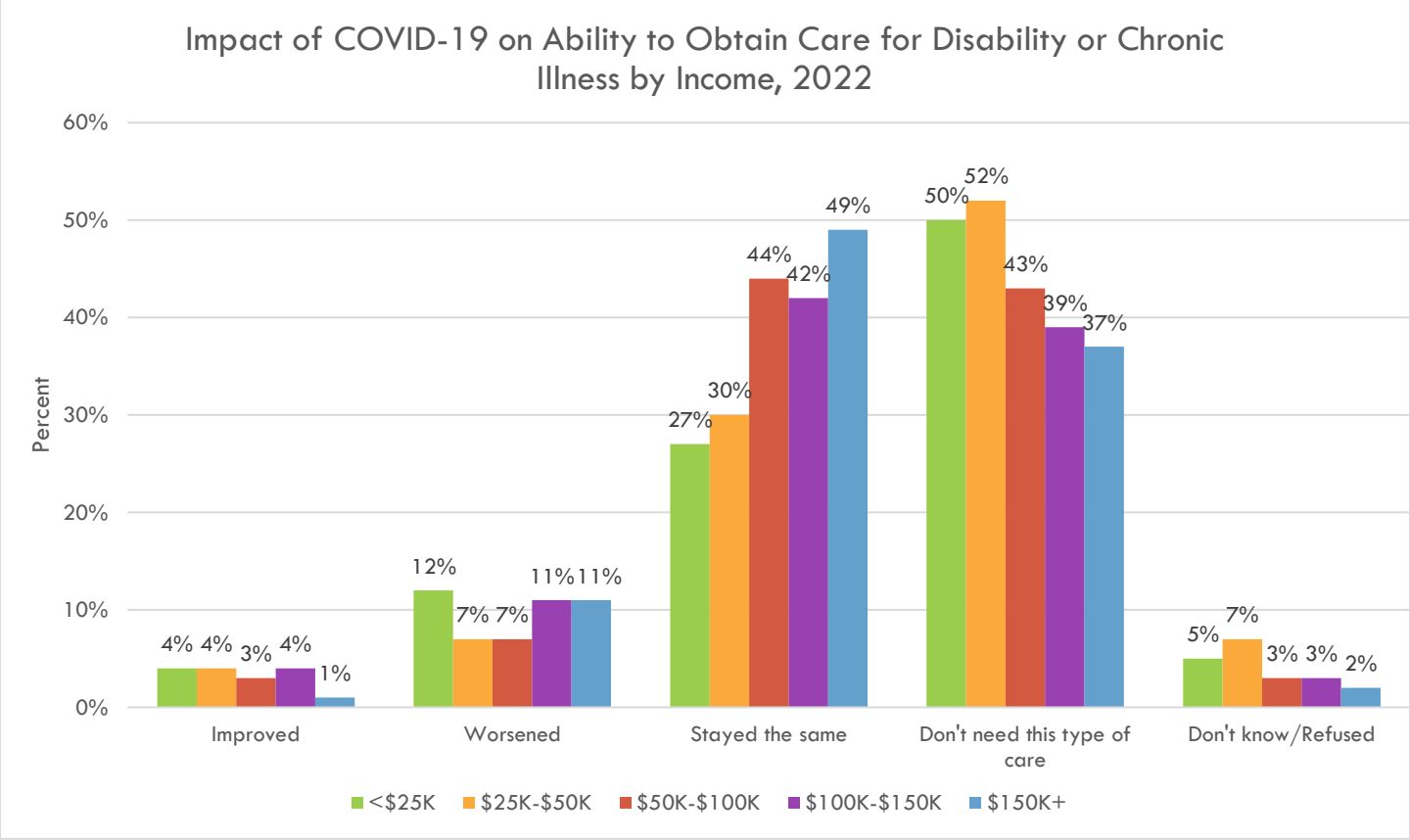


Figure 184



While 81% of those interviewed reported being vaccinated for COVID-19, there were still significant differences among subgroups regarding their vaccination status. 92% of those aged 55 years and older were vaccinated; in contrast, only 71% of those aged 18 to 34 reported vaccination. Of those with children in the home, 87% said they were vaccinated, compared to only 70% of those without children. An individual's income also illustrated a glaring difference in vaccination status. Figure 186 illustrates this and shows that 75% of those with an income under $25k were vaccinated, compared to 89% of those who make $150k or more.

Survey Question 50: *Have you been vaccinated for COVID?*

Figure 185

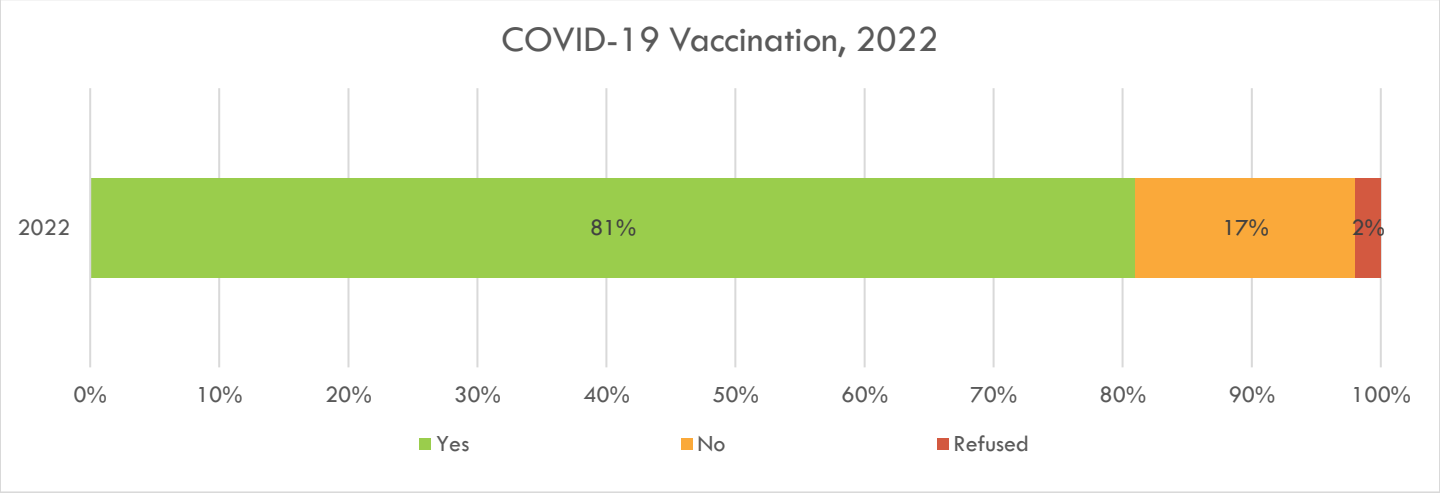
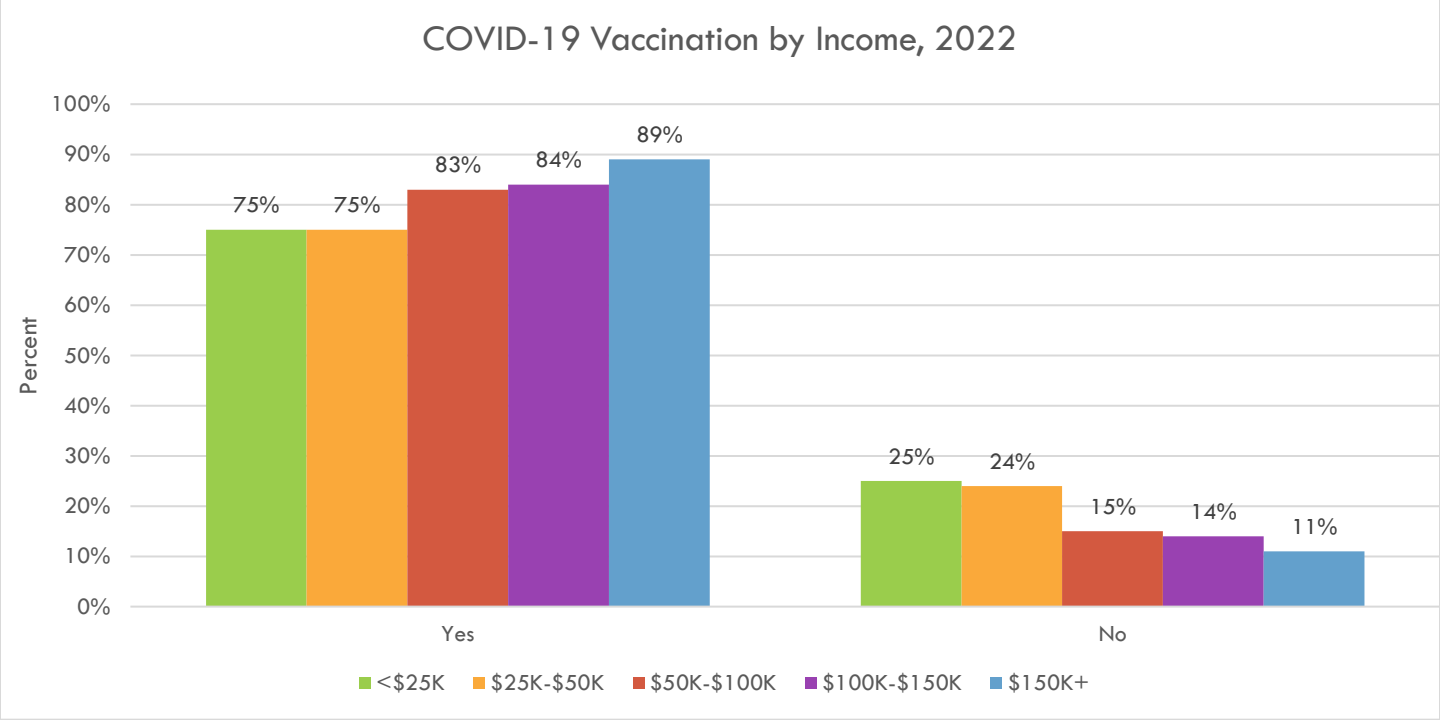


Figure 186



Nearly two thirds of people who were able to get vaccinated got it as soon as they were eligible. There was a large amount of variability among subgroups when it pertained to this question. 81% of those aged 55 years and older got it as soon as they could, while only 46% of 18- to 34-year-olds got it right away. 72% of White people got it as soon as possible, while only 50% of non-White people did the same. Of those making $25k or less, only 50% got it as soon as possible, compared to 79% of those who made $150k and more.

Survey Question 51: *(If vaccinated for COVID) Thinking back to when you got vaccinated, did you get it as soon as you were eligible or were you somewhat hesitant to get the COVID vaccine?*

Figure 187

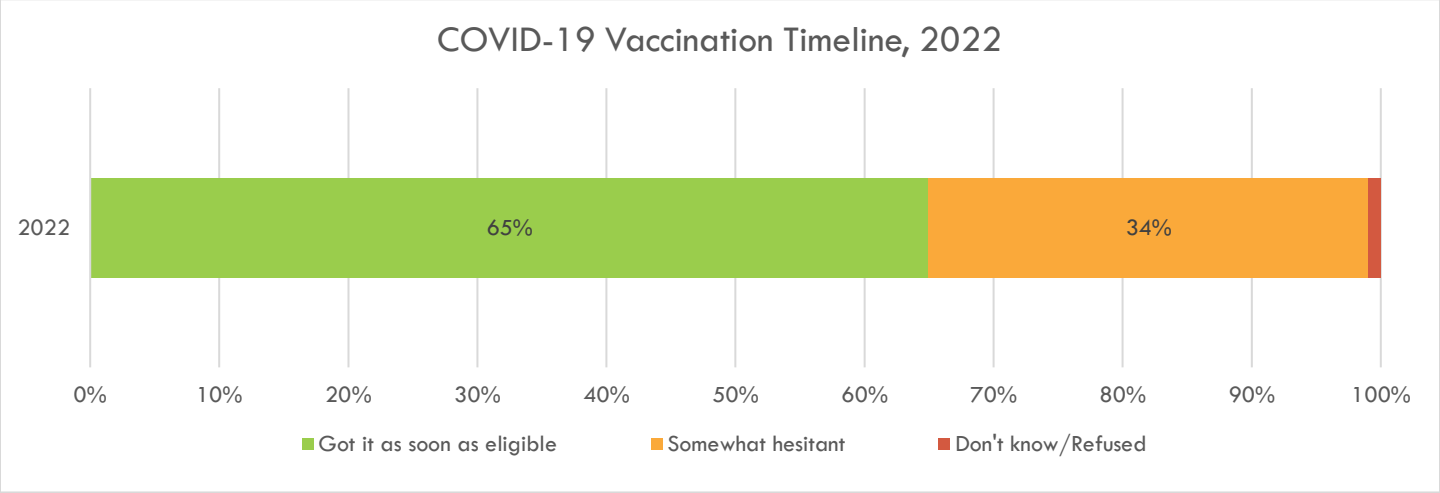
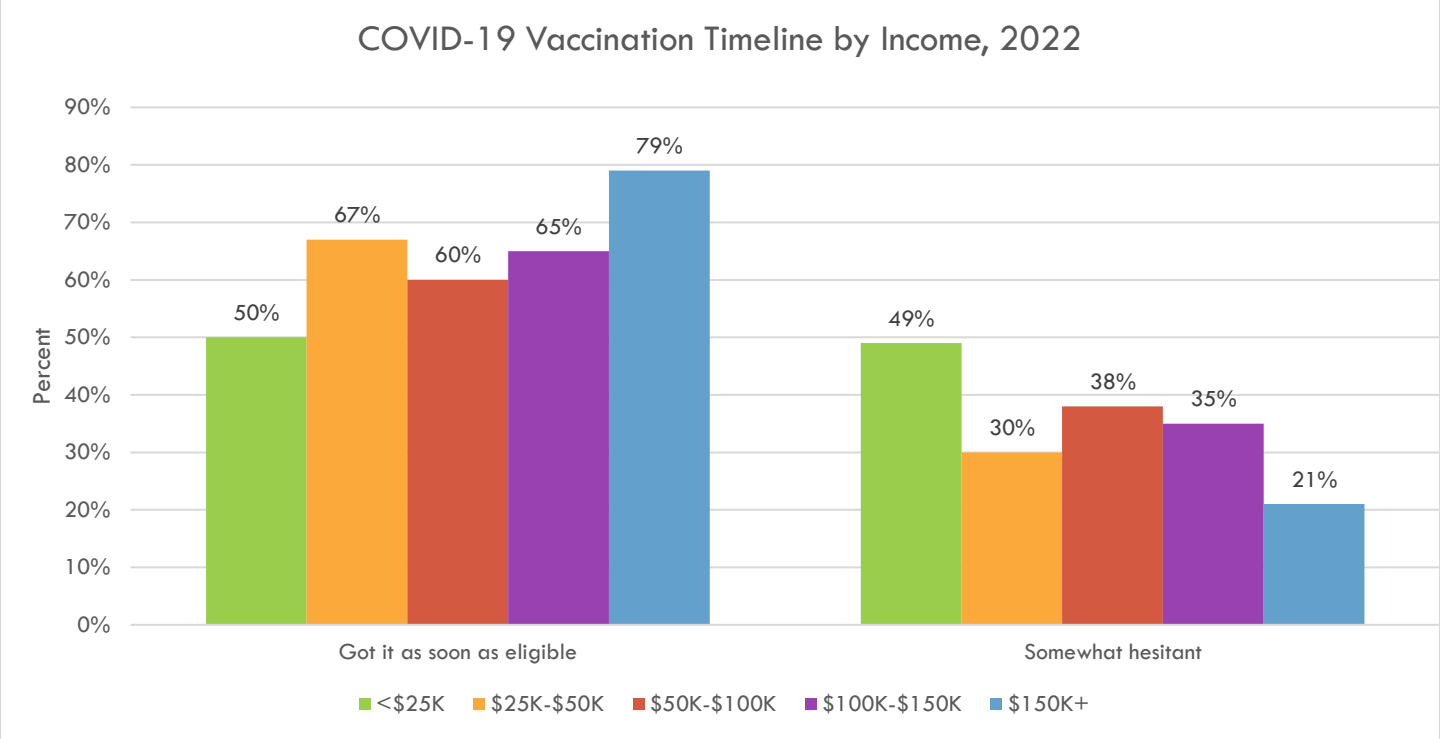


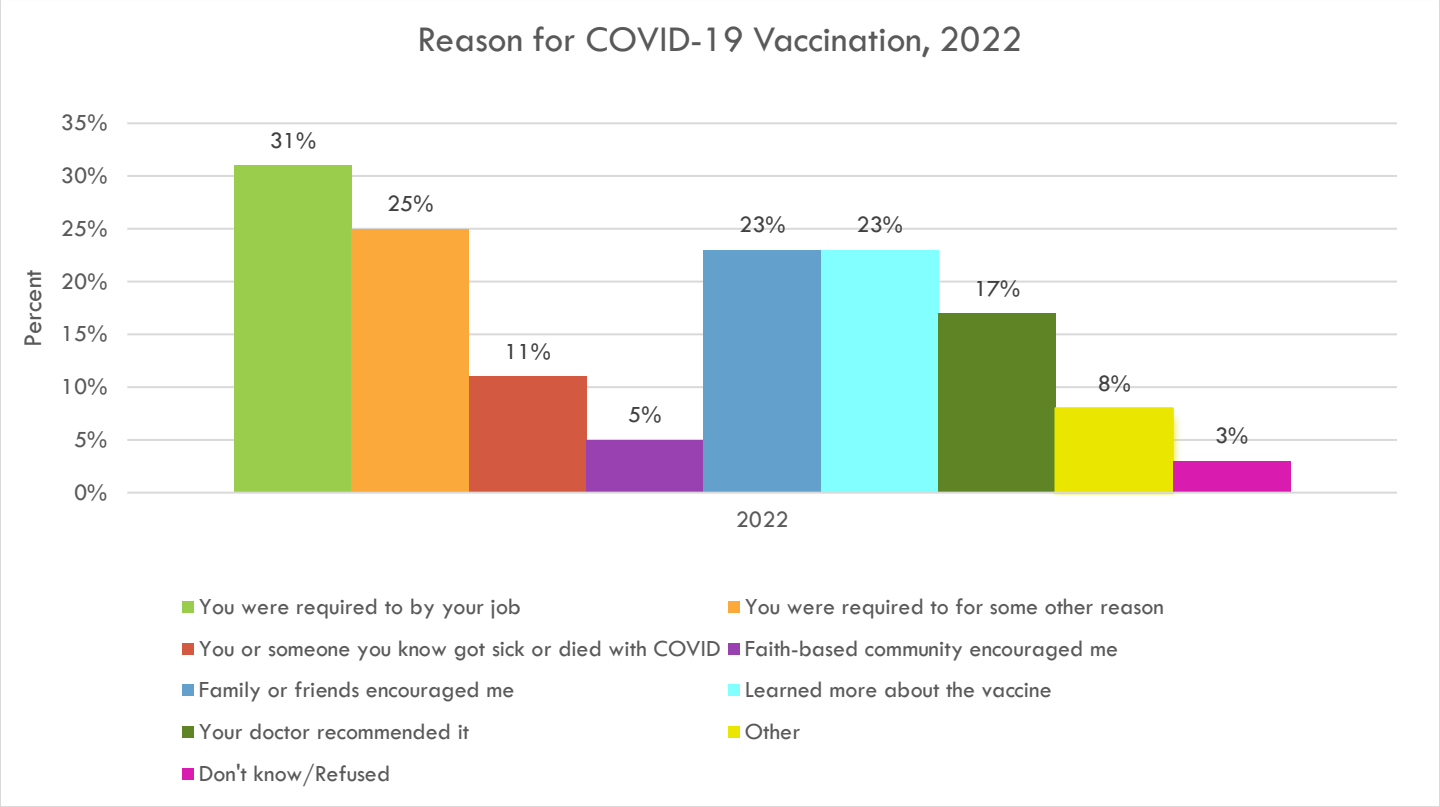
Figure 188



Among those interviewed, the number one reason that people got vaccinated when they were hesitant to do so was because their job required them to (31%). Other popular reasons include being required to for some other reason (25%), family or friends encouraged them (23%), and they learned more about the vaccine (23%).

Survey Question 52: *(If vaccinated for COVID and somewhat hesitant) Why did you end up getting the vaccine?*

Figure 189



MENTAL HEALTH AND SUBSTANCE USE

Mental health is a crucial component of overall health and well-being. Mental health includes our emotional, psychological, and social well-being. It affects how we behave, make decisions, handle stress, relate to others, think, feel, and make healthy choices. It is an important piece at every stage of life from childhood through adulthood. This section examines the perceptions of mental health of Orange County residents. It also explores the numerous factors that can affect mental health including substance use, resource availability and accessibility, and social variables.

Only 41% of Orange County residents feel it is either completely true or somewhat true that there are sufficient, quality mental health providers. This is a significant drop from 2018 in which 55% believed it was true. More than 50% of residents feel there are insufficient providers across all demographic stratifications.

Survey Question 5: *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.* ***There are sufficient, quality mental health providers.***

Figure 190

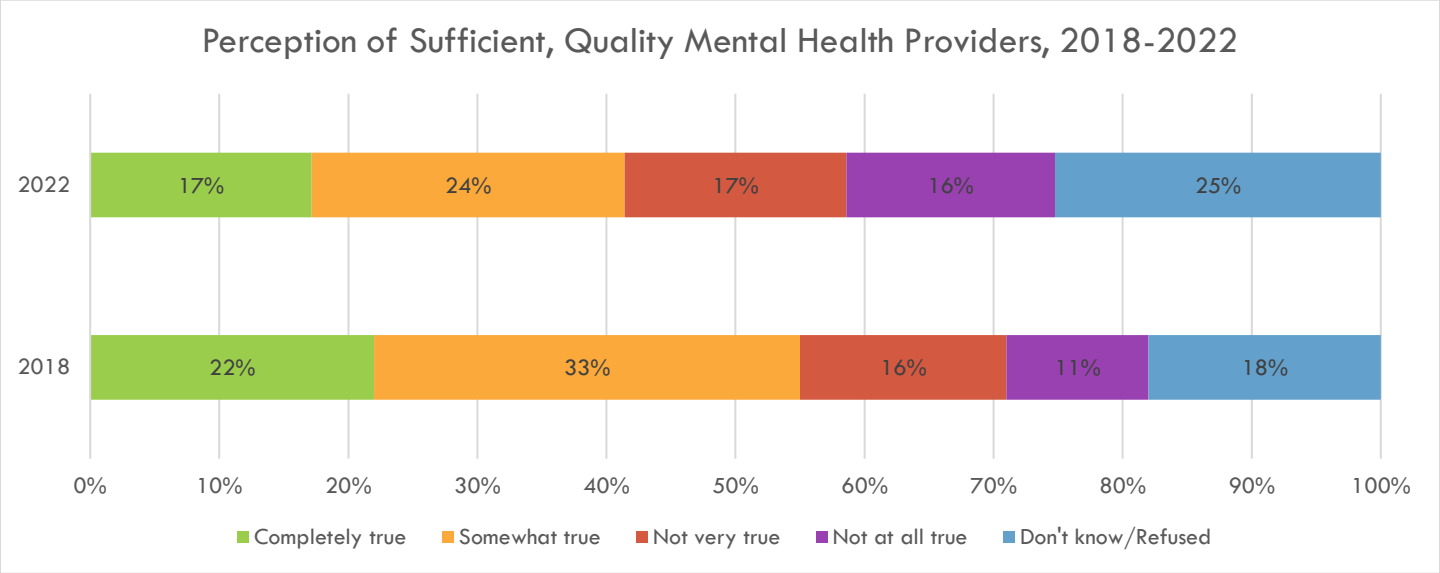
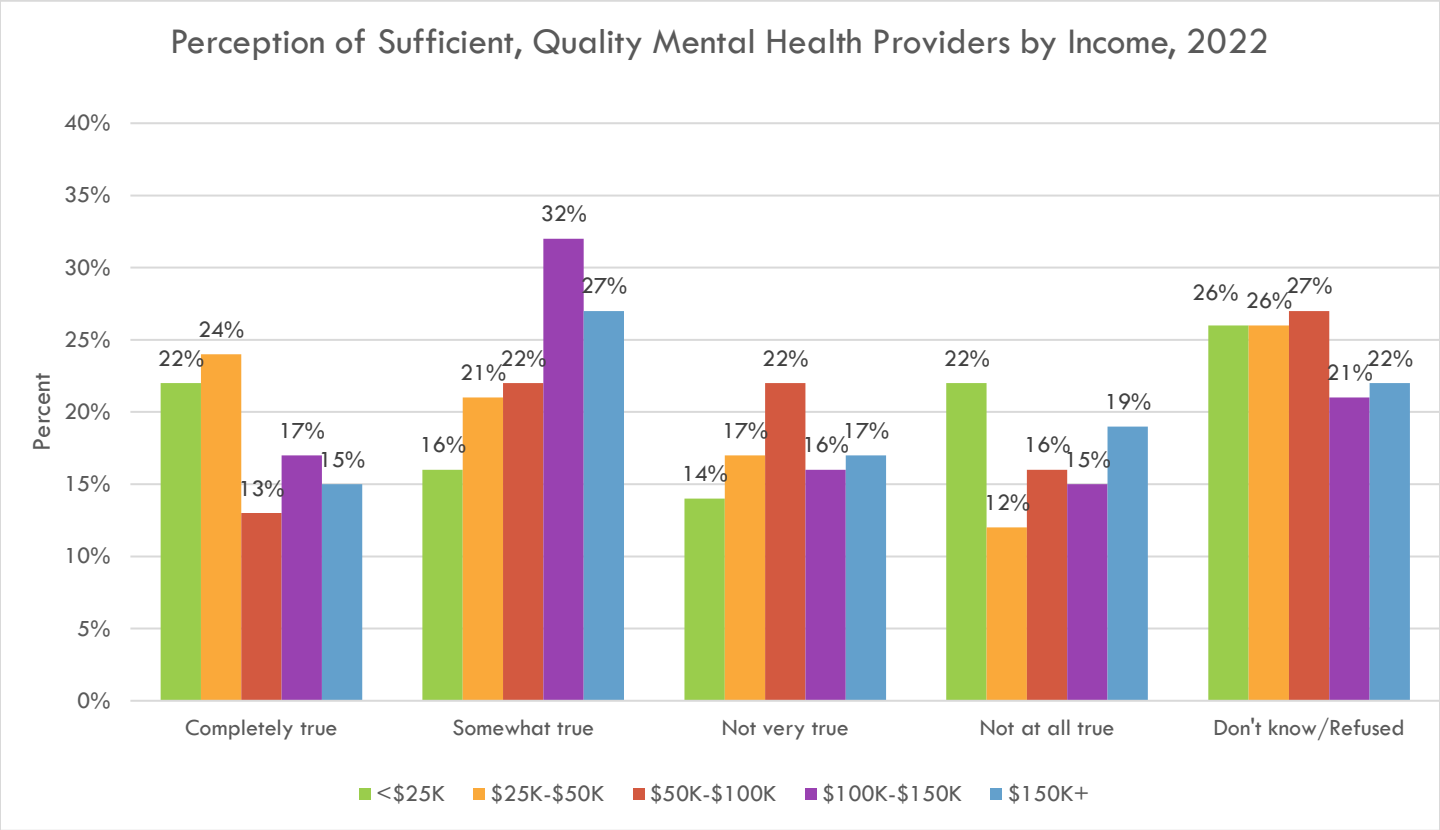


Figure 191


Perception of Sufficient, Quality Mental Health Providers by Income, 2022
Percent
40%
35%
30%
25%
20%
15%
10%
5%
0%
22%
24%
13%
17%
15%
16%
21%
22%
32%
27%
14%
17%
22%
16%
17%
22%
12%
16%
15%
19%
26%
26%
27%
21%
22%
Completely true
Somewhat true
Not very true
Not at all true
Don't know/Refused
<$25K
$25K-$50K
$50K-$100K
$100K-$150K
$150K+

The majority of Orange County residents (75%) rate their overall mental health as excellent or good. This is a decrease from 2018, when it was 84%. Perception of mental health seems to improve with age, with 59% of the 18 to 34 age group with a positive rating, while 85% of the group aged 55 years and older has a positive rating. Only 63% of those that rent have good mental health, compared to 86% of those that own homes. Finally, perception of mental health seems to improve with higher incomes, with individual making under $25k having 61% good ratings which progressively improves to those making $150k and more having 86% good ratings.

Survey Question 11: *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?*

Figure 192

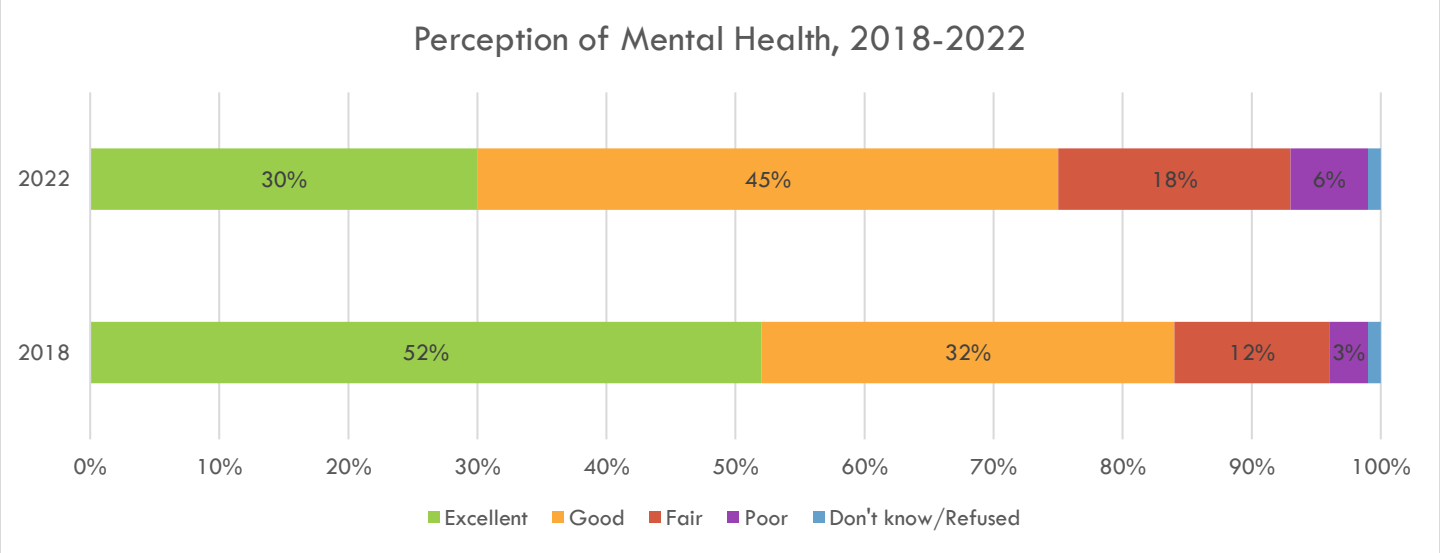
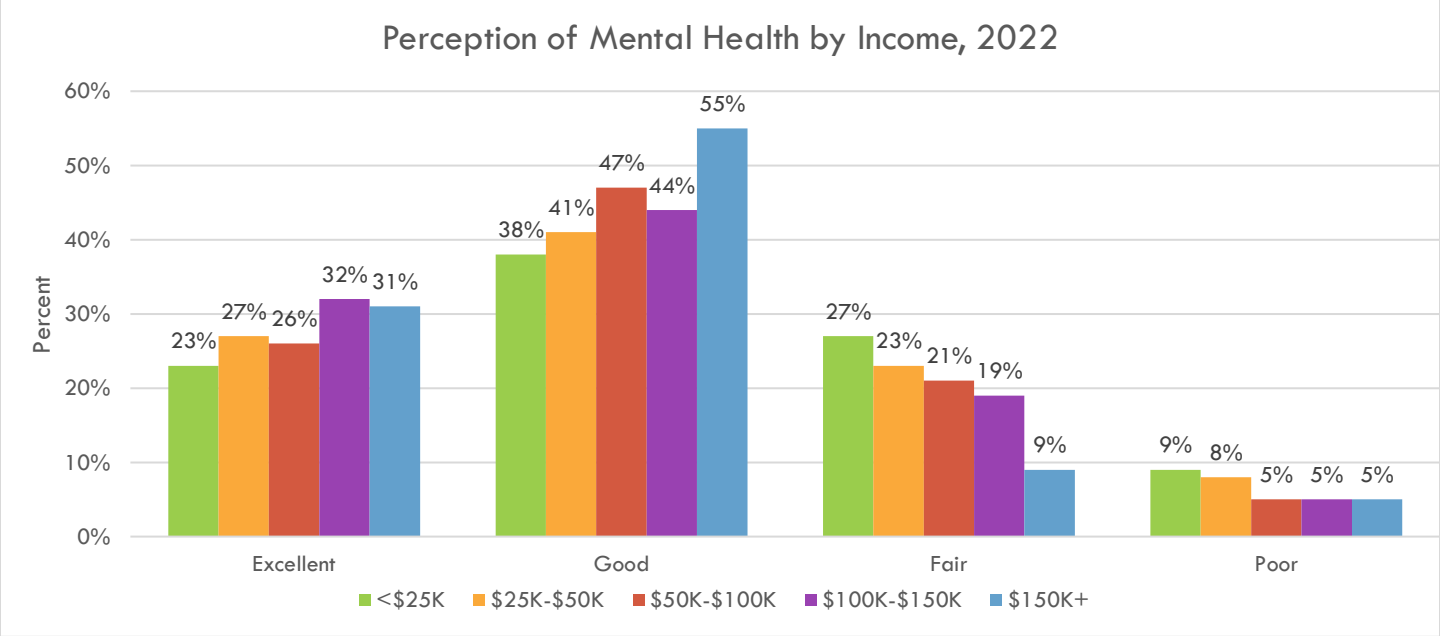


Figure 193



The majority of respondents in Orange County said they were either somewhat stressed or very stressed (63%), and of this 46% were somewhat stressed. This total is a small increase of 3% from 2018. Females feel more stress at 72%, compared to 54% of males. Feelings of stress decrease with increased age, with 69% of those aged 18 to 24 having some level of stress, compared to 49% of those age 55 years and older. Those that rent homes have greater feelings of stress at 68%, compared to 58% of homeowners. Employed persons also have more stress at 74%, while unemployed persons are at 54%. Finally, 71% of respondents with children feel a level of stress, compared to 59% of those without children.

Survey Question 15: *On an average day, how stressed do you feel?*

Figure 194

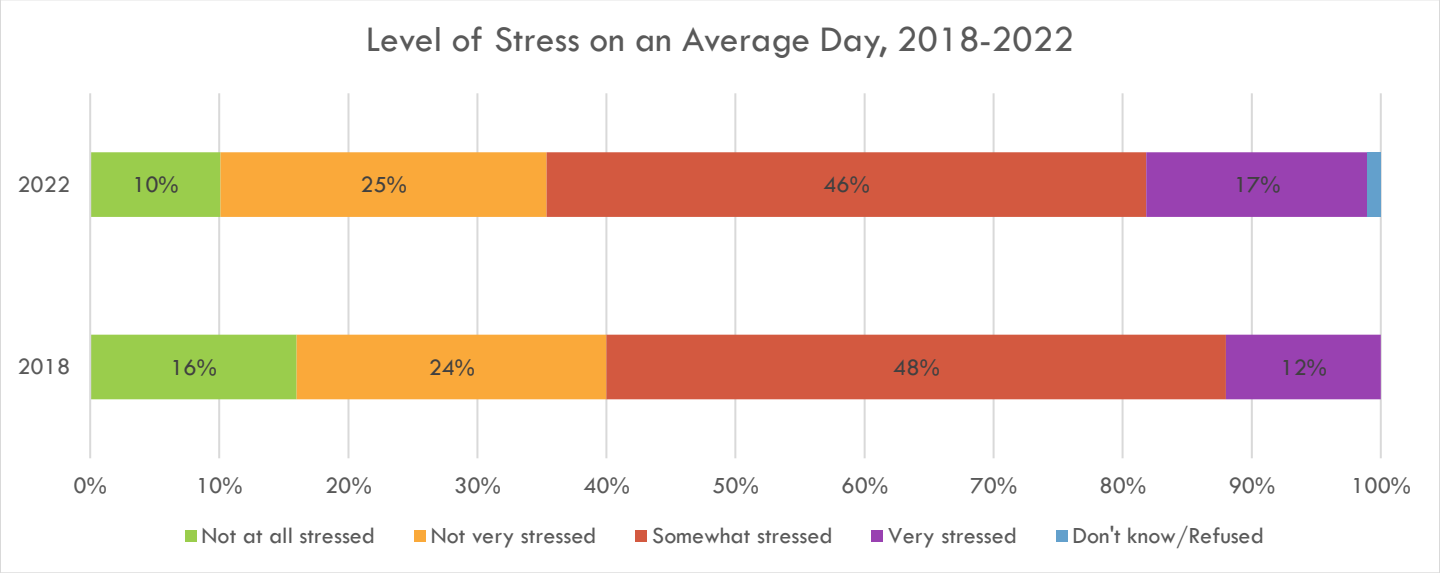
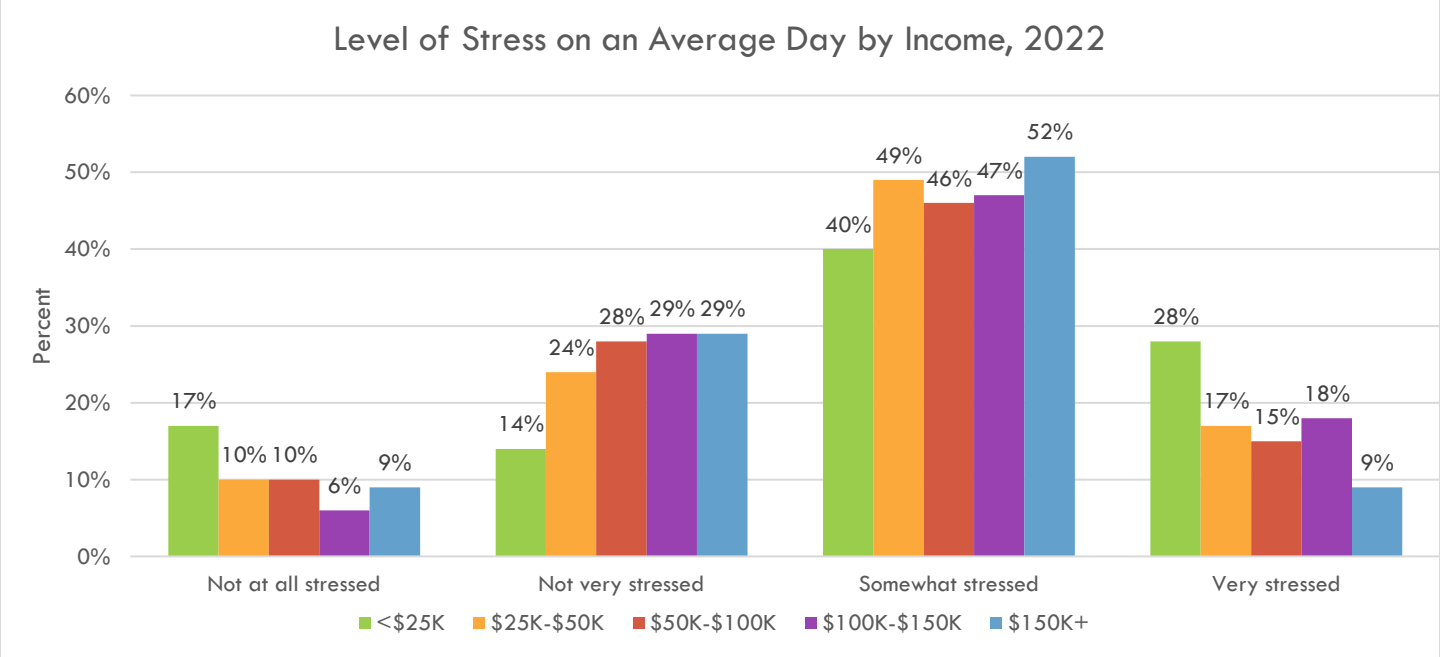


Figure 195



Around 64% of Orange County respondents feel they have quality encounters more than three times per week. This is a decrease from 78% in 2018. Persons aged 55 years and older have the most quality encounters at 74%. Non-White persons have far fewer quality encounters at 53%, compared to White persons at 70%. Renters also have less at 56%, compared to homeowners at 71%. Finally, there seems to be greater number of quality encounters as income increases, with only 45% of individuals making under $25k having more than three per week, compared to 72% of people making $150k or more.

Survey Question 16: *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?*

Figure 196

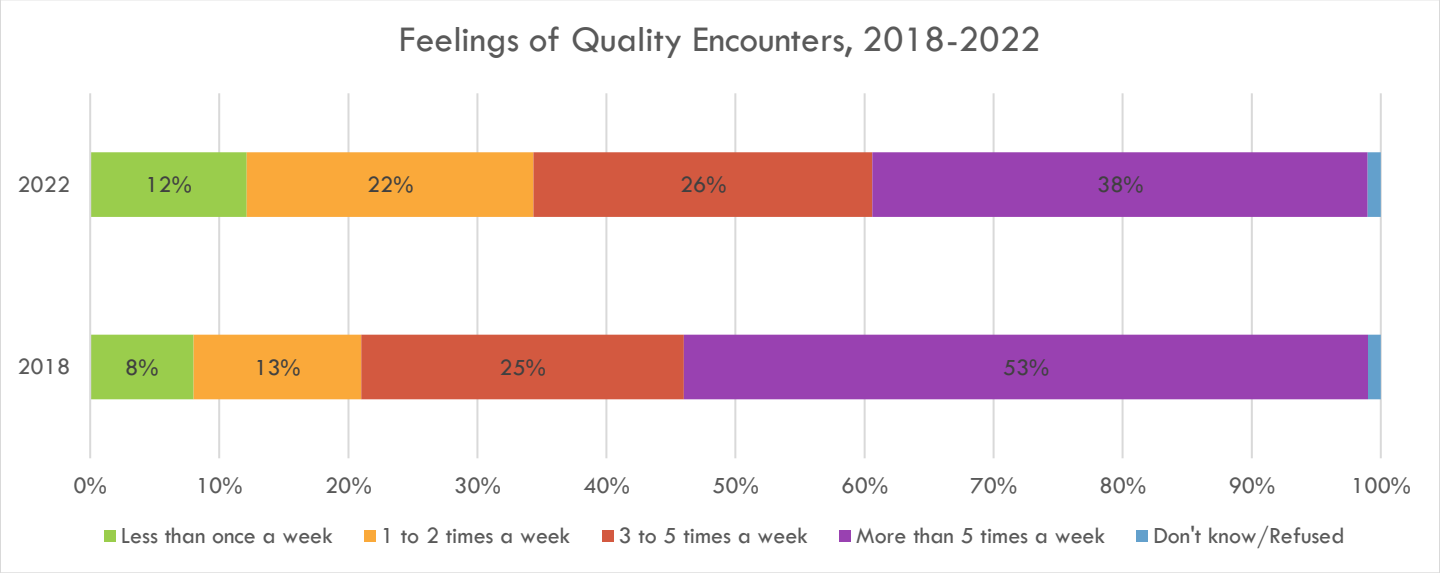
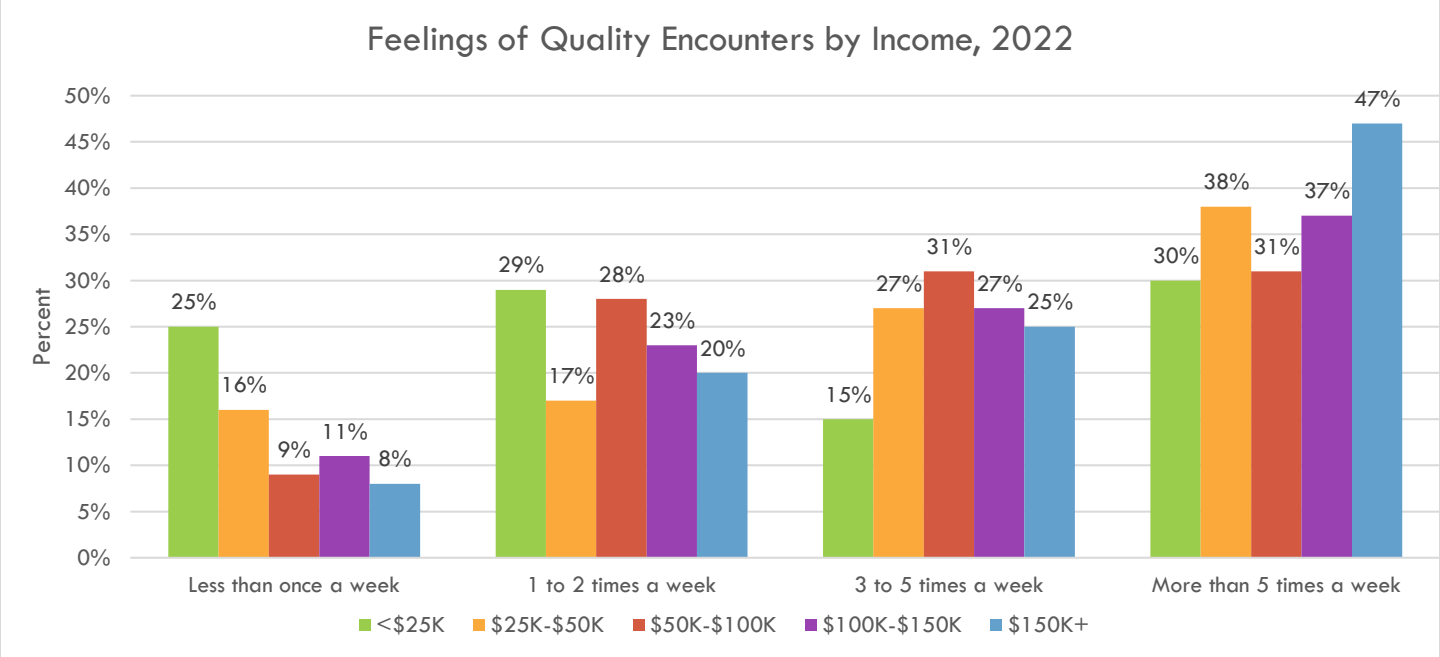


Figure 197



Most Orange County residents consume alcohol less than once per week, representing 73% of the population. Alcohol consumption increases with age, with only 18% of 18- to 34-year-olds drinking more than once per week, compared to 28% of people aged 55 years and older. Non-White persons also drink less, with only 15% drinking more than once per week, compared to 31% of White people. Persons that own a home also drink more at 32%, compared to 16% of renters. Drinking seems to increase with income as $150k and more earners represent 33% of those that drink more than once per week, compared to only 14% of those making under $25k.

Survey Question 17: *How frequently in the past year, on average, did you drink alcohol?*

Figure 198

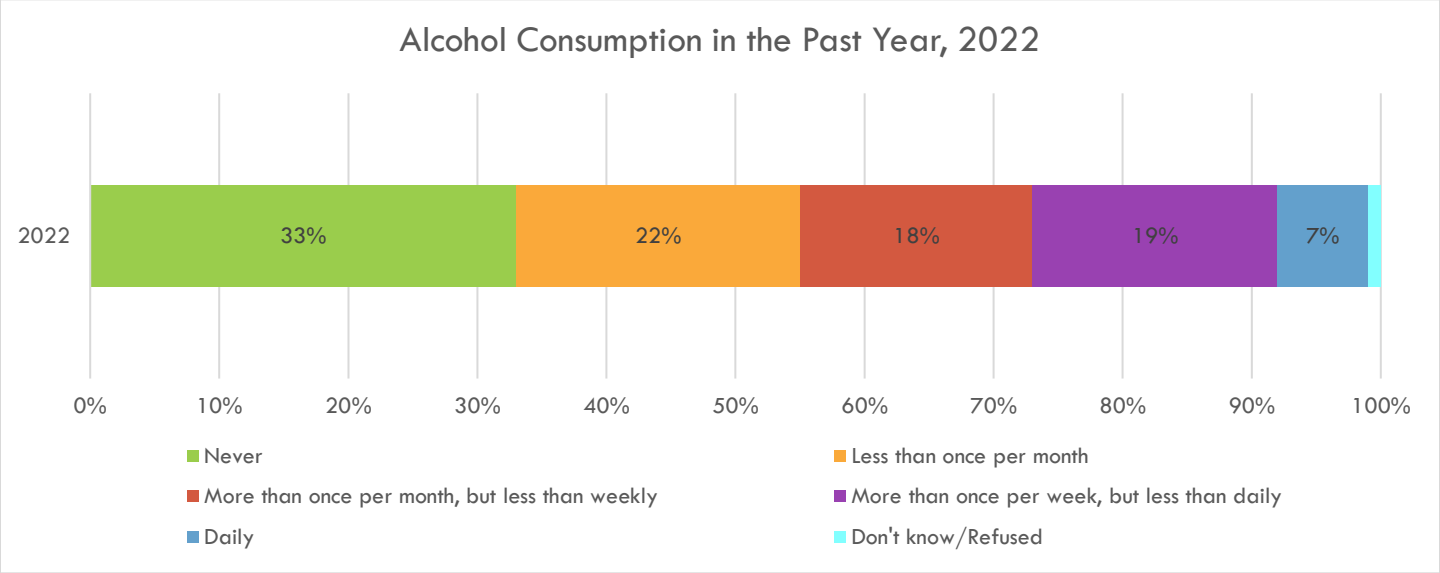
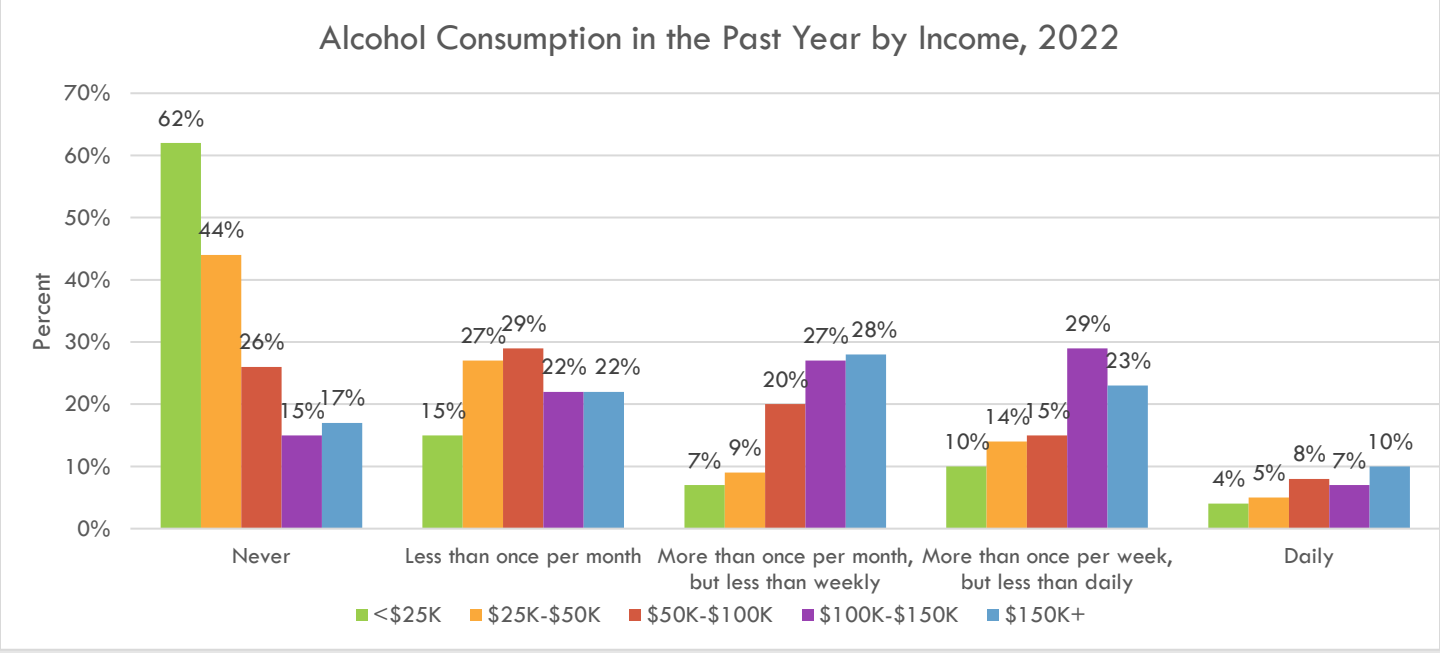


Figure 199



The majority of Orange County respondents drink alcohol about as often as they did before the COVID-19 pandemic (58%). This selection is true for more than 50% of respondents across all demographics, except non-White persons at 49%. The group aged 18 to 34 years drinks significantly less often than before (41%) compared to other age groups. Non-White persons also drink less often at 35%, compared to White persons at 24%. Renters drink less often now than before at 35%, compared to homeowners at 21%. Interestingly, those that had COVID-19 drink more often than they did, representing 20% of respondents, compared to 9% of those that did not have COVID-19.

Survey Question 18: *(If drank in alcohol in the past year) Do you currently drink alcohol less often than you did before the COVID-19 pandemic, more often than you did before the pandemic or about as often as you did before the pandemic?*

Figure 200

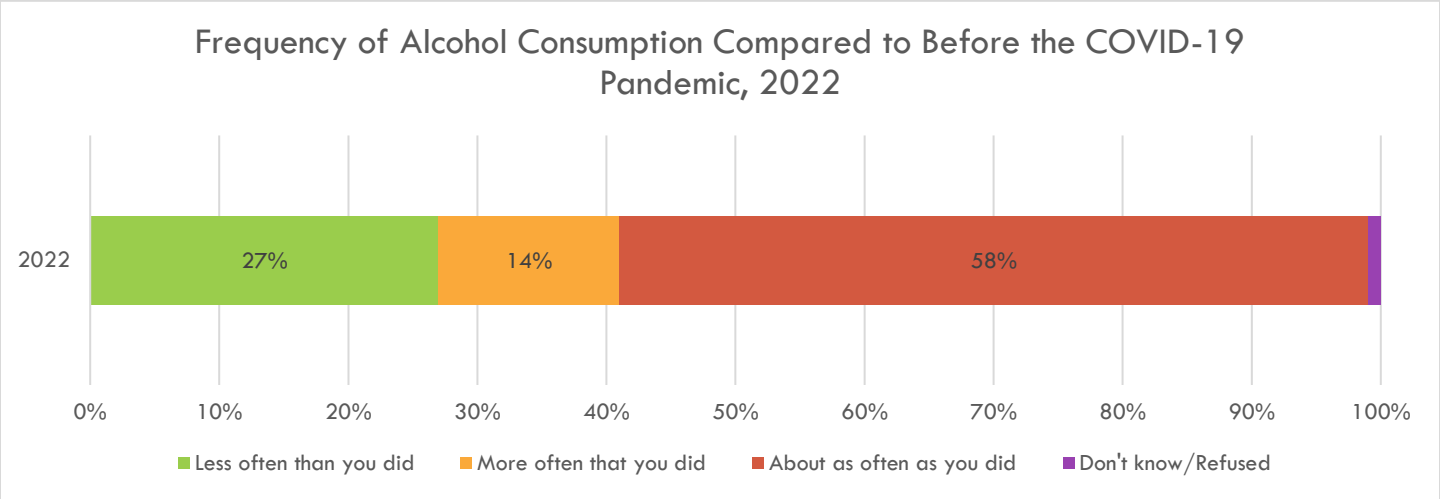
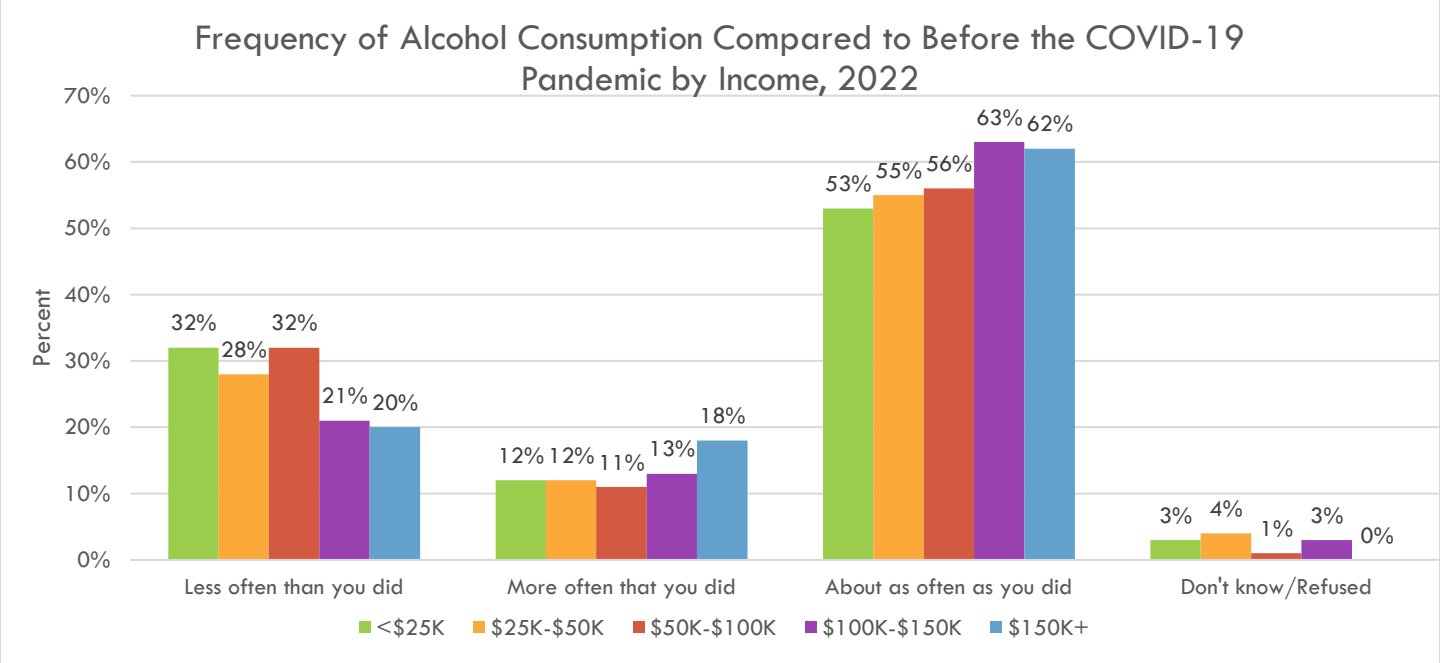


Figure 201



Most Orange County residents (76%) have never used a drug for non-medical reason. This is a significant drop since 2018, when 91% did not. This could be affected by the de-stigmatization and legalization of recreational marijuana in NYS. Between 70% and 80% responded they have never used drugs across all demographic variables, and all other answers are similar.

Survey Question 19: *How frequently in the past year have you used a drug whether it was a prescription medication or not, for non-medical reasons? (2018 survey question: How frequently in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?)*

Figure 202

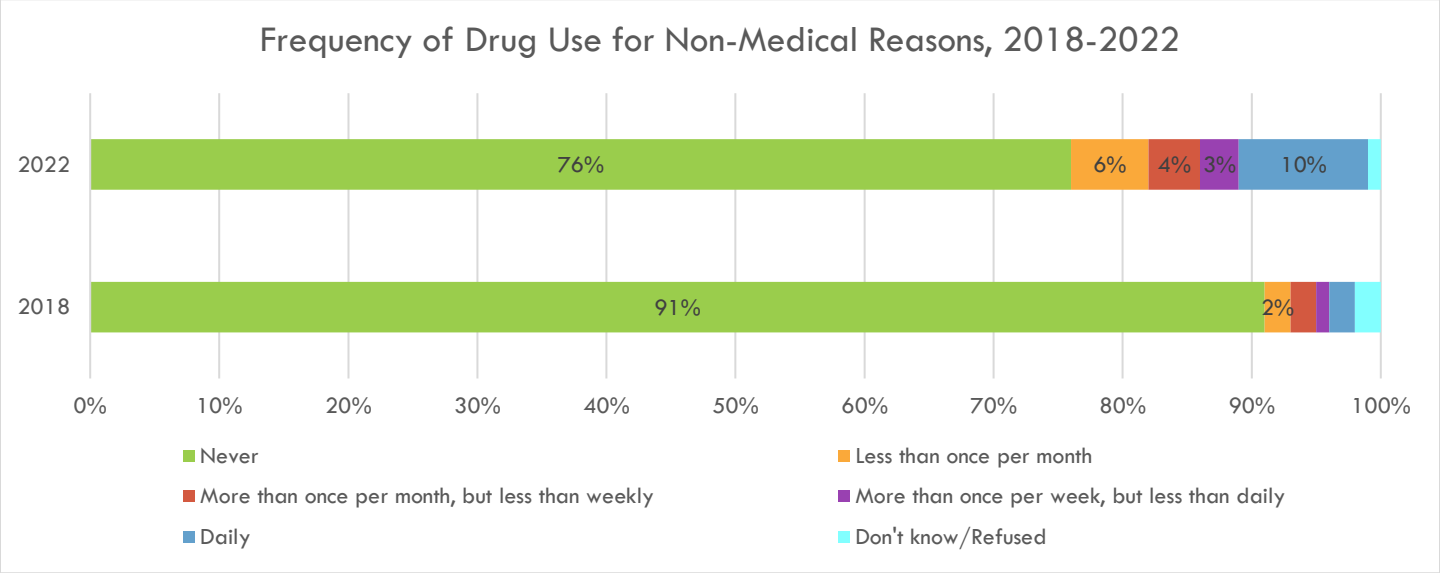
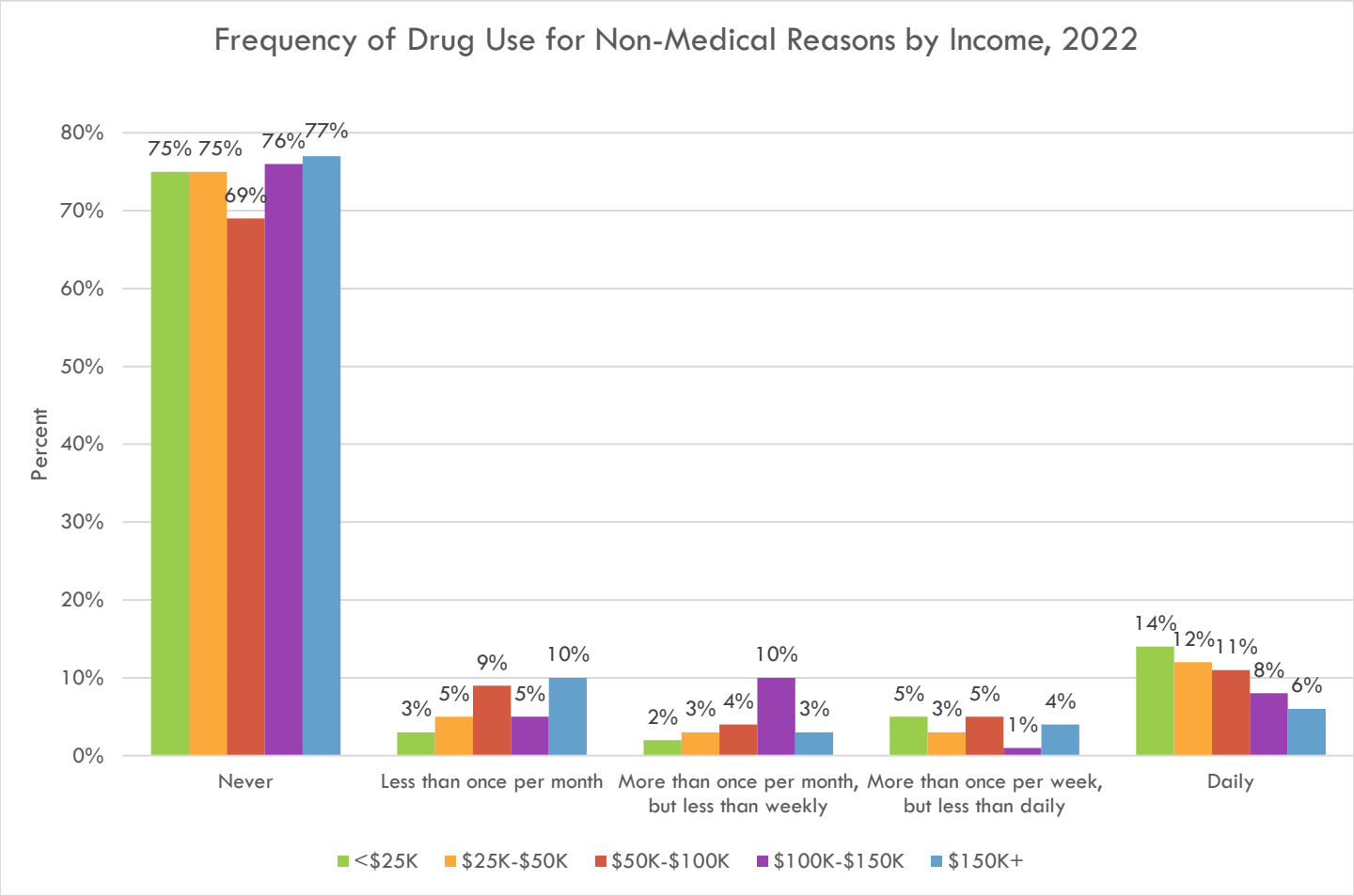


Figure 203


Frequency of Drug Use for Non-Medical Reasons by Income, 2022
Percent
80%
70%
60%
50%
40%
30%
20%
10%
0%
75% 75% 69% 76% 77%
3% 5% 9% 5% 10%
2% 3% 4% 10% 3%
5% 3% 5% 1% 4%
14% 12% 11% 8% 6%
Never
Less than once per month
More than once per month, but less than weekly
More than once per week, but less than daily
Daily
<$25K
$25K-$50K
$50K-$100K
$100K-$150K
$150K+

For those that responded they did use drugs for non-medical reasons, 60% said they used about as often as they did before the pandemic. The age group of 18- to 34-year-olds had the greatest decrease in usage compared to other age groups, with 26% saying they use less often. Non-White persons have increased usage with 24% saying they use more often. This is a greater increase than that of White persons (8%). Renters also seem to use more often at 20%, compared to homeowners at 8%. Finally, usage seems to decrease as income increases, with 24% of persons making under $25k saying they use more often, compared to only 11% of those making $150k and more.

Survey Question 20: *(If used a drug for non-medical reasons in the past year) Do you currently use any type of drug less often than you did before the COVID-19 pandemic, more often than you did before the pandemic or about as often as you did before the pandemic?*

Figure 204

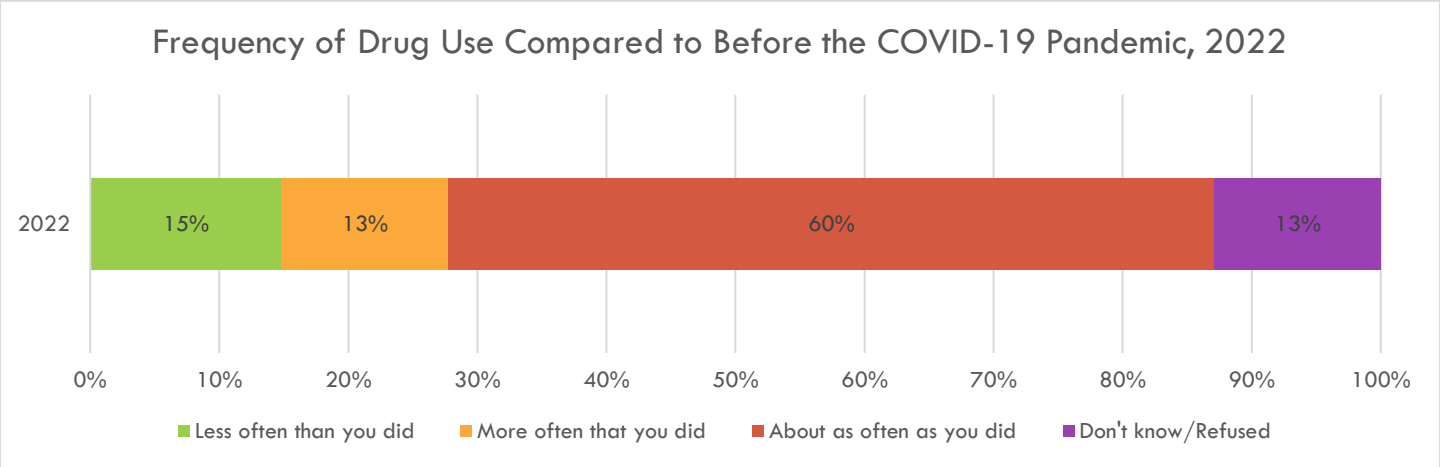
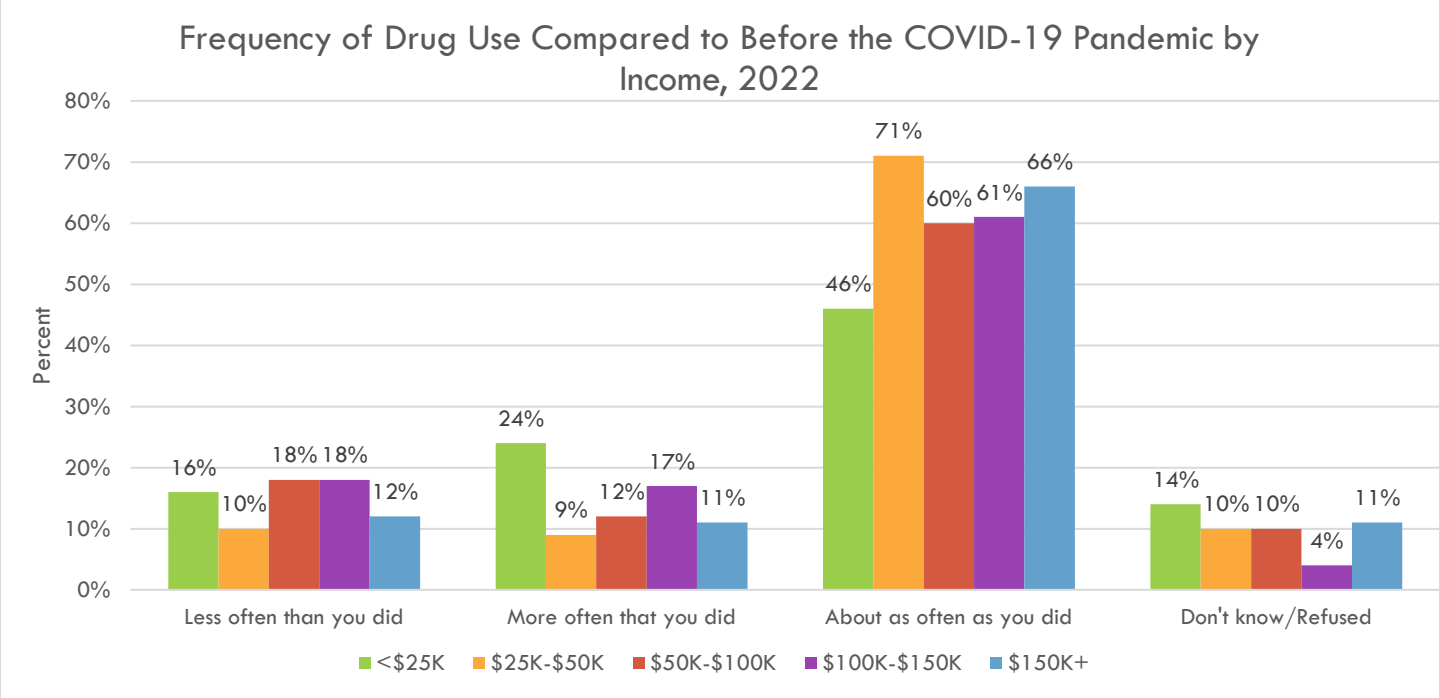


Figure 205



Most Orange County residents said they have not visited a mental health provider in the last 12 months (83%). Similar rates exist across nearly every demographic. Persons aged 55 years and older use this service the least at only 9%, compared to 19% of the age group 18 to 34 years, and 22% of the age group 35 to 54 years. Renters also use mental health providers more, with 24% saying they have visited a mental health provider in the last 12 months, compared to only 12% of homeowners. Finally, those with a disability in the household use this service the most at 32%, compared to only 13% of those without disability in the household.

Survey Question 36: *Have you visited a mental health provider, such as a psychiatrist, psychologist, social worker, therapist for 1-on-1 appointments or group-sessions (either in-person or online), etc. within the last 12 months? (2018 survey question: (If experienced mental health condition or substance/alcohol use disorder) 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?)*

Figure 206

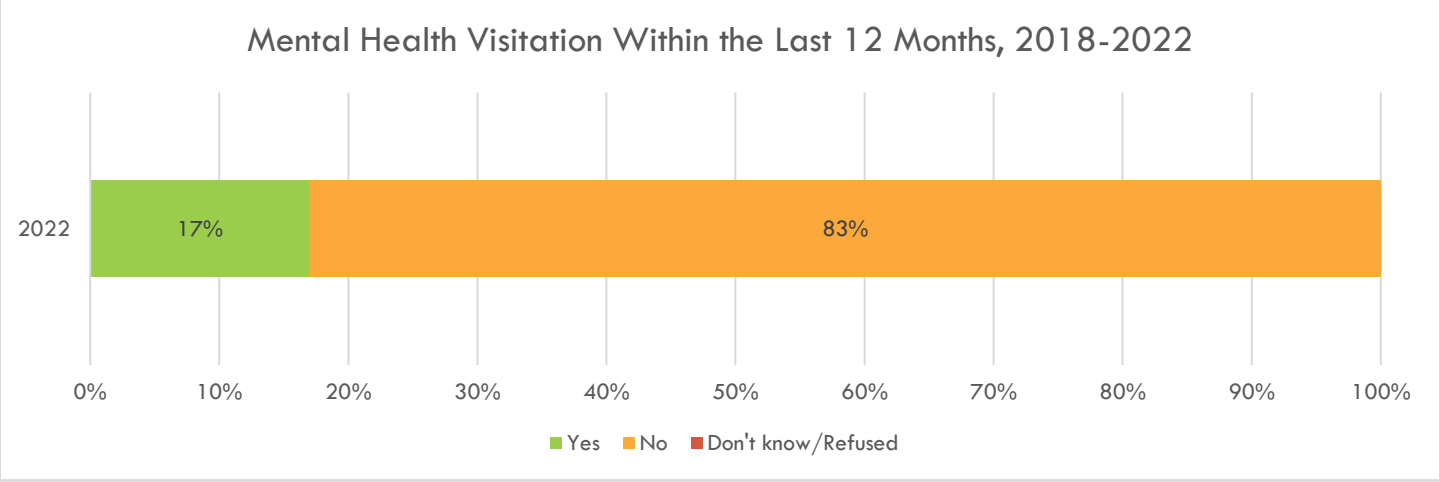
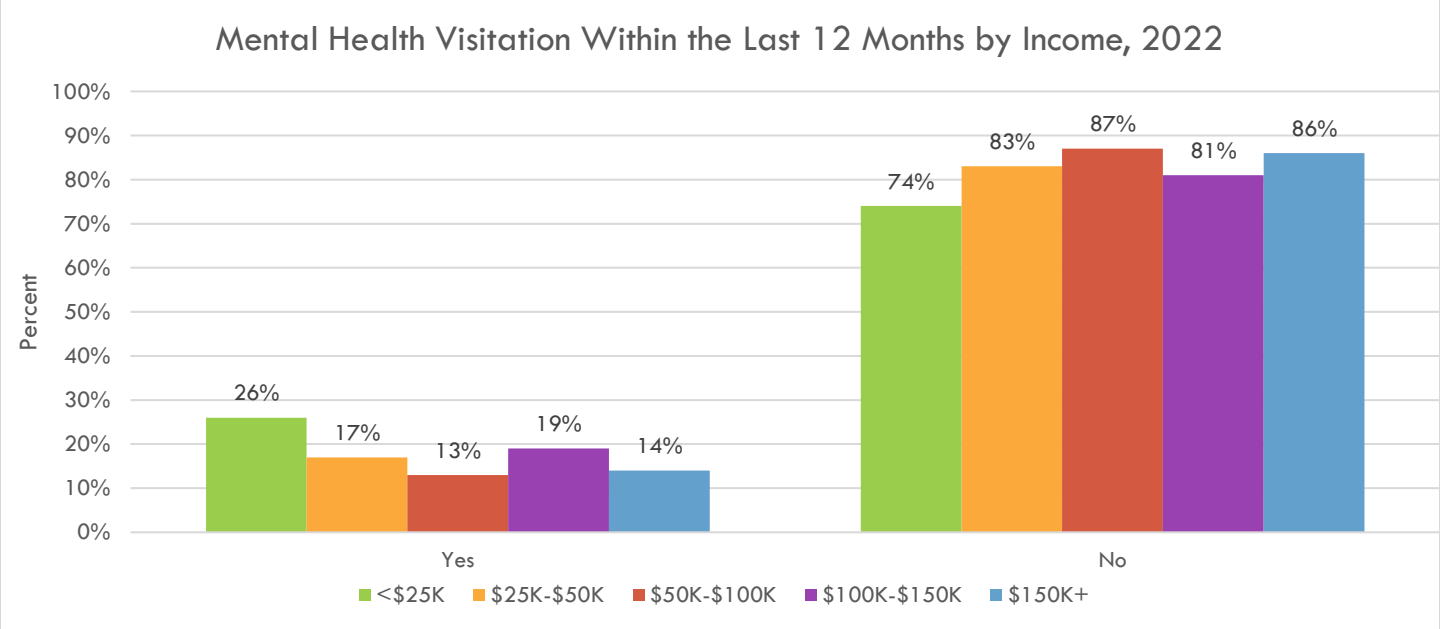


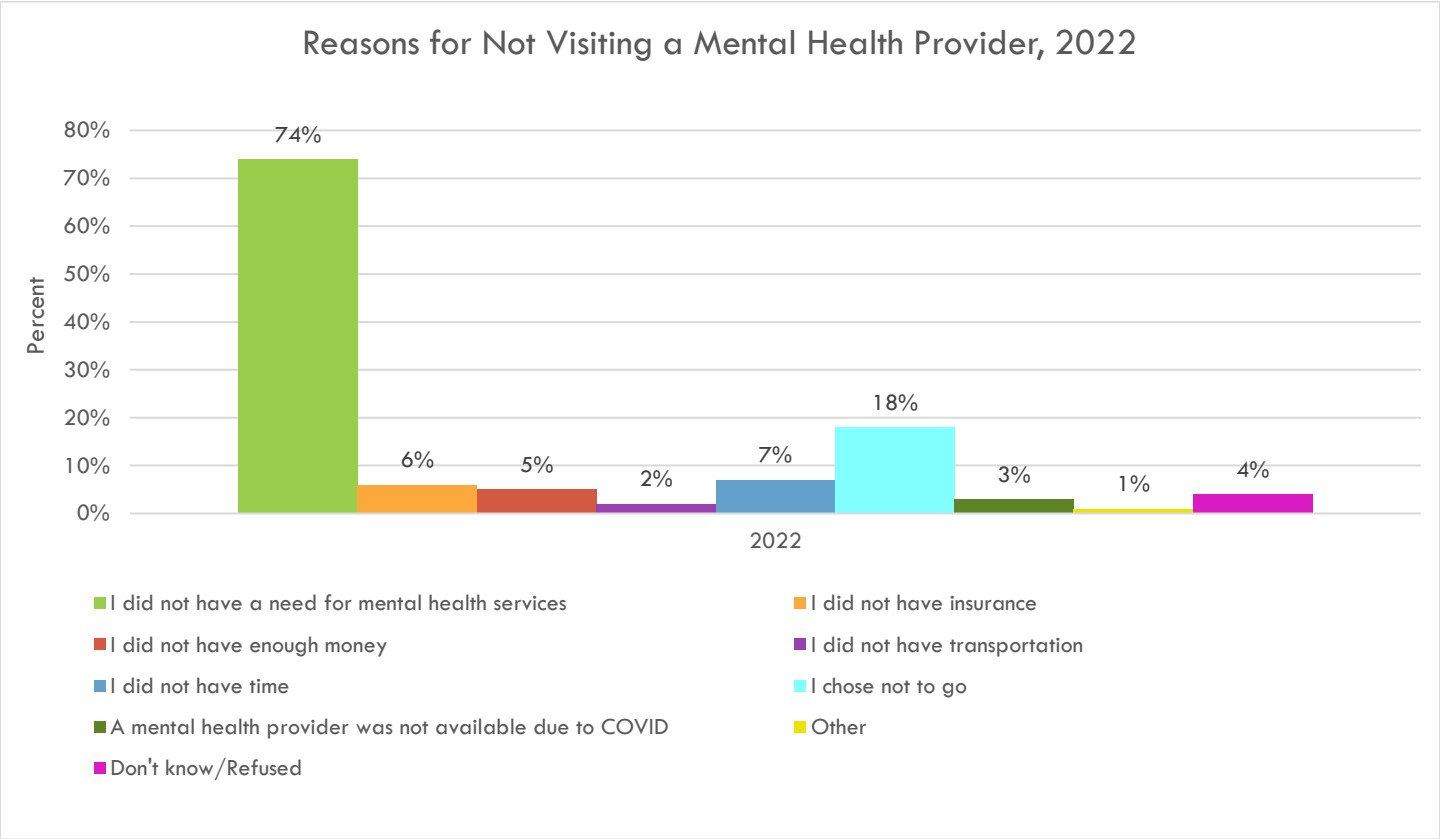
Figure 207



For those that did not use a mental health provider in the last 12 months, 74% of respondents said they did not have a need for these services. The second most frequent response was 19% that chose not to go. It should be noted that age group 18 to 34 years had 13% that responded they did not have health insurance as the reason. This response decreases with increased age.

Survey Question 37: *(If did not visit mental health provider in the past year) In the last 12 months, were any of the following reasons that you did not visit a mental health provider?*

Figure 208



Reasons for Not Visiting a Mental Health Provider by Income, 2022					
	<$25K	**$25K-$50K**	**$50K-$100K**	**$100K-$150K**	**$150K+**
I did not have a need for mental health services	65%	67%	73%	79%	75%
I did not have insurance	8%	11%	6%	5%	7%
I did not have enough money	7%	9%	6%	4%	3%
I did not have transportation	3%	1%	1%	3%	1%
I did not have time	6%	7%	8%	12%	3%
I chose not to go	12%	16%	21%	17%	20%
A mental health provider was not available due to COVID	6%	1%	2%	5%	1%
Other	3%	1%	1%	1%	2%
Don't know/Refused	6%	7%	4%	1%	2%

SOCIAL DETERMINANTS OF HEALTH

Social determinants of health are conditions in the places where people live, learn, work, and play that affect a wide range of health and quality of life risks and outcomes. Survey data show that increasing age and income improve access to the resources needed for quality standard of living including food, transportation, housing, healthcare, economic stability, safe neighborhoods and environments, and education.

18% of individuals that rent said that they had been unable to get food when it was really needed in the past 12 months, while only 8% of homeowners said the same. As would be expected, income played a large role in the responses to this question as well. Figure 210 shows the steady decline in food accessibility as income declines. For example, only 7% of people making $150k or more had an issue with this, while 27% of people making $25k or less reported a problem getting food when needed.

Survey Question 21: *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.* ***Food***

Figure 209

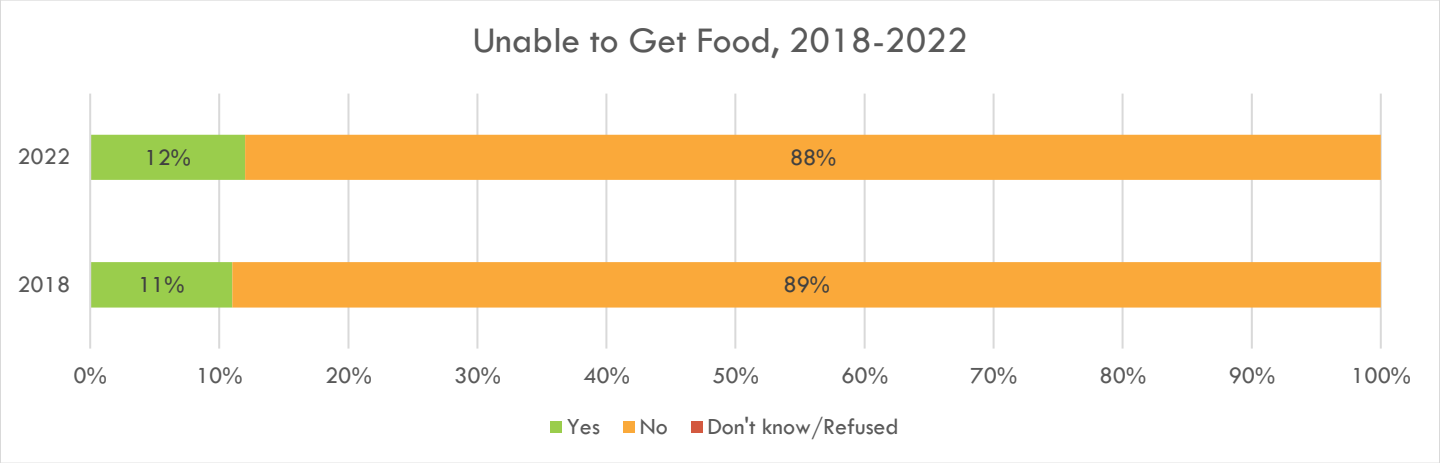
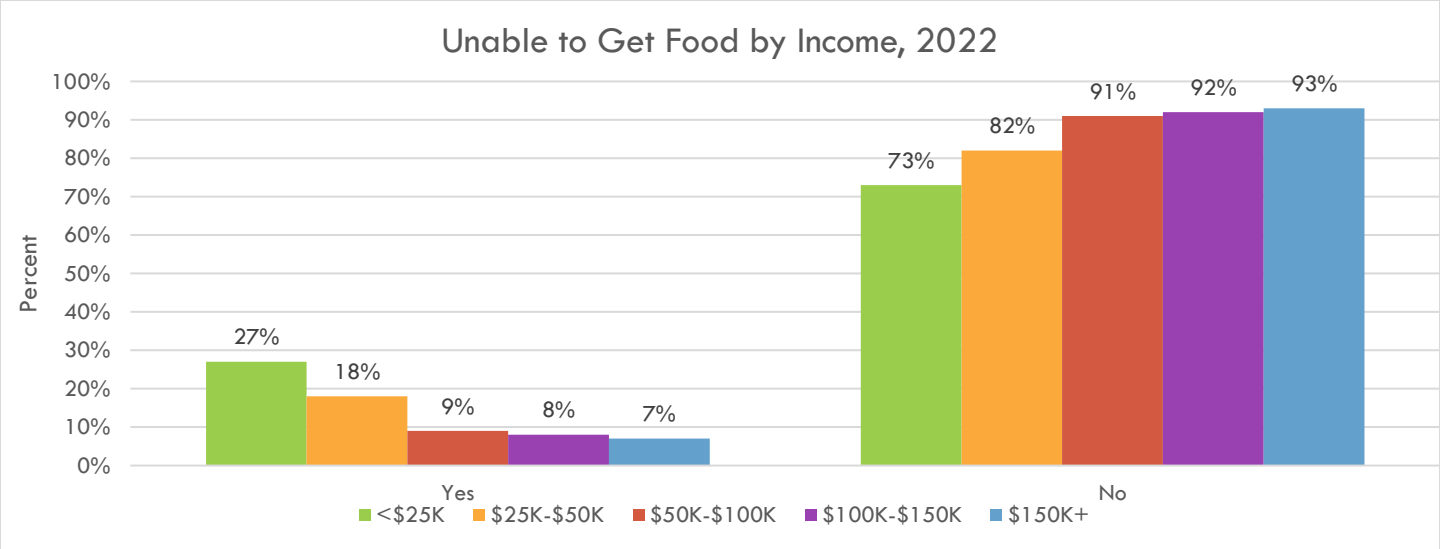


Figure 210



In the past 12 months, 21% of people that are non-White reported being unable to obtain utilities, including heat and electric, compared to only 9% of White people. Of those with children in the household, 19% also faced this issue, in contrast to only 9% of people without children. The largest differences can be seen based on income [see Figure 212]. 94% of people making $150k or more had no trouble accessing utilities, while only 72% of people making $25k or less faced no issue with this.

Survey Question 22: *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.* ***Utilities, including heat and electric***

Figure 211

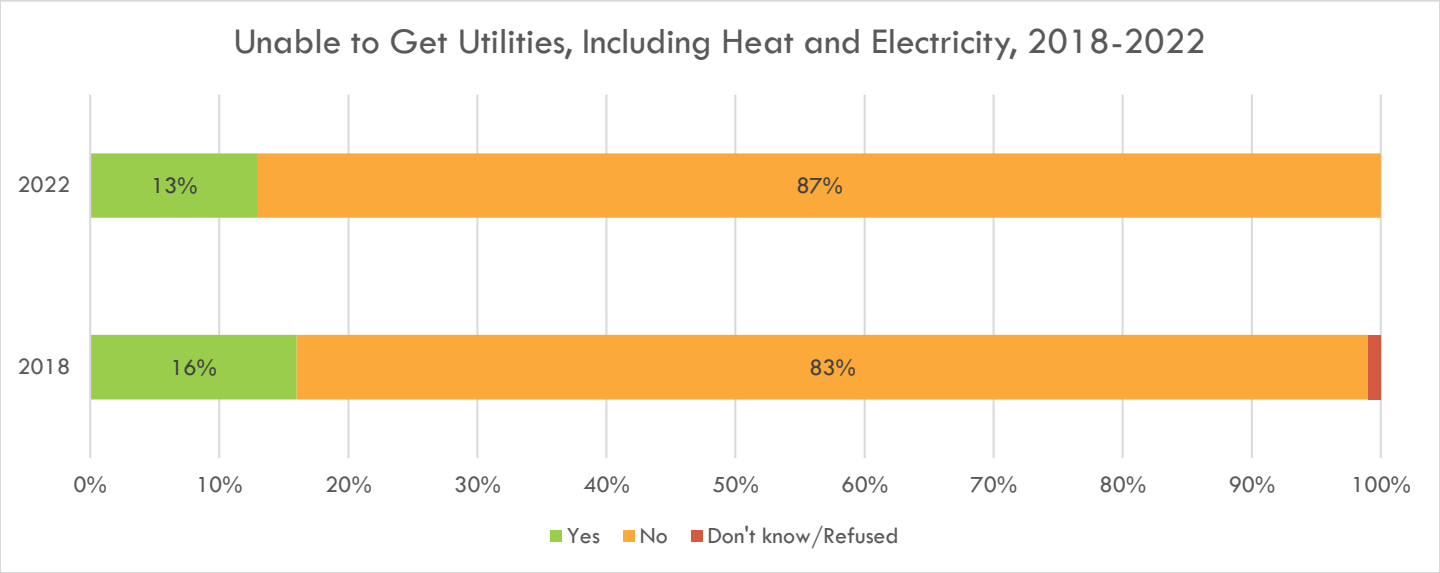
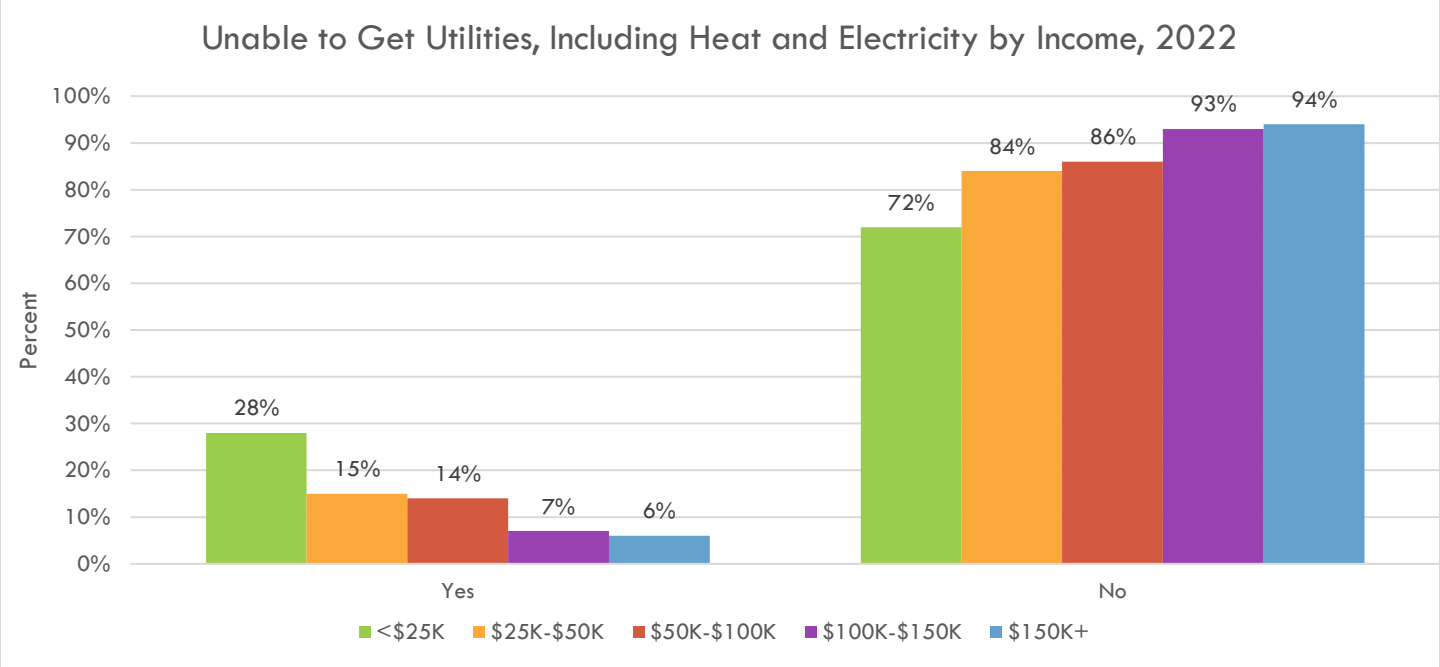


Figure 212



The only glaring difference noted in those who were unable to get a phone in the past 12 months was in the category of income. 24% of people making $25k or less had an issue with this, while only 8% of those making $150k or more faced the same inability to get a phone.

Survey Question 25: *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.* ***Phone***

Figure 213

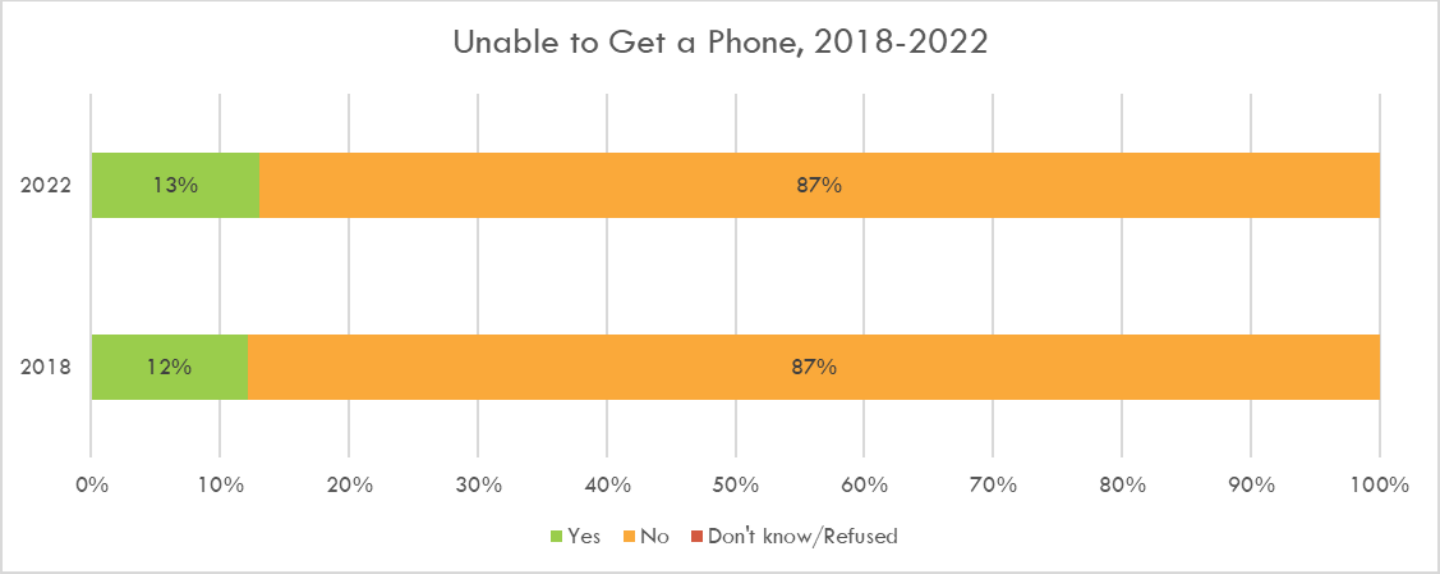
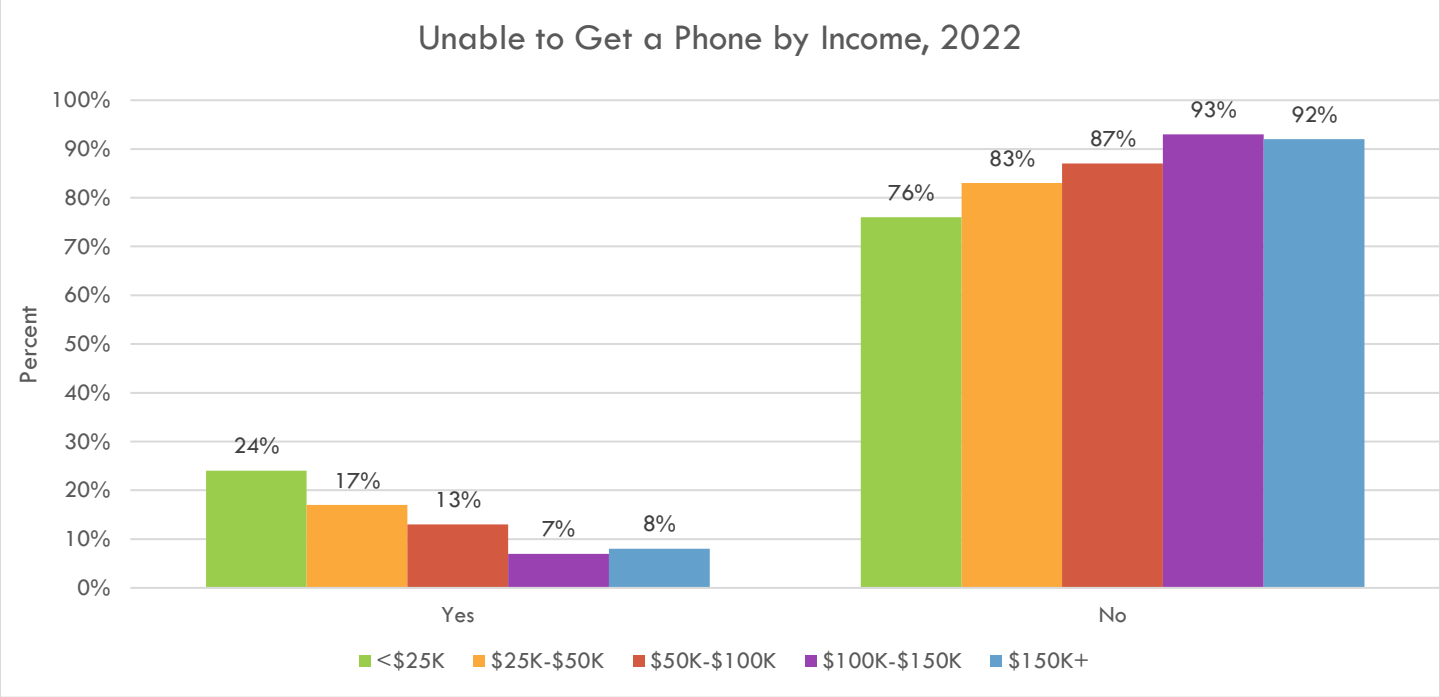


Figure 214



The ability to get transportation when needed in the previous 12 months was more difficult for renters than homeowners, as 27% of renters had difficulty while only 10% of homeowners reported the same issue. There is also a disparity between White and non-White people. 24% of non-White people said this was a problem compared to 13% of White people. Additionally, 26% of homes with a disabled household member had an issue with obtaining transportation, compared to only 14% of homes without any disabled household members. Income proved to be the biggest impact on transportation. Figure 216 shows that while 93% of people making $150k or more had no problems finding transportation, 67% of those making $25k or less did have an issue.

Survey Question 26: *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.* ***Transportation***

Figure 215

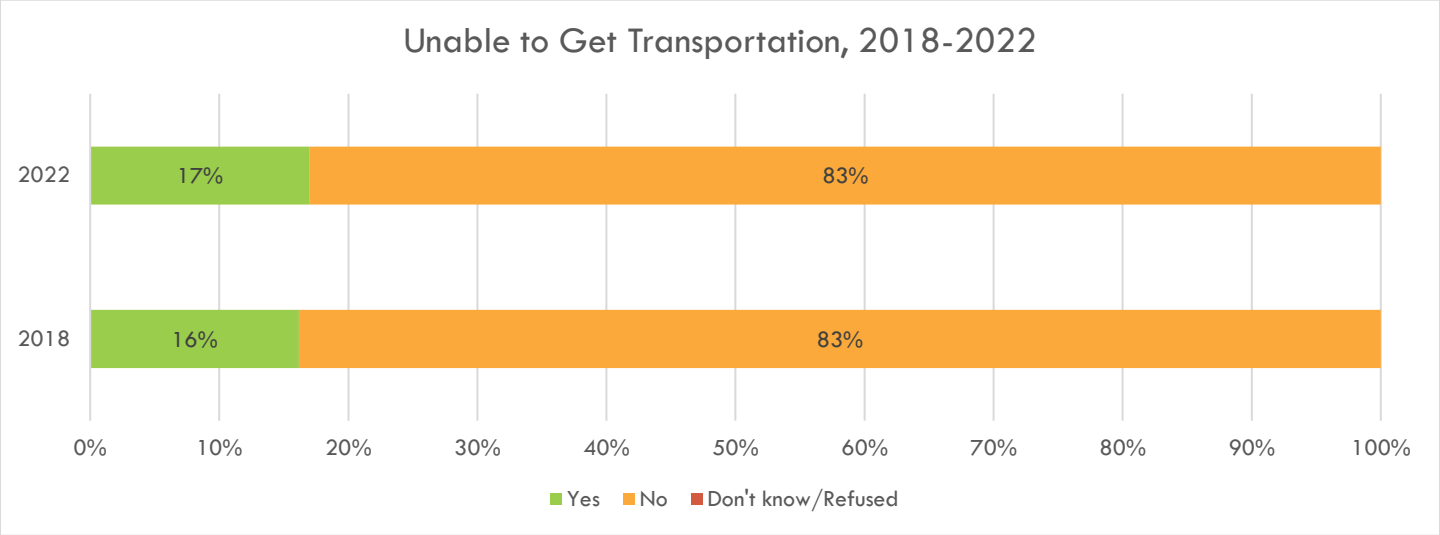
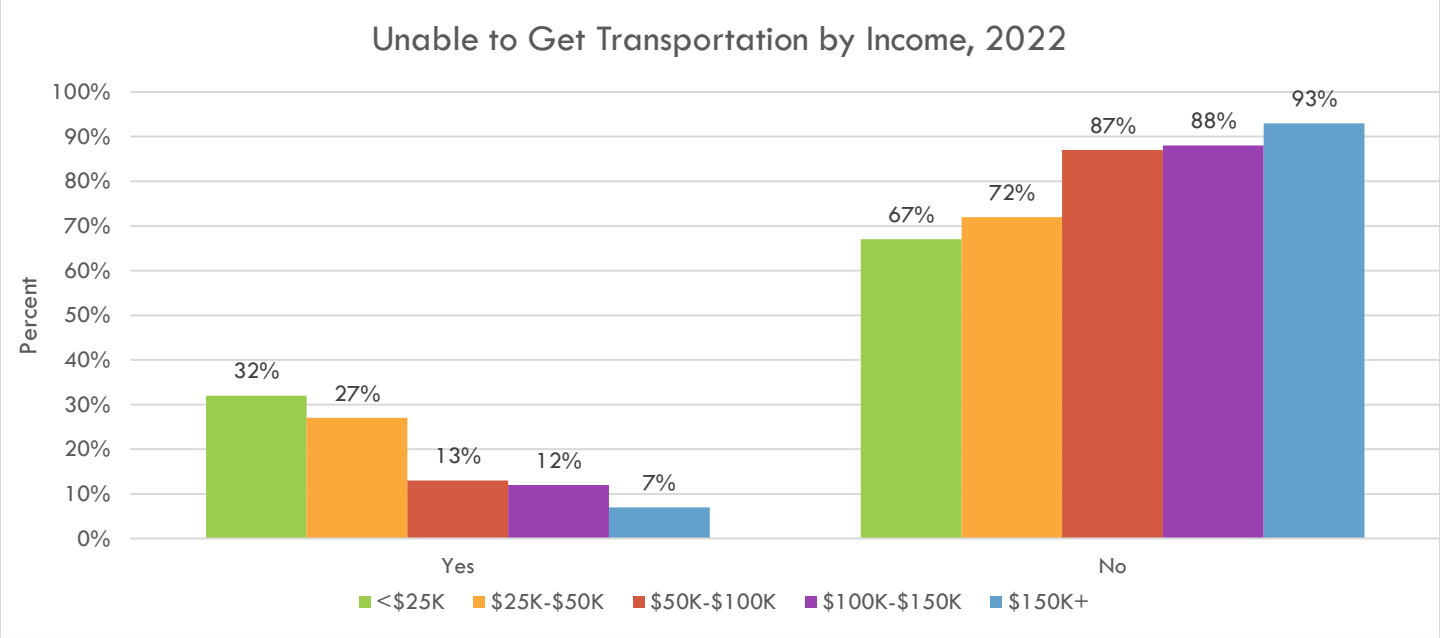


Figure 216



An inability to find housing in the previous 12 months was an issue for 13% of Orange County residents. 23% of non-White people reported an issue with this, compared to only 8% of White people. Renters were also disproportionately affected with 20% declaring an issue with finding housing, compared to only 7% of homeowners. Household income is the strongest indicator of housing issues for Orange County residents. Only 7% of those making $150k or more had trouble finding housing, and this increased as income decreased to 30% for those making $25k or less.

Survey Question 27: *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.* ***Housing***

Figure 217

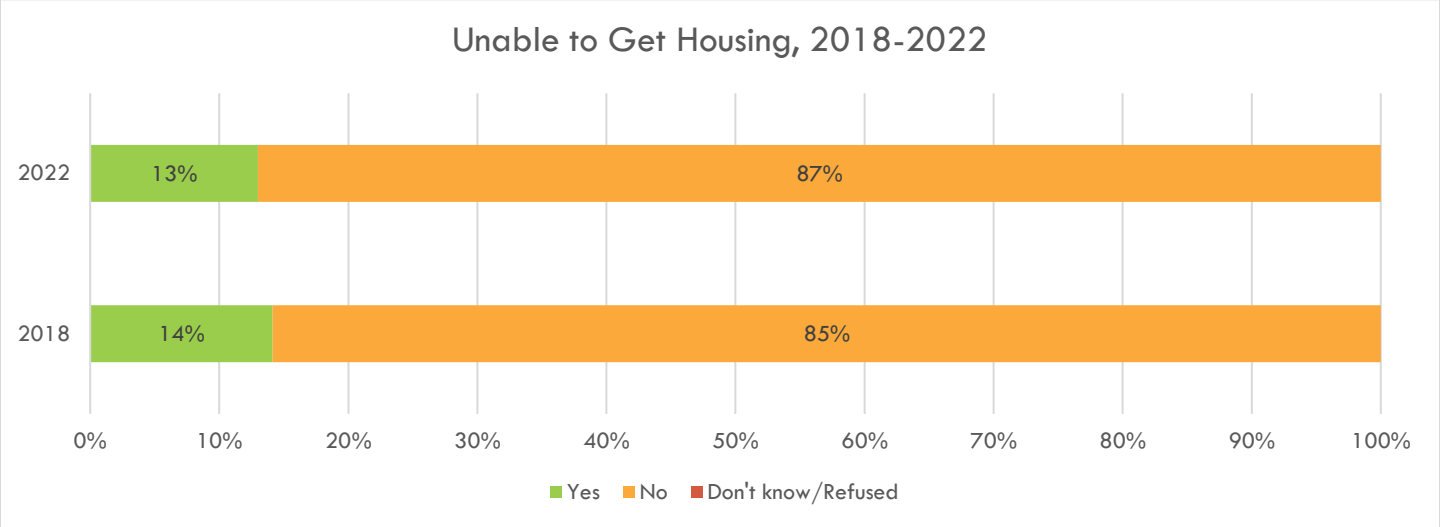
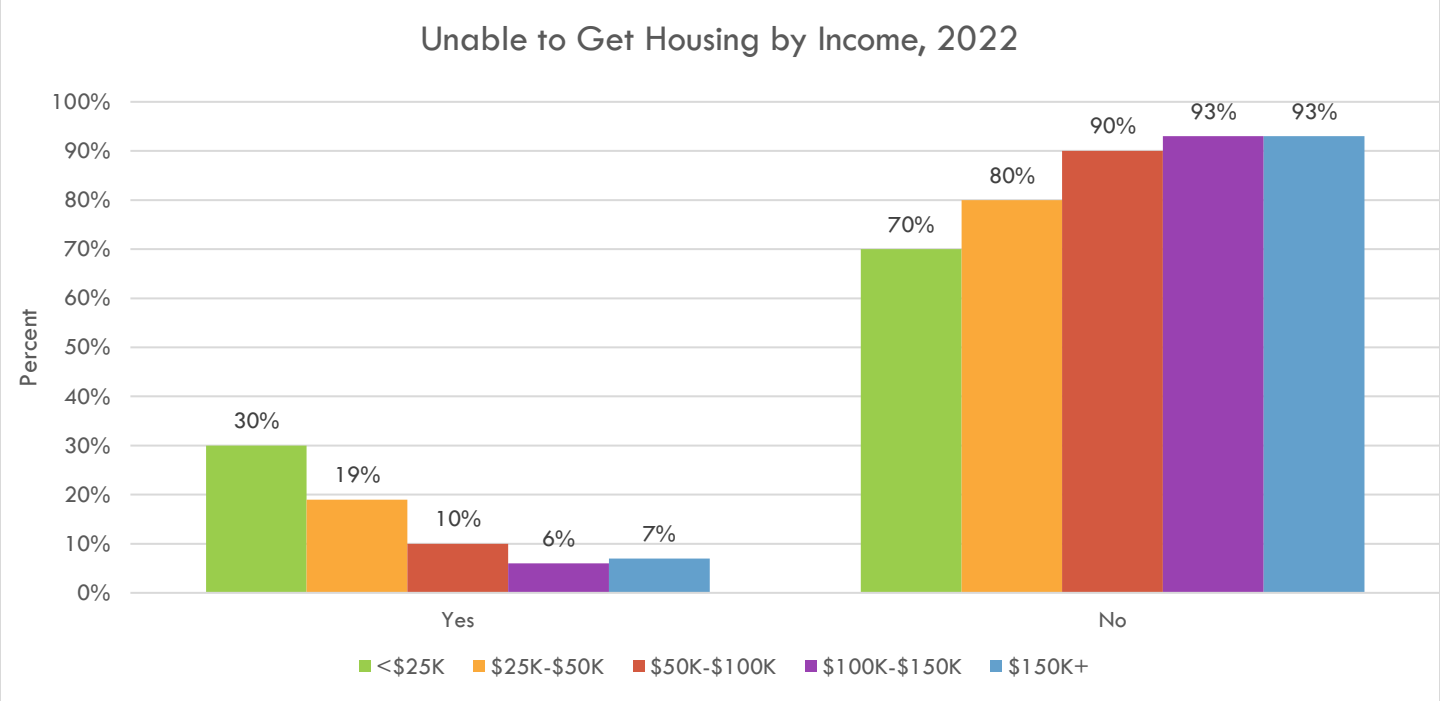


Figure 218



An inability to receive childcare in the last 12 months affected 11% of Orange County residents. Income was the biggest predictor of whether this would be an issue. Only 6% of those making $150k or more said they could not find childcare, compared to 19% of those making $25k or less.

Survey Question 28: *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.* ***Childcare***

Figure 219

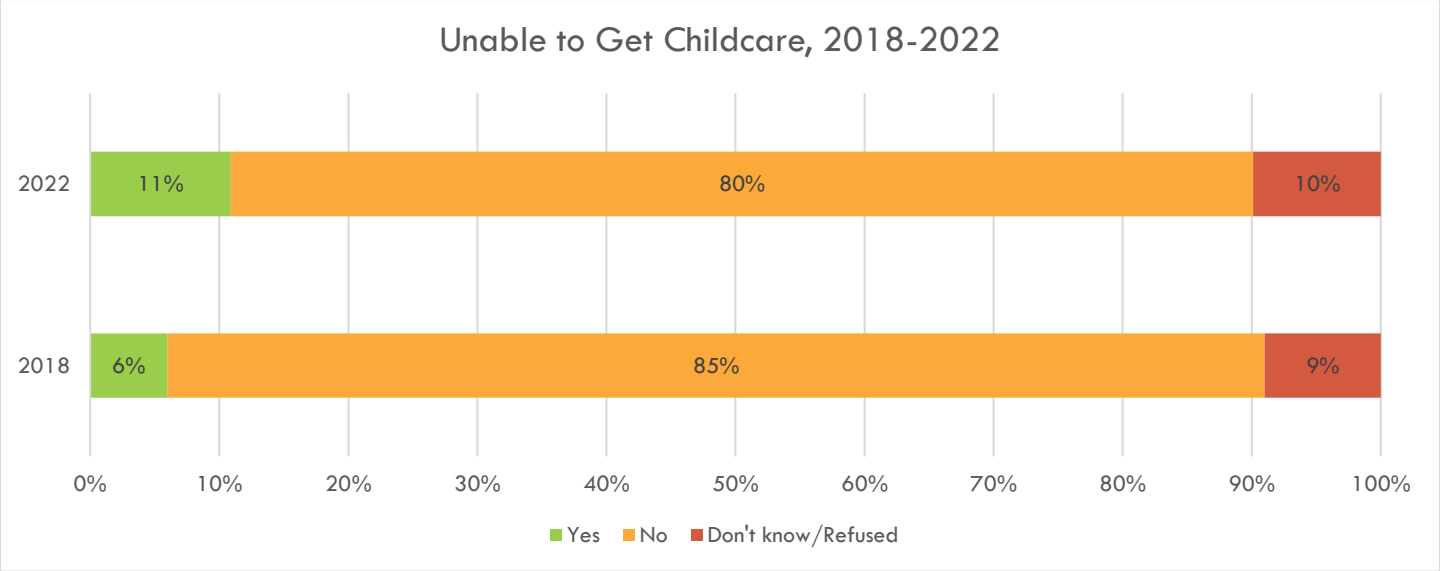
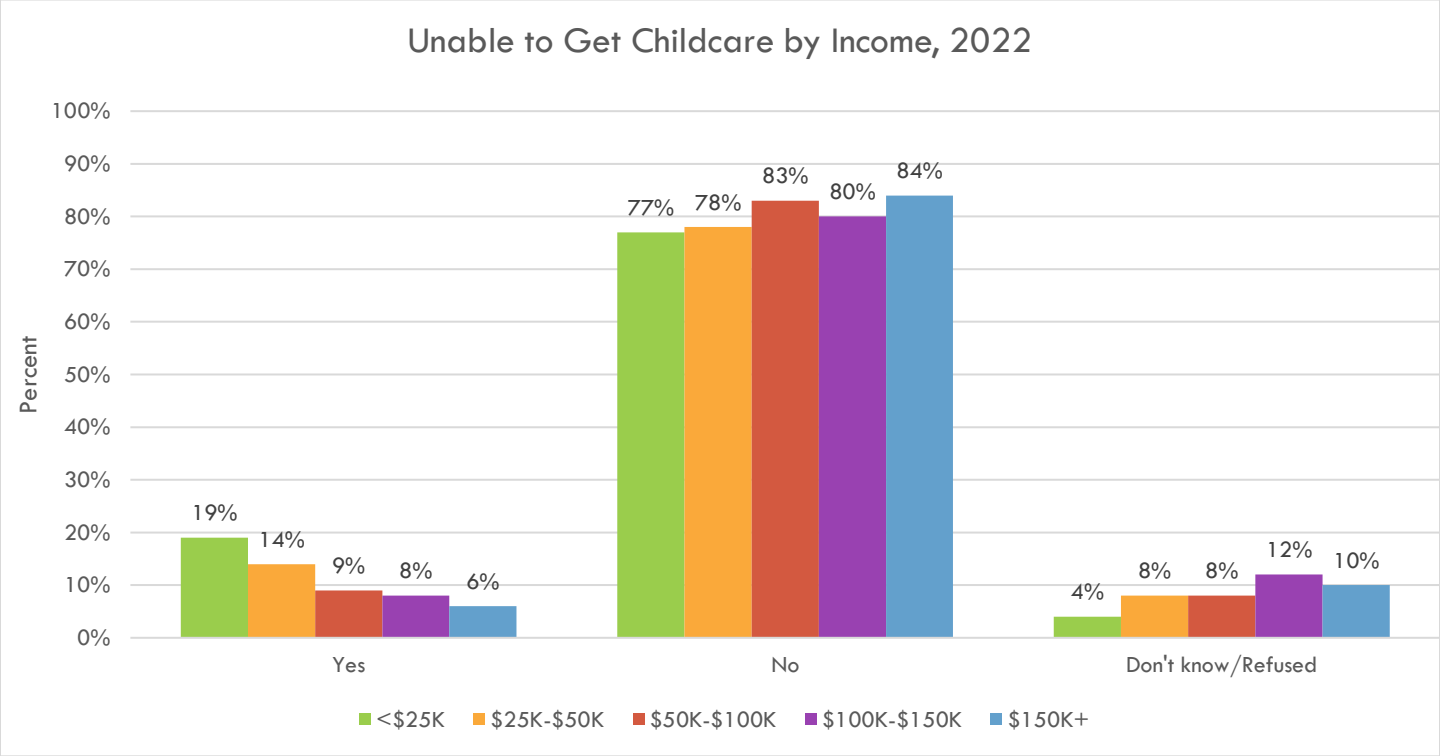


Figure 220



The ability to obtain access to the internet over the last 12 months was an issue for 17% of Orange County residents. 24% of non-White individuals reported this as an issue, compared to only 13% of White people. Living arrangements was also a big predictor, with 24% of renters reporting this as a problem and only 13% of homeowners unable to obtain access. Again, the biggest determinant of internet access was income. 33% of people who made $25k or less had an issue with internet access, compared to only 12% of those making $150k or more.

Survey Question 29: *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.* ***Access to the internet***

Figure 221

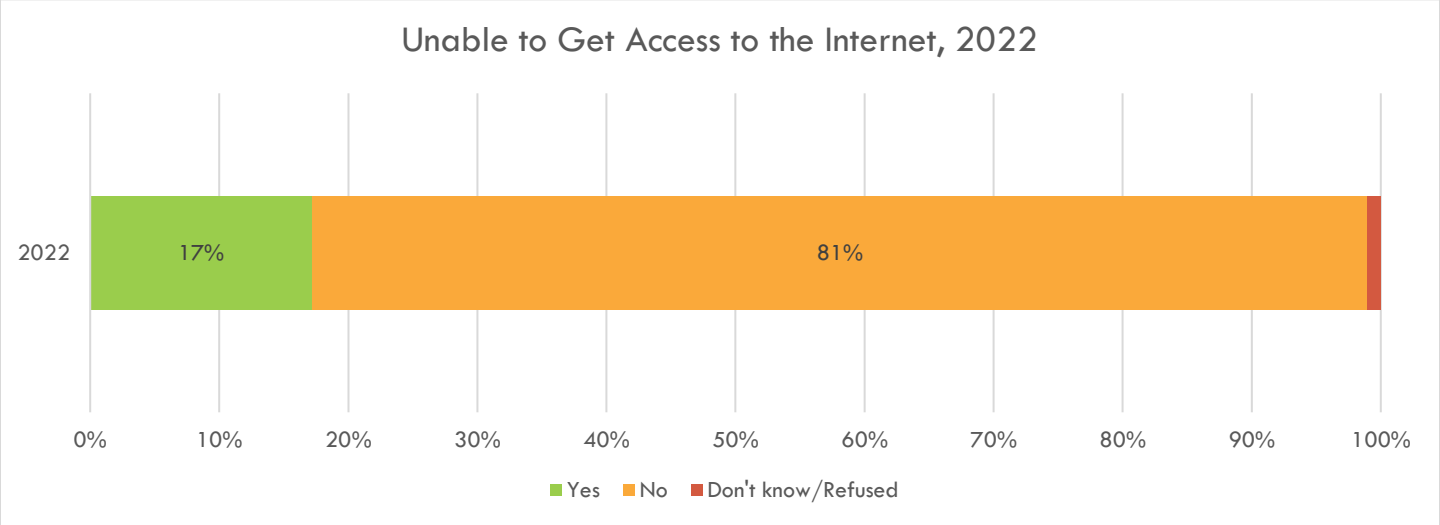
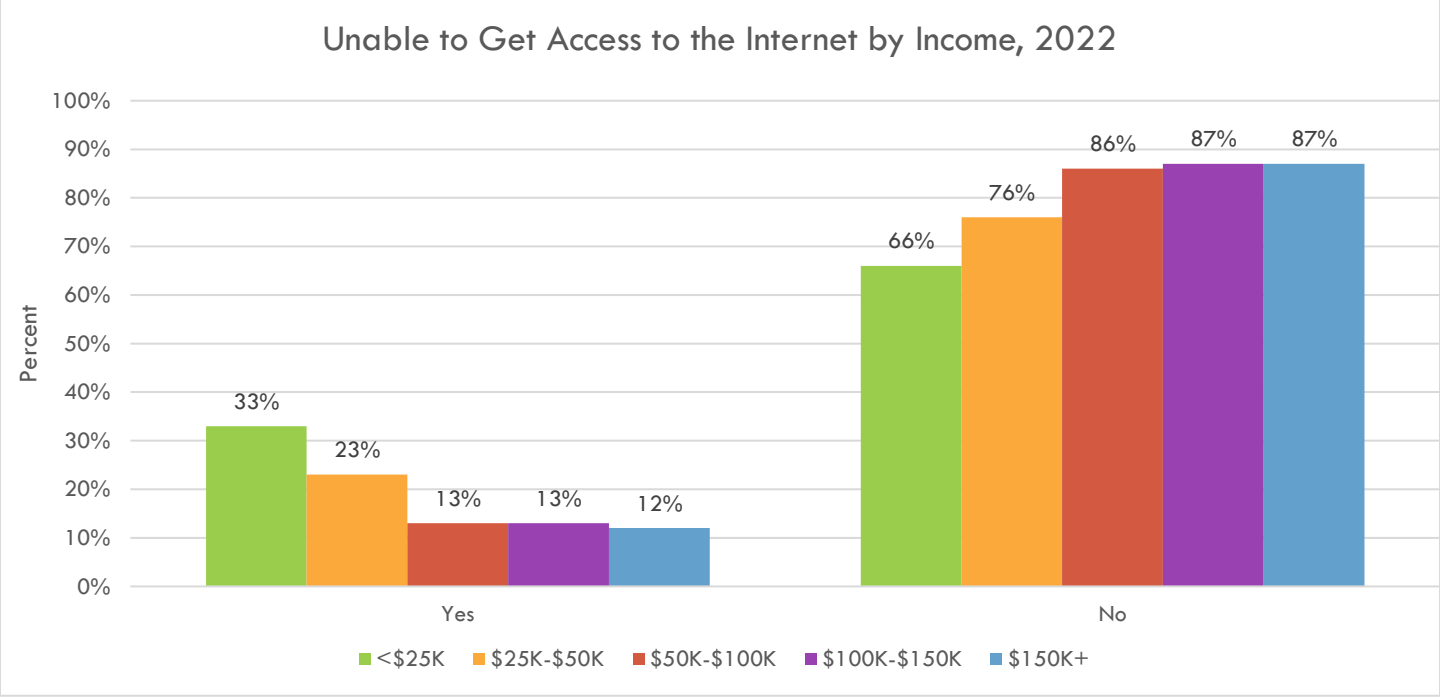


Figure 222



HEALTHCARE USAGE

Healthcare usage is determined by the availability of services, the resources available for providing service, ability to pay for service, and the need for service (i.e., levels of illness and disability). When services are not freely available, economic status plays a large role in determining healthcare usage. While healthcare is seen as a social determinant of health, this section was given special attention to determine which services are utilized in Orange County. Generally, the younger populations and those in lower economic brackets are less likely to be able to afford insurance or access healthcare services.

Over the last 12 months, 14% of Orange County residents has been unable to get medicine when it was needed. This has not changed since 2018. Non-White persons have greater difficulty with 21% unable to get medicine, compared to only 11% of White persons. Those with children also have more difficulty, with 20% unable compared to 11% of people without. Access to medicine improves with increased income. Those making under $25k have more difficulty with 26% unable to get medicine, compared to only 7% of those making over $150k.

Survey Question 23: *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.* ***Medicine***

Figure 223

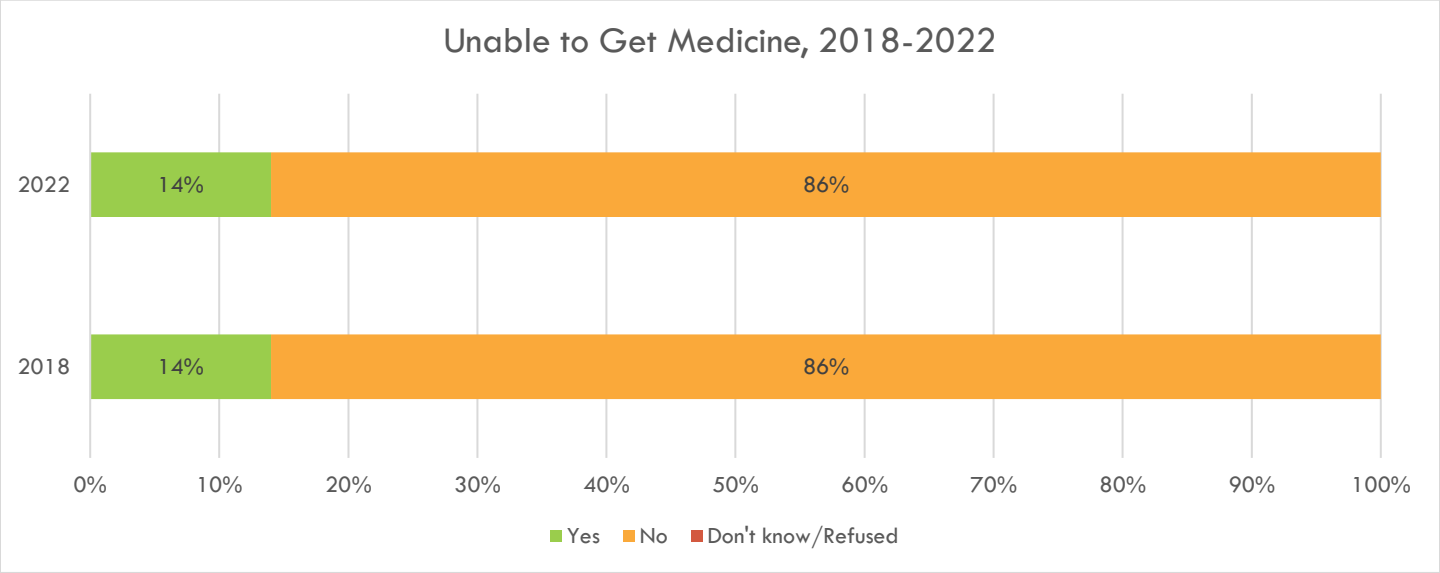
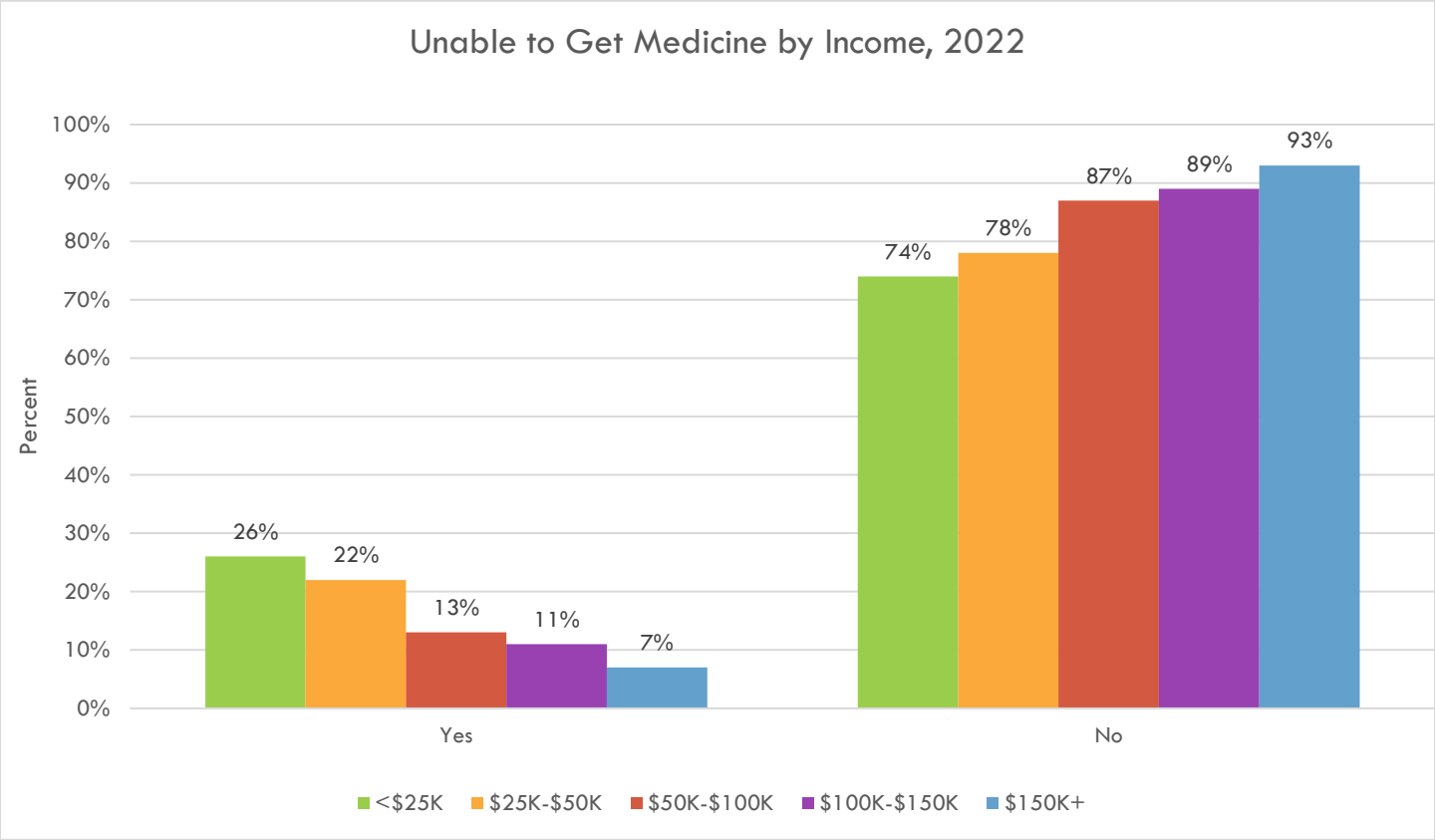


Figure 224


Unable to Get Medicine by Income, 2022
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percent
26%
22%
13%
11%
7%
74%
78%
87%
89%
93%
Yes
No
<$25K
$25K-$50K
$50K-$100K
$100K-$150K
$150K+

Around 21% of Orange County residents were unable to get any healthcare, including dental or vision, in the last 12 months. This is an increase from 16% in 2018. This improves with age, as those aged 18 to 34 years has 28% unable, compared to 15% of people aged 55 year and older. Non-White persons had 30% unable, compared to only 17% of White persons. Around 29% of those that rent are also unable, which is higher than the 15% of those that own homes. Those with a disability also had 30% unable, compared to 19% without. Finally, access improves with increased income, as 33% of those making under $25k are unable, compared to 9% of those with an income of $150k and over.

Survey Question 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.* ***Any healthcare, including dental or vision***

Figure 225

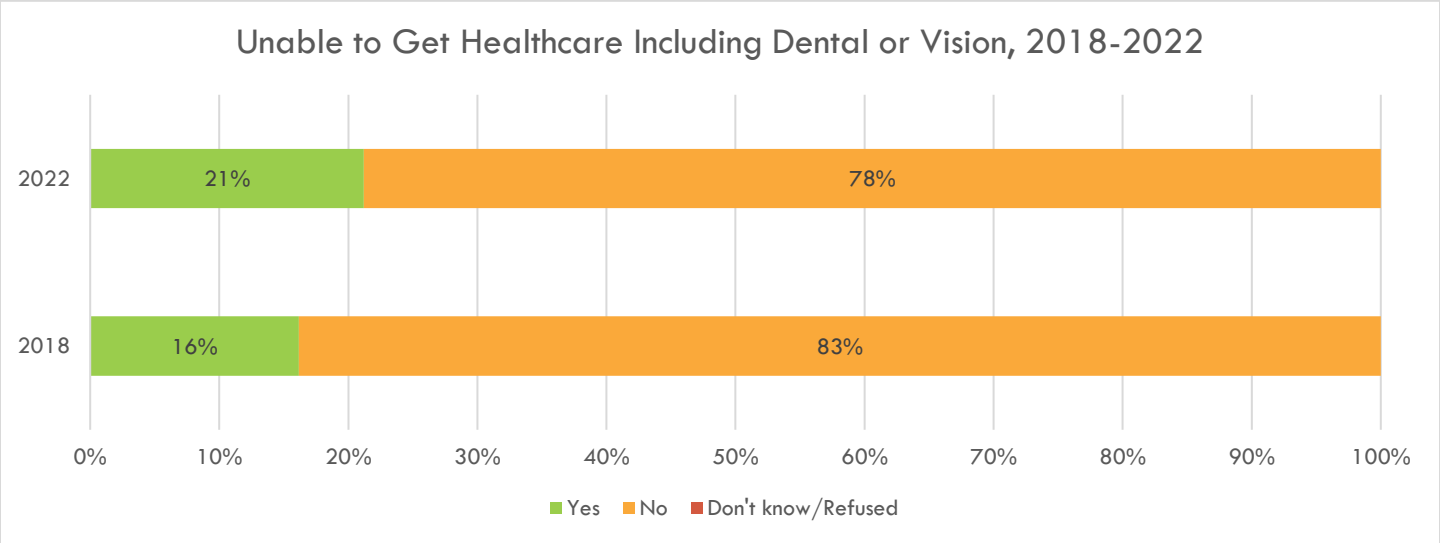
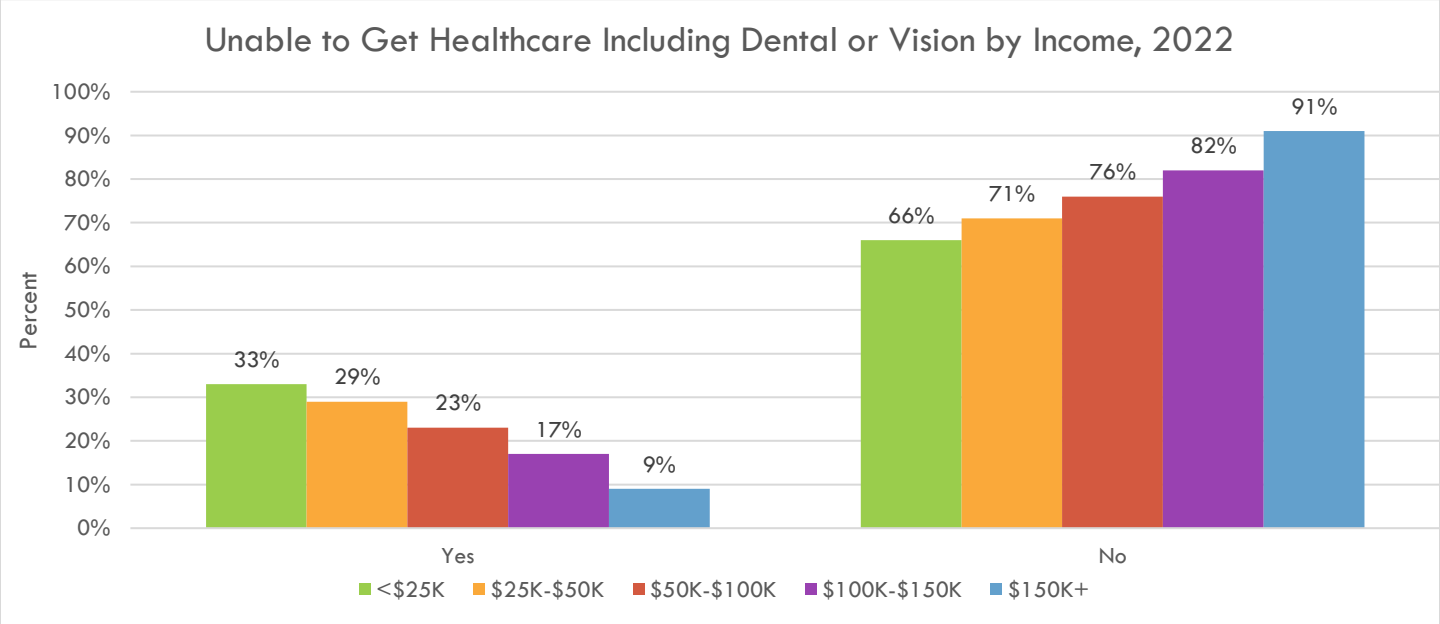


Figure 226



Around 75% of Orange County residents have visited a primary care physician for a routine physical in the last 12 months. This is a decrease from 82% in 2018. Female had higher rates with 81% visiting compared to only 71% of males. Visitation also increase with age, as 90% of persons aged 55 years and older have seen a physician in the past 12 months, compared to only 62% of persons aged 18 to 34 years. Persons that owned homes had 81% persons visit, compared to just 73% of renters. Visitation rates increase with income as well, with individuals making $25k and under having 70%, and those making $150k and over having 81%.

Survey Question 30: *Have you visited a primary care physician for a routine physical or checkup within the last 12 months?*

Figure 227

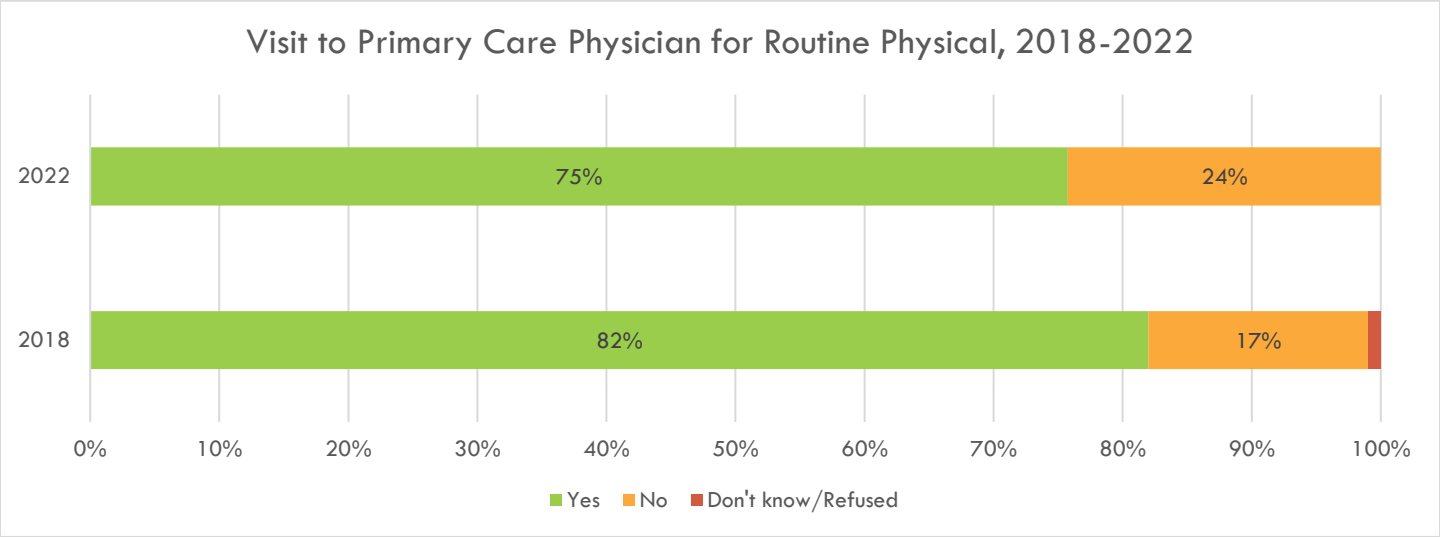
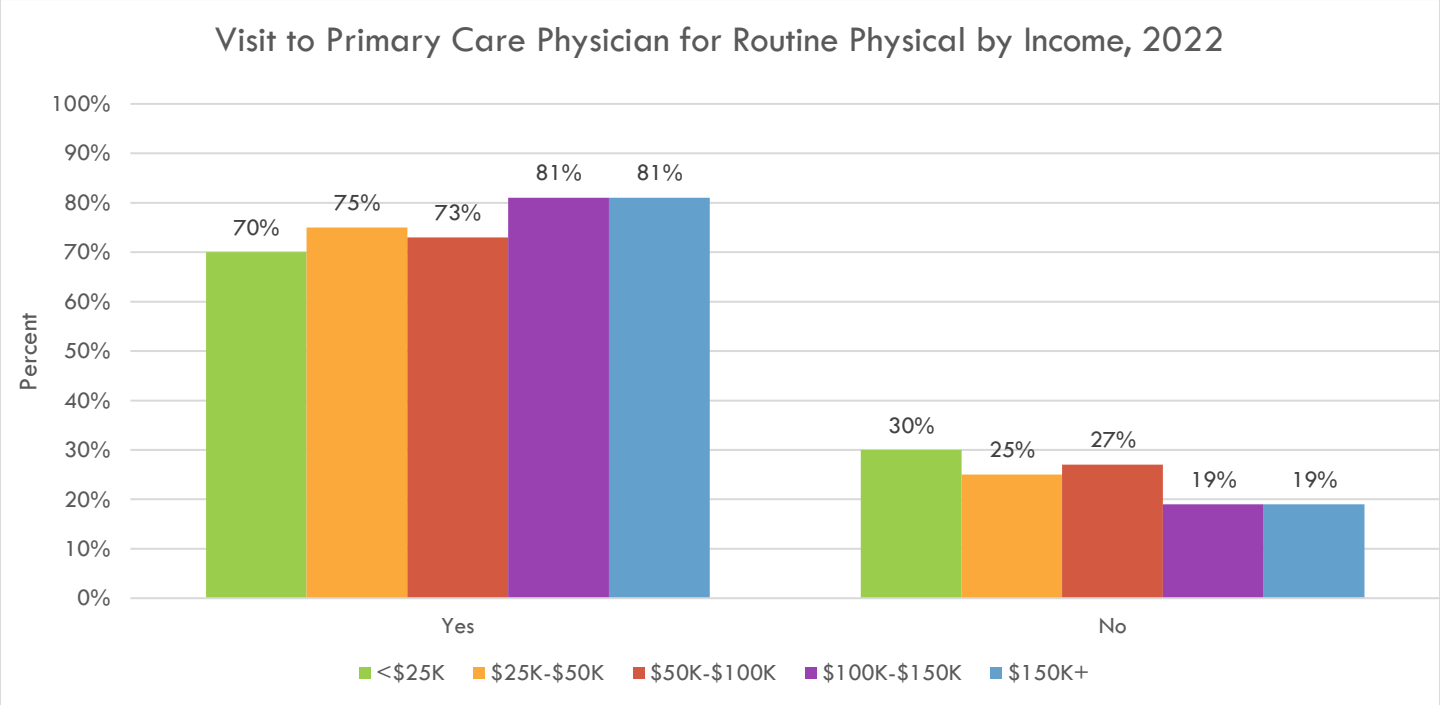


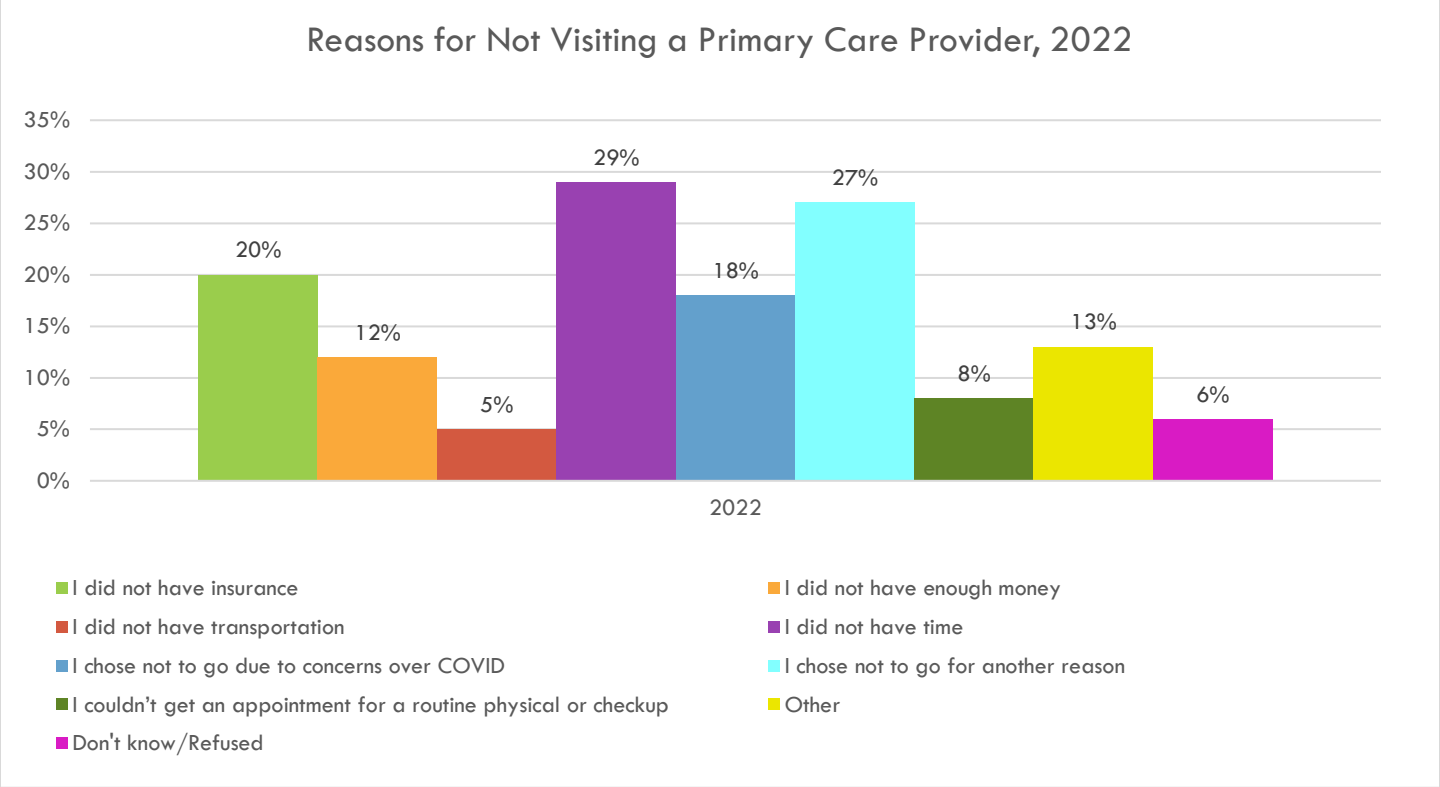
Figure 228



There are a number of reasons why people did not visit a primary care physician in the last 12 months. The largest proportion said they did not have time, representing 29% of respondents in Orange County. The second most frequent response was not having insurance (20%). These reasons improved with age, with 26% of those aged 18 to 34 years saying they did not have insurance and 34% saying they did not have time, compared to the age group 55 years and older that had 11% and 7%, respectively. Non-White persons had a substantial number of people respond they did not have insurance with 29% compared to White persons at 14%. Renters represented a large portion of people that did not have insurance with 26%, compared to 9% of homeowners. Employed persons (33%), people with children (36%), veterans (44%), and persons that had COVID-19 (35%) all represented large proportions of people that did not have time to visit, compared to those without these statuses.

Survey Question 31: *(If did not visit primary care provider in the past year) 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?*

Figure 229



Reasons for Not Visiting a Primary Care Provider by Income, 2022					
	<$25K	**$25K-$50K**	**$50K-$100K**	**$100K-$150K**	**$150K+**
I did not have insurance	30%	45%	12%	6%	27%
I did not have enough money	16%	20%	15%	6%	6%
I did not have transportation	7%	0%	3%	6%	0%
I did not have time	24%	14%	30%	52%	18%
I chose not to go due to concerns over COVID	10%	9%	24%	18%	23%
I chose not to go for another reason	17%	28%	31%	33%	24%
I couldn't get an appointment for a routine physical or checkup	8%	6%	8%	4%	7%
Other	11%	7%	9%	19%	16%
Don't know/Refused	4%	11%	6%	2%	10%

The majority of Orange County respondents say they had visited a dentist in the last 12 months (63%). This is a decrease from 70% in 2018. Visitation rates improve with age. Only 57% of the age group 18 to 34 years visited, compared to 71% of persons aged 55 years and older. Renters only had 55% with a dental visit in the last 12 months, compared to 72% of homeowners. Just 55% of households with a member with a disability visited, while 66% of households without any disabled household members did. Finally, rates improve with increased income, as just 49% of individuals making under $25k used this service, while 77% of those making $150k and over had visited a dentist in the last 12 months.

Survey Question 32: *Have you visited a dentist for a routine check-up or cleaning within the last 12 months?*

Figure 230

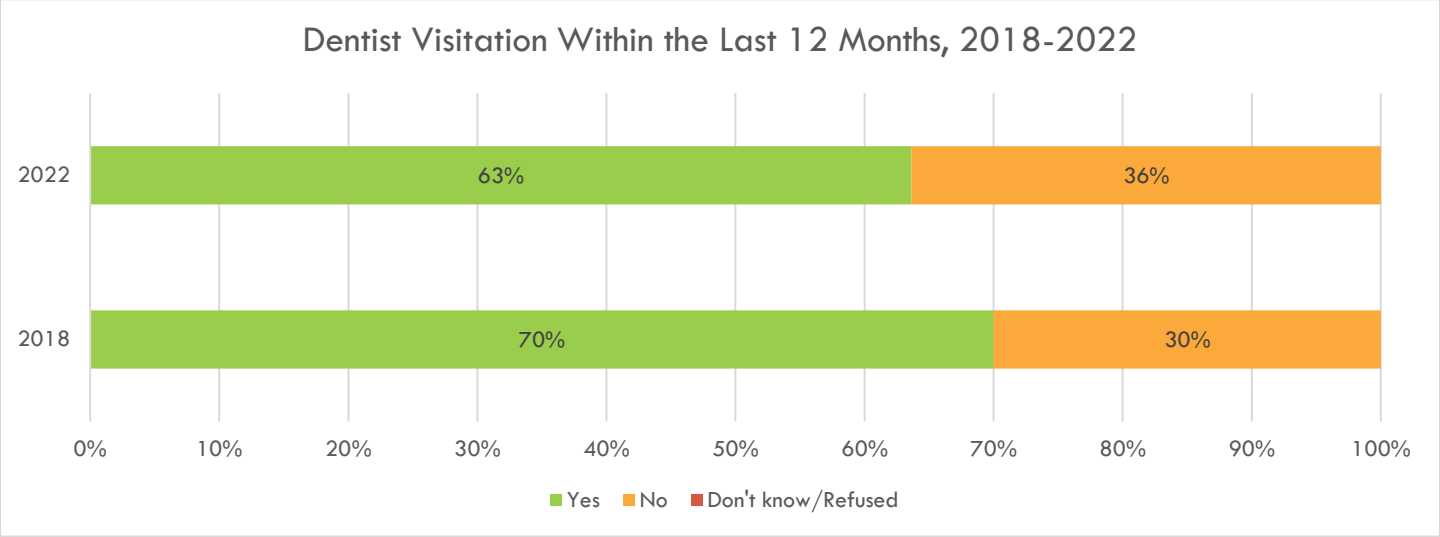
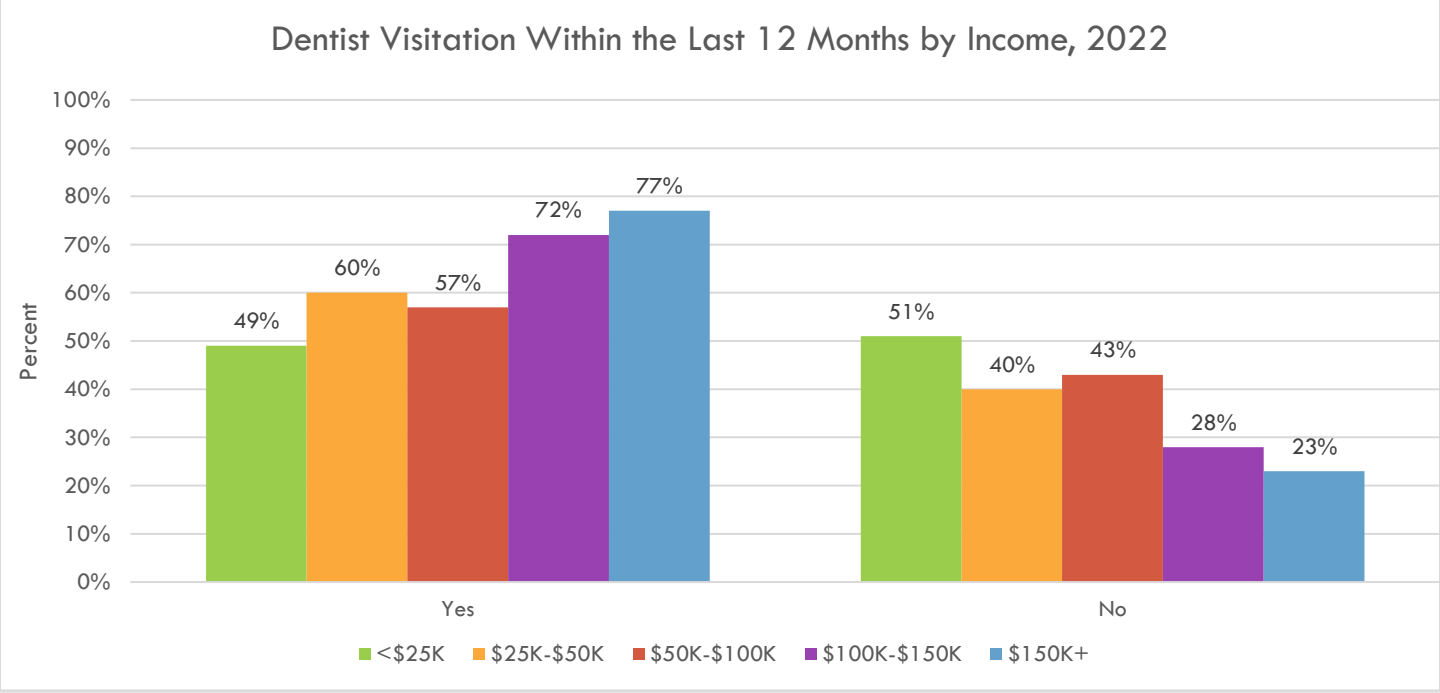


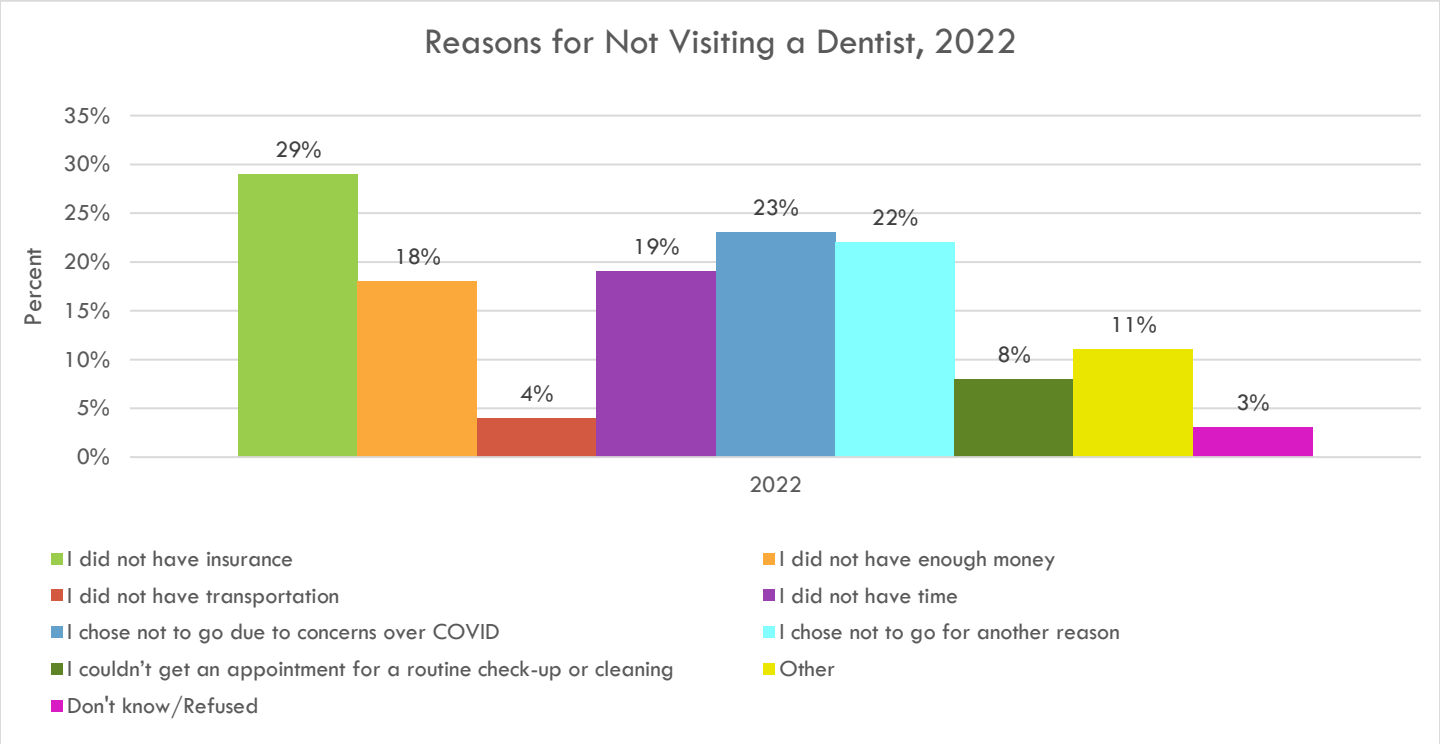
Figure 231



The most frequent response from Orange County respondents for why they did not visit a dentist in the last 12 months is that they do not have insurance (29%). This is an increase from 23% in 2018. This was most true for the age group 18 to 34 years, which had 41% without insurance, compared to only 22% of those aged 55 years and older. Non-White persons had 38% of responses indicate they had no insurance, compared to 24% of White persons. Renters have 37% without insurance, compared to 21% of homeowners. Another frequent reason was concerns over COVID-19, with 23% of respondents indicating this as a reason they did not visit a dentist in the last 12 months. This was a more frequent response with increased income, as only 10% of those making $25k and under had this concern, compared to 31% of those making $150k and more. Finally, 19% of residents said they did not have time. About 26% of people with children in the house said they did not have time, while only 16% did not for those without children. Around 28% of veterans also said they had no time, compared to 17% of non-veterans.

Survey Question 33: *(If did not visit dentist in the past year) 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?*

Figure 232



Reasons for Not Visiting a Dentist by Income, 2022					
	<$25K	**$25K-$50K**	**$50K-$100K**	**$100K-$150K**	**$150K+**
I did not have insurance	34%	32%	31%	22%	22%
I did not have enough money	18%	23%	23%	21%	0%
I did not have transportation	5%	2%	3%	4%	3%
I did not have time	16%	9%	17%	27%	26%
I chose not to go due to concerns over COVID	10%	19%	27%	28%	31%
I chose not to go for another reason	16%	27%	24%	30%	15%
I couldn't get an appointment for a routine physical or checkup	7%	4%	4%	14%	11%
Other	14%	13%	7%	18%	7%
Don't know/Refused	4%	2%	0%	3%	8%

About 90% of Orange County respondents did not visit the emergency room for non-emergencies in the last 12 months. Usage was greatest among the lowest income of $25k and under (16%). The proportion of usage is similar across all demographic stratifications.

Survey Question 34: *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. Have you visited an emergency room for a medical issue that was not an emergency in the last 12 months? (2018 survey question: Have you visited an emergency room for a medical issue that was not an emergency in the last 12 months?)*

Figure 233

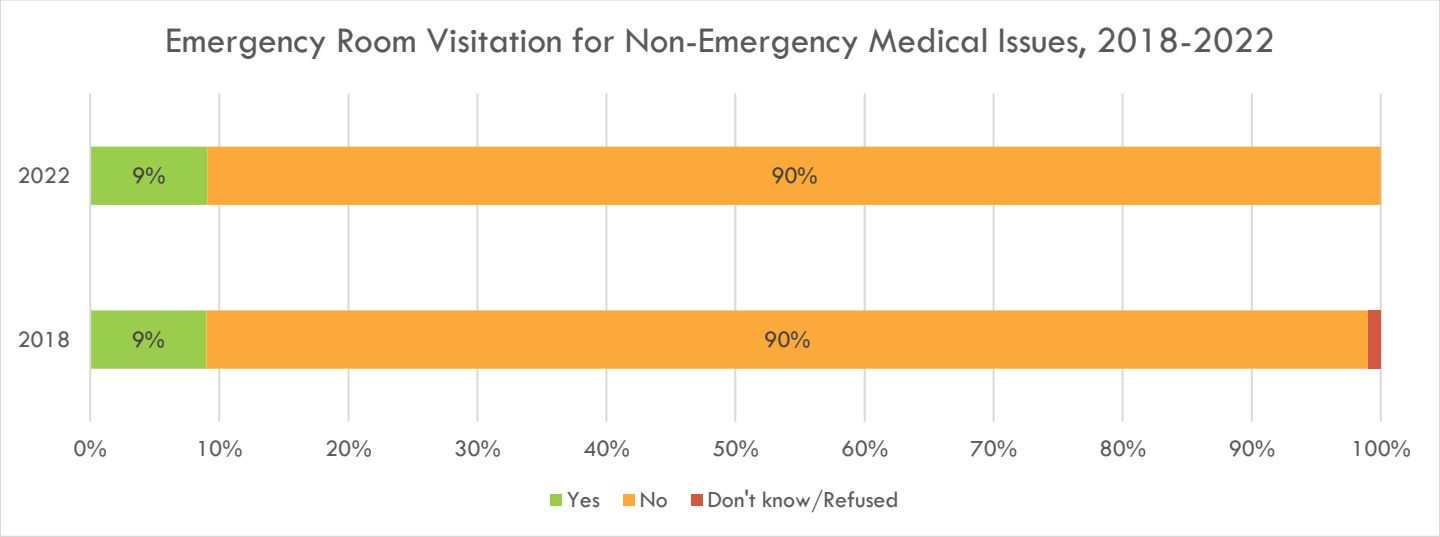
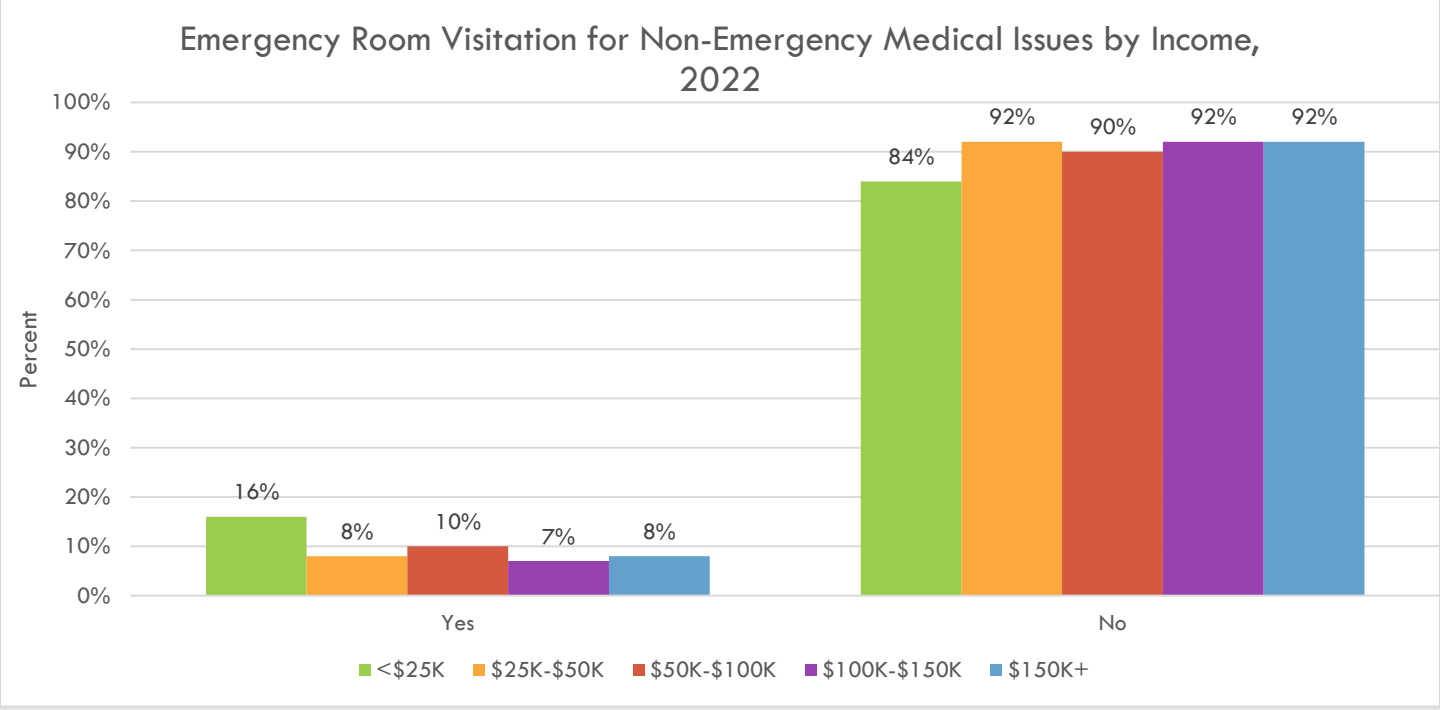


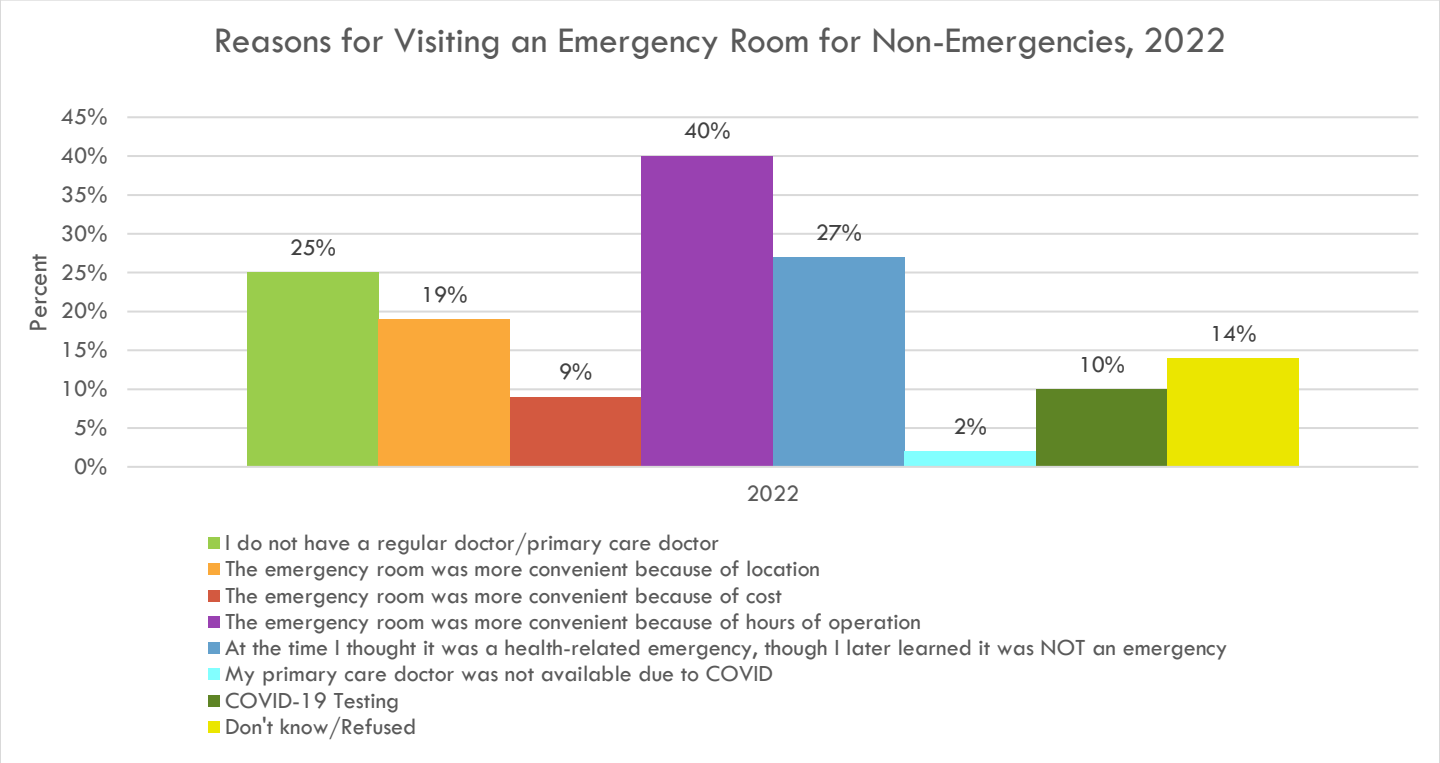
Figure 234



Varying responses were given for why Orange County respondents used the emergency room for non-emergencies. The most frequent (40%) said the emergency room was more convenient because of hours of operation, which is an increase from 29% in 2018. 52% of unemployed respondents had the same response, compared to 35% of employed respondents. 57% of respondents with an income of over $150k per year also had this reply, compared to 32% of respondents who reported an income of less than $25k per year. Around 27% thought they had an emergency at the time. Around 34% of White persons said this, compared to 14% of non-White persons. 53% of homeowners also thought they had an emergency, compared to only 11% of renters. Employed persons and those with children also had substantial responses in this category, compared to those without these designations. This response also increased with income, with 50% of those making $150k and over having this answer, compared to just 15% of those making $25k and under. A large portion (25%) also do not have a regular primary care physician. This is an increase from 4% in 2018. Around 30% of males do not have a primary, compared to 17% of females. Coverage seems to improve with age as 36% of those aged 18 to 34 do not have a primary care physician, while only 19% of those aged 55 years and older do not. About 30% of renters also do not, compared to 9% of homeowners. Interestingly, 28% of employed persons do not have a primary, compared to 17% of unemployed. 44% of veterans do not have a primary, while 22% of non-veterans do not. About 30% of those without a disability do not, compared to 8% of those with a disability. Finally, income levels seem to vary widely for primary coverage with no pattern across ranges. However, those making $150k and up have the best coverage by far, as only 6% said they did not have a primary care doctor.

Survey Question 35: *(If visited Emergency Room for non-emergency in the past year) 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?*

Figure 235



Reasons for Visiting an Emergency Room for Non-Emergencies by Income, 2022					
	<$25K	**$25K-$50K**	**$50K-$100K**	**$100K-$150K**	**$150K+**
I do not have a regular doctor/primary care doctor	26%	36%	22%	37%	6%
The emergency room was more convenient because of location	10%	7%	25%	15%	29%
The emergency room was more convenient because of cost	12%	0%	13%	15%	0%
The emergency room was more convenient because of hours of operation	32%	32%	48%	31%	57%
At the time I thought it was a health-related emergency, though I later learned it was NOT an emergency	15%	33%	18%	21%	50%
My primary care doctor was not available due to COVID	2%	5%	0%	0%	11%
COVID-19 Testing	6%	7%	6%	16%	11%
Don't know/Refused	27%	0%	11%	10%	0%

The majority of Orange County respondents (56%) said that they had used tele-health appointments during COVID-19. Around 65% of females used this service, compared to 47% of males. Usage increased with age, as the age group of 18- to 34-year-olds had 48%, compared to 59% of the age group 55 years and older. People with disability in the house also used this service more frequently at 68%, compared to 53% without disability. Finally, the income range $100k to $150k had the highest usage at 65%, with no real trend for higher or lower income ranges.

Survey Question 38: *During COVID, have you had a tele-health appointment with any healthcare provider?*

Figure 236

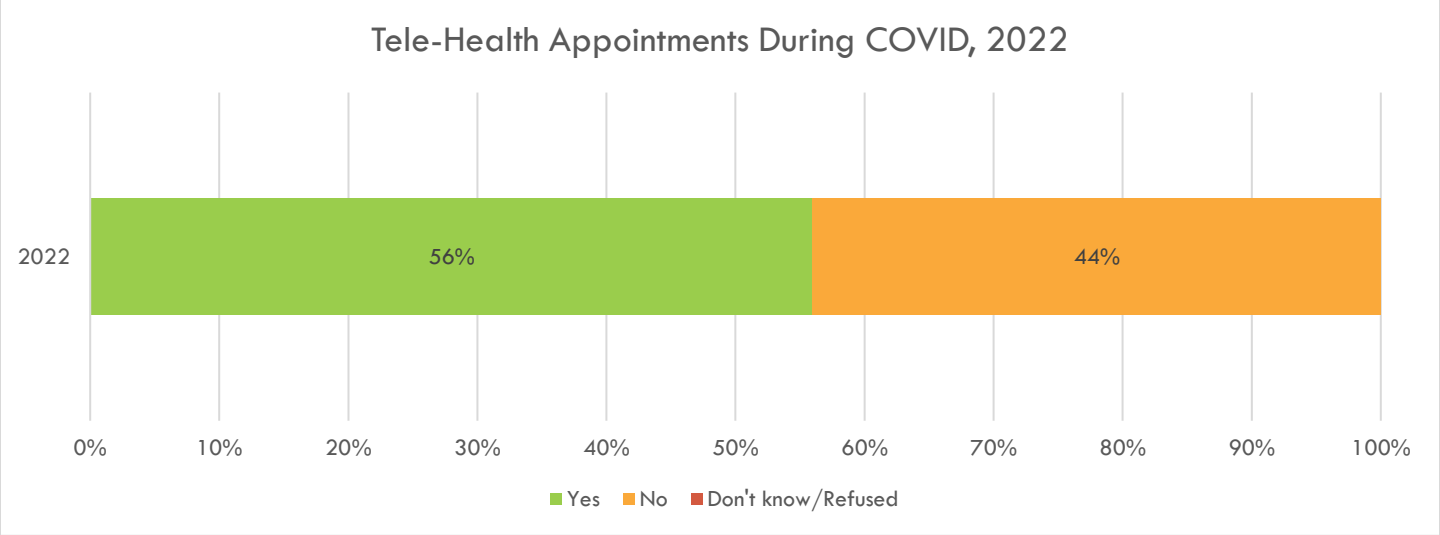
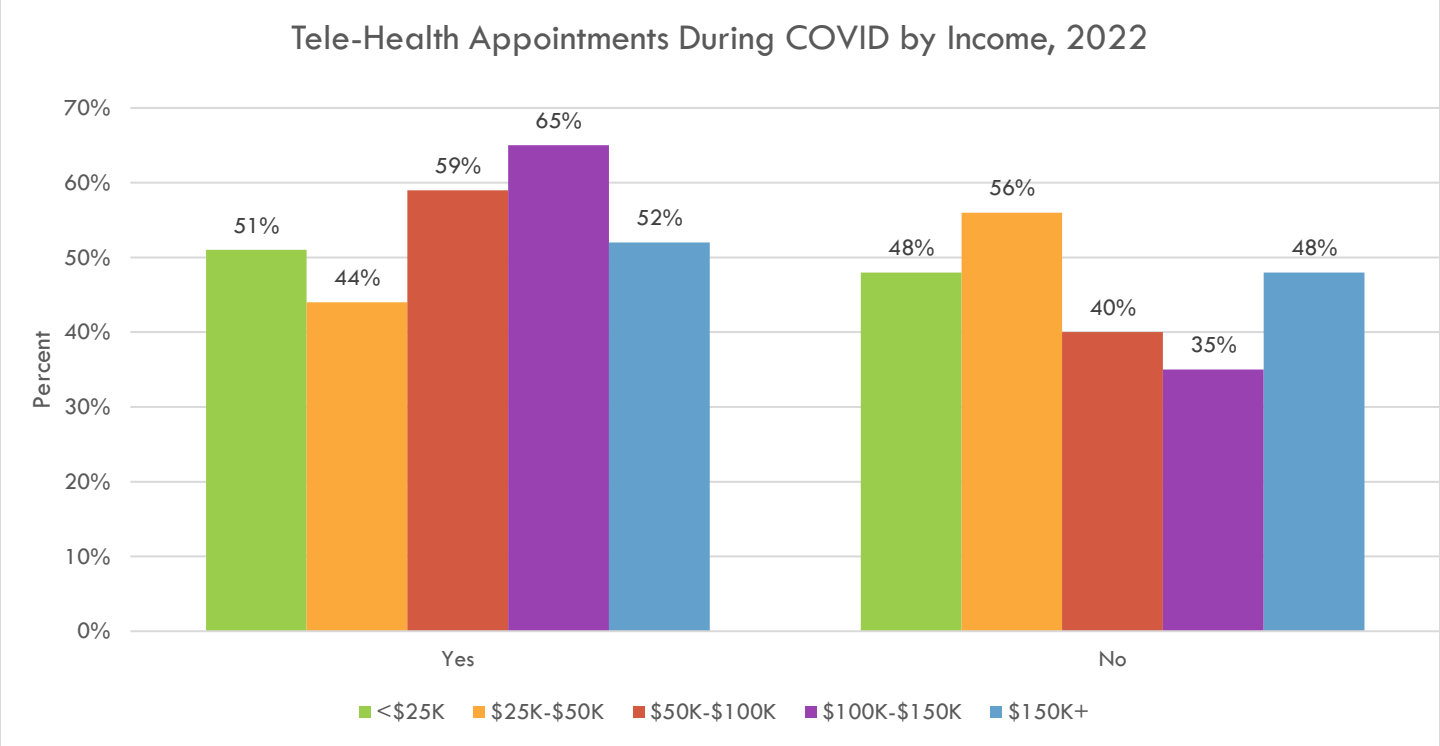


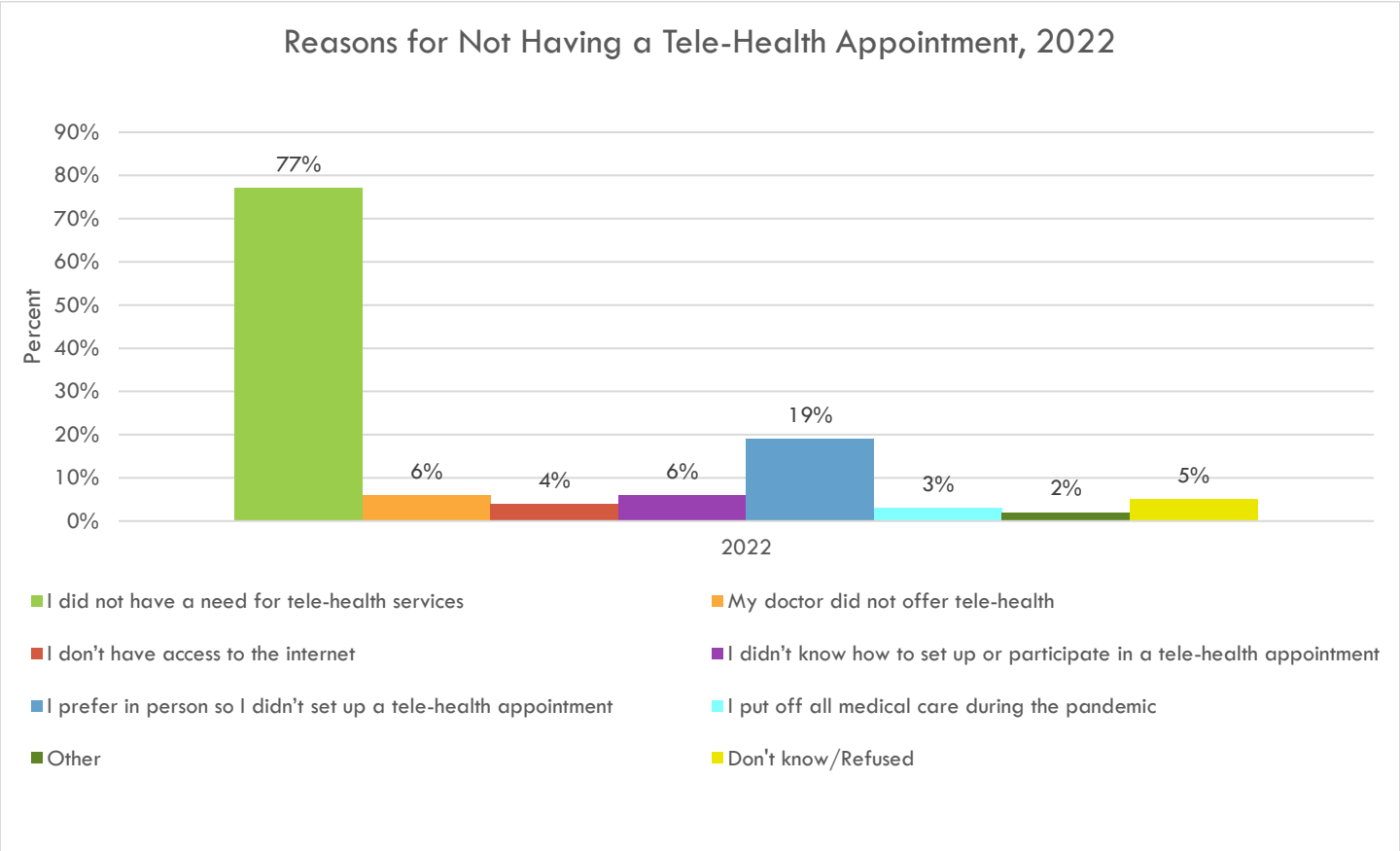
Figure 237



Most Orange County respondents (77%) did not use tele-health because they had no need for tele-health services. The next most frequent response was that they prefer in-person appointments (19%). These results are similar across all other demographic stratifications.

Survey Question 39: *(If did not have a tele-health appointment during COVID) Which of the following were reasons that you did not have a tele-health appointment?*

Figure 238



Reasons for Not Having a Tele-Health Appointment by Income, 2022					
	<$25K	**$25K-$50K**	**$50K-$100K**	**$100K-$150K**	**$150K+**
I did not have a need for tele-health services	75%	75%	78%	74%	82%
My doctor did not offer tele-health	8%	5%	2%	5%	6%
I don't have access to the internet	4%	0%	2%	5%	4%
I didn't know how to set up or participate in a tele-health appointment	4%	4%	4%	9%	4%
I prefer in-person, so I didn't set up a tele-health appointment	8%	14%	22%	22%	18%
I put off all medical care during the pandemic	5%	1%	1%	6%	2%
Other	6%	1%	0%	3%	0%
Don't know/Refused	5%	11%	5%	0%	0%

MAJOR FINDINGS

Below are data points of note:

- 43% of respondents with under $25k yearly income reported that their ability to afford housing worsened over the course of the COVID-19 pandemic, compared to 23% of total Orange County respondents.
- 37% of renters in Orange County reported that their ability to obtain affordable, nutritious food worsened over the course of the COVID-19 pandemic, compared to only 20% of homeowners.
- 33% of respondents with under $25k yearly income reported being unable to access the internet in the past 12 months, compared to 17% of total Orange County respondents.
- 32% of respondents with under $25k yearly income were unable to get transportation when needed in the previous 12 months, compared to only 17% of total Orange County respondents.
- 31% of Orange County respondents aged 18 to 34 years reported that their mental health has worsened over the course of the COVID-19 pandemic, compared to only 12% of those aged 55 years and older.
- 41% of Orange County respondents in 2022 reported there are sufficient, quality mental health providers, which is a decrease from 55% reported in 2018.
- Only 59% of Orange County respondents aged 18 to 34 years reported having good or excellent mental health, compared to 75% of total Orange County respondents and 85% of respondents aged 55 years and older.
- 33% of Orange County respondents with under $25k yearly income reported that in the past 12 months, they or any other member of their household has been unable to get any healthcare, including dental or vision, compared to 21% of total Orange County respondents, and 9% of respondents with $150k and over yearly income.
- 26% of Orange County respondents aged 18 to 34 years reported that in the past 12 months, they did not visit a primary care physician because they did not have insurance, compared to 11% of respondents aged 55 years and older.

Additional data can be found: https://orangecountynydoh.shinyapps.io/Siena-Survey/

FORCES OF CHANGE ASSESSMENT

OVERVIEW

One of the four assessments used in the MAPP framework is the Forces of Change Assessment (FOCA). FOCA aims to identify forces that impact the health of our residents and the local public health system's ability to operate. Forces can be trends, events, or factors. Trends are patterns over time, such as migration in and out of an area, a decreasing in-person work force, or increased frequency of tele-health visits. Events are one-time occurrences, such as the COVID-19 pandemic, passage of new legislation, or a weather-related power outage. Factors include discrete elements, such as proximity to transportation, a community's racial/ethnic composition, or a rural setting.

The Health Department conducted its FOCA as a brainstorming session in partnership with nearly 90 participating community organizations at the department's Public Health Summit held on June 28, 2022. The forces discussed were social, economic, political and legal, technological and scientific, ethical, and environmental. The group worked to identify current and potential future threats associated with each force that can impact the health of our community, as well as opportunities that can be leveraged to protect health and ward off threats.

The forces of change discussion was guided by the following questions:

- What is occurring or might occur that affects the health of our community or the local public health system?
- Are there trends occurring that will impact the health of our community?
- What forces are occurring locally? Regionally? Nationally? Globally?
- What may occur in the foreseeable future that may impact our local public health system?
- What specific threats or opportunities are generated by these occurrences?
- What may pose a barrier to achieving the shared vision of improving the health of our community?

The forces of change brainstorming session was transcribed and uploaded to Dedoose, a qualitative data analysis software. Recurring topics were identified through line-by-line coding of the transcript. All codes were collated into sub-themes, followed by categorization into the broader themes of social, economic, environmental, political and legal, technological and scientific, and ethical forces. The frequency function of Dedoose was then used to tabulate how often each theme was discussed during the brainstorming session. The graphic below is a quantitative representation of the forces most identified by participants, with more frequently mentioned issues represented by larger text size. The most highlighted issue in the discussion was the disconnect between providers and community.

Along with identifying forces, the participants identified existing or potential threats posed by each force, as well as opportunities to act on the force to create positive change in the county. Table 56 lists the forces, threats, and opportunities discussed.

Table 56

Social Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Social Determinants of Health	• Barriers to accessing and utilizing care • Inequitable access to and use of resources • Inequities disproportionately impact racial and ethnic minority groups	• Invest in the root causes of health problems (e.g., creating healthy environments) • Educate the healthcare workforce and the public about social determinants of health • Employ actionable-based interventions to address social determinants of health
Disconnect between providers and the community	• Residents aren't aware of the wide range of available services in the community • Underutilization of resources • Gaps in care • Interventions are unsustainable • Distrust in healthcare providers and the wider public health system • Providers perceived needs of the community differ from actual needs	• Increase collaboration between organizations and residents to assess community needs • Establish a repeated, physical presence in the community and at community events • Go out in the community to provide services rather than waiting for residents to seek care • Provide medication, education, and referrals all in one place to narrow the gaps • Ensure that providers identify what services patients need and connect them to resources then and there. Do not let patients leave without first connecting them to resources. • Increase the focus on patient-centered care
Stigma surrounding STIs	• Youth are nervous and embarrassed to talk about sex • Underutilization of STI clinics and sexual health resources • Senior population may not receive adequate sexual health care	• Normalize discussions about sex and sexual health in everyday life • Establish a care environment where patients feel welcomed and safe to access sexual health services • Regularly utilize a broad range of methods to provide STI and sexual health information (e.g., social media, mail).
Lack of clearly defined and inclusive language in sexual health care	• Insufficient detection and case management of STI infections • Language may exclude certain groups of people (e.g., LGBTQ+ people)	• Establish clear, common definitions for sexual-health related terms • Train healthcare workers to utilize inclusive sexual health language in their assessments • Ensure that educational materials use clearly defined and inclusive messaging
Children having sex at younger ages	• Younger people are less able to identify risks of the activities they are engaging in • More difficult for young people to get the care they need • Increased rates of STIs among youth	• Expand sexual health education to younger age groups • Engage parents of youth in conversations about sex and sexual health
Insufficient health literacy	• Patients do not adhere to medication or do not use medication properly • Patients do not follow through with plans from their healthcare providers	• Institute education campaigns to enhance health literacy of Orange County residents • Incorporate social determinants of health into assessing and improving patient adherence to treatment plans • Increase the focus on patient-centered care

Table 56 (Continued)

Social Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Mental health crisis	• Increase in substance use disorders • Increased violence	• Increase access to mental health services • Improve the environments in which people live and work
Aging population	• Lack of services like transportation and available, affordable senior housing make it a very difficult environment to age in • Increased loneliness and social isolation	• Create more age-friendly communities
Social distancing requirements from the COVID-19 pandemic	• Increased loneliness and social isolation • Increased prevalence of depression and anxiety • Increased substance use	• Re-establish in-person community events post-pandemic • Provide services to help residents cope with loneliness and mental health challenges
Lack of personal agency/autonomy	• Low feelings of empowerment that inhibit people from acting to improve their health • Patients fail to change their behaviors	• Provide patients with knowledge, skills, attitude, and confidence about managing their health (e.g., motivational health coaching interventions provided by clinicians) • Empower people to take control of their lives and health from an early age.
Economic Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Economic disparity	• Economic disparity translates into negative health outcomes • Minority groups are disproportionately affected by economic disparity and thus negative health outcomes	• Invest in the people in our communities • Target resources towards deprived communities
Job shortages/lack of funding	• Smaller healthcare workforce • Poor service delivery • Services limited to treating illness and disease rather than prevention	• Increase funding for the healthcare workforce • Increase funding for preventative measures (public health)
Unaffordable healthcare	• Delayed care • Disease progression and other negative health outcomes	• Increase knowledge about free services offered by the community and county • Expand efforts to assist people acquire health insurance • Advocate for expanded access to health insurance
Unaffordable housing	• Increased homelessness • Barriers to accessing and utilizing care	• Create more affordable housing • Allocate more housing as low-income
Unaffordable transportation	• Imposes a barrier to accessing initial and follow-up care	• Provide income-based transportation assistance programs • Create partnership between healthcare providers and transportation organizations to help people access services

Table 56 (Continued)

Environmental Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Unsafe neighborhoods/violence	• People don't feel safe to walk in their neighborhoods or with their children	• Invest in communities and improve infrastructure
Lack of transportation	• Imposes a barrier to accessing initial and follow-up care (e.g., challenging for women to get prenatal care, difficult for young people and seniors to access care)	• Create partnership between service providers and local transportation agencies to increase feasibility in accessing services
Lack of childcare	• Imposes barrier to accessing healthcare	• Advocate for affordable, quality childcare
Shortage of housing	• Increased homelessness • Housing that is available is unaffordable	• Foster economic growth and opportunities in low-income communities • Modify existing zoning laws that fuel gentrification
Disconnect between providers/lack of partnership-based infrastructure	• Providers are unaware of the full range of services available to the community • Full potential of services is not realized • Gaps in care • Patients fall through the cracks	• Shift focus from working as individual organizations to working as a collective team to service the community • Increase collaboration between local health departments, service providers, hospitals, and other agencies to provide comprehensive care to the community • Train workers to be familiarized with the broad range of organizations and resources available in the community
Climate change	• Negative impacts on public health • Longer tick season, lifespans, increased mosquito-borne illness	• Identify educators in our community to provide training to camp staff and children on insect-borne diseases and summer weather
COVID-19 pandemic	• Decreased access to transportation and thus, testing/vaccines and essential resources such as food and healthcare • Decreased screenings and disease management (e.g., necessary care delayed, disease progression, hospitals and doctor's appointments backed up)	• Redesign healthcare delivery models so that people can access services without transportation (e.g., telehealth, home test kits). • Create partnership between service providers and local transportation agencies to increase feasibility in accessing services • Optimize use of telehealth where appropriate to increase efficiency • Strengthen the public health and healthcare workforce to respond to increased demand
Shortage of healthcare workers	• Burnout within the healthcare system • Inability to provide comprehensive care to the community • Poor service delivery	• Outreach to bring people into the field of healthcare, and more broadly, public service • Support and maintain current and future workforces with healthy work environments and fair compensation • Address the cost of and access to education
Lack of trauma-informed care	• Pathway for substance use • Negative impacts on mental health	• Provide tools for mental hygiene • Prioritize personhood in healthcare interactions and care regimens • Institute trauma-informed care

Table 56 (Continued)

Environmental Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Scarcity of services (mental health, maternal health, migrant health)	• Long wait times • Health problems progress as people are unable to access care	• Increase funding for mental health, maternal health, and migrant health services in the community • Build a sustainable model of care services
Insufficient sexual health education in schools	• Young people lack understanding of STIs, prevention, and sexual health • Increasing STI rates • Perpetuated stigma around discussing sex and sexual health	• Create policies that ensure comprehensive sexual health education for students • Create partnership between the Health Department, providers, and schools
Poor quality of healthcare	• Patients aren't inclined to access care • Patient needs are not met • Negative health outcomes	• Invest in health systems • Create sustainable models of care • Provide rigorous training for healthcare workers, including trainings in cultural competency
Lack of empowerment in the community	• Lack of personal agency/autonomy	• Create a community that empowers its members to advocate for themselves and take action • Expand community health outreach
Political and Legal Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Lack of school administrative support for sexual health education	• Insufficient sexual health education in schools • Young people lack understanding of STIs, prevention, and sexual health • Increasing STI rates	• Establish the Health Department as a link between providers and schools. • Sexual Health Coalition for Orange County: engaging health teachers, parents and students to identify gaps in and to improve sexual health education
Underinvestment in public health/preventative infrastructure	• Prioritization of treatment over prevention • The root causes of health issues fail to be addressed • Increased rates of disease and death	• Increase the public and political will to invest in preventative care
Cost burden of health services placed on patients	• Delayed care • Gaps in care • Decreased accessibility to and use of services	• Expand access to affordable health insurance • Establish price caps on medication and healthcare services • Shift from a profit-fueled care model to one that is patient-centered

Table 56 (Continued)

Technological and Scientific Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Inequitable access to broadband and Wi-Fi	• Widening of health gaps (e.g., sub-optimal access to telehealth, education resources, resource information, etc. for those without internet access) • Those without access to broadband and Wi-Fi fall through the gaps	• Subsidies to ensure that all households have access to quality internet • Advocate for policies to tackle the digital divide • Build services that acknowledge disparities and create a balance that prevent them from driving inequity
Growing addiction to technology	• Explosion of mental health crisis in adolescents • Increased substance use • Disconnect between parents and children	• Educate parents on how to manage technology addiction in their children • Increase access to mental health services for youth
Increasing reliance on technology	• As providers increase digitization of their services, health gaps widen for those who are not computer literate/who don't have internet access • Risk of telehealth replacing in-person care (may result in decreased quality of services, inequitable access for those who are not computer literate/who don't have internet access)	• Ensure that service providers meet users on the platforms available to them • Provide alternative options of care for those without internet access or digital literacy
Ethical Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Racism (structural, implicit, explicit)	• Inequitable healthcare access and delivery • Health Disparities: People from racial and ethnic minority groups experience worse health outcomes compared to White people • Creation of distrust and healthcare-associated trauma	• Require healthcare workers to undergo anti-racist care and health equity trainings • Listen to patient stories of their experiences and take action to address implicit and explicit bias exhibited by healthcare providers • Rebuild healthcare structures as anti-racist institutions • Increase use of trauma-informed care
Increased normalization of health disparities	• The negative health experiences and outcomes of people from racial and ethnic minority groups are dismissed as the norm and fail to be addressed • Social determinants of health are recognized as an issue, but the responses are not actionable or sustainable • Complacency	• Reframe health equity discussions as solutions-based conversations • Address spiritual wellness and health equity in everyday practices • Design and implement interventions that address SDOH, and perform rigorous evaluations to assess efficacy

Table 56 (Continued)

Ethical Forces of Change		
Force	**Threats Posed**	**Opportunities Created**
Failure to address root causes of health disparities (e.g., social determinants of health, structural racism, etc.)	• Chronic and communicable diseases persist and worsen • Systemic oppression persists, resulting in negative health outcomes that disproportionately affect racial and ethnic minority people • Ownership is placed on community members	• Move towards solutions-based conversations that focus on addressing root causes of health disparities • Create a fundamental, common ground understanding for service providers of social determinants of health and actionable solutions
Inadequate cultural literacy of healthcare providers	• Gaps in care and insufficient care delivery	• Require cultural competency trainings for healthcare workers and service providers • Establish patient feedback systems and evaluations that inform care delivery models

LOCAL PUBLIC HEALTH SYSTEM ASSESSMENT

THE ESSENTIAL PUBLIC HEALTH SERVICES

The 10 Essential Public Health Services (EPHS) were developed in 1994 by the Core Public Health Functions Steering Committee,[59] and they were updated in 2020 by the Public Health National Center for Innovations and the de Beaumont Foundation.[60]

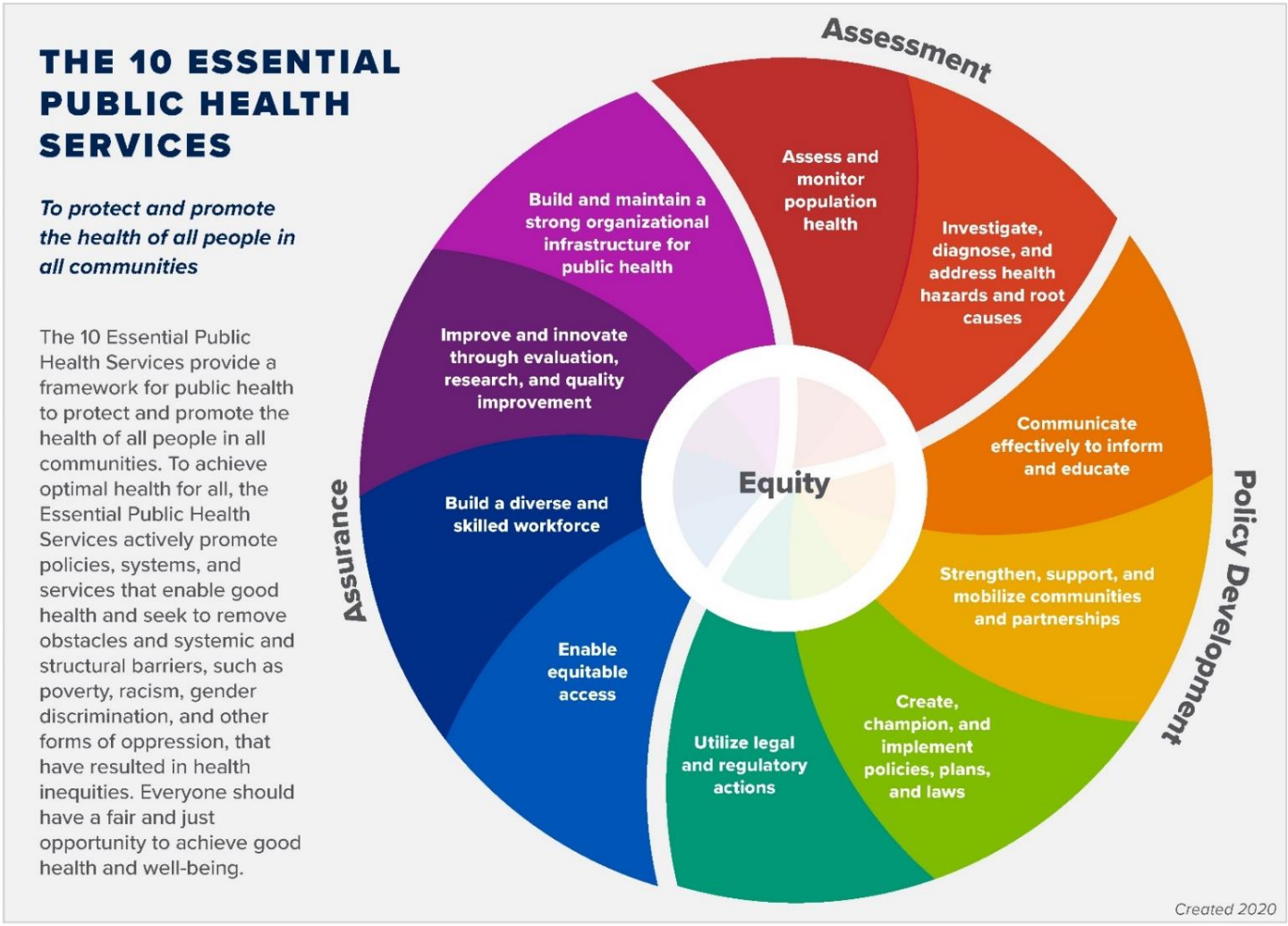
The EPHS is a framework for the public health system to protect and promote the health of its residents. The 2020 update also includes promotion of policies, systems, and community conditions that will ensure health equity within the community. It includes all activities of all members of the local public health system that contribute to the health and well-being of the residents.

THE 10 ESSENTIAL PUBLIC HEALTH SERVICES

1. Assess and monitor population health status, factors that influence health, and community needs and assets
2. Investigate, diagnose, and address health problems and hazards affecting the population
3. Communicate effectively to inform and educate people about health, factors that influence it, and how to improve it
4. Strengthen, support, and mobilize communities and partnerships to improve health
5. Create, champion, and implement policies, plans, and laws that impact health
6. Utilize legal and regulatory actions designed to improve and protect the public's health
7. Assure an effective system that enables equitable access to the individual services and care needed to be healthy
8. Build and support a diverse and skilled public health workforce
9. Improve and innovate public health functions through ongoing evaluation, research, and continuous quality improvement
10. Build and maintain a strong organizational infrastructure for public health

[59] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/publichealthgateway/publichealthservices/originalessentialhealthservices.html, accessed October 2022

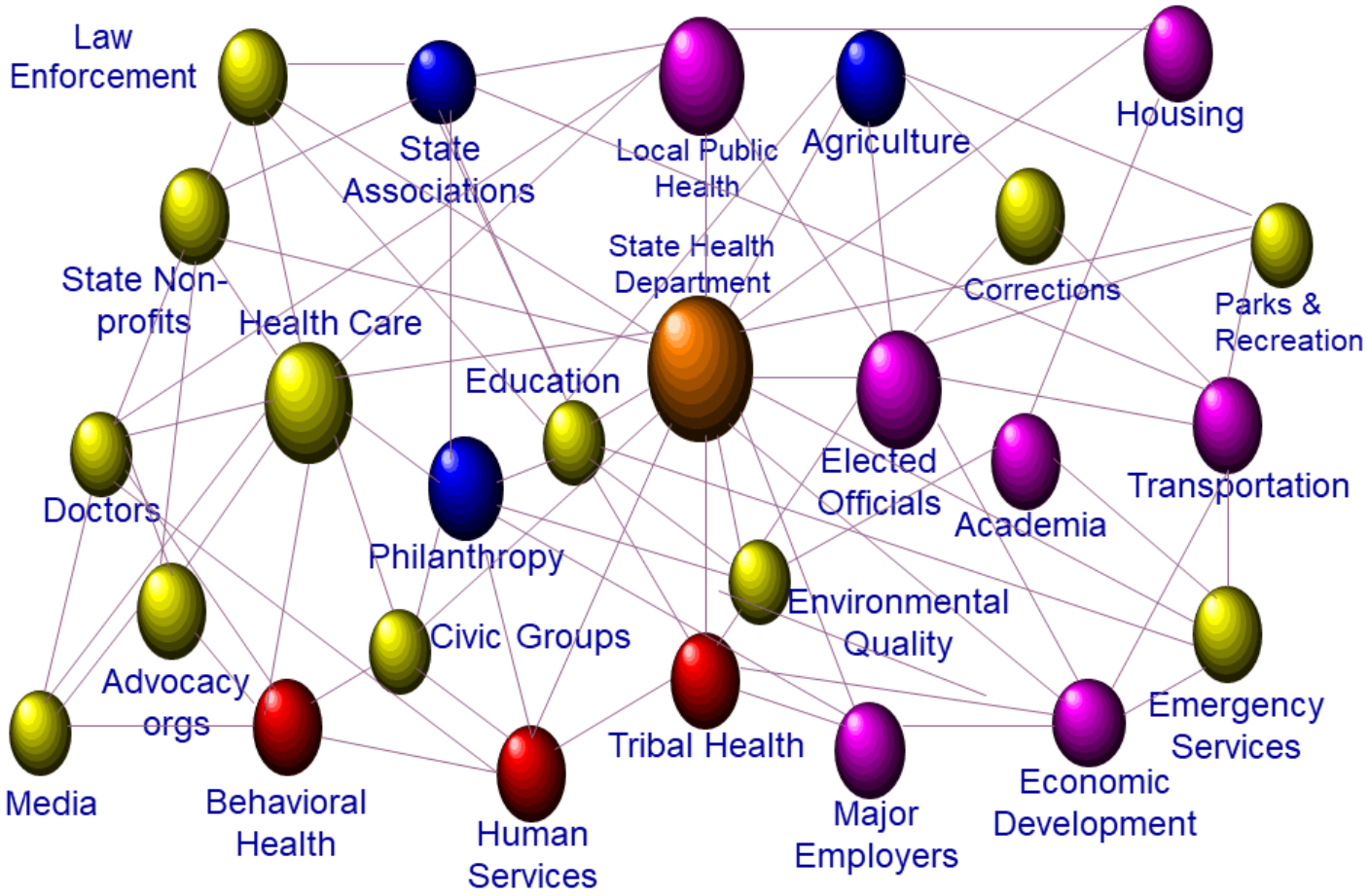
[60] Centers for Disease Control and Prevention, 2022, https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealthservices.html, accessed October 2022



Source: Centers for Disease Control and Prevention, 2020
https://www.cdc.gov/publichealthgateway/publichealthservices/essentialhealthservices.html

WHAT IS A LOCAL PUBLIC HEALTH SYSTEM

The local public health (PH) system is the collective of all organizations that contribute to the public's health. This includes the local health department and local hospitals, as well as governmental, public, private, and volunteer agencies. Any organization or entity that contributes to the health of the residents is part of the PH system. A connected PH system will benefit from sharing diverse perspectives, gaining a better understanding of who is in the PH system, making connections between agencies to increase access to services, and identifying ways to strengthen the PH system.



Source: Michigan State Health & Human Services (Adapted from National Association of County and City Health Officials), 2019
https://www.michigan.gov/mdhhs/doing-business/state-health-assessment/michigan-sha-participants-and-infrastructure

ASSESSMENT

As with all aspects of the MAPP process, assessment is an integral part of the EPHS. The Local Public Health System Assessment (LPHSA) is a method for ensuring that quality services are being provided and identifying opportunities for strengthening the system.

The main questions asked are:

- What are the components, activities, competencies, and capacities of our local public health system?
- How are the essential services being provided to our community?

The LPHSA measures the collective efforts of the public health system to provide the EPHS. The OCDOH will be working with partners to complete their initial assessment in 2023. The National Public Health Performance Standards Local Implementation Guide[61] will be used to guide the conversations.

DATA SUMMARY TABLE

The following is a summary of data findings across all assessments. The table is color-coded by Prevention Agenda Area. The leading priority areas identified were: Promote Well-Being and Prevent Mental and Substance Use Disorders and Prevent Chronic Diseases. Recurring Social Determinants of Health themes were also identified across the various assessments.

[61] National Association of County & City Health Officials, 2013-2019, https://www.naccho.org/uploads/card-images/public-health-infrastructure-and-systems/2013_1209_NPHPS_LocalImplementationGuide.pdf, accessed October 2022

Table 57

Data Summary Across All Assessments							
Community Asset Survey (CAS)	**Focus Groups & Provider Survey**	**Forces of Change**	**Hanlon Method**	**Listening Sessions**	**Priority Rock Voting**	**Public Health Summit**	**Mid-Hudson Region Community Health Survey**
Access to Proper Education	Transportation	Transportation	Child Immunizations	Emphasis on Mental Health	Promote Well-Being and Prevent Mental Health and Substance Use Disorders	Promote Well-Being and Prevent Mental Health and Substance Use Disorders	Impact of COVID-19 on Ability to Obtain Affordable Nutritious Food
Low Crime and Safe Neighborhoods	Access and Decline of Mental Health Providers	Sustainability of Resources	Chronic Lower Respiratory Disease (CLRD)	Affordable Housing	Promote Healthy Women, Infants, and Children	Promote Healthy Women, Infants, and Children	Impact on Maintaining Employment during COVID-19
Parks and Recreation	Access to Affordable Housing	Housing Affordability and Scarcity	Physical Activity	Increase OCDOH Outreach Efforts	Healthy and Safe Environment		Decline in Perception of Sufficient Mental Health Providers
Access to Basic Health Care	Drug and/or Alcohol Use	Impact to Education System	Breast Cancer	Information on Communicable Diseases	Prevent Chronic Diseases		Decline in Perception of Mental Health
	Knowledge of Existing Resources	Workforce Development	Diabetes		Prevent Communicable Diseases		Stress
	Health Literacy	Legalization of Marijuana Legislation	Binge Drinking				Affordable Housing
	Social Isolation due to COVID-19 Concerns and Convenience	Medical Advancements	Overweight and Obese Children				Unable to Get Utilities
		Access to Telehealth	Smoking				Transportation
		Health Disparities	Cardiovascular Disease (CVD)				
		Cultural Competence					

Prevent Chronic Disease | Promote Well-Being and Prevent Mental Health and Substance Use Disorders | Prevent Communicable Disease

Promote Healthy Women, Infants, and Children | Promote Healthy and Safe Environment | Social Determinants of Health

PHASE FOUR: STRATEGIC ISSUES

OVERVIEW

A Community Health Improvement Plan (CHIP) is the long-term systematic effort to address public health problems based on a community-wide health assessment. CHIPs are strategic plans that set priorities and measurable objectives to address the needs of a community. This is a collaborative process between the health department and key, diverse stakeholders in the community, including the area hospitals, to coordinate efforts, establish priorities, and combine resources to guide health promotion strategies.

This document has been created in conjunction with Bon Secours Hospital, Garnet Health Medical Center, Montefiore St. Luke's Cornwall Hospital, and St. Anthony Community Hospital, and with the support of almost 100 other community organizations. The CHIP will guide efforts for the next three years as we strive to improve population-level health issues collaboratively. This document will be continually reviewed and revised to incorporate new opportunities and reflect any challenges or changes throughout the next three years. Access to this document and subsequent updates will be available on the Orange County Department of Health (OCDOH) website here: www.orangecountygov.com/health under "Data and Reports → Community Health Assessments."

PREVENTION AGENDA

The New York State Public Health and Health Planning Council's Ad Hoc Committee to Lead the Prevention Agenda (PA) created the Prevention Agenda Health Improvement Plan for 2019-2024. The PA establishes priority areas, goals for each priority area, and defines indicators to measure progress toward achieving these goals, including reductions in health disparities among racial, ethnic, and socioeconomic groups and persons with disabilities.[62] The five PA priority areas are:

- Prevent Chronic Diseases
- Promote a Healthy and Safe Environment
- Promote Healthy Women, Infants and Children
- Promote Well-Being and Prevent Mental Health and Substance Use Disorders
- Prevent Communicable Diseases

As part of the required update to the CHIP, NYSDOH requires all health departments and hospitals to choose two priority areas and address at least one health disparity in their communities. To make significant strides towards improving the health of county residents, the priority areas, goals, and strategies are chosen collaboratively between OCDOH and Bon Secours Hospital, Garnet Health Medical Center, Montefiore St. Luke's Cornwall Hospital, and St. Anthony Community Hospital.

[62] New York State Department of Health, 2019, https://www.health.ny.gov/prevention/prevention_agenda/2019-2024/background.htm, Accessed November 2022

PRIORITY GROUP SELECTION

Orange County utilized a modified Mobilizing for Action through Planning and Partnerships (MAPP) strategic planning process with community partners and residents to determine the CHIP priorities. The MAPP process uses four unique assessments to determine community priorities: Community Themes and Strengths, Community Health Status, Forces of Change, and Local Public Health System Assessment. Orange County conducted three of the four assessments and will complete a comprehensive Local Public Health System Assessment in the future.

Community partners were engaged in several assessments and strategic planning activities. The Orange County Health Summit was held on June 28, 2022 with approximately 100 partners including hospitals, health care providers, community-based organizations, and academia to review the most current state of health in Orange County, identify and discuss the forces that impact the health of residents, provide input on the next two Prevention Agenda Priorities for the 2022-2024 CHIP, and participate in breakout groups to discuss current efforts, assets, and barriers in each of the five priority areas. This year's theme, "A Collaborative Approach to Community Health Planning," emphasized the need to engage all segments of the community to improve health outcomes together.

An overview of the most recently available data was provided to participants covering:

- Secondary data in each of the five NYSDOH Prevention Agenda areas
- Preliminary findings of the Community Asset Survey
- Data from the 2022 Provider Survey and focus groups with local human service providers
- Health rankings utilizing the Modified Hanlon Method[63] which utilizes objective data measures to prioritize health problems

A provider survey and subsequent focus groups were conducted in May and June 2022, in partnership with the Joint Membership of Health and Community Agencies (JMHCA) and Changing the Addition Treatment Ecosystem, 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 substance use disorder. Community engagement participation was completed though the Community Asset Survey, Priority Rock Voting, Listening Sessions, and the Mid-Hudson Region Community Health Survey. The Mid-Hudson Region Community Health Survey and larger health assessment were completed in conjunction with the six other Mid-Hudson Region County Health Departments and area hospitals in 2022. Priority areas were then selected utilizing data from the Regional and Community Health Status Assessments, Orange County Health Summit participant selections, and results from the aforementioned community survey tools. The top health issues reviewed, identified areas of concern, and chosen priority areas are depicted in the following graphic.

[63] National Association of County & City Officials, https://www.naccho.org/uploads/downloadable-resources/Gudie-to-Prioritization-Techniques.pdf, accessed November 2022

Top Health Issues Reviewed

- Obesity
- Unintentional Injury
- Income Distribution
- Poverty
- Fall Hospitalizations
- Food Security
- Oral Health
- Tobacco/Vape Use
- Cardiovascular Disease
- Depression
- Suicide
- Exercise
- Healthy Eating
- Childhood Immunizations
- Public Transportation
- Sexual Transmitted Infections
- Supermarket Access
- Maternal Mortality
- Disability
- Unemployment
- Diabetes
- Environmental Quality
- Asthma
- Teen Pregnancy
- Housing
- Access to Care
- Cancer
- Mental Health
- Hypertension
- Breastfeeding
- Alcohol Use
- Premature Birth
- Substance Use
- Self-Inflicted Injury
- Community Safety and Violence
- Communicable Diseases (COVID, etc.)
- Chronic Lower Respiratory Disease
- Opioid Burden

Identified Areas of Concern

- Chronic Diseases
- Mental Health
- Substance Use Disorders
- Sexually Transmitted Infections
- Vaccine Preventable Illnesses
- Maternal and Infant Health

Two Priority Areas Chosen

- Prevent Chronic Disease
- Promote Well-Being & Prevent Mental and Substance Use Disorders

The two overarching priority areas chosen were **Prevent Chronic Disease** and **Promote Well-Being and Prevent Mental Health and Substance Use Disorders.** Within each of the priorities' strategic plan, the reduction of health disparities will be addressed through the concentration of efforts in areas of the largest economic needs and in areas with minority majorities. Additional upstream contributors to the priority areas will also be addressed, such as health insurance access, transportation barriers, increased connection with primary care providers, food instability, and advocacy around affordable housing.

Within the priority area of **Prevent Chronic Disease,** the following focus areas and goals were chosen (*numbers corresponding to the New York State Prevention Agenda*):

Focus Area 1: Healthy Eating and Food Security

Goal 1.1 Increase access to healthy and affordable foods and beverages

Goal 1.3 Increase food security

Focus Area 4: Preventative Care and Management

Goal 4.1 Increase cancer screening rates for breast, cervical, and colorectal cancer

Within the priority area of **Promote Well-Being and Prevent Mental Health and Substance Use Disorders,** the following focus areas and goals were chosen (*numbers corresponding to the New York State Prevention Agenda*):

Focus Area 2: Mental and Substance Use Disorders Prevention

Goal 2.2. Prevent Opioid and other Substance Misuse and Deaths

PRIORITY AREA GROUP LEADERS

CHRONIC DISEASE PRIORITY AREA LEADERS

Focus Area 1: Healthy Eating and Food Security

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PROMOTE WELL-BEING AND PREVENT MENTAL HEALTH AND SUBSTANCE USE DISORDERS

Focus Area 2: Opioid and Other Substance Use Prevention

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PHASE FIVE: GOALS/STRATEGIES

OVERVIEW

To address the chosen priority areas, the following grids were created to identify evidence-based interventions (EBI), measure short-term and long-term process and outcome measures, and allow for accountability to reach the outlined goals. Each grid corresponds to the chosen priority area and includes goals, objectives, EBIs, responsible partners, a timeframe for completion, evaluation measure, and both short-term and long-term outcome measures. See below for the strategic plan for each priority area chosen: Prevent Chronic Disease and Promote Well-Being and Prevent Mental Health and Substance Use Disorders.

PRIORITY 1

PREVENT CHRONIC DISEASES: STRATEGIC PLAN					
PRIORITY AREA: PREVENT CHRONIC DISEASES					
FOCUS AREA 1: Healthy Eating and Food Security					
OVERARCHING GOAL: Reduce obesity and the risk of chronic diseases **GOAL 1.3: Increase food security** **OBJECTIVE #1:** By December 31, 2024, decrease the percentage of adults who are unable to get food when they really need it by 10% from 12% to 10.8%. **OBJECTIVE #2:** By December 31, 2024, decrease the percentage of adults who make less than $25,000 who are unable to get food when they really need it by 10% from 27% to 24.3%. (Data Source: Mid-Hudson Region Health Survey, 2022) **DISPARITIES ADDRESSED: Persons with low SES, targeting communities with minority majority populations**					
Evidence-Based Strategy	**Activities**	**Lead Partners**	**Timeframe**	**Evaluation Measure**	**Outcome: Product/Result**
Screen for food insecurity, facilitate, and actively support referrals	Create polices and processes for active connection to WIC and/or SNAP	**Staff Time:** *OCDOH, Bon Secours Community Hospital (BSCH), Garnet, Montefiore St. Luke's Cornwall Hospital (SLCH), St. Anthony Community Hospital (SACH)* **Advisory Partners:** *CCE, Cornerstone, WIC programs, Orange County Office for the Aging (OFA), Orange County Department of Social Services (DSS), Sun River Health, SNAP-Ed New York*	January 2022-December 2023	Number of facilities adopting policies and/or procedures to support active connection to SNAP and/or WIC	Increased number of food insecure residents connected to resources for pediatric and adult populations

Evidence-Based Strategy	Activities	Lead Partners	Timeframe	Evaluation Measure	Outcome: Product/Result
Screen for food insecurity, facilitate, and actively support referrals	Continuation of internal policies and/or practices to consistently screen for food insecurity in pediatric and adult populations	**Staff Time:** *BSCH, Garnet, SLCH, SACH* **Support Partners:** *OCDOH, CCE*	January 2022-December 2023	Number of individuals screened for food insecurity Number of quarterly referrals	Increased awareness among healthcare providers about food insecurity and increased number of food insecure residents connected to resources
Connect and enroll families and individuals in any eligible nutrition and community programs	Utilize CHWs through County programs to identify and connect families with food programs	**Staff Time:** *OCDOH* **Support Partners:** *CCE, SNAP-Ed New York*	June 2023-December 2024	Number of individuals screened for food insecurity Number of quarterly referrals	Increased number of food insecure residents connected to resources for both pediatric and adult populations
	Develop internal policy/procedure to consistently screen for food insecurity and make appropriate referrals among community organizations	**Staff Time:** *OCDOH* **Support Partners:** *CCE, SNAP-Ed New York*	March 2023-December 2024	Policy adoption and/or procedures to support active connection to SNAP and/or WIC	Increased number of food insecure residents connected to resources for pediatric and adult populations

PERFORMANCE MEASURES

Short Term Process Indicators for Goals 1.3	Baseline	Source	Frequency
By June 2023, create and adopt policy and procedures at OCDOH for screening and referring clients to SNAP and/or WIC.	None	CHIP evaluation database	Once
By December 2023, increase the percentage of referrals made for food insecure residents and families from practices adopting new screening policies and protocols by 5%.	To be determined June 2023	CHIP evaluation database	Quarterly
By December 2023, increase the number of health care practices/facilities that adopt policies and/or procedures to support active connection to SNAP and/or WIC by 2 facilities.	To be determined by March 2023	CHIP evaluation database	Quarterly
By December 2023, increase the number of health care practices that screen for food insecurity by at least 3.	4 (Cornerstone, Garnet, SACH, SLCH)	CHIP evaluation database	Quarterly

Short Term Process Indicators for Goals 1.3	Baseline	Source	Frequency
By December 2023, increase the percentage of referrals made for identified food insecure residents and families screened through OCDOH programs by 5%.	To be determined by June 2023	CHIP evaluation database	Quarterly

PREVENT CHRONIC DISEASES: STRATEGIC PLAN

PRIORITY AREA: PREVENT CHRONIC DISEASES

FOCUS AREA 1: Healthy Eating and Food Security

OVERARCHING GOAL: Reduce obesity and the risk of chronic diseases
GOAL 1.1: Increase access to healthy and affordable foods and beverages
OBJECTIVE #1: By December 31, 2024, increase the percentage of adults who consume less than one fruit and vegetable per day by 5% from 23.3% to 22.1%.
(Date Source: BRFSS, 2018)
DISPARITIES ADDRESSED: Persons with low SES, targeting communities with minority majority populations

Evidence-Based Strategy	Activities	Lead Partners	Timeframe	Evaluation Measure	Outcome: Product/Result
Increase availability of affordable healthy foods especially in communities with limited access through sustaining OCDOH funded farm markets	Maintain current farm markets in Newburgh and Port Jervis through the continuation of contracts with farm market managers and grow the number of participants and farmers	**Staff Time:** *OCDOH, Port Jervis and Newburgh Farm Market managers, House of Refuge, OFA, Veteran's Affairs, CCE* **Sponsorship and Space:** *First Baptist Church Newburgh, House of Refuge, City of Port Jervis, City of Newburgh, Foundry 42*	Ongoing seasonally from May- November (2023-2024)	Number of participants Number of farmers	Increased availability of local produce items in low-income areas directed towards those with limited transportation

PERFORMANCE MEASURES

Short Term Process Indicators for Goals 1.1	Baseline	Source	Frequency
By December 2023, increase the number of participants utilizing the farmers markets in Newburgh by 10% from 3,425 to approximately 3,767 participants.	3,425 Newburgh participants (2022)	CHIP evaluation database	Seasonally
By December 2023, increase the number of participants utilizing the farmers markets in Port Jervis by 10% from 3,200 to approximately 3,520 participants.	3,200 Port Jervis participants (2022)	CHIP evaluation database	Seasonally
By July 2023, increase the number of farmers/vendors participating by 2 in the City of Newburgh's established farm market	Average 4 farmers (2022)	CHIP evaluation database	Seasonally

Short Term Process Indicators for Goals 1.1	Baseline	Source	Frequency
By December 2023, increase the percentage of veteran coupons redeemed at the Newburgh market by 25% from 40.2% to 50.1%.	40.2% (2022)	CHIP evaluation database	Seasonally
By December 2023, increase the EBT transaction dollar amount at the Newburgh market by 20% from $1506 to $1807.	$1506 (2022)	CHIP evaluation database	Seasonally
By December 2023, increase the EBT transaction dollar amount at the Port Jervis market by 20% from $1051 to $1261.	$1051 (2022)	CHIP evaluation database	Seasonally

PERFORMANCE MEASURES

Long Term Outcome Indicators for Goals: 1.1 and 1.3	Baseline	NYSDOH Prevention Agenda Goal	Source	Frequency
By December 31, 2024, decrease the percentage of adults who consume less than one fruit and vegetable per day by 5% from 23.3% to 22.1%	23.3% (2018)	29.6% by 2024	New York State Behavioral Risk Factor Surveillance Survey (BRFSS)	Every 4 years
By December 31, 2024, decrease the percentage of adults who are unable to get food when they really need it by 10% from 12% to 10.8%.	12% (2022)	N/A	Mid-Hudson Region Community Health Survey	Every 4 years
By December 31, 2024, decrease the percentage of adults who make less than $25,000 who are unable to get food when they really need it by 10% from 27% to 24.3%.	27% (2022)	N/A	Mid-Hudson Region Community Health Survey	Every 4 years

PREVENT CHRONIC DISEASES: STRATEGIC PLAN					
PRIORITY AREA: PREVENT CHRONIC DISEASE					
FOCUS AREA 4: Preventative Care and Management					
GOAL 4.1: Increase cancer screening rates for breast, cervical and colorectal cancers **OBJECTIVE #1:** By December 31, 2024, increase the percentage of adults receiving breast cancer, cervical, and colorectal cancer screenings based on the most recent screening guidelines for Breast Cancer Screening by 5% from 78.8% to 82.7%; for Cervical Cancer Screening by 5% from 88.8% to 93.2% and for Colorectal Cancer Screening by 5% from 61.7% to 64.8%. (Data source: NYS Behavioral Risk Factor Surveillance Survey, 2018) **DISPARITIES ADDRESSED: Persons with low SES and targeting communities with minority majority populations**					
Evidence-Based Strategy	**Activities**	**Lead Partners**	**Timeframe**	**Evaluation Measure**	**Outcome: Product/Result**
Remove structural barriers to cancer screening by working with employers to provide employees with paid leave or the option to use flex time for cancer screenings	Partner with the Chamber of Commerce to connect with worksites to establish paid leave policies for screenings	**Staff Time:** *OCDOH, Chamber of Commerce Health Means Business Committee, Hudson Valley Cancer Services*	January 2022-December 2024	Number and type of worksites that adopt practices and policies that reduce structural barriers to cancer screening	Increased number of adults able to receive cancer screenings
	Recruit worksites with current policies in development to host one-time on-site screening events	**Staff Time:** *OCDOH, Chamber of Commerce Health Means Business Committee, Hudson Valley Cancer Services*	January 2022-December 2024	Number of events for on-site cancer screening	Increased number of adults able to receive cancer screenings
Remove structural barriers to cancer screening by increasing primary care provider connections	Develop a system to refer patients without primary care when presenting to the emergency department or urgent care setting	**Staff Time:** *BSCH, Garnet, SLCH, SACH* **Support Partners:** *OCDOH, Cornerstone, Sun River Health, Ezras Choilim Health Center*	March 2023-Decemeber 2024	Number of referrals made to primary care	Increased number of patients enrolled in primary care

Evidence-Based Strategy	Activities	Lead Partners	Timeframe	Evaluation Measure	Outcome: Product/Result
Remove economic barriers to cancer screening by ensuring access to health insurance	Develop a system to connect insurance patient navigators to patients waiting for care in the emergency department	**Staff Time:** *BSCH, Garnet, SLCH, SACH, Insurance companies (Fidelis, Affinity)* **Support Partners:** *OCDOH*	January 2023-December 2024	Number of patients signed up for health insurance	Increased number of residents with health insurance

PERFORMANCE MEASURES

Short Term Process Indicators for Goal 4.1	Baseline	Source	Frequency
By December 2023, determine a baseline of Chamber of Commerce members with policies that allow for paid time off or flex time to complete cancer screenings.	Baseline to be determined by December 2023	Orange County Chamber of Commerce Health Means Business Survey	One-time
By June 2024, increase the number of Chamber of Commerce membership worksites with cancer screening policies by 5.	Baseline to be determined by December 2023	CHIP Evaluation Database	Quarterly
By December 2023, increase the number of referrals made to primary care from the emergency department or urgent care to 50.	Not available	CHIP Evaluation Database	Quarterly
By December 2023, increase the number of patients enrolled in health insurance through emergency department connection.	Not available	CHIP Evaluation Database	One-time

Long Term Outcome Indicators for Goal 4.1	Baseline	NYSDOH P.A. Goal	Source	Frequency
By December 2024, increase the percentage of women ages 50-74 receiving breast cancer screening by 5% from 78.8% to 82.7%.	78.8% (2018)	79.7% by 2024 HP2030: 80.5%	BRFSS	Every 4 years
By December 2024, increase the percentage of women ages 21-65 receiving cervical cancer screening by 5% from 88.8% to 93.2%.	88.8% (2018)	*Not available* HP2030: 84.3%	BRFSS	Every 4 years
By December 2024, increase the percentage of adults ages 50-75 receiving colorectal screening by 5% from 61.7% to 64.8%.	61.7% (2018)	80% by 2024 HP2030: 74.4%	BRFSS	Every 4 years

PRIORITY 2

PROMOTE WELL-BEING AND PREVENT MENTAL HEALTH AND SUBSTANCE USE DISORDERS: STRATEGIC PLAN					
PRIORITY AREA: PROMOTE WELL-BEING AND PREVENT MENTAL HEALTH AND SUBSTANCE USE DISORDERS					
FOCUS AREA 2: Mental and Substance Use Disorders Prevention					
GOAL 2.2: Prevent opioid and other substance misuse and deaths **OBJECTIVE #1:** By December 31, 2024, reduce the age-adjusted overdose death involving any opioid by 7% from 22.5 to 20.9 per 100,000 population. Date source: NYSDOH Vital Statistics, 2019 **DISPARITIES ADDRESSED: Targeting communities with minority majority populations**					
Evidence-Based Strategy	**Activities**	**Lead Partners**	**Timeframe**	**Evaluation Measure**	**Outcome: Product/Result**
Increase the availability of/access and linkages to medications for opioid use disorder (MOUD) including Buprenorphine	Develop internal policies/procedures for the initiation of MOUD administration in the emergency departments	**Staff Time:** *BSCH, Garnet, SLCH, SACH* **Advisory Capacity:** *Orange County Department of Mental Health, OCDOH, HEALing Communities Steering Committee, Changing the Addiction Treatment Ecosystem Taskforce, NY Matters*	January 2023-December 2024	Number of hospitals providing MOUD in the ED Number of identified patients receiving MOUD in the ED	Increased number of persons with substance use disorder receiving MOUD
Increase the availability of access to MOUD including Buprenorphine	Organize and fund MOUD implementation trainings for health care providers prescribing Buprenorphine	**Staff Time:** *Crystal Run Healthcare, OCDOH* **Support Partner:** *BSCH Garnet, SLCH, SACH*	Once yearly January 2023-December 2024	Number of trainings provided	Increased number of health care providers prescribing MOUD to patients
Promote and support the expansion of the Peer RX application for peer referrals at the emergency department	Engage the hospital systems to develop protocols to utilize the crisis call center for a warm hand off for treatment services	**Staff Time:** *Orange County Department of Mental Health, BSCH Garnet, SLCH, and SACH* **Support Partner:** *OCDOH, Independent Living, Inc.*	January 2023-December 2024	Number of peer referrals made	Increase and foster meaningful connections to achieve successful recovery

Evidence-Based Strategy	Activities	Lead Partners	Timeframe	Evaluation Measure	Outcome: Product/Result
Establish additional permanent safe disposal sites for prescription drugs and distribution of Naloxone boxes	Determine locations for disposal sites and Naloxone distribution boxes	**Staff Time:** *Orange County Department of Mental Health, OCDOH* **Support Partner:** *OCDOH, BSCH, Garnet, SLCH, and SACH*	January 2023-December 2024	Number of controlled prescription drug units collected Number of Naxolone box locations established	Reduction of unused medications and increased availability of Naloxone to prevent opioid overdose deaths

PERFORMANCE MEASURES

Short Term Process Indicators for Goal 2.2	Baseline	Source	Frequency
By December 2023, increase the number of hospitals providing MOUD in the emergency department from one to four.	1 (SLCH)	CHIP evaluation database	Quarterly
By December 2023, increase the number of patients being prescribed MOUD in the emergency department.	To be established March 2023 for SLCH	CHIP evaluation database	Quarterly
By December 2023, host at least one implementation training for health care providers providing MOUD.	1 (May 2022)	CHIP evaluation database	Yearly
By June 2023, develop a baseline for number of peer referrals made in each hospital system implementing the Peer Rx application.	To be established June 2023	CHIP evaluation database	Quarterly
By January 2024, increase the number of hospital systems utilizing the Peer Rx application by one.	To be established January 2023	CHIP evaluation database	Quarterly
By June 2024, increase the number of peer referrals made by 10% from baseline.	To be established June 2023	CHIP evaluation database	Quarterly
By December 2023, create at least two permanent safe disposal sites for prescription drugs.	To be established by March 2023	CHIP evaluation database	Quarterly
By December 2023, create at least two permanent Naloxone box sites.	To be established by March 2023	CHIP evaluation database	Quarterly

Long Term Outcome Indicators for Goal 2.2	Baseline	Source	NYSDOH P.A. Goal	Frequency
By December 2024, reduce the age-adjusted overdose death involving any opioid by 7% from 22.5 to 20.9 per 100,000 population.	22.5 per 100,000 (2019)	NYSDOH Vital Statistics	14.3 per 100,000	Annually or as often as available

PHASE SIX: ACTION CYCE

PLANNING IMPLEMENTATION EVALUATION

Progress, improvement, and data are tracked quarterly and collected by priority area leaders for each of the strategies and documented in an excel database. Both short-term process indicators and long-term outcome indicators are collected through primary data analysis, anecdotal comments from partners and the community, and through review of secondary data sources including NYSDOH. Data measures collected will guide any mid-course corrections needed. Data updates are completed quarterly, placed directly on the CHIP document and uploaded to the OCDOH Website under "Data and Reports → Community Health Assessments," also found here: https://www.orangecountygov.com/180/Community-Health-Assessments. Full descriptions of process measures, partners, timelines, and outcome objects can be found below in the strategic planning charts. Access to Orange County Community Health Assessment, and Regional Community Health Assessment is provided on the County Health Department website found here: www.orangecountygov.com/health under "Data and Reports → Community Health Assessments." The documents were also shared with all the Orange County Health Summit registrants and attendees.

PARTNER INVOLVEMENT BY CHIP PRIORITY

Each priority area chosen has a corresponding workgroup co-led by OCDOH and area hospital staff to ensure the strategies laid out in the strategic plan below are being executed. These workgroups will report out at the larger yearly Orange County Health Summit to share the ongoing efforts of the CHIP to the community-at-large. Contact information for focus group leaders can be found on pages 311-314. Priority area leaders will be responsible for recruiting any additional partners and/or community members through the 2022-2024 CHIP cycle. OCDOH and the participating hospitals have strong community partnerships with hundreds of organizations serving its residents, including federally qualified health care centers, private medical providers, local two-year and four-year colleges, a medical school, community-based organizations, and other organizations serving a broad variety of community needs including transportation, food security, housing, and economic stability. OCDOH has established multiple coalitions including Healthy Orange, the Maternal and Infant Community Health Collaborative, and the Orange County Cancer Screening Collaborative. OCDOH also co-leads and participates in many countywide coalitions, such as Changing the Orange County Addiction Treatment Ecosystem, Healing Communities Study Steering Committee and Workgroups, WELCOME Orange, and the Resilience Project. These coalition partners will also be mobilized to address the health areas of focus and emerging issues for the 2022-2024 CHIP cycle. Additionally, community members can contact each of the focus group leaders to become involved.

LIST OF APPENDICES

APPENDIX A

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

American Community Survey (ACS): A survey conducted nationally by the US 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*

Community Partner Focus Groups: A series of focus groups conducted throughout the Mid-Hudson Region by the Hudson Valley Public Health Collaborative (HVPHC). *Primary source*

Core Public Health Functions Steering Committee: The Core Public Health Functions Steering Committee developed the framework for the Essential Services in 1994. The committee included representatives from US Public Health Service agencies and other major public health organizations. *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 US. *Secondary source*

De Beaumont Foundation: Founded in 1998, the de Beaumont Foundation creates and invests in bold solutions that improve the health of communities across the country. The foundation believes that every person should have the opportunity to achieve their best health, regardless of where they live, and focuses on improving health at the community level by investing in tools, partnerships, policies, and the public health workforce. *Secondary source*

Feeding America: Feeding America began as a clearinghouse for national food donations and is now the nation's largest domestic hunger-relief organization. It is now a network of food banks is in every county in the country. Programs help provide meals to children, seniors, families, and survivors of natural disasters. Part of the mission is to improve understanding of food insecurity and food costs at the local level. Using sources such as the ACS, the Bureau of Labor Statistics, and the US Department of Agriculture, Feeding America conducts Map the Meal Gap, a county level analysis of food insecurity. *Secondary source*

Hanlon Method for Prioritizing Health Problems: The Hanlon Method is a technique created by J.J. Hanlon to prioritize health problems. This method was originally published in 1984 and had been revised overtime to develop the most accurate outcome of data. The trusted Hanlon method minimizes personal bias an prioritizes health problems utilizing baseline data and numerical values. *Primary source*

Healthy People 2030: Healthy People is an initiative by the Office of Disease Prevention and Promotion under the US Department of Health and Human Services. Healthy People identifies public health priorities to help individuals, organizations, and communities across the US improve health and well-being. Healthy People 2030, the initiative's fifth iteration, builds on knowledge gained over the first 4 decades and includes 10-year national objectives for improving the health of all Americans. *Secondary source*

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

National Association of County and City Health Officials (NACCHO): NACCHO serves 3000 local health departments and is the leader in providing cutting-edge, skill-building, professional resources and programs, seeking health equity, and supporting effective local public health practice and systems. NACCHO is the only organization dedicated to serving every local health department in the nation. *Secondary source*

National Cancer Institute, State Cancer Profiles: State Cancer Profiles is an interactive map engine produced in collaboration between the National Cancer Institute and Centers for Disease Control and Prevention. It was developed with the idea to provide a geographic profile of cancer burden in the United States and reveal geographic disparities in cancer incidence, mortality, risk factors for cancer, and cancer screening, across different population subgroups. *Secondary source*

New York City Department of Health and Mental Hygiene, Office of Vital Statistics: The Office of Vital Statistics is responsible for the registration, amendment, analysis, and reporting of all vital events in NYC including births, deaths, and terminations of pregnancy. All vital events are required by law to be reported to the NYC Department of Health and Mental Hygiene if they occur in or enroute to NYC, regardless of individual residency status, in a particular year. *Secondary source*

New York Citywide Immunization Registry: The NY Citywide Immunization Registry (CIR) keeps immunization records for all children and adults who live in NYC. CIR consolidates immunization information and shares it with health care providers, families and agencies concerned with public health. *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 NYS Department of Health (DOH). *Secondary source*

New York State Childhood Lead Poisoning Prevention Program (CLPPP): The CLPPP is the largest in the country. CLPPP works to make homes safe. It funds NYS local health departments (LHD) to gain access to high-risk housing to educate, inspect and control lead hazards. It looks for properties with lead paint hazards, then it takes action to make them lead safe – protecting children from lead poisoning. Blood lead testing data and blood lead levels are shared through CLPPP. *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 Communicable Disease Electronic Surveillance System (CDESS): Reporting of suspected or confirmed communicable diseases is mandated under the NYS Sanitary Code (10NYCRR 2.10). Although physicians have primary responsibility for reporting, school nurses, laboratory directors, infection control practitioners, daycare center directors, health care facilities, state institutions, and any other individuals/locations providing health care services are also required to report communicable diseases. All reportable communicable disease data coming through the Electronic Clinical Laboratory Reporting System (ECLRS) are reported to the CDESS in a timely and complete manner. LHDs review each lab report for proper initiation of a case investigation. Once the investigation is created, the LHD may create a reportable case or may dismiss it if evidence does not support the case definition. *Primary source*

New York State County/ZIP Code Perinatal Data Profile: The Perinatal Data Profile provides county-level health and vital statistics on birth rates, prenatal care, and adverse birth outcomes including but not limited to infant mortality. *Secondary source*

New York State Department of Health Community Health Indicator Reports (CHIRS): The CHIRS Dashboard tracks about 350 indicators organized by 15 health topics and is updated regularly to include the most recent year of data available for these indicators. Additionally, each of 62 counties in NYS has their own dashboard which allows for comparison of each county's data in relationship to that county's region and NYS totals and includes at-a-glance comparisons of the two most recent data points. Visualizations include tables, maps, charts, and graphs at the state and county levels. This dashboard is a key resource for assessing county trends and can assist in tracking intervention progress. *Secondary source*

New York State Department of Health County Health Indicators by Race/Ethnicity (CHIRE): The CHIRE is a map-based tool that allows users to view health indicators by race/ethnicity in NYS and by county. It includes a variety of health indicators by race/ethnicity including mortality, vital statistics, injuries, chronic diseases, and substance abuse. *Secondary source*

New York State Department of Health Office 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. Oversees surveillance activities for chlamydia, gonorrhea, and syphilis for NYS (excluding NYC). Provides reporting and support for Partner Services (PS) activities via reports for PS staff, technical support for PS staff, and reporting to the CDC. *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. It maintains, analyzes, and publishes criminal and youth justice system data, including incidents of crimes and arrests and dispositions, as reported by police departments, sheriffs' offices, probation departments, and the state Office of Court Administration. *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 NYS. *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 NYS Department of Health. *Secondary source*

New York State Maternal and Child Health (MCH) Dashboard: The MCH dashboard is comprised of National and State selected performance measures to support the assessment of needs and to monitor progress towards improving the health of New York State residents and reducing health disparities, specifically for women, infants, and children and adolescents including children and youth with special health care needs. *Secondary source*

New York State Opioid Dashboard: The Opioid Dashboard is an interactive visual presentation of indicators tracking opioid data at state and county levels. It is a key resource for monitoring fatal and nonfatal opioid overdoses, opioid prescribing, opioid use disorder treatment, and the overall opioid overdose burden. The state dashboard homepage displays a quick view of the most current data for 98 opioid-related indicators and

compares them with data from previous time periods to assess performance. Historical (trend) data can be easily accessed, and county data (visualized as maps and bar charts) are also available for most opioid tracking indicator. The county dashboard homepage includes the most current data available for 77 opioid-related indicators. Each county in the state has its own dashboard. *Secondary source*

New York State Prevention Agenda Dashboard: The Prevention Agenda Dashboard is a tool that provides data on a number of indicators within each priority area. Data, maps, charts, and graphs can be generated for NYS and for individual counties. The Dashboard shows whether there has been improvement in an indicator over time, and progress toward the current objectives for 2019-2024. For county data, the Dashboard indicates how the county is performing compared to other counties across the state. *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 NYS outside of NYC. *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*

Orange County Department of Social Services: The Orange County Department of Social Services provides various forms of financial assistance to families and individuals. They are subject to income and resource eligibility levels which must be satisfied by applicants and recipients in order to qualify for assistance. Participation in Welfare to Work Programs is also required for employable applicants and recipients. *Primary source*

Orange County Medical Examiner's Office: The Orange County Medical Examiner's Office investigates sudden, unexpected, and unnatural fatalities in Orange County in order to ensure accurate cause and manner of death certification. Cases that fall under the Medical Examiner's jurisdiction include: accident (MVA, drugs, etc.); any death not due to 100% natural causes; death at the work place; death unattended by a physician; homicide; sudden, unexplained, unexpected, or suspicious death; suicide; and therapeutic misadventure. *Primary source*

Prevention Agenda 2019-2024: New York State's Health Improvement Plan: The Prevention Agenda 2019-2024 is New York State's health improvement plan, the blueprint for state and local action to improve the health and well-being of all New Yorkers and to promote health equity in all populations who experience disparities. *Secondary source*

Public Health National Center for Innovations: The Public Health National Center for Innovations (PHNCI), a division of PHAB, serves as the national headquarters for empowering health departments to drive change and improve health. PHNCI's efforts focus on public health innovation and transformation, with learnings, resources, and opportunities that support accreditation. *Secondary source*

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

US Census Bureau: The Census Bureau publishes population estimates and demographic components of change, such as births, deaths, and migration. This data can be sorted by characteristics such as age, sex, and race, as well as by national, state, and county location. *Secondary source*

US Census Bureau; 2020 Decennial Redistricting Data: The data collected by the decennial census are used to apportion the number of seats each state has in the US House of Representatives. Redistricting data are released for the purpose of redrawing legislative and electoral district boundaries. *Secondary source*

US Census Bureau; Poverty Thresholds: Following the Office of Management and Budget's (OMB) Statistical Policy Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. *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*

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 NYS outside of NYC. It is maintained by the NYS Bureau of Vital Records, a branch of the NYSDOH. *Secondary source*

APPENDIX B

The New York State Department of Health requires local health departments (LHD) to submit Community Health Assessments (CHA) and hospitals to submit Community Health Needs Assessments. LHDs and hospitals collaborate with community partners and residents to identify the health-related needs and strengths of the Orange County community. Regional cooperation between the seven Mid-Hudson Region LHDs and hospitals includes informal meetings, information sharing, joint collaboration on disease investigations, and shared media and communication campaigns. In 2017, the seven LHDs, including Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties, created a local collaborative with the goal of conducting regional resident and provider surveys, creating a regional CHA, and collaborating on common Community Health Improvement Plan (CHIP) priorities. This regional approach was continued for the 2022 CHA and CHIP cycle.

The Regional CHA was written by the regional collaborative and is intended to serve as a reference for key health information for all stakeholders within the Mid-Hudson Region and assist them in identifying and prioritizing the health needs of the region and its communities. An additional goal of this project is to initiate collaboration to address key health issues in the region and to inform the CHIPs of each county and the Community Service Plans of non-profit 501(c)(3) hospitals.

The 2022-2024 Mid-Hudson Regional CHA can be found here:
https://www.orangecountygov.com/180/Community-Health-Assessments

APPENDIX C

Community Health Assessment Data Review Guide Summary for 2022-2024

This summary and subsequent guide should be used in conjunction with results from the Community Asset Survey and the Mid-Hudson Region Community Health Survey as data become available. The guide provides a comprehensive review of the most current data available stratified by Prevention Agenda Area for Orange County and New York State. Where available, trends from the previous year and comparison data from New York State are included.

Key Summary Points

Which health metrics contribute MOST to mortality each year?

- Heart Disease and cancer are the leading causes of death and leading causes of premature death (death before age 75) by a large margin. Unintentional injury (accidents) and chronic lower respiratory diseases are the next most common causes of death, followed by Alzheimer's disease (for all deaths) and suicide (for premature deaths).[1]

Which health metrics are getting WORSE?

- Premature deaths (before age 65 years), difference in percentages between Hispanics and White non-Hispanics
- Adults receiving colorectal cancer screening
- Cancer mortality including all cancer, female breast cancer, and colon and rectum cancer
- Population with low income and low access to supermarket or large grocery store
- Children aged 9 to 17 months with a lead screening
- Confirmed high blood lead level (10 micrograms or higher per deciliter) in children
- 8th, 10th, and 12th graders reporting feeling sad or depressed most days
- Suicide mortality
- Sexually transmitted infections including early syphilis, gonorrhea, and chlamydia
- Opioid analgesics prescribing rates
- Maternal mortality
- Births with late or no prenatal care
- Infants fed exclusively breast milk in delivery hospital
- Child and adolescent mortality
- Unemployment rate

Which health metrics are getting BETTER?

- Adult obesity
- Child food insecurity
- Cigarette smoking among adults with income less than $25k
- Cardiovascular disease mortality and premature death
- Women receiving breast cancer screening
- Diseases of the heart mortality
- Heart attack mortality

- Assault-related hospitalizations ratios of both non-Hispanic Black and Hispanic to non-Hispanic White residents
- 8th, 10th, and 12th graders reporting current alcohol use
- 8th, 10th, and 12th graders reporting binge drinking in the past two weeks
- Students with current cigarette use
- Overdose deaths involving any opioid
- Emergency department visits involving any opioid and drug overdoses
- Opioid burden
- Buprenorphine prescribing rates for opioid use disorder
- Women with a preventive medical visit in the past year
- Infant mortality rate
- Newborns with neonatal withdrawal symptoms and/or affected by maternal use of drugs of addiction
- Teen pregnancy rates in ages 15 to 19 years
- Neonatal deaths

Where is Orange County FALLING BEHIND the New York State indicators?

- Premature deaths (before 65 and 75 years)
- Preventable adult hospitalizations
- Premature death ratio of non-Hispanic Black individuals to non-Hispanic White individuals
- Total mortality
- Gross Rent as a Percentage of Household Income (GRAPI): Occupied units paying 30.0% or more of income on rent
- Child and adolescent obesity
- Adults who participate in leisure-time physical activity
- Adults with diagnosed high blood pressure
- Cardiovascular disease hospitalization
- Cerebrovascular disease (stroke) hospitalization
- Chronic lower respiratory disease hospitalization
- Adults receiving colorectal cancer screenings
- Cancer mortality including all cancer, female breast cancer, and colon and rectum cancer
- Cancer incidence including female late-stage breast cancer, colon and rectum cancer, and lung and bronchus cancer
- Chronic kidney disease emergency department visits
- Unintentional injury hospitalizations
- Fall hospitalizations age 65 years and older
- Alternate transit to work or work from home
- Residents served by community water systems that have optimally fluoridated water
- Elevated blood lead levels for employed persons aged 16 years and older
- Children between 9 and 35 months with a lead screening
- Children born in 2016 with at least two lead screenings by 36 months
- Confirmed high blood lead level (10 micrograms or higher per deciliter) in tested children aged less than 72 months
- Overdose deaths involving any opioid

- Emergency department visits involving any opioid and drug overdose
- Suicide mortality among youth aged 15 to 19 years
- Self-inflicted injury hospitalization
- 24- to 35-month old children with the 4:3:1:3:3:1:4 immunization series
- 24 month old children through 12/31/21 with the 4:3:1:3:3:1:4 immunization series
- Primary and secondary syphilis for women
- Gonorrhea for females aged 15 to 44 years
- Newly reported cases of hepatitis C
- HPV vaccination coverage among county girls and boys aged 13 years
- Maternal mortality
- Births with early (1st trimester) prenatal care
- Births with adequate prenatal care
- Infants fed exclusively breast milk in delivery hospital
- Teen birth for females aged 15 to 19 years
- Self-inflicted injury hospitalization
- Births that are Medicaid or self-pay

Where are the DISPARITIES?

- Non-Hispanic Black and, for some indicators, Hispanic residents experience higher rates of almost all health indicators than non-Hispanic White residents, where data are available. Some examples include:
    - Percentage of premature deaths (under 75 years of age)
    - Diabetes hospitalizations and mortality
    - Asthma hospitalizations
    - Breast cancer late-stage incidence (Black women only)
    - Breast cancer mortality (Black women only)
    - Colorectal cancer incidence and mortality
    - Percentage of births that are premature
    - Percentage of births that are low birth weight
    - Infant mortality
- Asian/Pacific Islander populations experience higher rates of some health indicators compared to other races/ethnicities, where data are available. Some examples include:
    - Breast cancer mortality
    - Colorectal cancer mortality
    - Percentage of births that are premature
- Native Hawaiian/Other Pacific Islander populations experience higher rates of poverty (individuals and families), as well as higher percent of uninsured individuals compared to other races/ethnicities.
- Income data are not frequently available for stratification but are known to be a strong indicator of poor health outcomes.[64] Smoking rates among adults are one measurable example (13.7% among adults with income under $25k vs. 11.7% in all adults in 2018)

Which New York State Prevention Agenda indicator goals are UNMET?

[64] Sabanayagam, C., & Shankar, A. (2012). Income is a Stronger Predictor of Mortality than Education in a National Sample of US Adults. *Journal of Health, Population and Nutrition*, Mar; 30(1): 82-86.

- Premature mortality
- Preventable adult hospitalizations
- Adults with health insurance
- Adults with a regular health care provider
- Premature death ratios of both non-Hispanic Black and Hispanic to non-Hispanic White residents
- Child and adolescent obesity
- Adults with an annual household income under $25k with perceived food security
- Adults who participate in leisure-time physical activity
- Alternate transit to work or work from home
- Residents served by community water systems that have optimally fluoridated water
- Suicide mortality
- 24- to 35-month old children with the 4:3:1:3:3:1:4 immunization series
- Women age 18 to 44 years with a preventive medical visit in the past year
- Maternal mortality

The full 2022-2024 Community Health Assessment Data Review Guide can be found here: https://www.orangecountygov.com/180/Community-Health-Assessments

APPENDIX D

COVID-19 in Orange County 2020-2022 Report

EXECUTIVE SUMMARY

This COVID-19 report analyzes data between March 2020 and March 2022. It examines multiple metrics, makes annual comparisons, and contextualizes Orange County to the surrounding area. The purpose of this report is to disseminate the findings on the impact COVID-19 has had on Orange County, NY. It informs key stakeholders so they can identify and prioritize health needs for Orange County. These collective documents will allow the Orange County government to make public health policy decisions and allocate resources effectively and efficiently.

This report had a number of major findings. Orange County had the highest incidence of COVID-19 in the Mid-Hudson Region. It exceeds the US and NYS averages. Testing rates were very low in the county so the full extent may not be fully captured. Case fatality rates were also high in the region and had a strong correlation between preexisting comorbidities and death. Most of the infections were seen during the Omicron variant wave, while the most severe outcomes were during the Alpha variant. Non-Hispanic White populations accounted for majority of raw numbers, but racial/ethnic minorities had worst outcomes for all metrics relative to their share of the population. Finally, vaccination was very low in the county compared to the region, NYS, and the US. This may partially explain Orange County's worse than average outcomes in relation to COVID-19.

DEFINITIONS

Throughout this report, certain terms specific to this topic are used. For convenience, the definitions of some of these terms are provided here:

Asymptomatic: A person tests positive for COVID-19 but does not exhibit any of the symptoms typically associated with the disease.

Breakthrough Case: A person tests positive for COVID-19 despite being fully vaccinated against the disease for at least 2 weeks. This includes those that have received a booster.

Cluster: 3 or more individual cases being attributed to a common point of exposure within one incubation period.

Comorbidity: The simultaneous presence of two or more diseases or medical conditions in a person.

Incubation Period: The time from the moment of exposure to an infectious agent until signs and symptoms of the disease appear.

Reinfection: A person with or without symptoms who had previously tested positive for COVID-19 tests positive again, 90 or more days after their original positive test.

Symptomatic: A person exhibits one or more of the symptoms typically associated with the disease.

Variant: A viral genome that may contain one or more genetic mutations. In some cases, groups of variants with similar genetic changes, such as a lineage or group of lineages may be classified as variants of concern or variants of interest.

Vaccination Status: This indicates an individual's current status as it relates to receiving the COVID-19 vaccination schedule. A person can be unvaccinated, partially vaccinated, fully vaccinated, or boosted.

Partially Vaccinated: A person received one of the two COVID-19 vaccinations needed for full vaccination. This can happen in the case of Moderna and Pfizer vaccines. However, Johnson & Johnson provide a single dose vaccine.

Fully Vaccinated: A person has received all the required doses for full vaccination. For Moderna and Pfizer this means two full doses of the COVID-19 vaccination. The Johnson & Johnson vaccine requires one dose.

Boosted: A person has already received a full vaccination schedule. They also receive a 3rd and sometimes a 4th dose to boost the immune system.

INTRODUCTION

COVID-19 PANDEMIC

The coronavirus disease 2019 (COVID-19) is a contagious novel illness caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). It was first discovered in Wuhan, China, in December 2019. Since then, the virus has spread globally becoming a worldwide pandemic. By January 30, 2020, just shy of 10,000 cases were reported throughout 21 countries (Holshue et al, 2020), and on March 11, 2020, the World Health Organization declared the COVID-19 outbreak to be a global pandemic (Cucinotta & Vanelli, 2020). As of March 2022, more than 422,205,000 cases have been reported, and there have been more than 5.8 million deaths as a result of infection. The first case in the US was reported January 20, 2020. To this date, the US experienced more than 80 million cases and 958,000 deaths. New York State had more than 5 million cases and 67,000 deaths. Contributing to this toll, Orange County had 110,093 cases and 1,142 deaths (NYSDOH, 2022).

As numbers continue to grow, multiple interventions and strategies have been employed to prevent the spread of the virus. These interventions, on an individual level, have included the wearing of masks, social distancing, avoiding crowded spaces and spaces that have poor ventilation or wearing a mask in these spaces, performing proper hand hygiene, keeping high touch surfaces clean, monitoring symptoms, getting tested if ill, and getting fully vaccinated. Interventions on the community level include contact tracing, disease reporting, mass availability of free testing and vaccines, disease surveillance, quarantining measures for identified cases, the closing of specific businesses, the restriction on business operations, implementation of community guidelines for how to manage operations in a pandemic, and the passing of community mandates and restrictions (CDC, 2022).

The Food and Drug Administration (FDA) first granted Pfizer-BioNTech emergency use authorization for their vaccine on December 10, 2020. The first mass vaccination began December 14, 2020. Emergency use authorization was then granted to Moderna on December 17, 2020, and to Johnson & Johnson on February 28, 2021. Open eligibility in all US states was made available by April 19, 2021, to all residents aged 16 years and over. Finally, a milestone was reached when on August 23, 2021, the FDA granted full approval for the Pfizer-BioNTech vaccine. As of February 16, 2022, 76% of the US population has received at least one dose, 64% are considered fully vaccinated, and 28% have received a booster dose. Efforts to increase vaccination across the country and among younger populations continue (FDA, 2022).

Over the last two years these interventions have worked to varying degrees of success. COVID-19 infection spikes have continued to occur in waves, likely caused by several intersecting factors. State, regional, and local governments each employ varying levels of restrictions and mandates, as well as enforcement of them, allowing transmission to continue in some parts of the country while others have low transmission. An increase in the availability of testing created a clearer look at the true number of cases in the county. The reopening of restaurants, places of business, gyms, bars, and other social spaces occurred (CDC, 2022).

There have also been several sociocultural factors driving health behaviors which have contributed to increase in transmission. Gatherings for federal and religious holidays generated timely spikes in infections and hospitalizations. Pandemic fatigue and a lessened sense of susceptibility and perceived severity likely had a contribution as the pandemic wore on. Vaccinated persons with a lower sense of susceptibility and severity reentered normal living activities. We now know that vaccinated individuals can still become infected and transmit the disease as well. Additionally, political affiliation had a strong correlation with health behavior regarding COVID-19 (CDC, 2022). Vaccine hesitancy driven by political polarization and misinformation has prevented many from receiving the approved COVID-19 vaccines (Kiviniemi, 2022) (Gao, 2021) (Schoeni, 2021).

Finally, the emergence of COVID-19 variants has had a significant contribution to the recent spikes in infections across the country. Vaccinations were less effective against the Delta and Omicron variants. The Omicron variant specifically was highly infectious, and cases rose rapidly in December and January. This variant was far less virulent, as hospitalizations and deaths did not have the same rise correlated with previous spikes. Cases have dropped dramatically since then.

This decrease in COVID-19 virulence over time has allowed the CDC to shift focus on the pandemic. The US COVID-19 community risk levels now place greater weight on deaths, hospitalizations, and ICU bed availability, and less on number of cases. This in turn has allowed the CDC to amend COVID-19 guidelines, and place a bigger emphasis on increasing vaccination, as well as testing to treat (CDC, 2022). This current direction should see COVID-19 change from pandemic to endemic over time.

COVID-19: THE DISEASE

COVID-19 is a novel respiratory disease caused by the SARS-CoV-2 virus. Discovered in 2019, its primary mode of transmission from person to person is through respiratory droplets. These droplets are produced when a person talks, coughs, or sneezes. When a person is near these droplets, they can inhale the virus. Not all people infected by the virus display symptoms. These people are asymptomatic cases and highlight the need for all to take preventative measures. When symptoms are present, they generally appear 2 to 14 days after contact with the virus. Symptoms can also vary greatly and range from mild to severe illness. Common symptoms have also changed depending on variant (CDC, 2022).

The most common symptoms include:

- Headache
- Cough
- Tiredness

Less common symptoms include:

- Loss of smell and taste
- Nasal congestion and runny nose
- Muscle pain
- Sore throat
- Fever
- Diarrhea

Serious symptoms include:

- Breathing difficulties
- Chest pain or pressure
- Loss of speech or movement

While the majority of COVID-19 cases have mild symptoms, anyone can experience severe illness. Severe illness may cause long-lasting damage to the respiratory tract, kidneys, heart muscle, and may even result in respiratory failure, or death. Those especially vulnerable are older populations and people of any age with underlying conditions. There are several COVID-19 variants to date that have varying degrees of transmissibility and virulence (CDC, 2022).

ORANGE COUNTY, NEW YORK DEMOGRAPHICS

Orange County is located in the Mid-Hudson Region of NYS. It is nestled between the Hudson and Delaware Rivers. Covering a total area of 839 square miles, Orange County hosts a population of 382,077. The major metropolitan centers are Middletown, Newburgh, and Port Jervis, while the county seat is in the town of Goshen. According to the US Census Bureau, the population of Orange County has a median household income of $80,816, a graduation rate of 89.9%, and a poverty rate of 11.4%. A comparison of the demographics between Orange County and NYS is made below:

Orange County		NYS	
Race and Hispanic Origin			
White Alone	72.5%	**White Alone**	62.3%
Black or African American Alone	10.9%	**Black or African American Alone**	15.4%
American Indian and Alaska Native alone	0.4%	**American Indian and Alaska Native alone**	0.4%
Asian alone	2.9%	**Asian alone**	2.9%
Native Hawaiian or Pacific Islander alone	0.1%	**Native Hawaiian or Pacific Islander alone**	0.1%
Some Other Race	7.7%	**Some Other Race**	7.7%
Two or more races	5.5%	**Two or more races**	5.5%
Hispanic or Latino	21%	**Hispanic or Latino**	19.1%
Age and Sex			
Female persons	49.9%	**Female persons**	51.5%
Persons under 5 years of age	6.7%	**Persons under 5 years of age**	5.8%
Persons under 18 years	25.5%	**Persons under 18 years**	20.9%
Persons 65 years and older	14.0%	**Persons 65 years and older**	16.5%
Foreign born persons	11.5%	**Foreign born persons**	22.4%
Income and Poverty			
Median household income past 12 months (in 2019 dollars)	$80,816	**Median household income past 12 months (in 2019 dollars)**	$71,117
Persons in Poverty, percent	11.4%	**Persons in Poverty, percent**	13.6%
Education			
High school graduate or higher, percent of persons age 25+ years, 2015-2019	89.9%	**High school graduate or higher, percent of persons age 25+ years, 2015-2019**	87.2%

Source: US Census Bureau, American Community Survey, 2020, 5-year estimates
https://data.census.gov/cedsci/table?q=population&g=0400000US36_0500000US36071&tid=ACSDP5Y2020.DP05

COVID-19 IN ORANGE COUNTY

The first case of COVID-19 in Orange County was reported on March 10, 2020. By the end of that month, the county would see a total of 1,642 cases and 24 deaths. As of March 31, 2022, Orange County has identified 110,093 cases and 1,142 deaths. This report will analyze and describe the trends and impacts of the virus in Orange County over the course of the pandemic from March 1, 2020, to March 31, 2022. This timeframe was chosen for two reasons. First, it allowed for a round two-year period of the virus to be examined. Second, there needed to be a hard cutoff point, due to time constraints between publishing deadlines, and the amount of time required to create this report. This report will examine the pandemic annually and collectively.

Similar to the rest of NYS and the US, Orange County saw multiple spikes in cases, hospitalizations, and deaths over the pandemic. Several factors contributed to the waves here as well (listed in the COVID-19 Pandemic Section). Data comparisons will be made against the US, NYS, and the surrounding counties.

On the following pages, several tables and graphs outlining select areas of focus are presented. Data for these graphs were collected by the OCDOH, the CDC, the NYSDOH, CommCare, and the US Census Bureau. Some of the topics covered are as follows:

- Infection numbers
    - Demographic infection data
    - Asymptomatic infections
    - Reinfections
    - Vaccination status infections
    - Incidence rates
    - Testing rates
    - Vaccination rates
    - Comparison to NYS and surrounding counties
- Hospitalizations
    - Demographic hospitalization data
    - Case hospitalization rates
    - Hospitalization by vaccination status
    - Hospitalization rates
- Deaths
    - Demographic death data
    - Comorbidity death data
    - Deaths by vaccination status
    - Case fatality rate
    - Comparison to NYS and surrounding counties
- Municipality data
    - Infections by municipality
    - Hospitalizations by municipality
    - Deaths by municipality

NOTES ON THE DATA

1. Not all the data is complete. There are delays in reporting recent data due to the recent surge of cases during the Omicron wave. Exclusion of these data points was necessary so deadlines could be met for publication of the CHA.

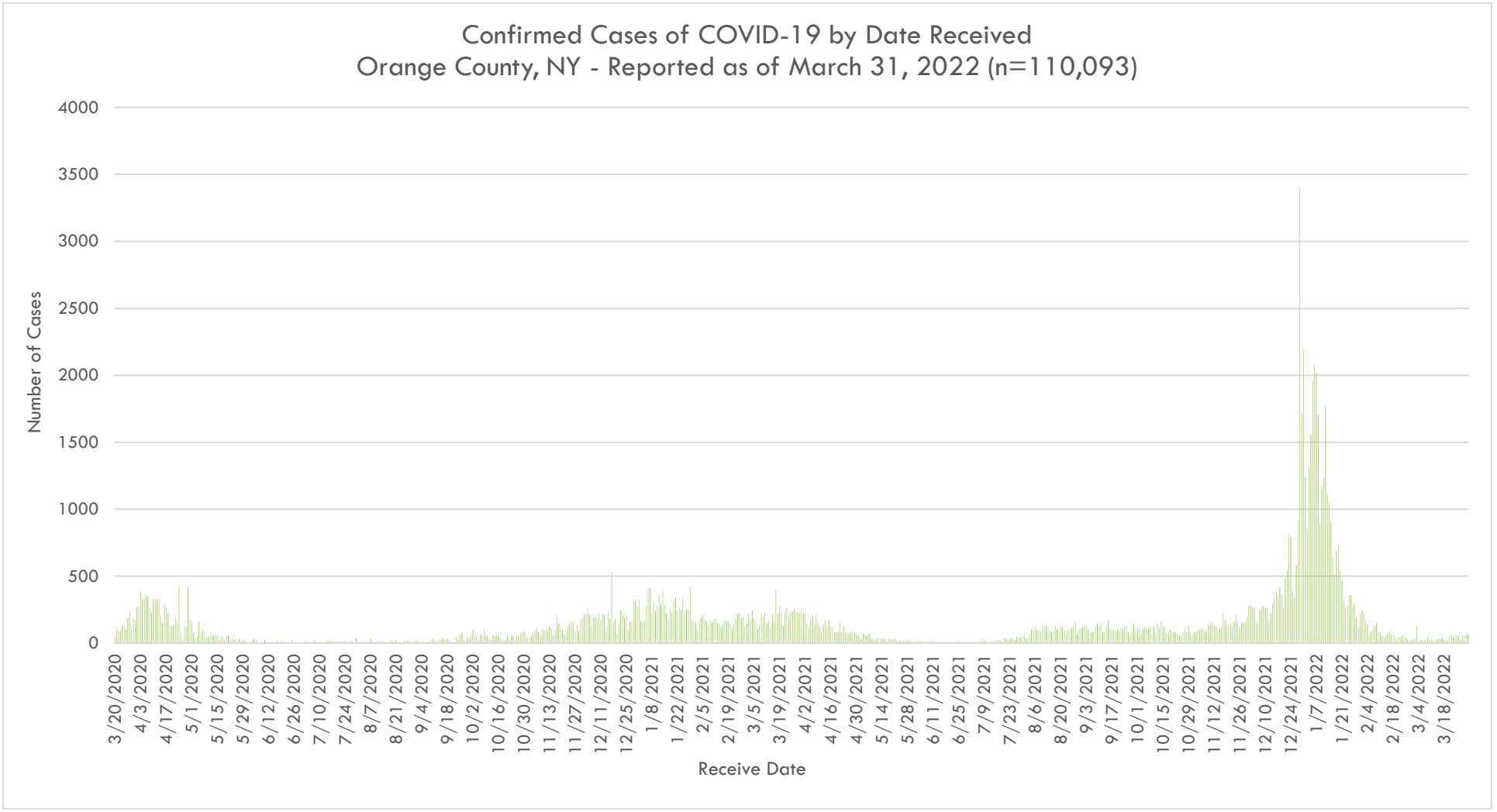
2. Hospitalization data is reflecting only cases that were contacted. Not all cases were reachable.

3. Data is collected from multiple resources including: OCDOH, the CDC, the NYSDOH, CommCare, and the US Census Bureau.

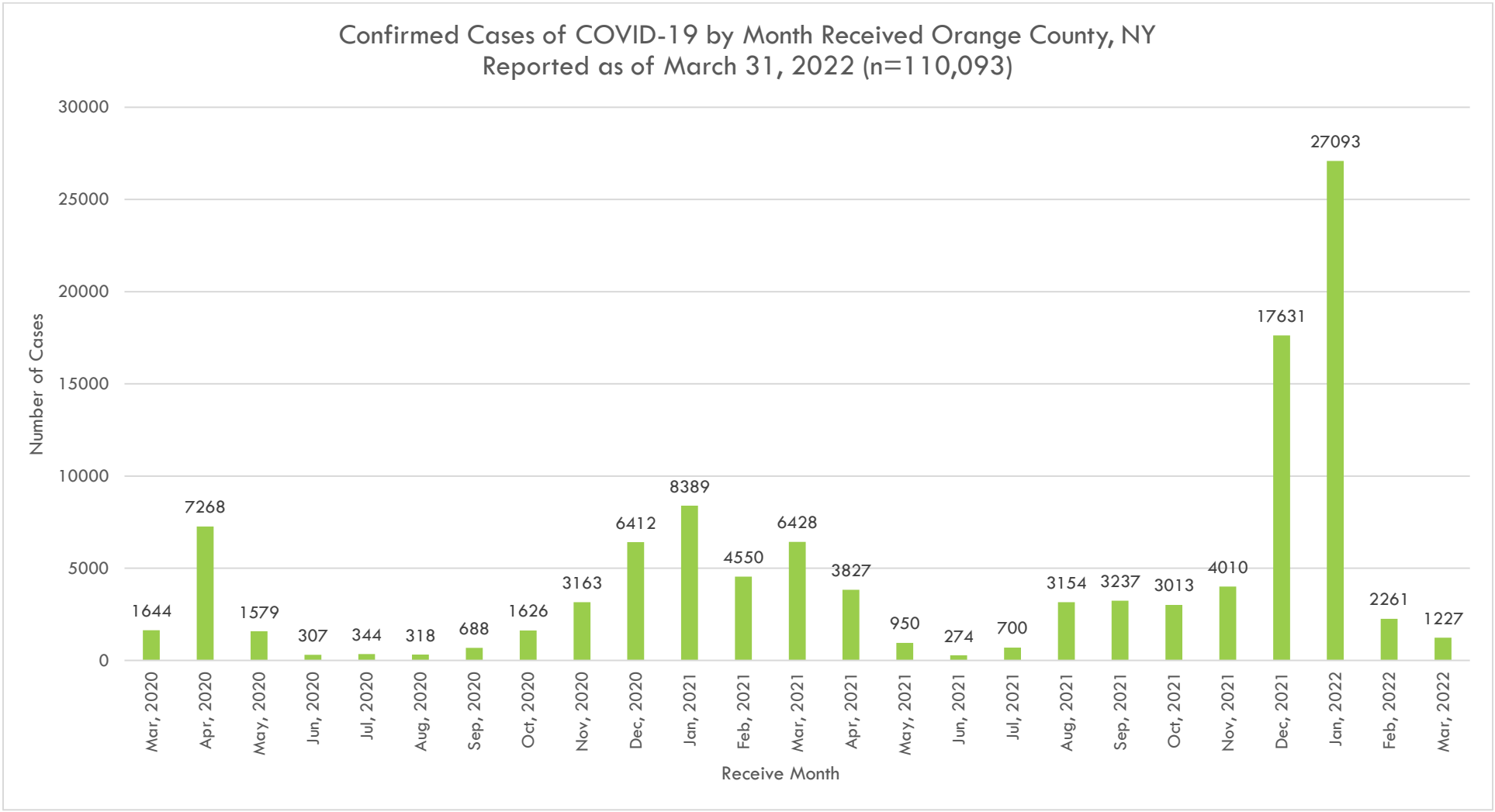
4. When there were data points that were inconsistent across platforms, these issues were discussed amongst the Epidemiology Department. Decisions were made to give the most accurate reflection of the data, which had the most validity.

5. Calculations were made using the US Census 2020 American Community Survey 5-year estimates.

INFECTIONS OF COVID-19 IN ORANGE COUNTY

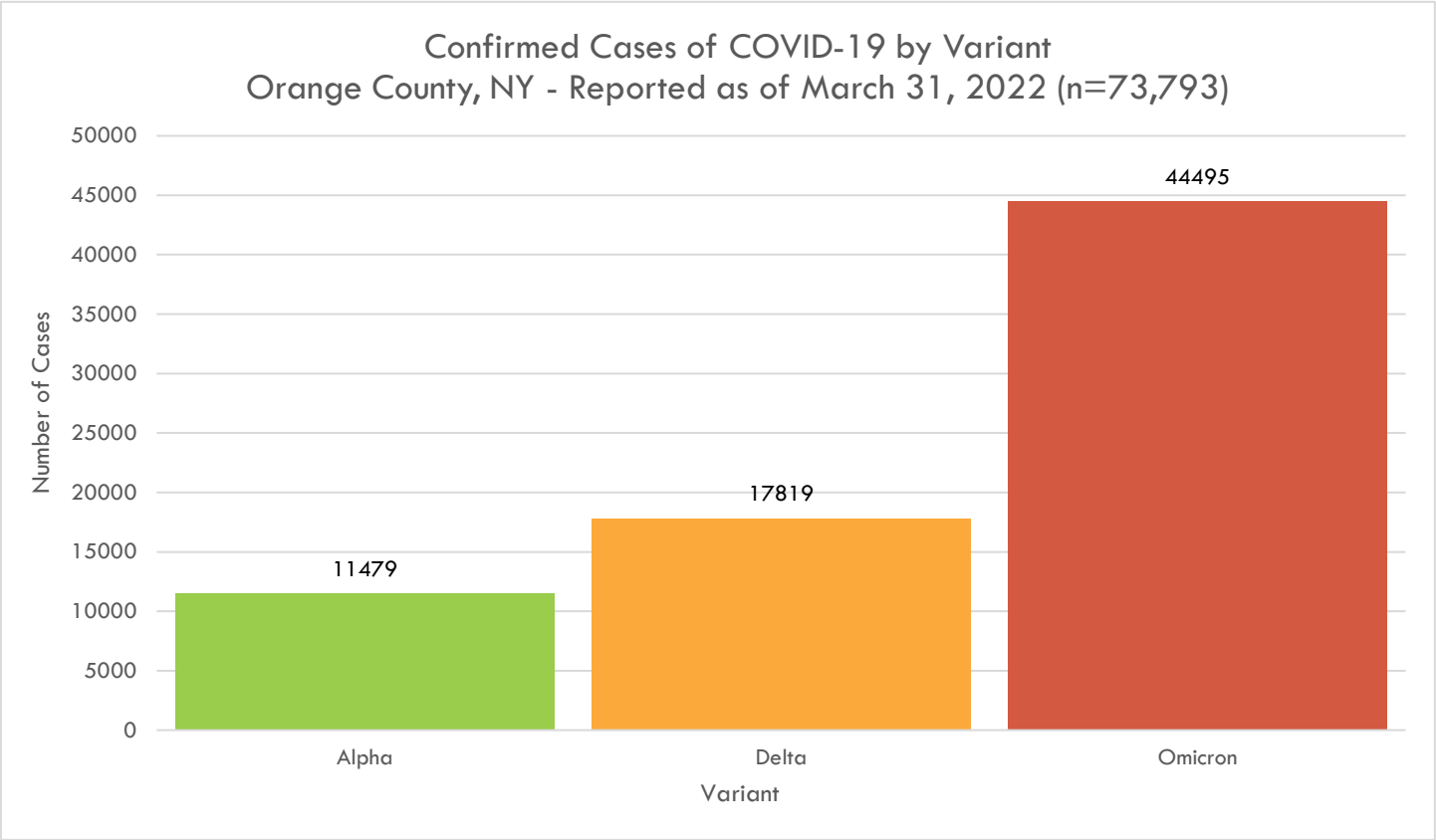


Note: The dates in 2020 of April 24, April 29, December 17, and in 2021 of March 17 and December 29 were dates when laboratories uploaded backlogged data.



Note: The dates in 2020 of April 24, April 29, December 17, and in 2021 of March 17 and December 29 were dates when laboratories uploaded backlogged data.

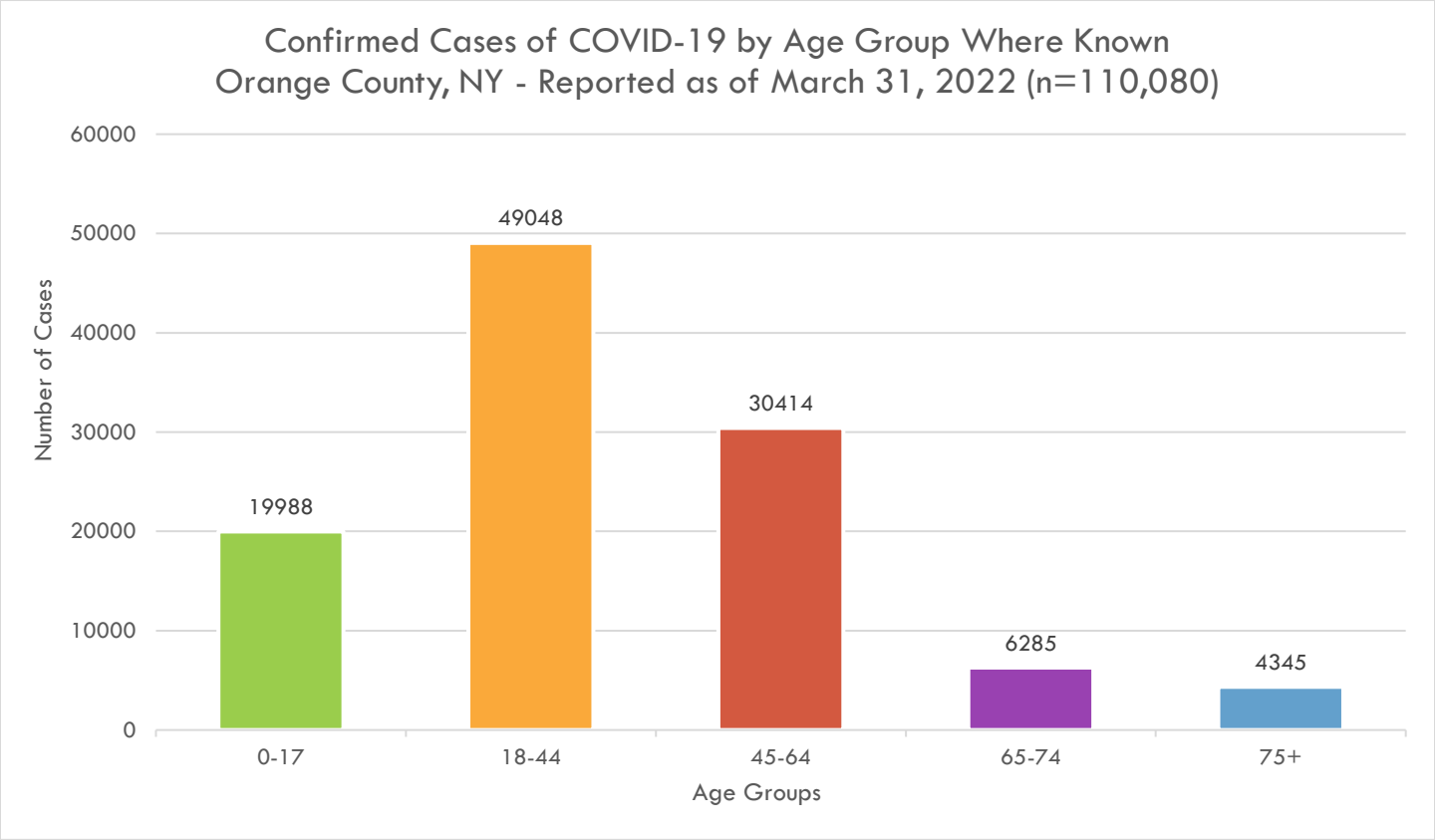
As the pandemic progressed the world saw new variants. New variants saw spikes in cases, with each subsequent variant infecting more people. Orange County had multiple waves and spikes of infections over this two year period. These waves aligned closely with variant outbreaks, Alpha, Delta, and, most recently, Omicron. The Alpha variant wave occurred between March 1, 2021 and June 30, 2021. Delta was between July 1, 2021 and December 14, 2022. Finally, Omicron occurred from December 15, 2022 to the present. The most recent Omicron variant represents the largest share of confirmed COVID-19 cases in Orange County. This is in correlation with national and international variant infections.



DEMOGRAPHIC INFECTION DATA

AGE

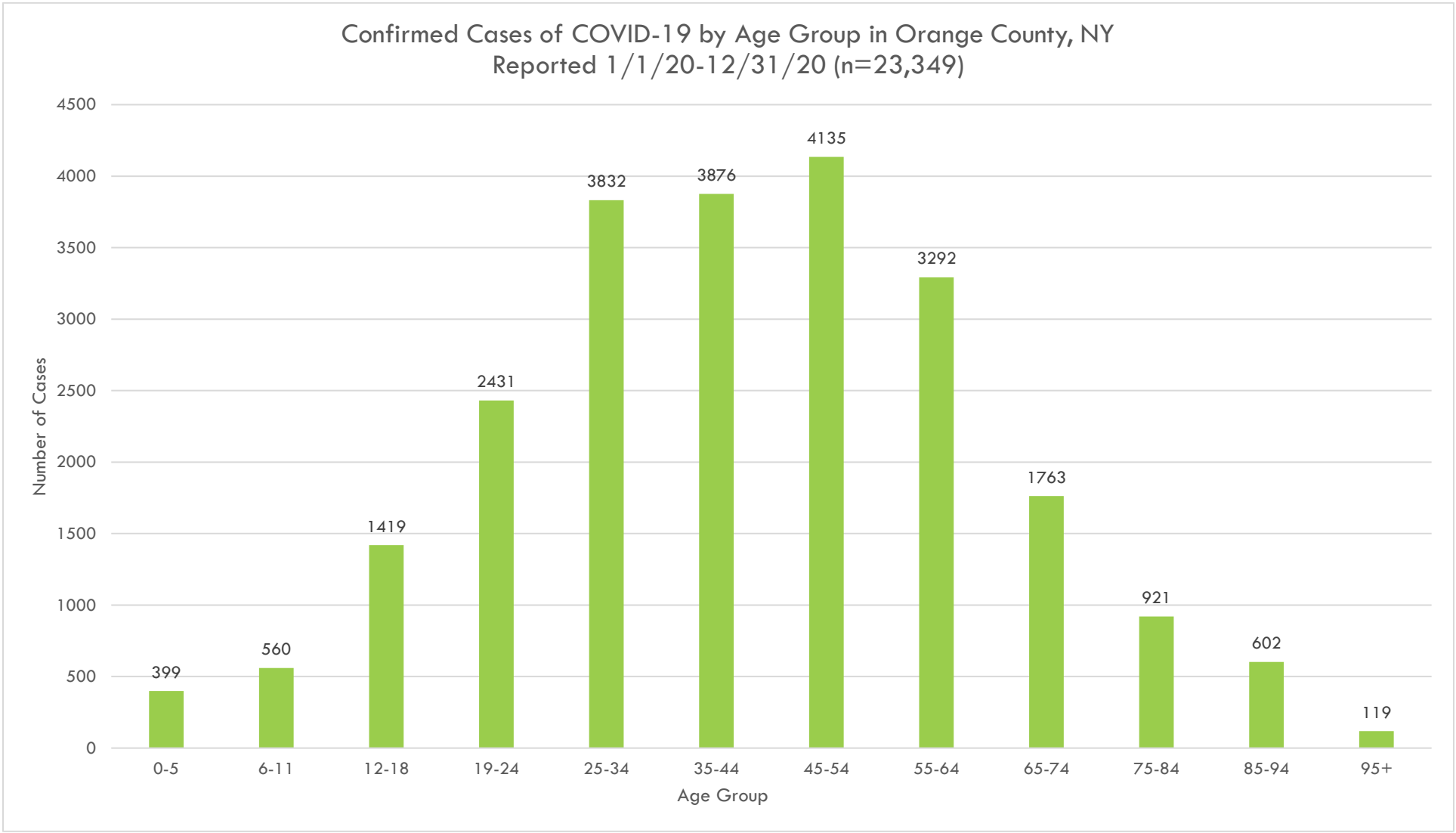
The age group that saw the most confirmed cases of COVID-19 was 18 to 44 years, which accounts for 44.6% of total cases. Age group 45 to 64 years had 27.6%, 0 to 17 years had 18.2%, 65 to 74 years had 5.7%, and 75 years and older had 4.0% of cases.



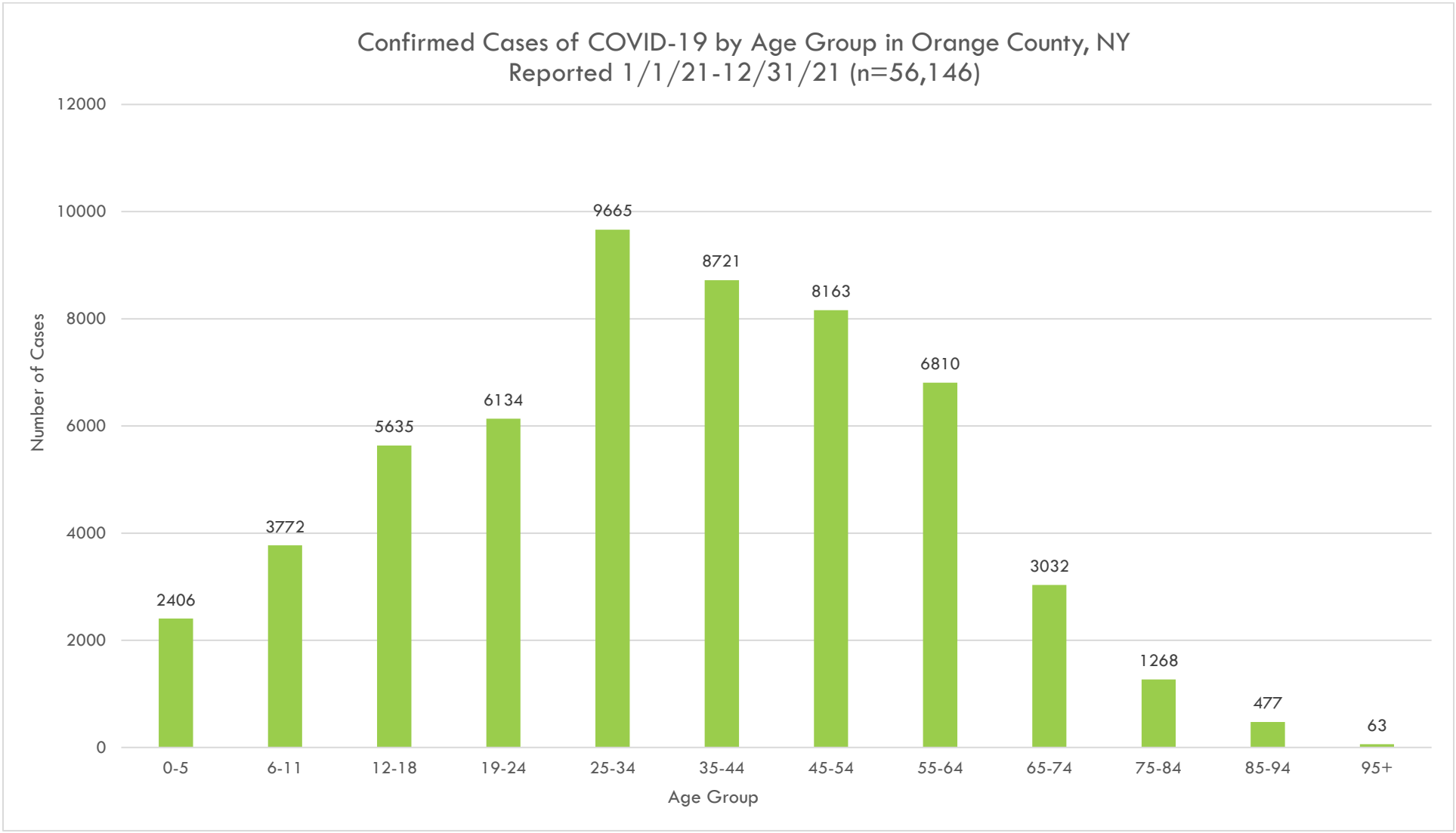
Note: Ages were calculated using laboratory or case reported date of birth.

Age Bottom	Age Top	Cases	Percent of Cases	Age Group
0	17	19,988	18.16%	**0-17**
18	44	49,048	44.55%	**18-44**
45	64	30,414	27.63%	**45-64**
65	74	6,285	5.71%	**65-74**
75		4,345	3.95%	**75+**
Unknown		13	0.01%	**Unknown**
Total		**110,093**	**100.00%**	

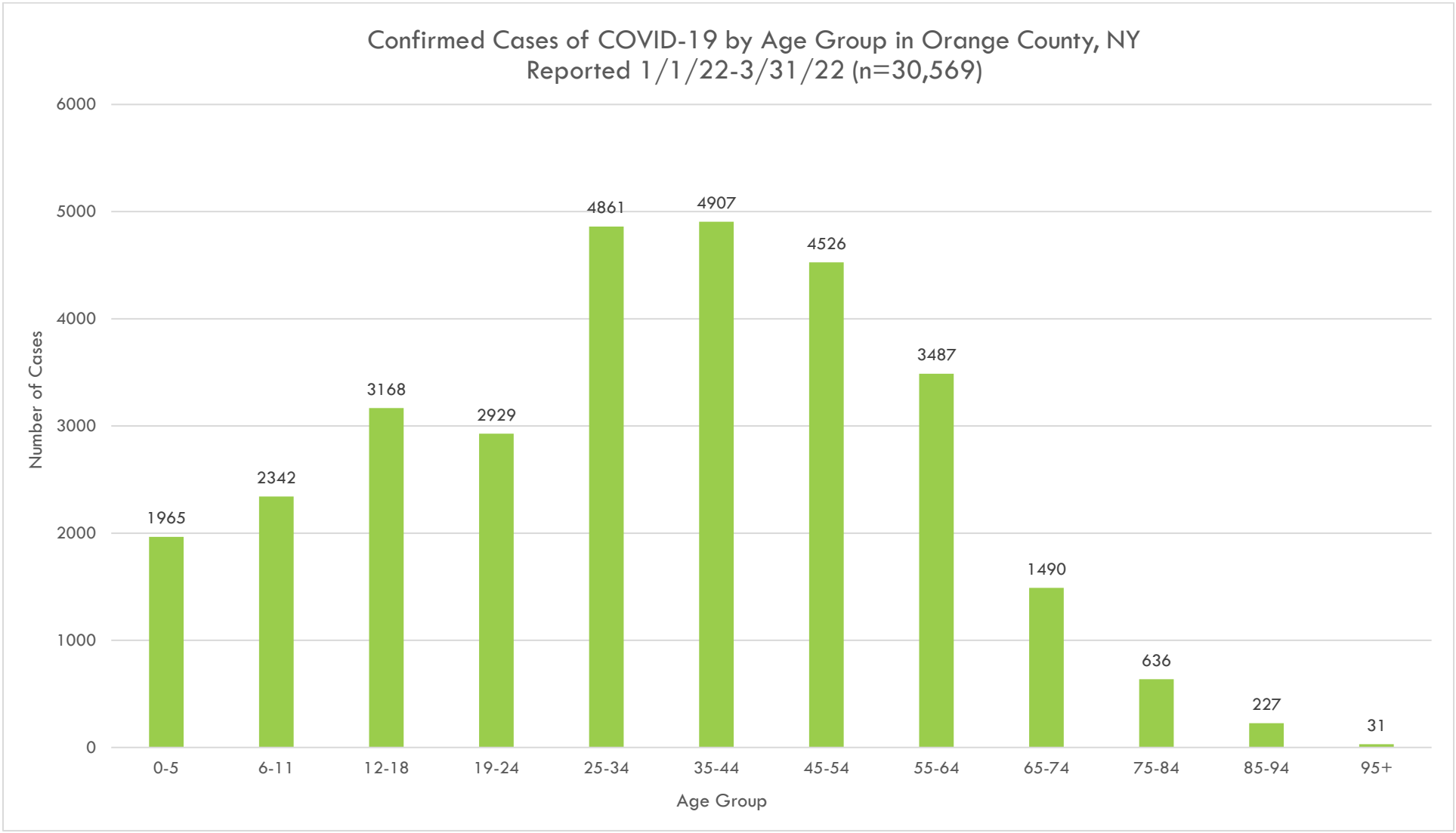
AGE BY YEAR



Note: Ages were calculated using laboratory or case reported date of birth.



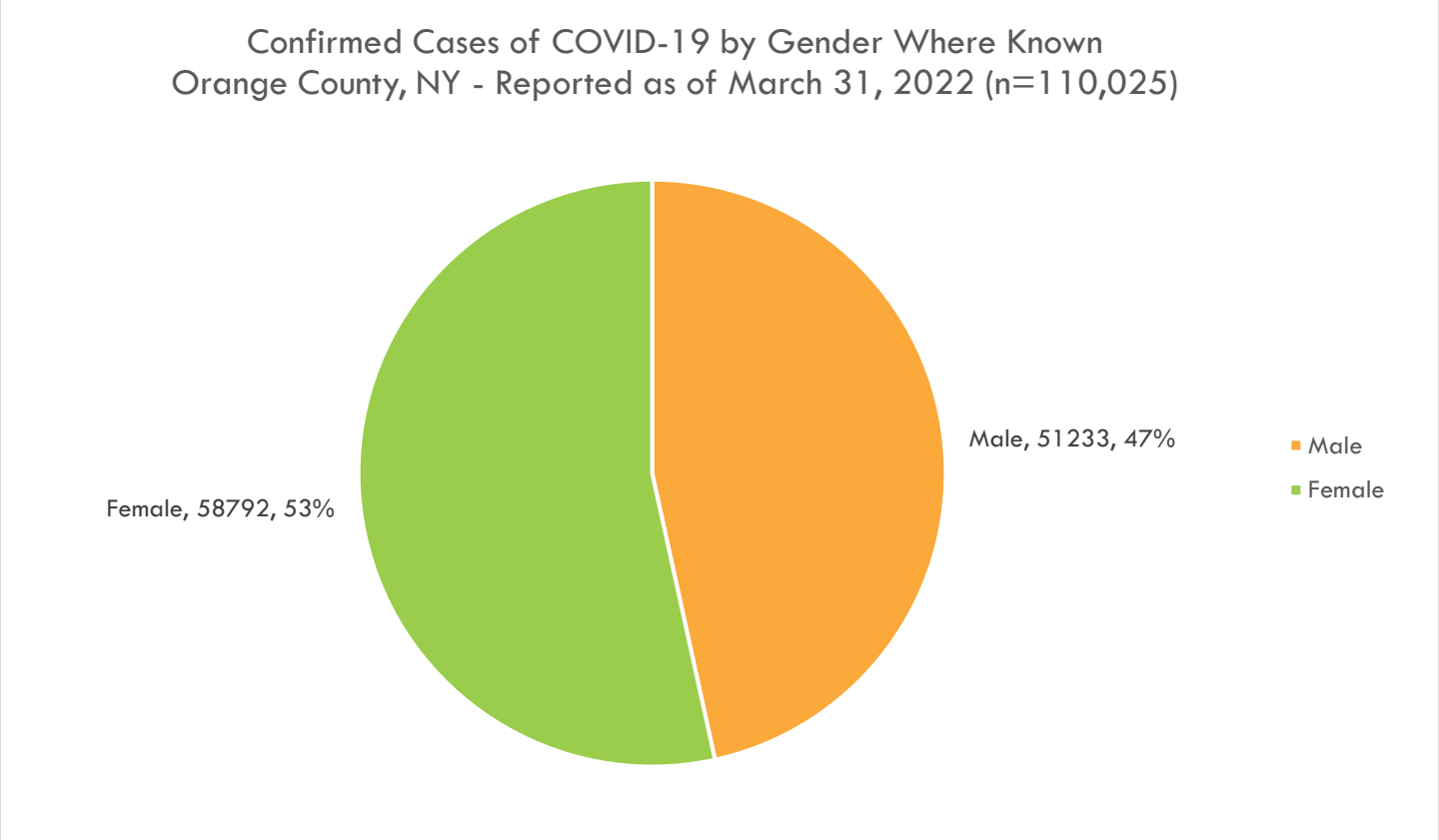
Note: Ages were calculated using laboratory or case reported date of birth.



Note: Ages were calculated using laboratory or case reported date of birth.

GENDER

Orange County saw slightly more COVID-19 infections among females. Females accounted for 53.4% of cases, while 46.5% of cases were male. Females were affected more than men despite representing 49.9% of the total population.

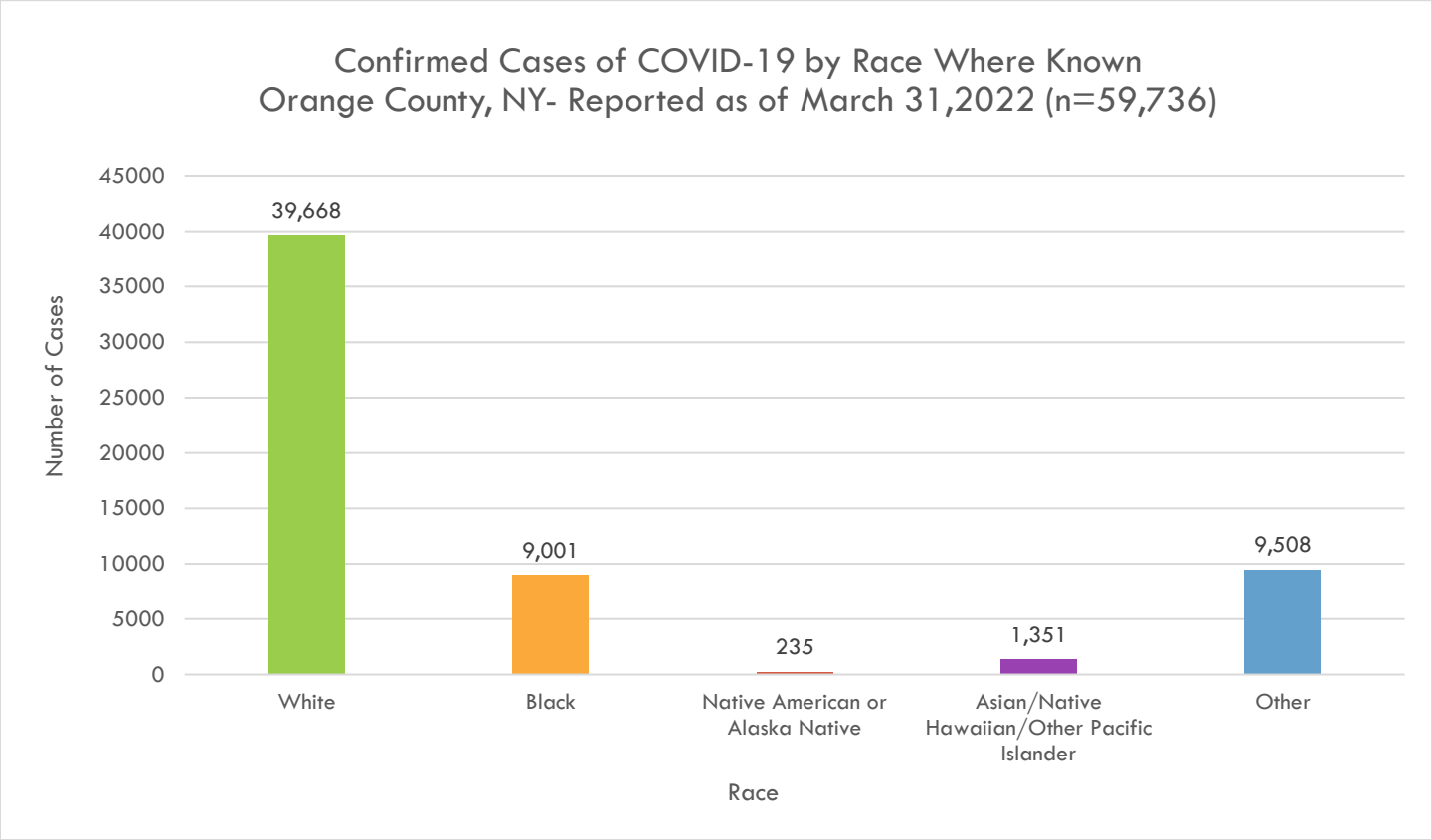


Note: Gender is a self-reported field. Gender is unknown when laboratory reporting did not provide this information and the case had not been reached yet.

Gender	Cases	Percent of Cases
Male	51,233	46.54%
Female	58,792	53.40%
Unknown	68	0.06%
Total	**110,093**	**100.00%**

INFECTIONS BY RACE

Stratifying the cases by race in the county, most cases identified as being White (66.4%). This level of representation makes sense because 72.5% of the population in Orange County is White. However, it also means that minorities may have experienced a disproportionate number of infections relative to their share of the total population. Persons identifying as Black had the highest incidence of COVID-19 with a rate of 21,526 per 100,000 over a two-year period.



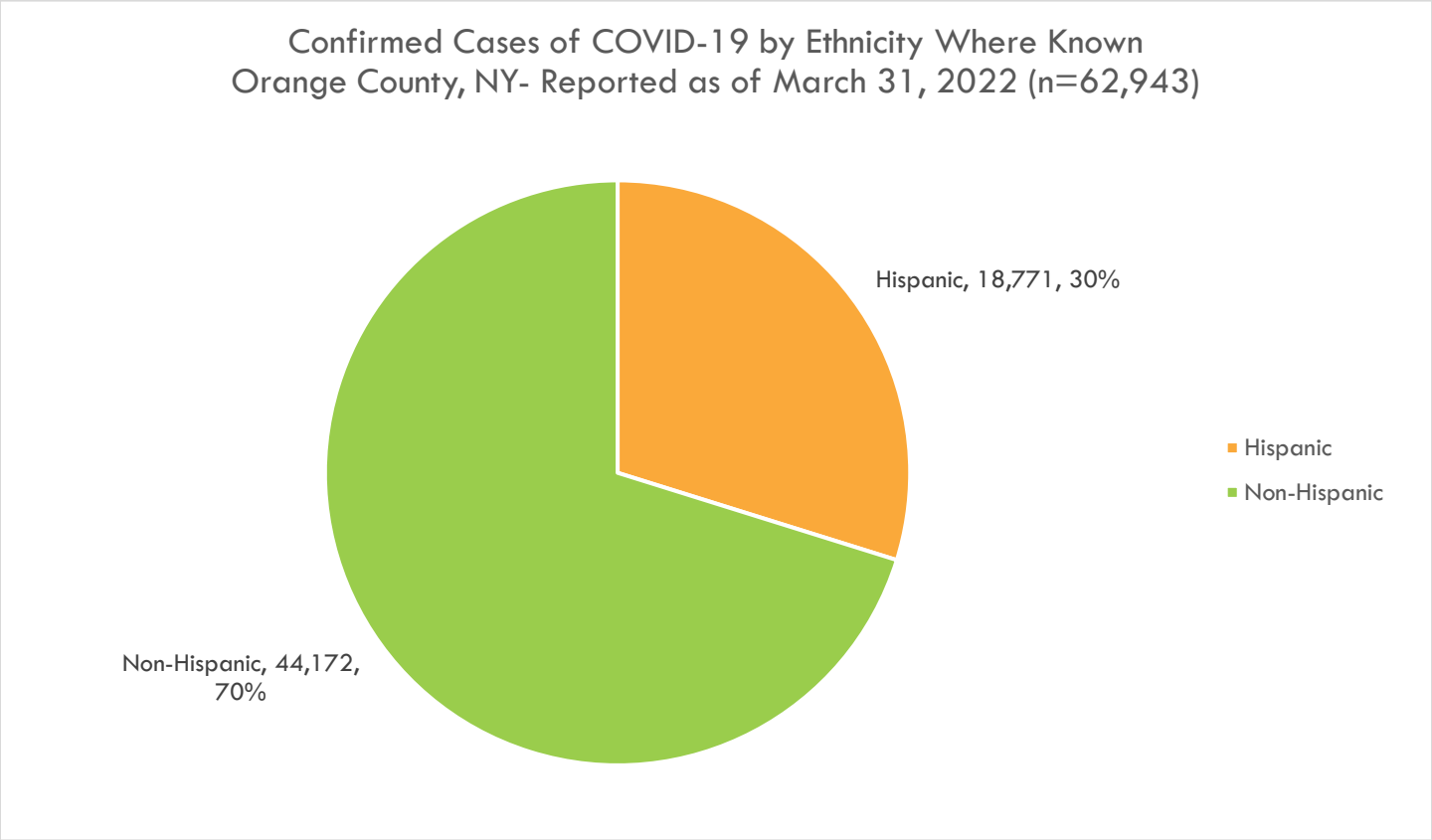
Note: Race is largely self-reported data and are identified through case investigation. Data are incomplete due to delays in reporting, data entry, unknown or undetermined risk factors and persons lost to follow up.

Race	Cases	Percent of Cases	Incidence Rate (Per 100,000)
White	39,649	66.4%	14,307
Black	8,997	15.1%	21,526
Other	9,505	15.9%	*
Asian/Native Hawaiian/Other Pacific Islander	1,350	2.3%	12,002
Native American or Alaska Native	235	0.4%	16,297
Total	**59,736**	**100.0%**	

**: There is no population data that could be used to calculate this rate.*

INFECTIONS BY ETHNICITY

Most infected persons in Orange County identify as non-Hispanic (70.2%). However, while 29.8% of cases identify as Hispanic, Hispanics only represent 21.0% of the total population of the county. This means Hispanic populations are infected at higher rates relative to their share of the population. Hispanic populations had an incidence rate of 23,389 diagnosed infections per 100,000 population over a two-year period.

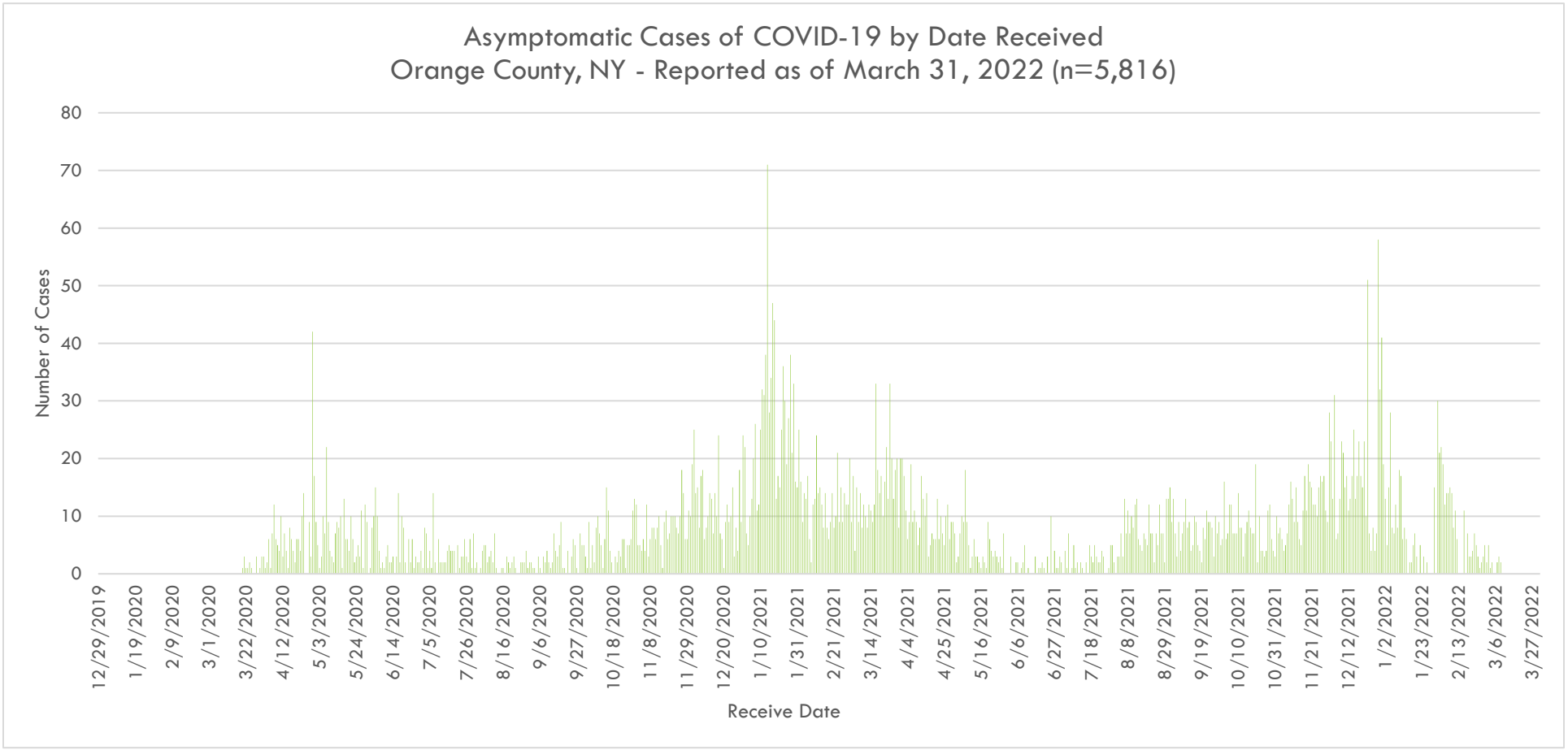


Note: Ethnicity is largely self-reported data and are identified through case investigation. Data are incomplete due to delays in reporting, data entry, unknown or undetermined risk factors, and persons lost to follow-up.

Ethnicity	Cases	Percent of Cases	Incidence Rate (Per 100,000)
Hispanic	18,771	29.8%	23,389
Non-Hispanic	44,172	70.2%	14,635
Total	**62,943**	**100.0%**	

ASYMPTOMATIC CASES

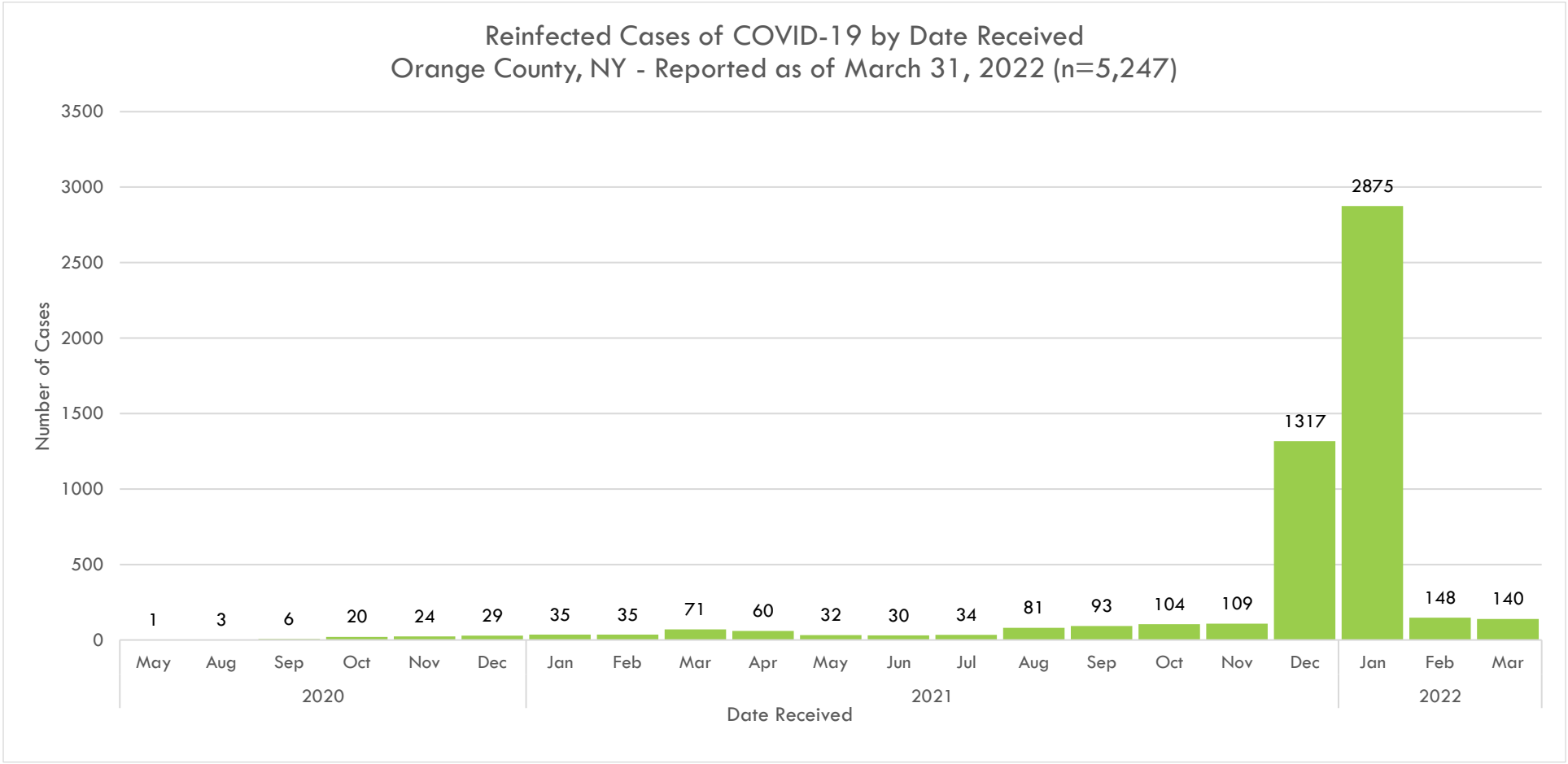
Asymptomatic cases rose and declined in waves similar to the case infection numbers. The true extent of asymptomatic cases is difficult to capture, as many go untested when they do not show symptoms. Asymptomatic cases increased as testing became more accessible. In many circumstances, asymptomatic cases are those that got tested when they had contact with another positive case, tested to make sure it was safe to visit others, or were tested as procedure for travelling or hospital admission.



Note: This graph does not reflect the most recent cases due to case investigation and data processing.

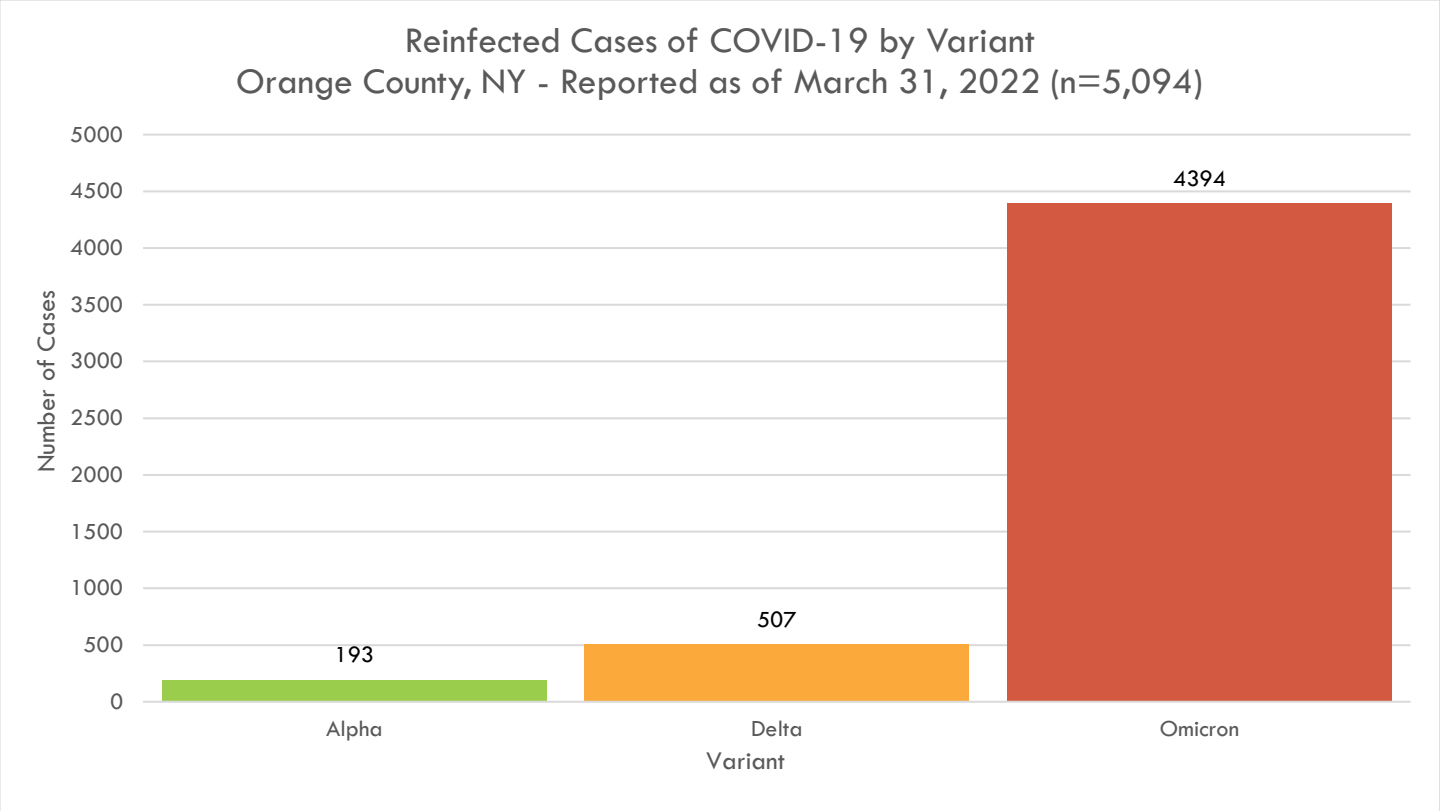
REINFECTIONS

While reinfections seem to have occurred throughout the pandemic, the majority of them have occurred during the Omicron variant of the pandemic. This may indicate increased transmissibility of the variant. It could also indicate decreased effectiveness of built immunities to new variants.



Note: Due to delays in reporting recent data are incomplete.

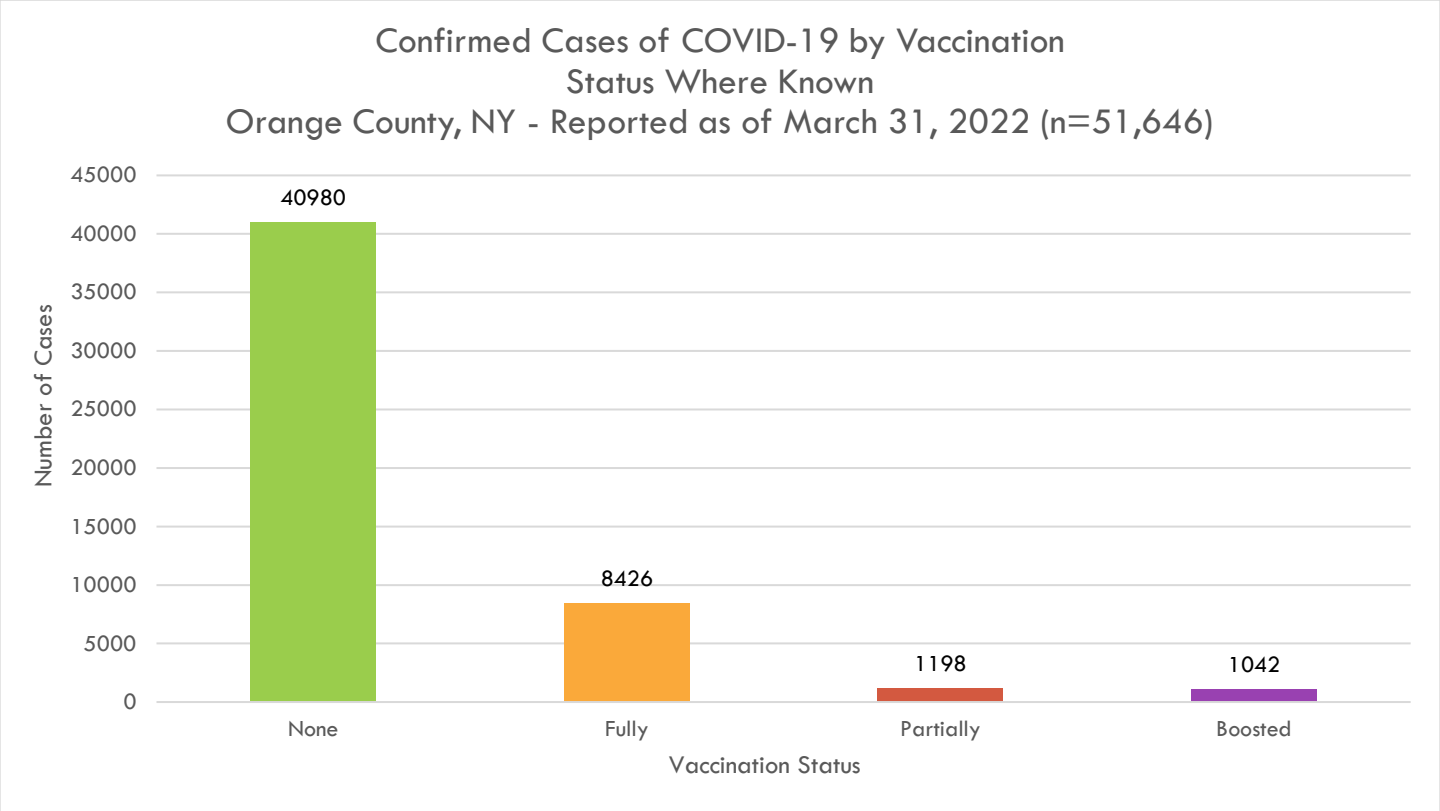
The majority of reinfections in Orange County were caused by the Omicron variant (86.3%). Vaccinations offered less protection against infection of this variant. The Omicron variant is also the most transmissible strain thus far. Additionally, many COVID-19 restrictions and mandates began to relax during this time period.



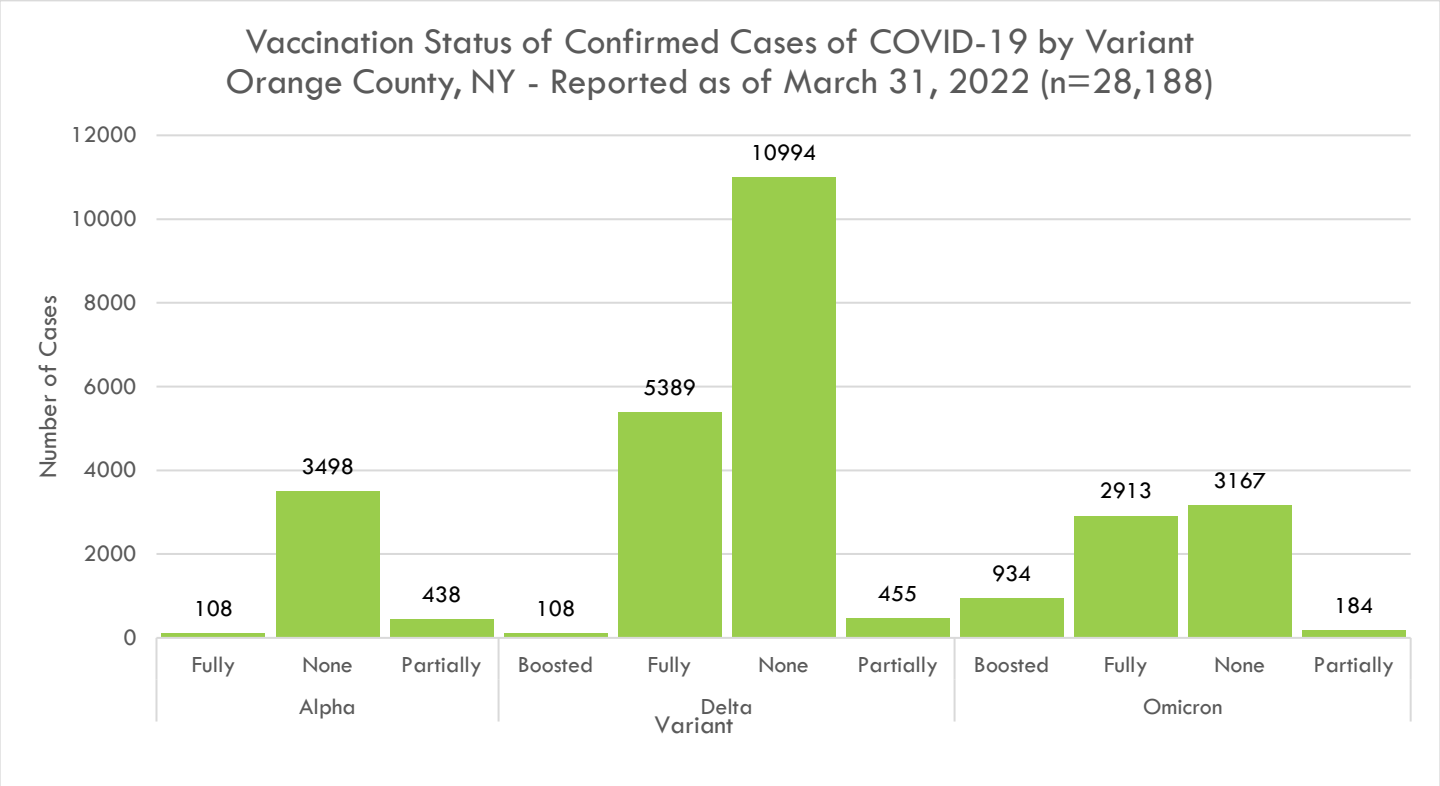
Note: Data are incomplete due to ongoing case investigation.

INFECTIONS BY VACCINATION STATUS

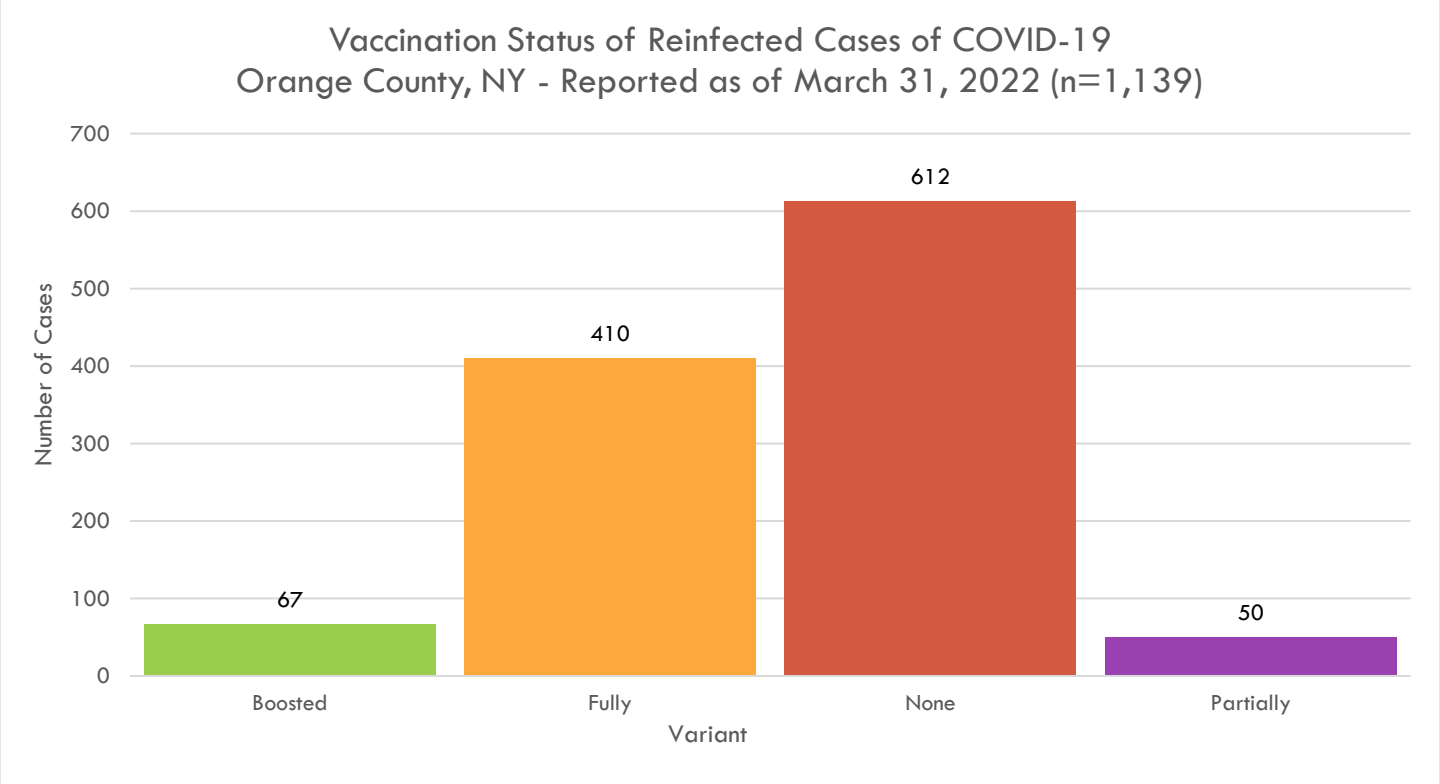
Over the course of the pandemic, it is clear most cases occurred in those that were unvaccinated. However, the proportion of those cases changed drastically depending on variant. The Omicron variant had mutations that made vaccines less effective against infection and therefore there are similar case numbers between fully vaccinated and unvaccinated individuals. Also, as vaccination coverage increases the likelihood of breakthrough cases increases. A larger vaccinated population means more chances for exposure.



Note: Data are incomplete due to ongoing case investigation.

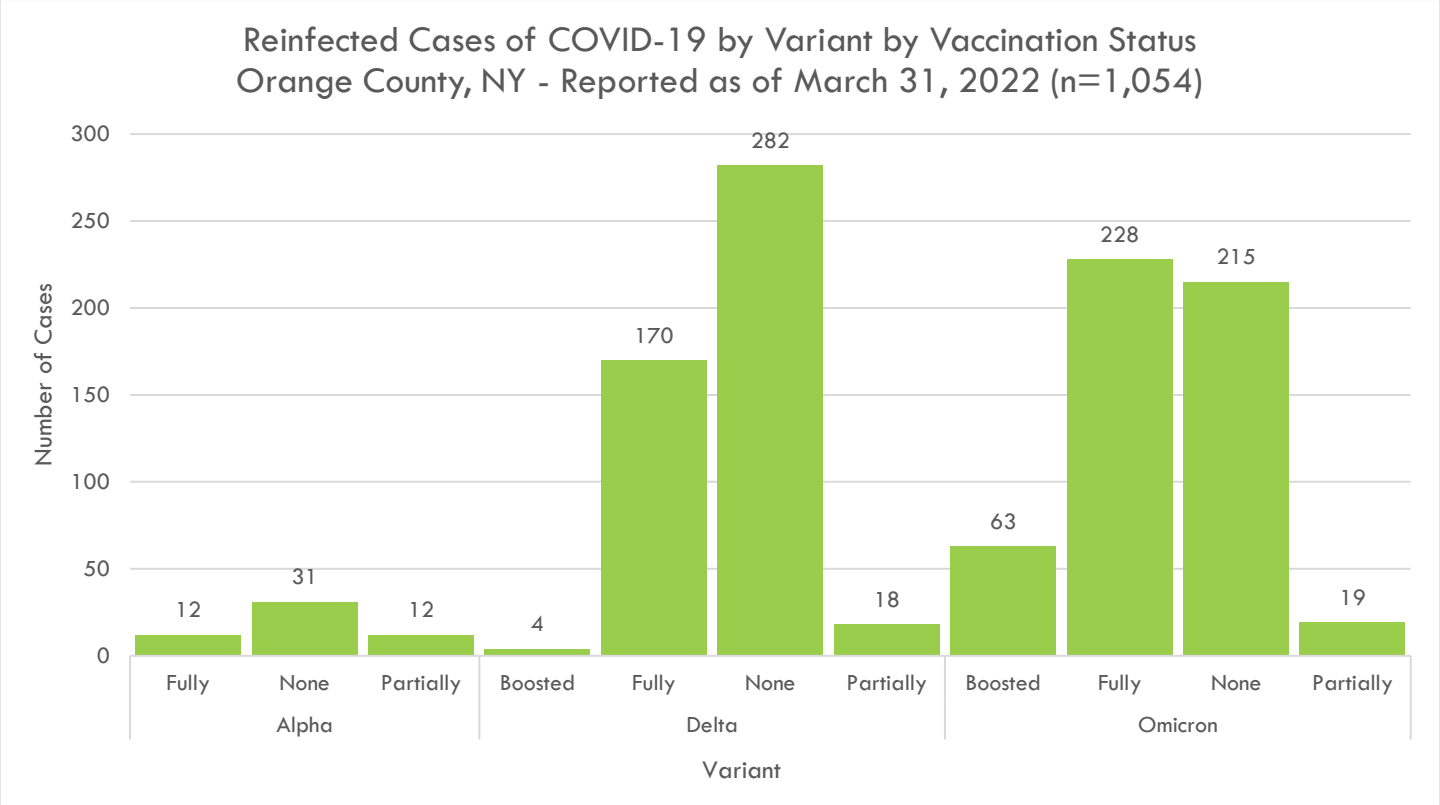


Note: Data are incomplete due to ongoing case investigation.



Note: Data are incomplete due to ongoing case investigation.

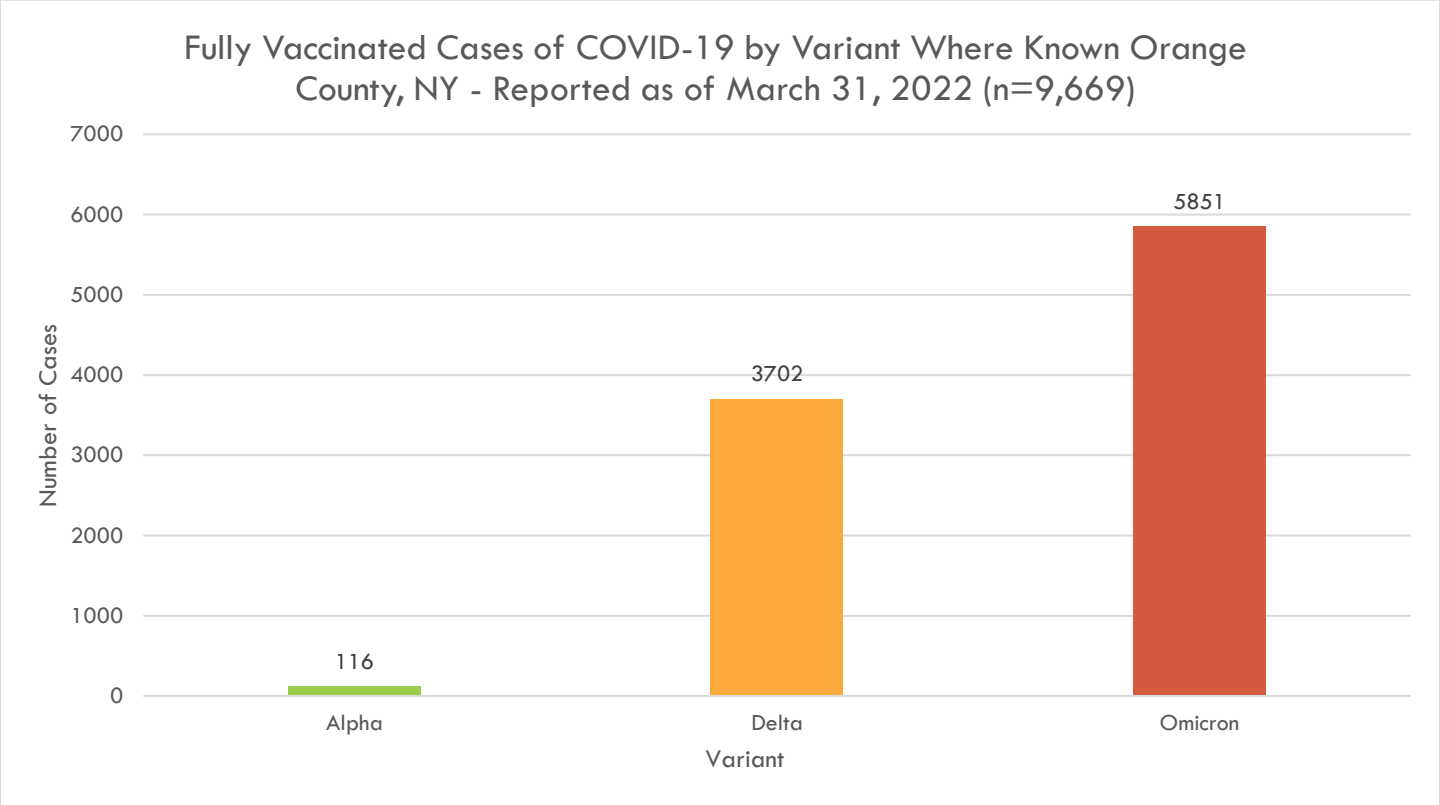
Case reinfections had a similar pattern among vaccination status as well. The majority of reinfections occurred in those unvaccinated. Interestingly, regarding the Omicron variant, there were more reinfections among fully vaccinated individuals than unvaccinated individuals. The number is close though. Additionally, as vaccination coverage increases, the more opportunities there are for COVID-19 infection among the vaccinated population.



Note: Data are incomplete due to ongoing case investigation.

BREAKTHROUGH CASES

Breakthrough cases have occurred with each variant; however, there have been increasing numbers with each new variant. 1% of the 11,479 Alpha variant cases were breakthroughs. The vaccine was not available during much of this phase, so these cases are not statistically significant. Of Delta cases, 20.8% of the 17,819 cases were breakthroughs. Finally, Omicron had 44,495 cases, but only 13.2% of these have been breakthrough so far. This number will change, as this data set stops March 31, 2022, during this variant.



Note: Data are incomplete due to ongoing case investigation.

DATA ANALYSIS OF INFECTIONS

Orange County had a COVID-19 incidence rate of 28,809 cases per 100,000 population during the pandemic. This accounts for 28.8% of the total population of the county. Orange County has the highest incidence rate of COVID-19 in the Mid-Hudson Region, and has higher rates than NYS, the US, and the Mid-Hudson Region as a whole.

Incidence Rate of COVID-19 in Orange County				
Total Population: 382,077				
Year	**2020**	**2021**	**2022 (Up to 3/31/22)**	**2020-2022**
Number of COVID-19 Cases	23,349	56,141	30,581	110,071
Incidence Proportion	6.11%	14.69%	8.00%	28.81%
Incidence Rate (Per 100,000)	6,111	14,694	8,004	28,809

Incidence Rate Comparison to Surrounding Area, March 2020-March 31, 2022			
Location	**Population**	**Cases**	**Incidence rate (per 100.000)**
US	326,569,308	79,950,105	24,482
NYS	19,514,849	4,981,278	25,526
Mid-Hudson	2,321,966	586,507	25,259
Orange County	**382,077**	**110,071**	**28,809**
Rockland County	325,213	92,205	28,352
Westchester County	968,738	250,430	25,851
Sullivan County	75,329	18,351	24,361
Putnam County	98,714	23,530	23,837
Dutchess County	293,524	63,856	21,755
Ulster County	178,371	31,638	17,737

DATA ANALYSIS OF COVID-19 TESTING

The incidence of COVID-19 in Orange County may not fully capture the extent of infection in the area. Orange County has ranked among the lowest in the Mid-Hudson Region in COVID-19 testing. Orange County has had a testing rate of 4.1 tests per person. This is well below the Mid-Hudson Region and NYS testing rates. This is higher than the US testing rate, however.

Testing Rate Comparison to Surrounding Area, March 2020-March 31, 2022

Location	Population	Cases	Cumulative # of Tests	% Positivity	Testing Rate (per 100.000)	Testing Rate (Per person)
US	326,569,308	79,950,105	850,371,151	9.40%	260,395	2.60
NYS	19,514,849	4,975,747	104,592,544	4.78%	535,964	5.36
Mid-Hudson	2,321,966	586,507	11,224,543	5.22%	483,407	4.83
Rockland County	325,213	92,205	1,846,637	4.99%	567,824	5.68
Westchester County	968738	250,430	5,034,497	4.97%	519,696	5.20
Dutchess County	293,524	63,856	1,307,412	4.88%	445,419	4.45
Putnam County	98,714	23,530	421,378	5.58%	426,868	4.27
Ulster County	178,371	31,638	751,876	4.20%	421,524	4.22
Orange County	**382,077**	**110,071**	**1,573,113**	**6.99%**	**411,727**	**4.12**
Sullivan County	75,329	18,351	289,630	6.33%	384,487	3.84

VACCINATION DATA ANALYSIS

Orange County also has lower vaccination rates compared to the surrounding region. Only 64.9% of the total population has been fully vaccinated, and only 28.6% has received a booster shot. This ranks near the bottom in the Mid-Hudson Region. Orange County has lower vaccination rates than the Mid-Hudson Region, NYS, and the US.

Vaccination Rate Comparison to Surrounding Area, March 2020-March 31, 2022

Location	Population	Received First Dose		Series Complete		Boosted	
		#	%	#	%	#	%
US	326,569,308	255,534,750	78.2%	217,639,435	66.6%	97,674,972	29.9%
NYS	19,514,849	17,426,283	89.3%	14,818,932	75.9%	6,648,048	34.1%
Mid-Hudson	2,321,966	1,972,667	85.0%	1,608,945	69.3%	776,150	33.4%
Ulster County	178,371	144,375	80.9%	128,340	72.0%	70,971	39.8%
Westchester County	968,738	943,176	97.4%	774,588	80.0%	349,036	36.0%
Dutchess County	293,524	231,471	78.9%	205,079	69.9%	104,902	35.7%
Putnam County	98,714	81,804	82.9%	71,797	72.7%	35,267	35.7%
Orange County	**382,077**	**281,205**	**73.6%**	**248,063**	**64.9%**	**109,307**	**28.6%**
Rockland County	325,213	239,323	73.6%	207,254	63.7%	86,042	26.5%
Sullivan County	75,329	51,313	68.1%	45,621	60.6%	20,625	27.4%

INFECTIONS DATA SUMMARY

This data analysis looked at the impact of COVID-19 in Orange County. The time period examined was March 2020, when the pandemic started, through March 2022. During this period Orange County had 110,071 total identified cases of COVID-19. Orange County had a COVID-19 incidence rate of 28,809 per 100,000 persons during this two-year period. This represents 28.8% of the total population. This was the highest in the Mid-Hudson Region. It also exceeded the state and national average. This rate may not reflect the true extent of infections because Orange County also had a lower testing rate than every other county in the region except one. This high infection rate may be caused by Orange County's lower vaccination rates. Only 64.9% of the total population has been vaccinated, which is below the regional, state, and national vaccination rates.

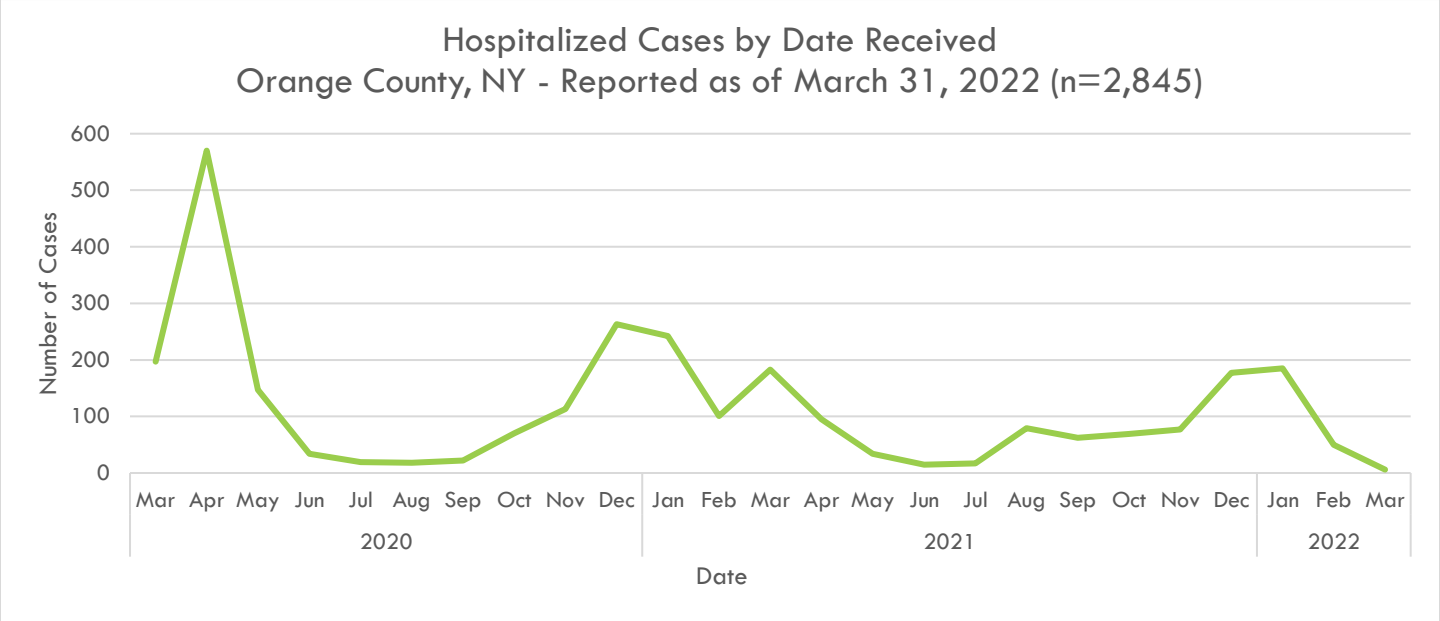
These cases are confirmed by laboratory ordered testing and excludes home tests and cases that may not have been identified due to being asymptomatic. Asymptomatic cases, that were found, shared a similar pattern as the case infections. Waves and peaks of case numbers reflect phases of the pandemic correlated to the Alpha, Delta, and Omicron variants. Most cases occurred during the Omicron variant wave with 44,495 cases. Reinfections occurred throughout the pandemic, with the large majority during the Omicron variant wave. Omicron represented 86.3 % of reinfections. This mirrors patterns seen across the US.

Stratifying the data, certain groups experienced higher rates of infection than others. The age group 18 to 44 years shared 44.6% of total cases. Females held a slight majority of cases at 53.4%, despite representing 49.9% of the population. Looking at race, people that identified as White held the largest number of infections at 66.4%, though they represent 72.5% of the total population. This may reflect minority races experiencing disproportionate numbers of infections relative to their share of the population. This pattern is similar looking at ethnicity, where non-Hispanic people accounted for 70.2% of cases, while representing 79.0% of the total population. Hispanic people may have experienced disproportionate numbers of infections relative to their share of the total population.

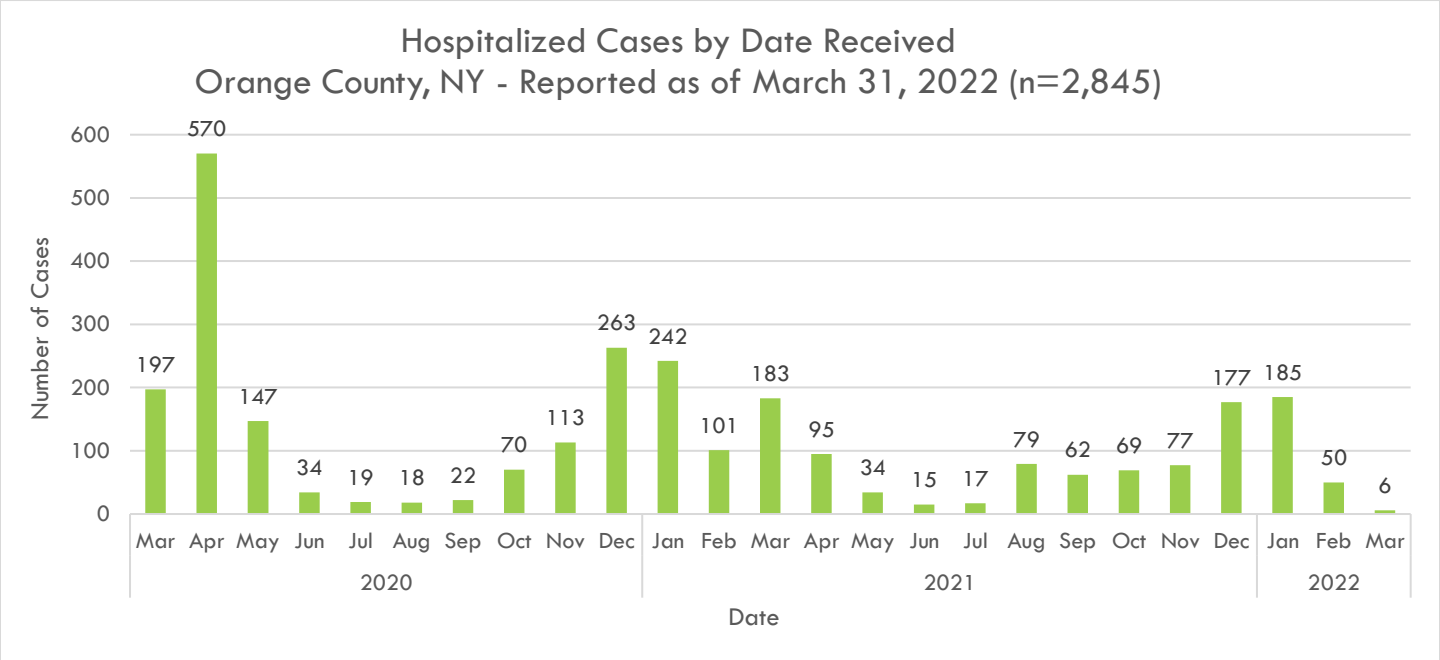
When looking at the data regarding infections by vaccination status, unvaccinated people account for a large majority of those impacted by the disease. During each variant of the pandemic, unvaccinated persons represented the largest proportion of those infected. The same is true for reinfections. Despite this, the vaccines did not offer 100% protection from infection and breakthrough cases did occur. Most breakthrough cases occurred during the Omicron variant, with Delta also seeing many cases. Breakthroughs occurred with all the vaccines, with Pfizer ranking first, Moderna second, and Johnson & Johnson third. This may not indicate the effectiveness of the vaccines but rather the accessibility of each of these vaccines in the area.

COVID-19 HOSPITALIZATIONS

Hospitalizations peaked during the Alpha wave in the beginning of the pandemic. There were smaller peaks correlating with the Delta and Omicron waves as well. Orange County saw a decrease in hospitalization numbers with each subsequent wave. This demonstrates a decrease in virulence of each variant throughout the pandemic. Other contributing factors were increased vaccination coverage, increased naturally acquired immunity, and more effective treatment options.



Note: Data are incomplete due to ongoing case investigation.

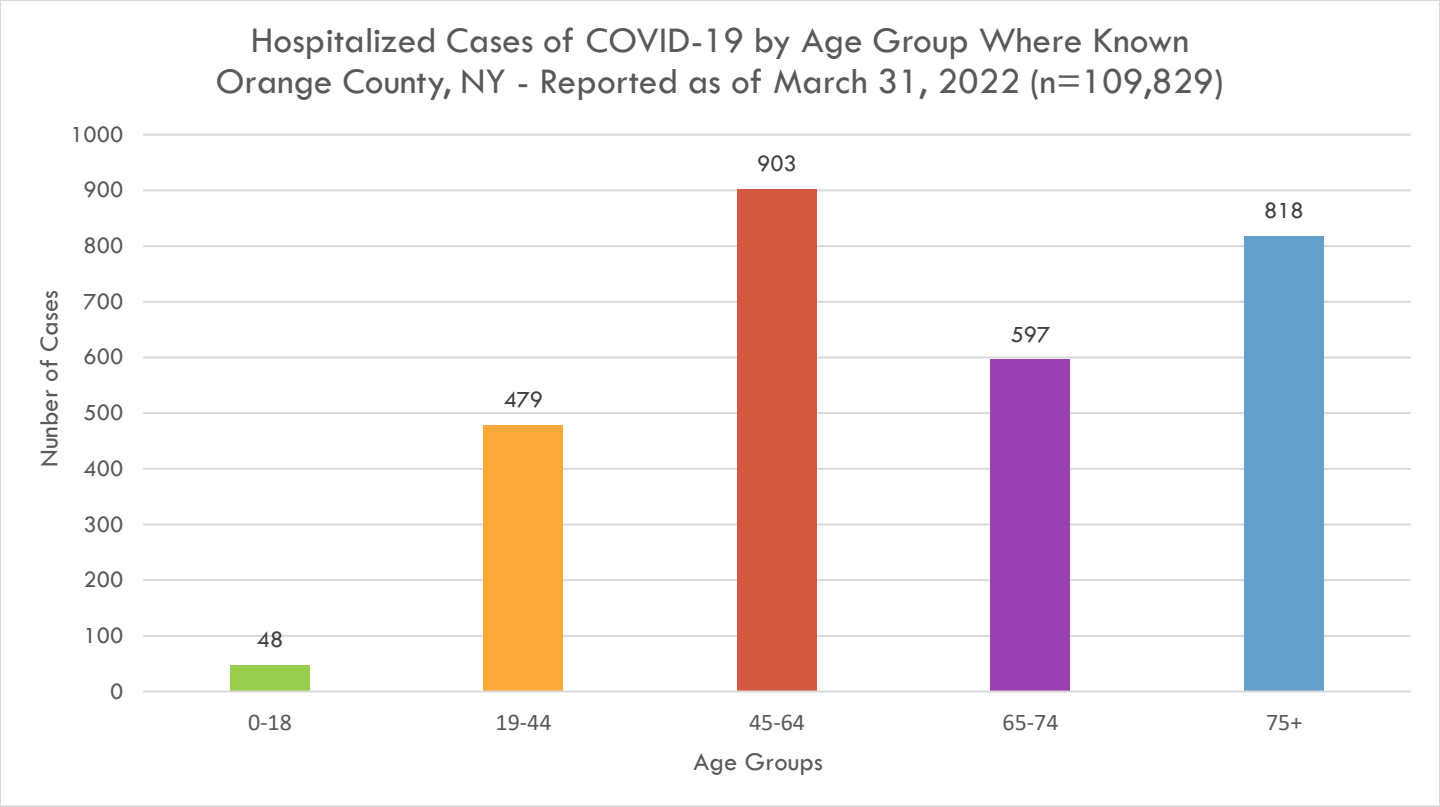


Note: Data are incomplete due to ongoing case investigation. Hospitalizations only represent those identified through case interviews and may be underreported.

DEMOGRAPHIC HOSPITALIZATION DATA

AGE

The age group that saw the most hospitalizations due to COVID-19 was 45 to 64 years, followed by 75 years and older, and 65 to 74 years. Generally, hospitalizations were more likely with increased age. The 45 to 64 age group saw the highest numbers because it contained the largest proportion of the population.

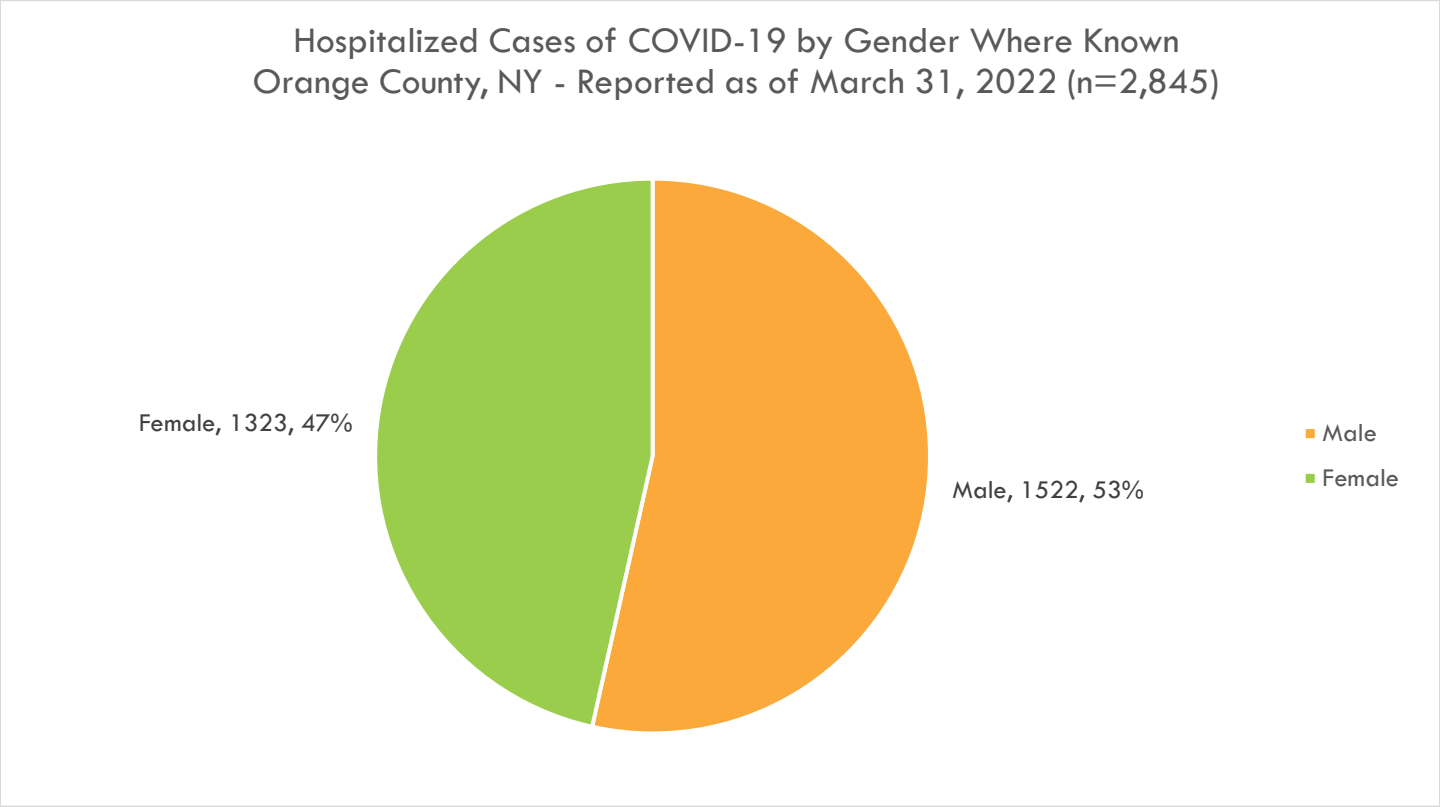


Note: Data are incomplete due to ongoing case investigation.

Ever Hospitalized for COVID by Age	
Age	**Cases**
0-18	48
19-44	479
45-64	903
65-74	597
75+	818
Total	**2,845**

GENDER

A slight majority in hospitalizations occurred amongst males that were infected by COVID-19. Males represented 53% of all hospitalizations. This is slightly higher than the 50.1% share this metric holds of the total population. This metric becomes disproportionate, however, because 53% of total cases were female, meaning females held a larger share of total infections, but men disproportionately had more severe outcomes resulting in hospitalizations.

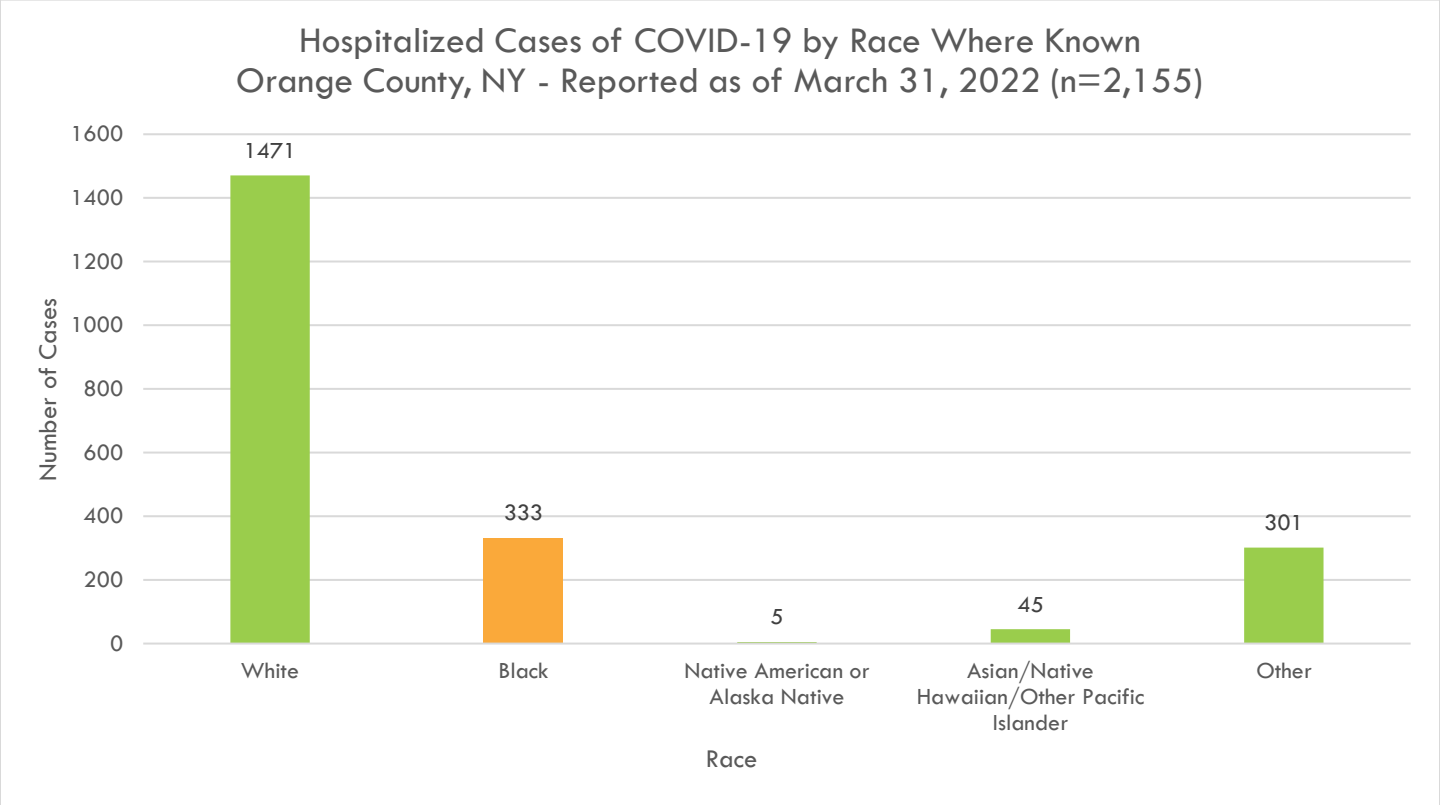


Note: Gender is a self-reported field. Gender is unknown when laboratory reporting did not provide this information and case has not been reached yet.

Ever Hospitalized for COVID by Gender		
Gender	**Cases**	**Percent of Cases**
Male	1,522	53%
Female	1,323	47%
Total	**2,845**	**100%**

RACE

Most hospitalizations occurred in those that identified as White (68.3%). White people share 72.5% of the total population, meaning that minorities may experience a disproportionate number of hospitalizations relative to their share of the total population. The Black population has the highest hospitalization rate and can expect around 797 hospitalizations due to COVID-19 for every 100,000 population over a two-year period. However, of those diagnosed with COVID-19, case hospitalization rates are relatively similar across all races. This means disease severity was similar for all races.



Note: Race is largely self-reported data and are identified through case investigation. Data are incomplete due to delays in reporting, data entry, unknown or undetermined risk factors and persons lost to follow up.

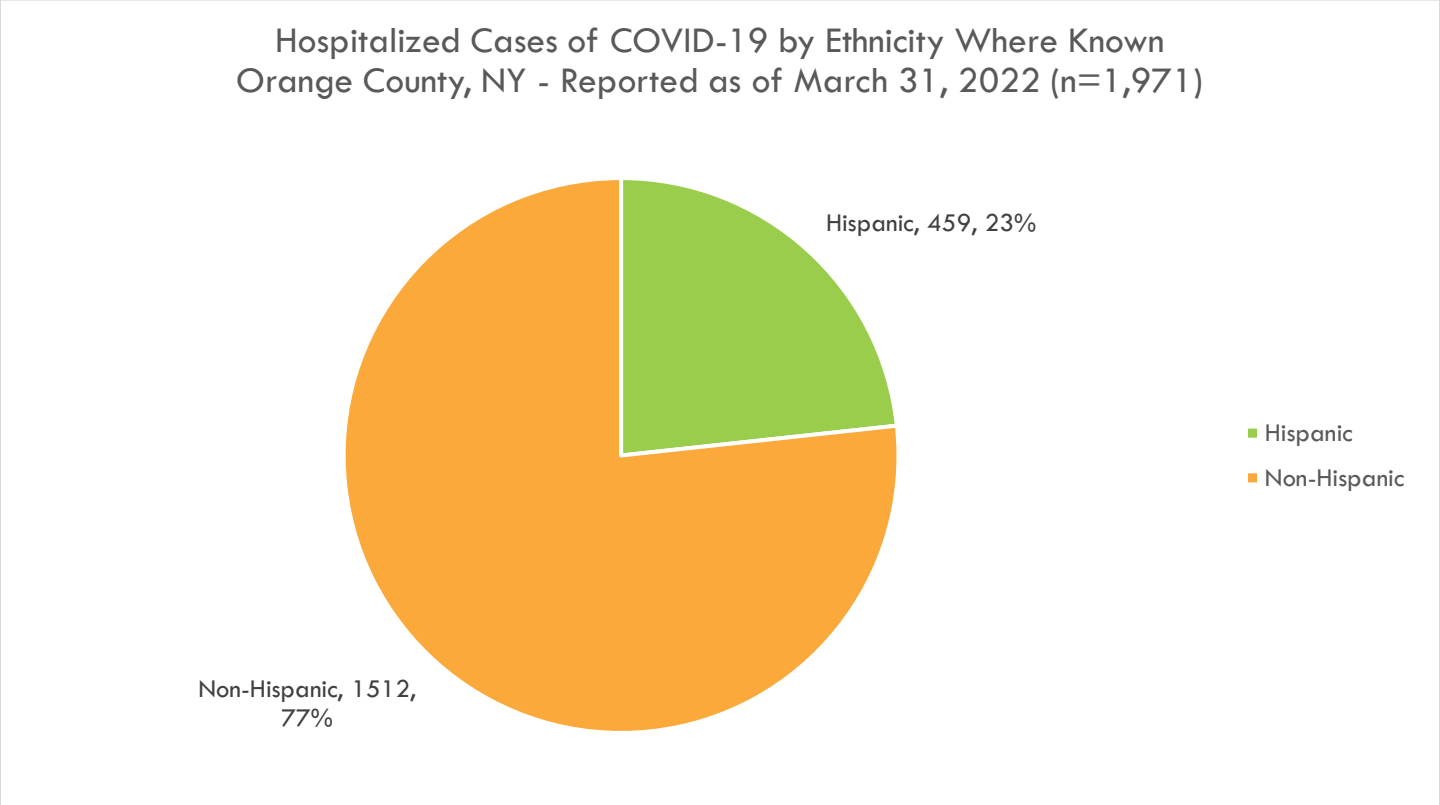
Ever Hospitalized for COVID by Race

Race	Cases	Hospitalizations	Percent	Hospitalization Rate (Per 100,000)	Case Hospitalization Rate
White	39,649	1,471	68.3%	531	3.7%
Black	8,997	333	15.5%	797	3.7%
Other	9,505	301	14.0%	*	3.1%
Asian/Native Hawaiian/Other Pacific Islander	1,350	45	2.1%	400	3.3%
Native American or Alaska Native	235	5	0.2%	346	2.1%
Total	**59,736**	**2155**	**100%**		

**: There is no population data that could be used to calculate this rate.*

ETHNICITY

Most hospitalizations also occurred in the non-Hispanic populations at 76.7%. The Orange County population is around 79% non-Hispanic, indicating that the Hispanic population may experience a disproportionate amount of hospitalizations relative to their share of the total population. Hispanic populations have the highest hospitalization rate with 572 COVID-19 related hospitalizations per 100,000 people over this two-year period. However, case hospitalization rates were similar, which means disease severity was similar regardless of ethnicity.



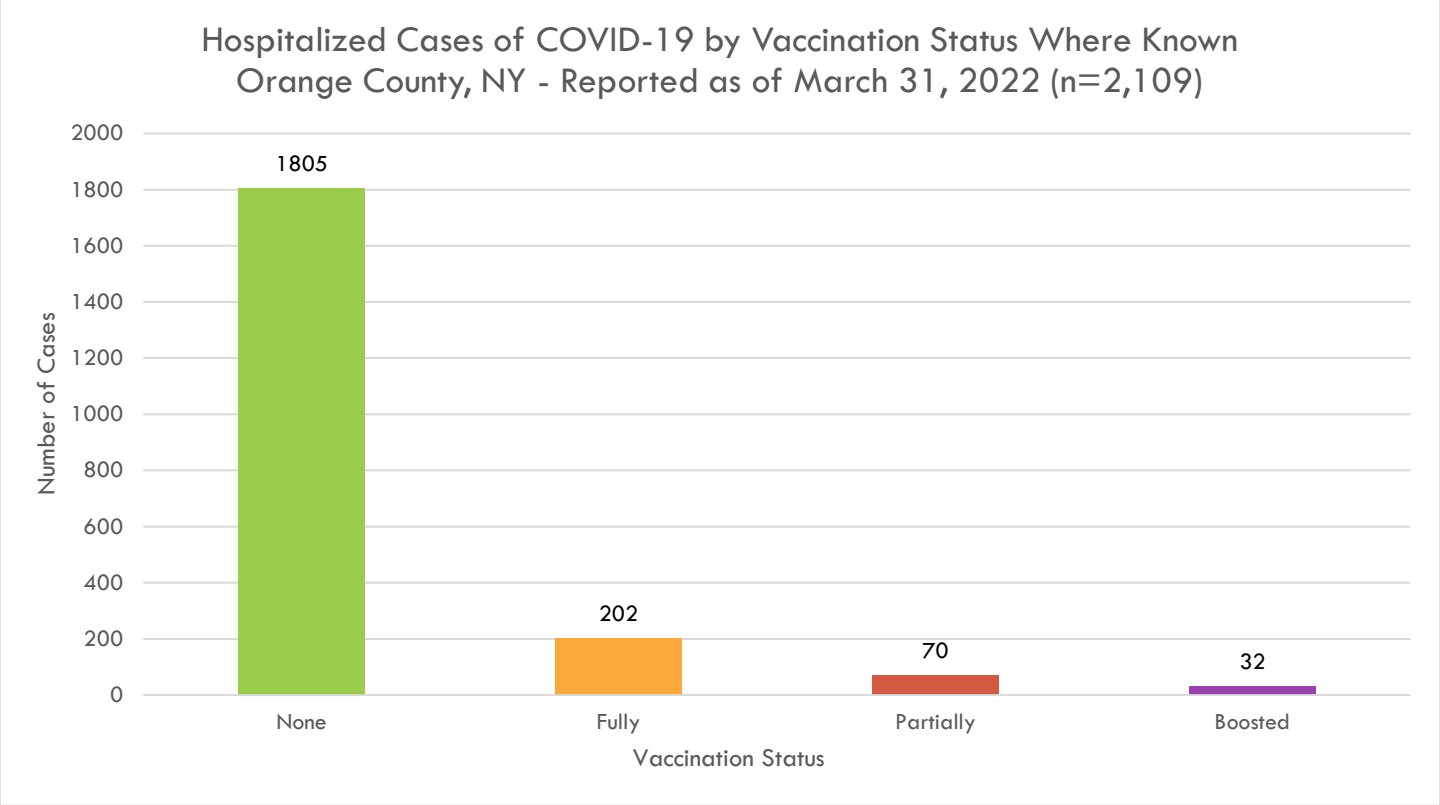
Note: Ethnicity is largely self-reported data and are identified through case investigation. Data are incomplete due to delays in reporting, data entry, unknown, or undetermined risk factors and persons lost to follow-up.

Ever Hospitalized for COVID by Ethnicity

Ethnicity	Cases	Percent	Hospitalization Rate (Per 100,000)	Case Hospitalization Rate
Hispanic	459	23.3%	572	2.4%
Non-Hispanic	1,512	76.7%	501	3.4%
Total	**1,971**	**100.0%**		

HOSPITALIZATION BY VACCINATION STATUS

Most hospitalizations occurred among those that were unvaccinated. Of all hospitalizations, 85.6% were people that did not receive any vaccine dose. This is a good indicator that the vaccines were markedly effective in preventing severity of the COVID-19 disease.



Note: Data are incomplete due to ongoing case investigation.

HOSPITALIZATION DATA ANALYSIS

Of the 110,093 COVID-19 infections in Orange County, 2.6% resulted in hospitalization. This is a case hospitalization rate of 2,585 for every 100,000 cases. There is no data readily available to compare Orange County against the surrounding counties or regions.

Hospitalization Rates of COVID-19 in Orange County				
Total Population: 382,077				
Year	**2020**	**2021**	**2022 (Up to 3/31/22)**	**2020-2022**
Number of COVID-19 Cases	23,349	56,141	30,581	110,071
Number of Hospitalizations	1,453	1,151	241	2,845
Hospitalization Rate (per 100,000)	380.3	301.2	63.1	744.6
Case Hospitalization Rate (per 100,000)	6,223	2,048	788	2,585
Case Hospitalization Rate (%)	6.2%	2.1%	0.79%	2.6%

HOSPITALIZATION DATA SUMMARY

Orange County has had 2,845 COVID-19 related hospitalizations since the start of the pandemic. Over the course of the two years analyzed, Orange County had a case hospitalization rate (CHR) of 2.6%. This is 2,585 hospitalizations for every 100,000 cases over this two-year timeframe. A glance at the rate by year shows that this has decreased over time. 2020 saw a CHR of 6.2%, which dropped to 2.1% in 2021 and 0.8% in 2022 (up to March 31). These rates cannot be examined against surrounding counties or regions because the data is not available.

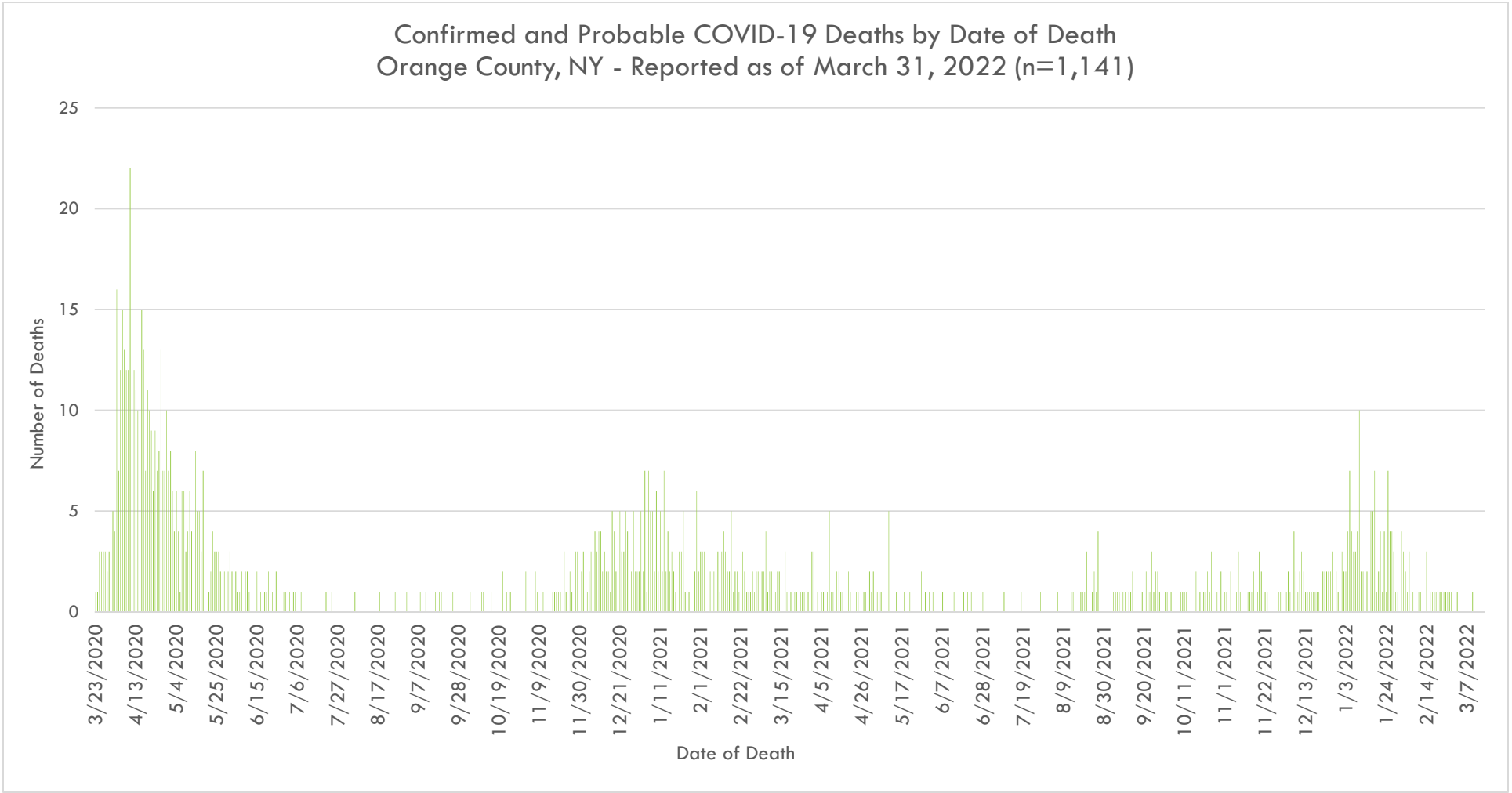
Hospitalizations were at their highest during the Alpha wave in the beginning of the pandemic. There were smaller peaks correlating with the Delta and Omicron variants; however, hospitalizations decreased with each subsequent wave. The age group that had the most cases result in hospitalization was 45 to 64 years, followed by 75 years and older and 65 to 74 years, showing the likelihood of hospitalization increased with age. 53% of all hospitalizations were male, which is slightly higher than the 50.1% share of the population, but this is disproportionate when considering females held 53% of total cases.

Most hospitalizations were people that identified as White racially at around 68%, though they share 72.5% of total population. This shows racial minorities experienced a disproportionate number of hospitalizations compared to their share of the total population. The same was true for ethnic background, as non-Hispanic people accounted for 76.6% of hospitalizations despite sharing 79.0% of the population. The Hispanic minority experienced disproportionate numbers of hospitalization relative to their share of the population. However, of those diagnosed with COVID-19, case hospitalization rates are relatively similar across race and ethnicity. This means disease severity was similar regardless of race and ethnicity.

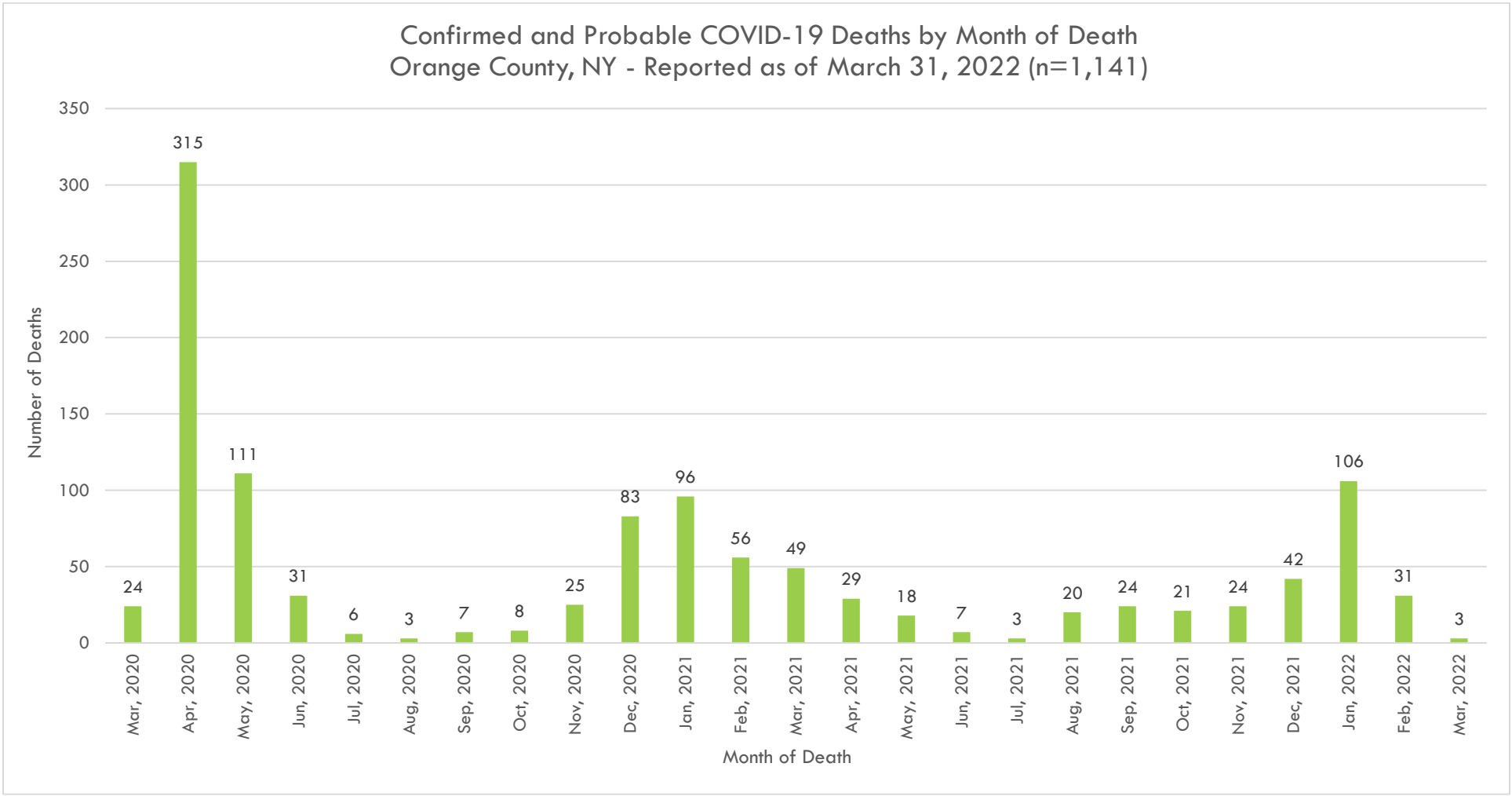
Similar to case infections, most hospitalizations occurred in unvaccinated people. However, the margin is much larger, with unvaccinated people accounting for 85.6% of hospitalizations. This may be an indicator of the vaccine's effectiveness against preventing severe disease.

COVID-19 DEATHS

Orange County had its largest peak of COVID-19 related deaths during the Alpha wave of the pandemic. There were also smaller peaks that aligned with the Delta and Omicron waves.



Note: Due to delays in reporting recent data are incomplete.

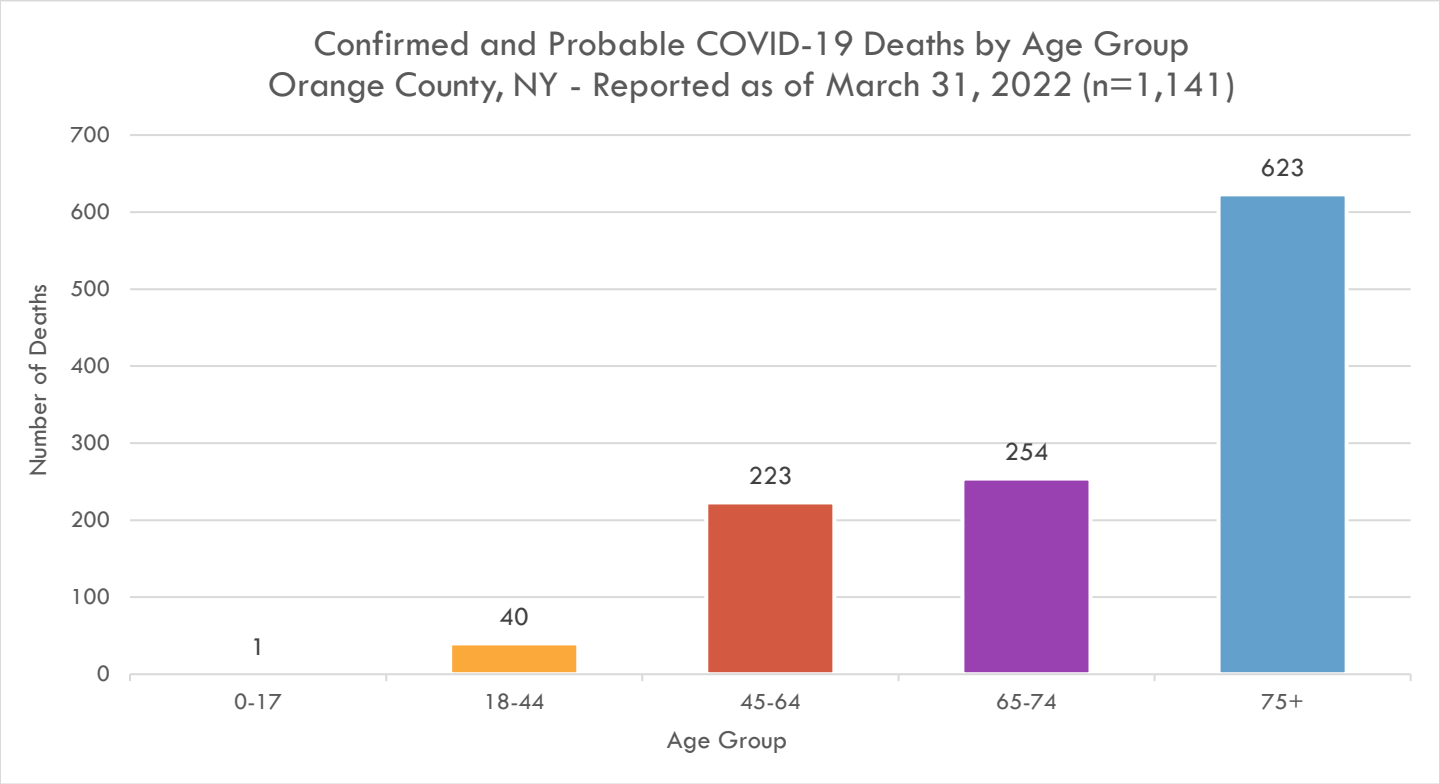


Note: Due to delays in reporting recent data are incomplete.

DEMOGRAPHIC DEATH DATA

AGE

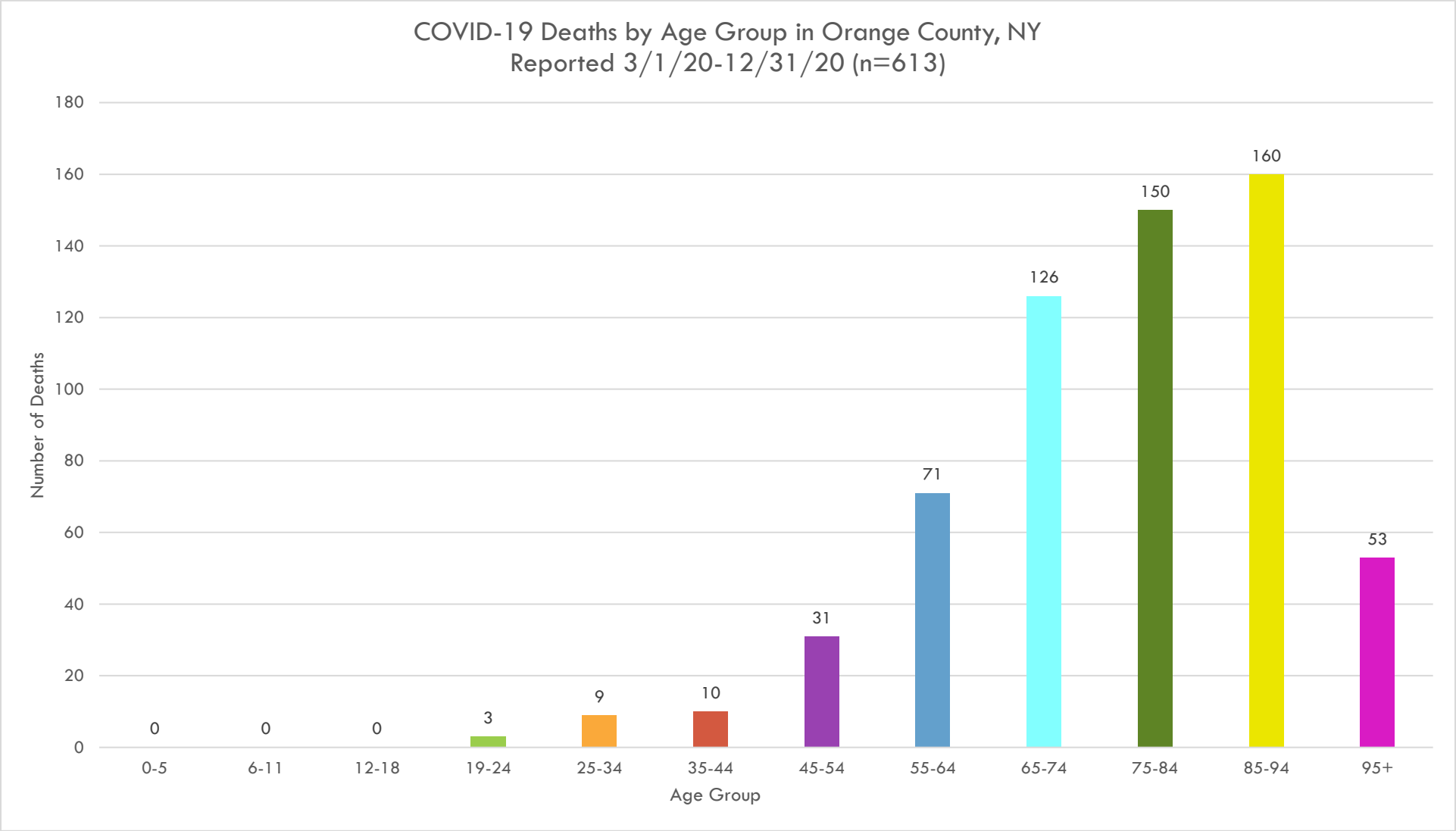
Nearly 55% of COVID-19 related deaths occurred in infected populations over 75 years of age. The data shows that the likelihood of death correlates with increased age.



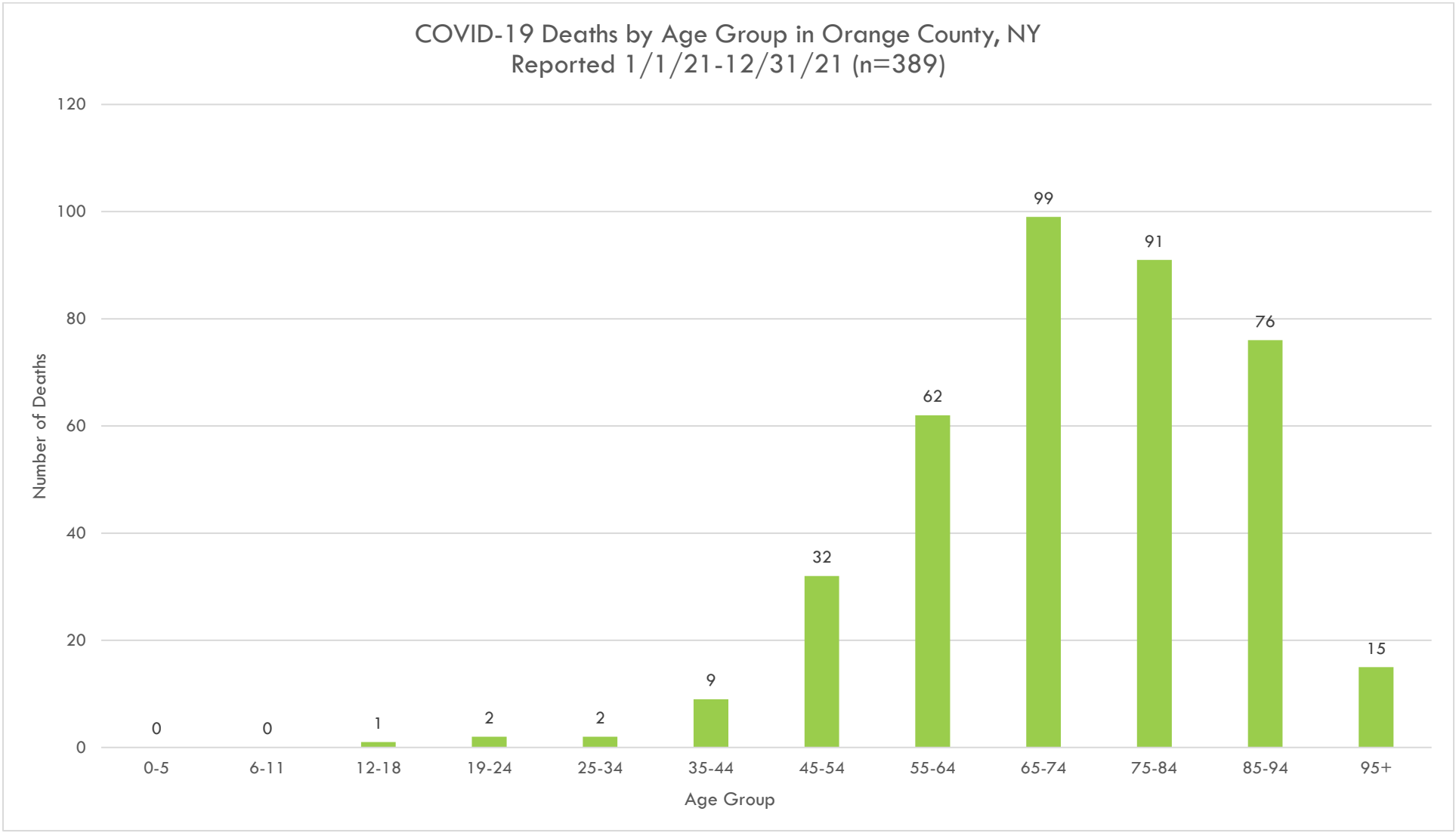
Note: Due to delays in reporting recent data are incomplete.

Age Bottom	Age Top	# Of Deaths	% Of Deaths	Age Group
0	17	1	0.09%	**0-17**
18	44	40	3.51%	**18-44**
45	64	223	19.54%	**45-64**
65	74	254	22.26%	**65-74**
75		623	54.60%	**75+**
Total		**1,141**	**100.00%**	

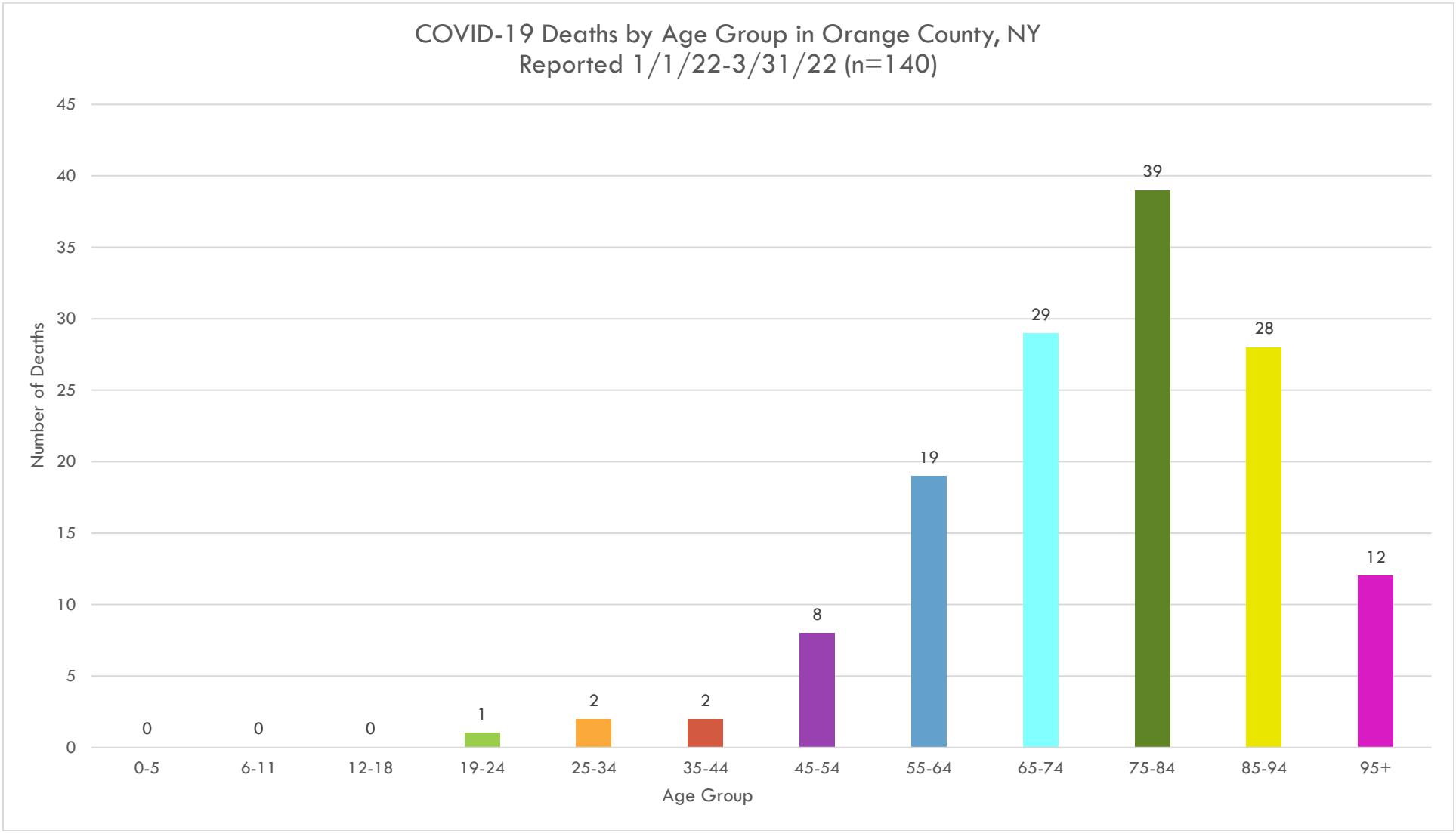
AGE BY YEAR



Note: Due to delays in reporting recent data are incomplete.



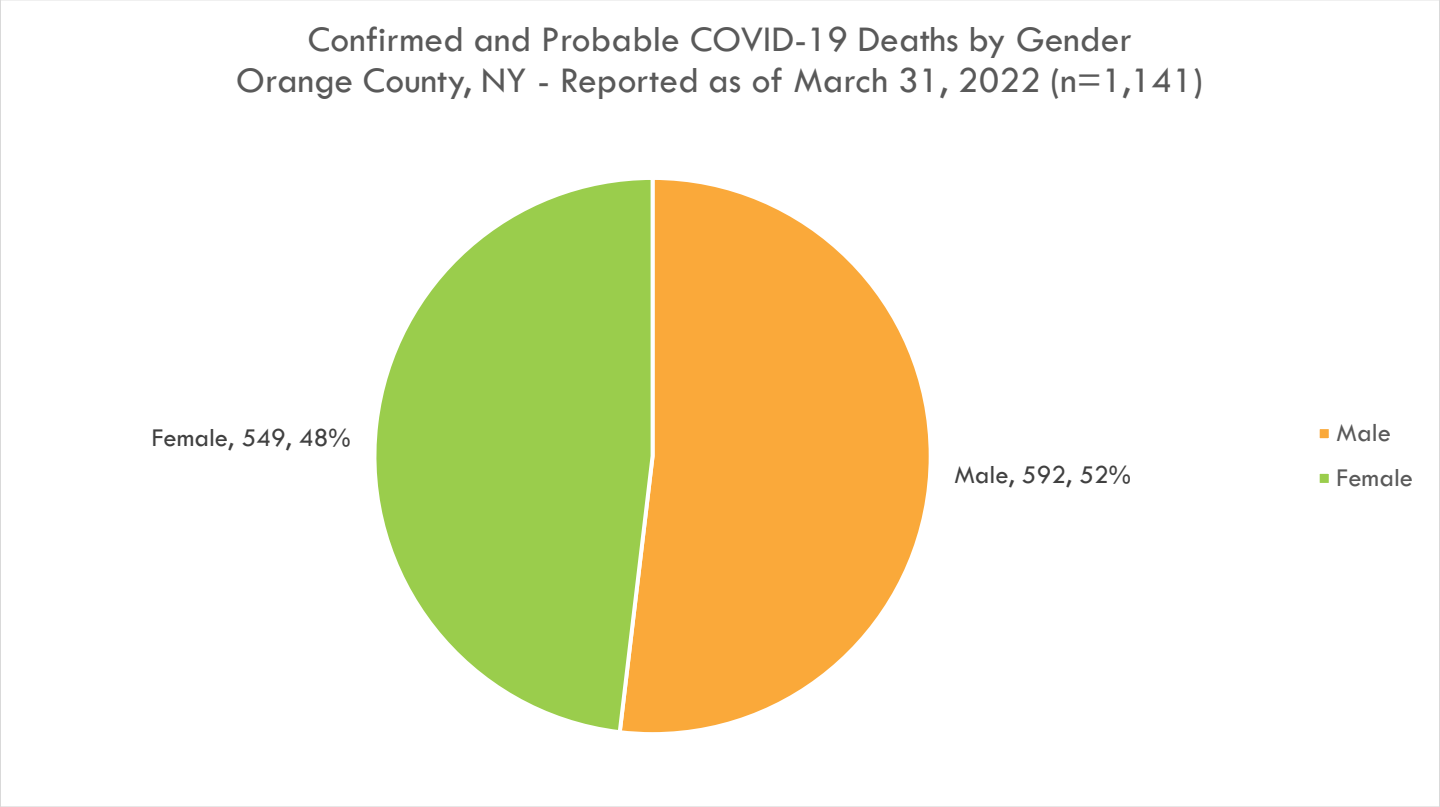
Note: Due to delays in reporting recent data are incomplete.



Note: Due to delays in reporting recent data are incomplete.

GENDER

A slight majority of deaths occurred amongst males, accounting for 51.9% of total deaths. This is closely aligned with the male share of the total population.

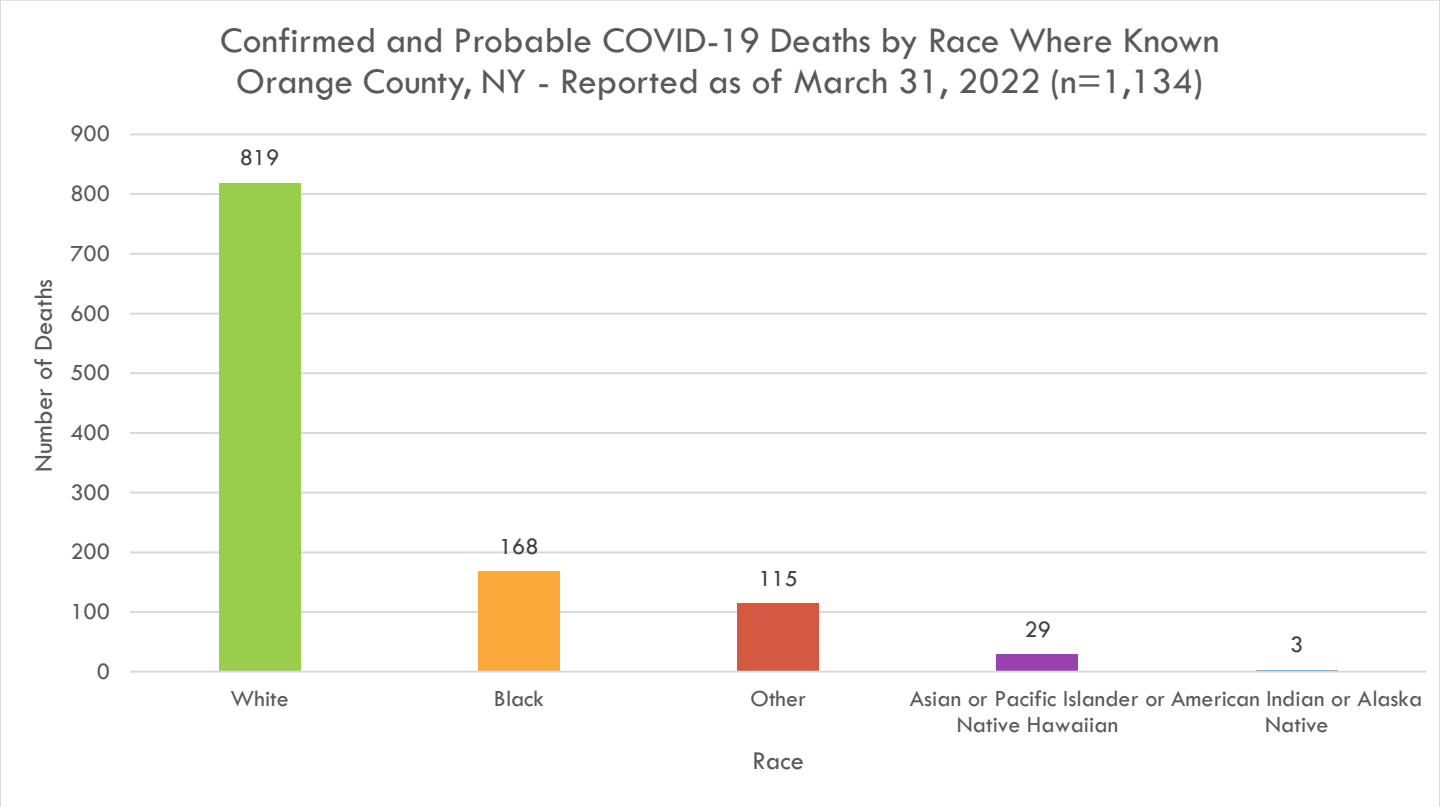


Note: Gender is a self-reported field. Gender is unknown when laboratory reporting did not provide this information and case has not been reached yet.

Gender	Count	Percent
Male	592	51.88%
Female	549	48.12%
Total	**1,141**	**100.00%**

RACE

Most COVID-19 related deaths occurred amongst infected persons that identified as racially White. 72.2% of deaths were among the White demographic, which shares 72.5% of the population. This is proportionate compared to all minority populations. Black populations have the highest cause specific mortality rate for COVID-19 and can expect around 418 COVID-19 related deaths per 100,000 diagnosed cases over a two-year period. However, all racial populations have similar case fatality rates, meaning disease severity may have been experienced similarly across all groups.



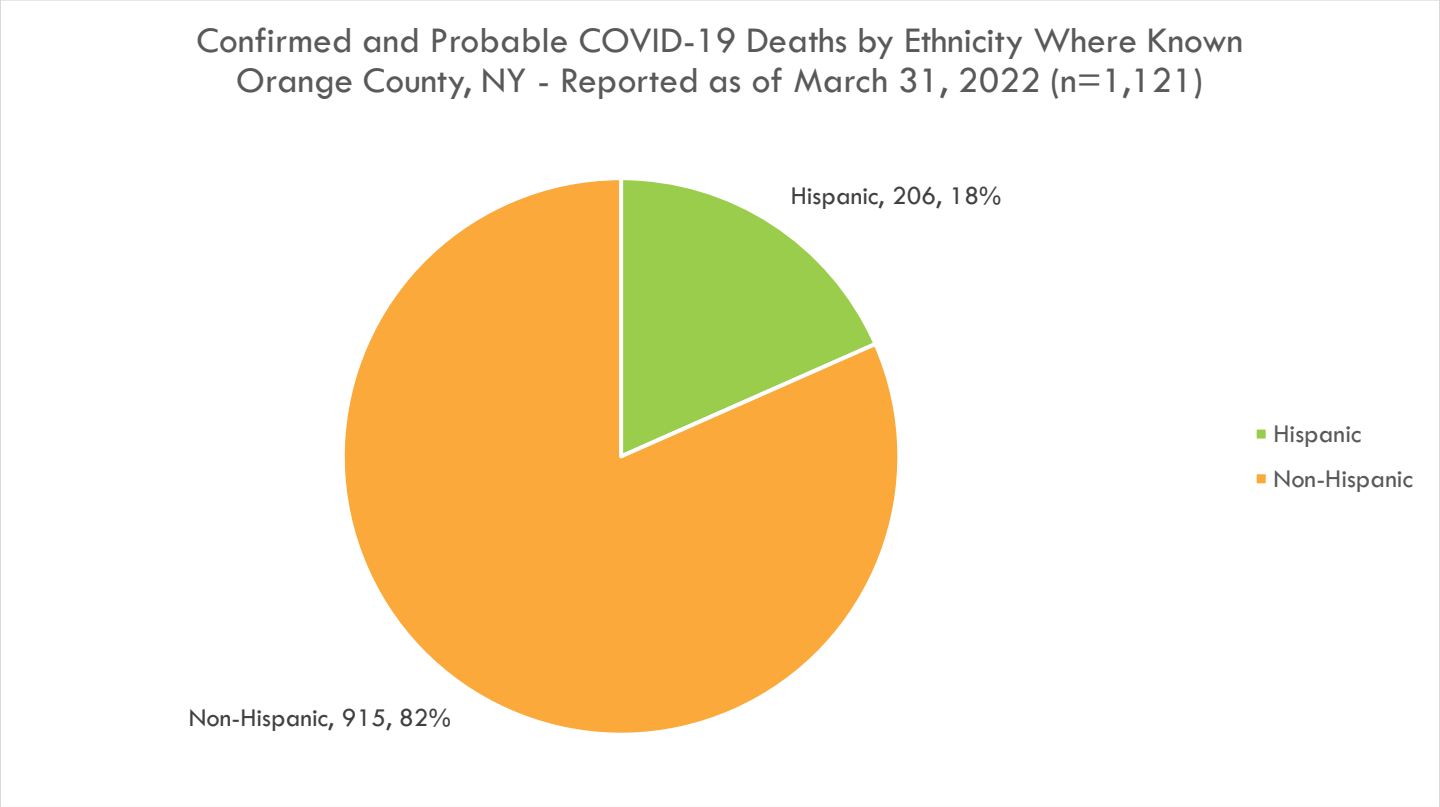
Note: Race is largely self-reported data and are identified through case investigation. Data are incomplete due to delays in reporting, data entry, unknown or undetermined risk factors and persons lost to follow up.

Race	Count	Percent	Cause Specific Mortality Rate (per 100,000)	Case Fatality Rate
White	819	72.2%	295.5	2.1%
Black	168	14.8%	402.0	1.9%
Other	115	10.1%	*	1.2%
Asian or Pacific Islander or Native Hawaiian	29	2.6%	257.8	2.1%
Native American or Alaska Native	3	0.3%	208.0	1.3%
Unknown	7	0.6%	*	
Total	**1,141**	**100.0%**		

**: There is no population data that could be used to calculate this rate.*

ETHNICITY

Most COVID-19 related deaths in Orange County occurred in the non-Hispanic population (81.0%). The Hispanic population shares 21% of the total population, so non-Hispanic people experienced death from COVID-19 more than their share of the total population. Non-Hispanic have a higher cause specific mortality rate and saw 310 COVID-19 related deaths per 100,000 population. Both groups had similar case fatality rates, which means severity of disease was proportional for all infected persons regardless of ethnicity.



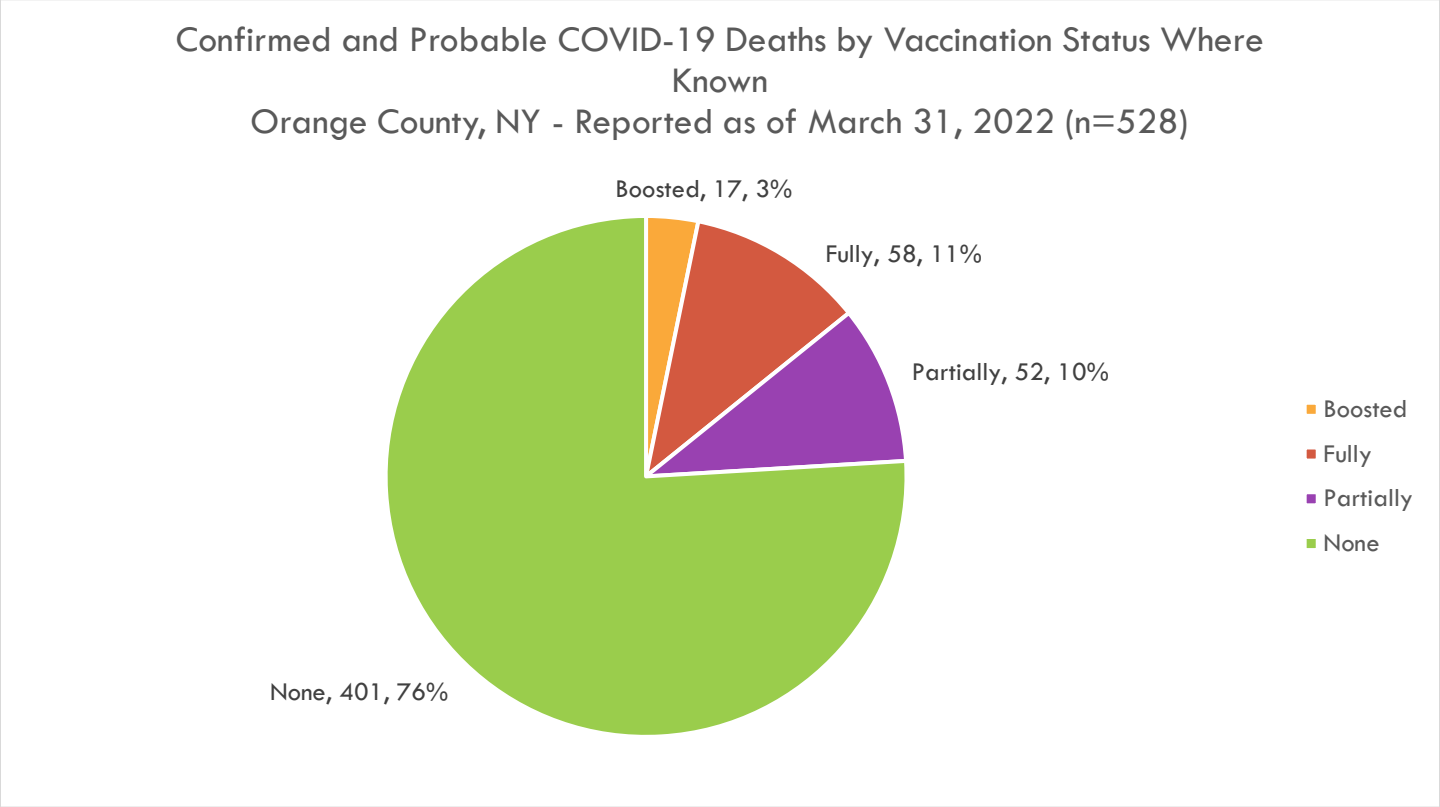
Note: Ethnicity is largely self-reported data and are identified through case investigation. Data are incomplete due to delays in reporting, data entry, unknown, or undetermined risk factors and persons lost to follow-up.

Ethnicity	Count	Percent	Cause Specific Mortality Rate (per 100,000)	Case Fatality Rate
Hispanic	206	18.3%	256.7	1.1%
Non-Hispanic	915	81.0%	303.2	2.1%
Unknown	20	0.7%	*	
Total	**1,141**	**100.0%**		

**: There is no population data that could be used to calculate this rate.*

DEATHS BY VACCINATION STATUS

76% of the deaths related to COVID-19 occurred in populations that received no vaccine, which may indicate the vaccine's effectiveness in preventing severe disease outcomes.



Note: Due to delays in reporting recent data are incomplete.

Vaccination Status	Count	Percent
Boosted	17	3.22%
Fully	58	10.98%
Partially	52	9.85%
None	401	75.95%
Total	**528**	**100.00%**

COMORBIDITY DEATH DATA

There was a strong correlation between pre-existing comorbidities and death related to COVID-19. The table below shows the frequency of which comorbidities appeared in deaths related to COVID-19. More than one condition can exist in each individual, so these percentages are not looked at in isolation from each other. Of the 1,141 deaths in Orange County, only 76 people had no comorbidities, accounting for 6.7% of total deaths. 93.3% of total deaths in Orange County were people that had comorbidities. Many had multiple conditions, with as many as 23 being seen for one individual. Having comorbidities seems to increase the likelihood of severe disease and death in COVID-19 cases.

Total Deaths=1,141	**Occurrence**	**Percent of Deaths**
Comorbidity		
Hypertension	606	53.10%
Cardiovascular Disease	437	38.20%
CAD	192	16.80%
Heart Failure	134	11.74%
Endocrine System Disease	403	35.32%
Diabetes Mellitus	372	32.60%
Lung Disease	310	27.17%
COPD	202	17.70%
Blood Condition	293	25.68%
Hyperlipidemia	240	21.03%
Weight Issue (Obesity and Overweight)	280	24.54%
Dementia	236	20.68%
Renal Kidney Disease	183	16.04%
Mental Health Disorder	123	10.78%
Cancer	112	9.82%
Nervous System Disease	101	8.85%

DATA ANALYSIS OF DEATHS

Orange County had a case fatality rate of 1.0%. That means there were 298.9 deaths per 100,000 cases of COVID-19 in Orange County over this two-year period. This ranks the county third in the region. This is above state and regional averages, but below the national average.

Mortality Rates of COVID-19 in Orange County				
Total Population: 382,077				
Year	**2020**	**2021**	**2022 (Up to 3/31/22)**	**2020-2022**
Number of COVID-19 Cases	23,349	56,141	30,581	110,071
Number of COVID-19 Deaths	613	389	140	1142
Cause Specific Mortality Rate (per 100,000)	160.4	101.8	36.6	298.9
Case Fatality Rate	2.60%	0.69%	0.46%	1.04%

Case Fatality Rate Comparison to Surrounding Area, March 2020-March 31, 2022				
Location	**Population**	**Cases**	**COVID-19 Deaths**	**Case Fatality Rate**
US	326,569,308	79,950,105	978,557	1.22%
NYS	19,514,849	4,981,278	44,140	0.88%
Mid-Hudson	2,321,966	586,507	6,061	1.03%
Westchester County	968,738	250,430	2,953	1.18%
Dutchess County	293,524	63,856	706	1.11%
Orange County	**382,077**	**110,071**	**1,142**	**1.04%**
Rockland County	325,213	92,205	857	0.93%
Ulster County	178,371	31,638	200	0.63%
Sullivan County	75,329	18,351	95	0.52%
Putnam County	98,714	23,530	108	0.46%

DEATH DATA SUMMARY

Orange County has had 1,142 COVID-19 related deaths since March 2020. During the two years of the pandemic that were analyzed, Orange County had a case fatality rate (CFR) of 1.04%. This represents 298.9 deaths per 100,000 cases of COVID-19. Examining each year individually shows this rate decreased over time. In 2020, the CFR was 2.6%. Then in 2021 it dropped to 0.7%. Finally, the rate is 0.5% in 2022, so far. Orange County had the third highest CFR among the counties of the Mid-Hudson Region. Only Westchester and Dutchess Counties had higher rates. Orange County's CFR is above the region and state average, but below the national average of 1.2%.

Orange County saw its largest peak of COVID-19 related deaths during the Alpha wave of the pandemic. There were also smaller peaks correlating with the Delta and Omicron waves. 54.6% of deaths occurred in the 75 years and older age group. This indicates that likelihood of death increases with age. A slight majority of deaths occurred amongst males at 51.8%. Most deaths occurred among infected people that identified as White racially at 72%. This is proportionate compared to all racial minorities since this demographic makes up 72.5% of the total population. However, Black populations have the highest cause specific mortality rate and expects the most deaths per 100,000 of their population, highlighting disparity for this racial group. This disparity did not exist ethnically, as non-Hispanic people represent 81% of deaths, slightly more than their share of total population. Finally, all racial and ethnic populations have similar case fatality rates, meaning disease severity may have been experienced similarly across all groups.

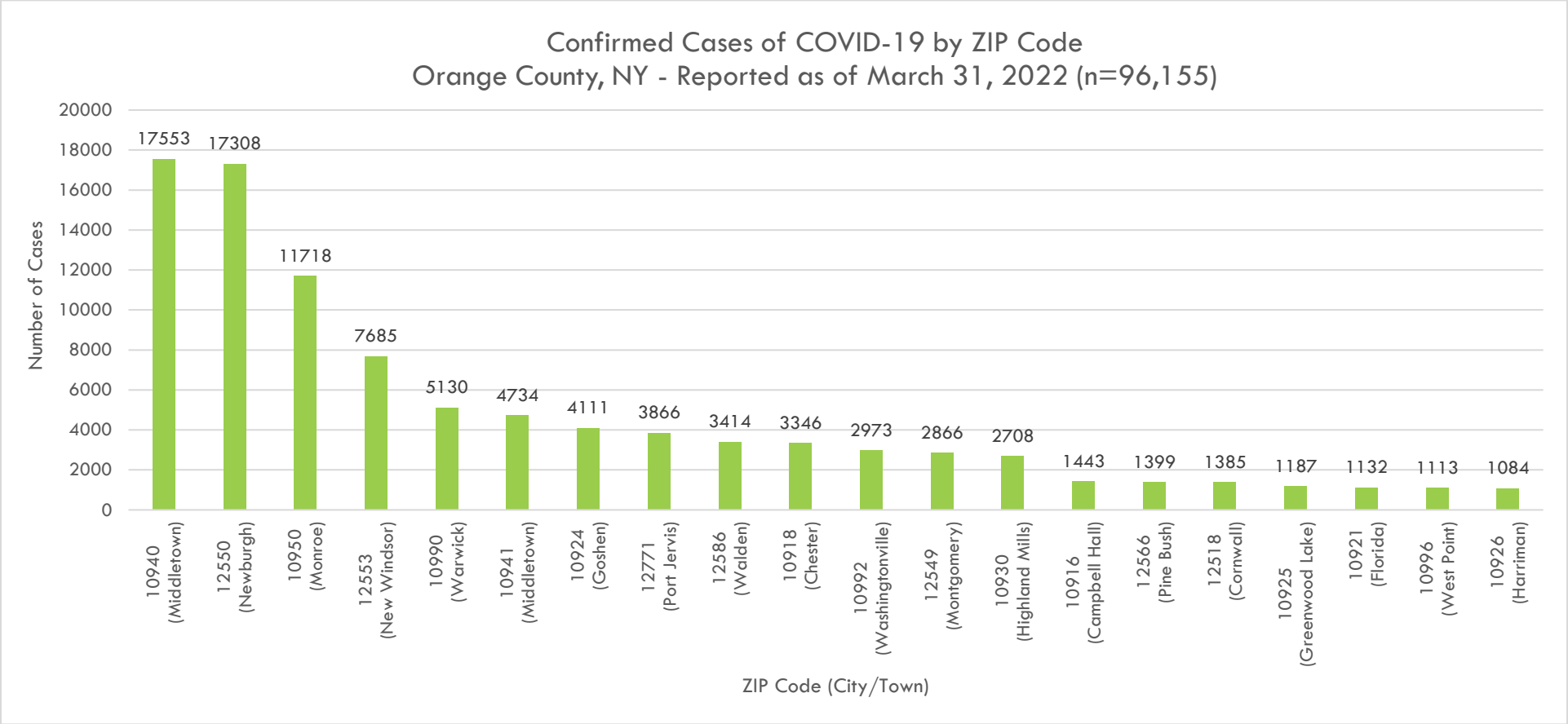
Most COVID-19 related deaths were among people with pre-existing conditions. 93.3% of total deaths had at least one comorbidity. Many had multiple comorbidities, with as many as 23 being seen for one individual. Having comorbidities seems to increase the likelihood of severe disease and death amongst COVID-19 cases.

The majority of COVID-19 related deaths occurred amongst people that did not receive any vaccine. Nearly 76% of deaths were people that were unvaccinated. Partially vaccinated people represented 10% of deaths. Finally, fully vaccinated and boosted individuals only shared around 14% of total deaths. This may indicate the effectiveness of the vaccine in preventing severe disease outcomes.

COVID-19 MUNICIPALITY DATA

INFECTIONS BY MUNICIPALITY

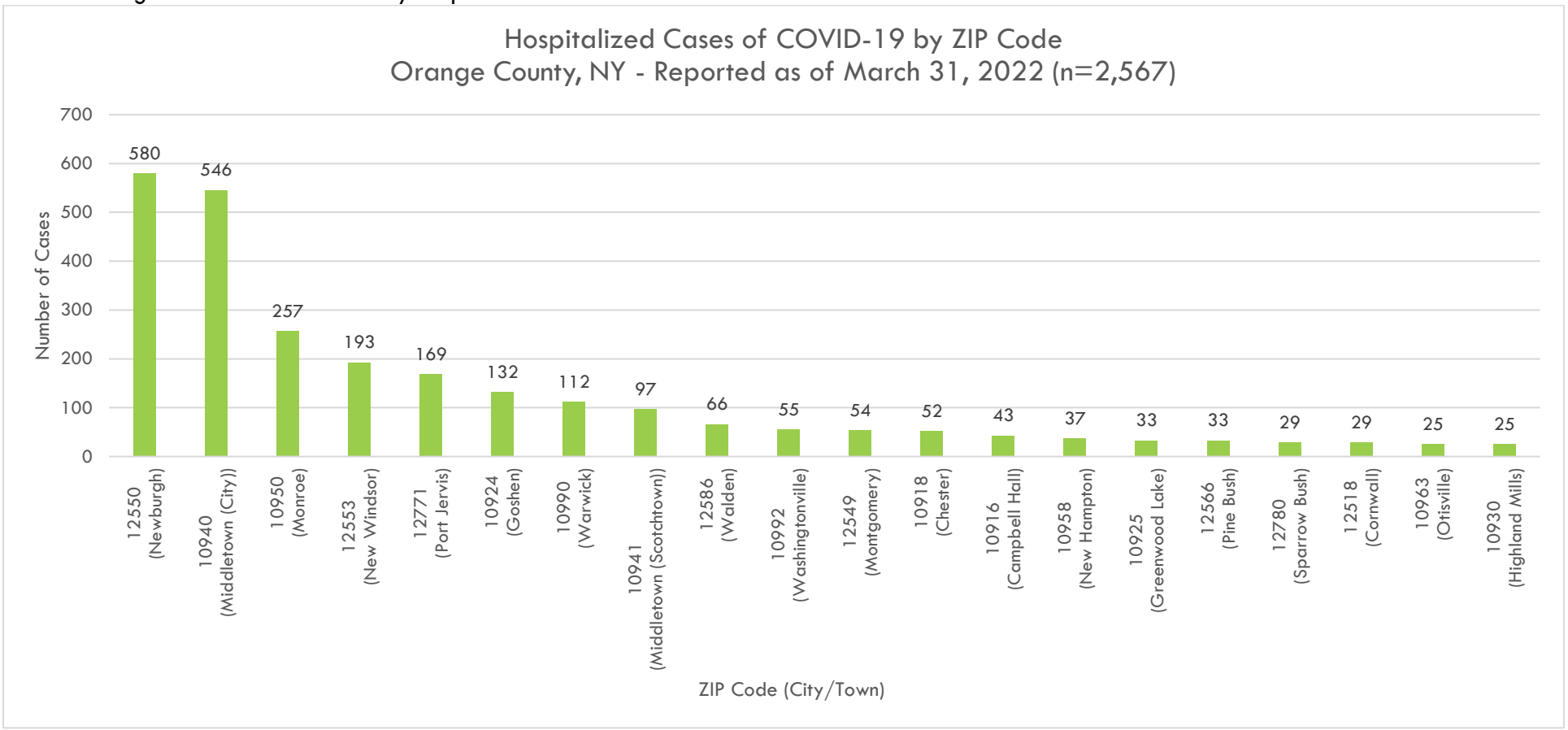
The areas of Orange County that had the most cases are the metropolitan centers, and surrounding areas of Middletown and Newburgh. Monroe also saw many infections.



Note: Data are incomplete due to ongoing case investigation. Twenty most reported ZIP codes represented in graph.

HOSPITALIZATIONS BY MUNICIPALITY

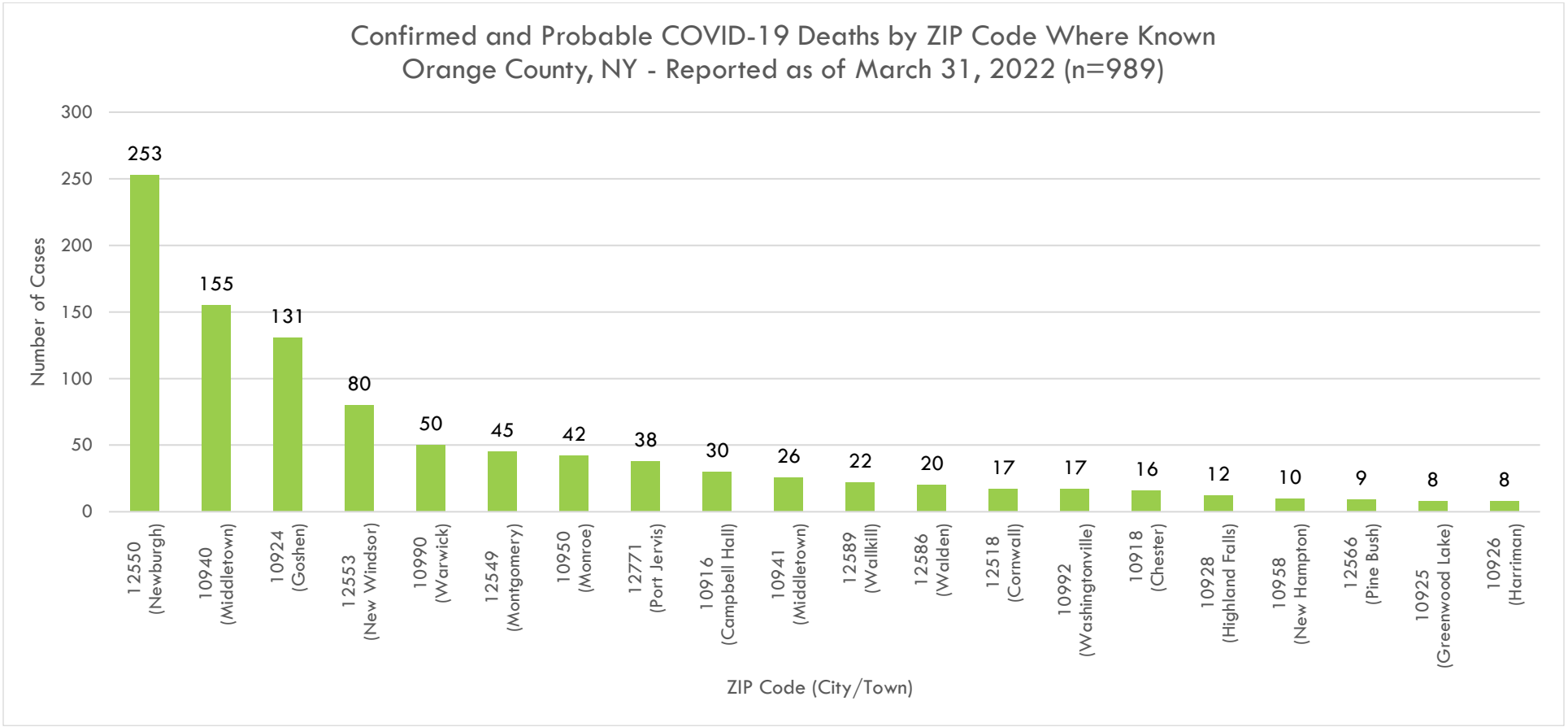
The areas of Orange County that had the most COVID-19 related hospitalizations are the metropolitan centers, and surrounding areas of Middletown and Newburgh. Monroe also saw many hospitalizations.



Note: Data are incomplete due to ongoing case investigation. Twenty most reported ZIP codes represented in graph.

DEATHS BY MUNICIPALITY

Newburgh had the most COVID-19 related deaths in Orange County by a wide margin. Middletown and nearby Goshen saw the next highest totals. Monroe had low death rates relative to their share of total cases and hospitalizations.



Note: Data are incomplete due to ongoing case investigation. Twenty most reported ZIP codes represented in graph.

MUNICIPALITY SUMMARY

The major metropolitan centers of Orange County include Middletown, Newburgh, and Port Jervis. Port Jervis has a much lower population than the previous two cities. Middletown and Newburgh were ranked first and second, respectively, for infections in the county. Port Jervis was ranked eighth. Surrounding areas to Newburgh and Middletown saw more infections, placing focus on these two cities. Monroe also saw a very high infection rate and ranked third.

Hospitalization numbers were also highest in Newburgh and Middletown. Port Jervis is ranked fifth in this metric. Monroe was again ranked third. New Windsor, a surrounding area to Newburgh, is ranked fourth.

Deaths related to COVID-19 were highest in Newburgh by far. Middletown was second, and the surrounding town of Goshen was third. Port Jervis was ranked seventh. Interestingly, Monroe was ranked sixth and had a low death rate relative to their share of infections and hospitalizations.

REPORT CONCLUSION

Orange County has had the highest incidence of COVID-19 in the Mid-Hudson Region. It is also higher than state and national averages. This number may not reflect the true extent of transmission as the county was ranked at the bottom in the region in terms of testing. Testing is also below the state average. While the majority of people infected were non-Hispanic and White, minority peoples may have experienced higher rates of infection relative to their proportion of the population.

Hospitalization data was not comparable against surrounding areas. Additionally, this data reflects only those contacted. While White people accounted for most hospitalizations, again racial minorities experienced higher rates relative to their share of the population. This was not reflected amongst ethnicity, however, as non-Hispanic people had higher rates relative to their share of the population.

Orange County's case fatality rate ranked high in the region as well. This rate is above the state average and below the national average. Once again, White people accounted for most COVID-19 related deaths. However, minority populations may have experienced worse rates relative to their share of the population. There is a strong relationship between having preexisting comorbidities and COVID-19 related deaths.

Orange County's vaccination rate is ranked amongst the lowest in the region. This number is lower than regional, state, and national averages.

Most infections occurred during the Omicron variant wave of the pandemic. The highest rates of severe health outcomes, including death and hospitalization, were seen during the Alpha wave. Additionally, the highest rates of infection, reinfection, hospitalization, and death were seen amongst unvaccinated people. This is true for all variant waves.

Collectively this information may indicate several conclusions. First, each new variant has become progressively less virulent over time. Second, vaccination against COVID-19 may be a strong intervention against preventing severe health outcomes from COVID-19. Orange County's low testing and vaccination rates may be a key reason it has experienced worse than average outcomes related to COVID-19, including infection, hospitalization, and deaths.

COVID-19 REPORT RESOURCES

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Kiviniemi, M.T., Orom, H., Hay, J.L. et al. (2022) Prevention is political: political party affiliation predicts perceived risk and prevention behaviors for COVID-19. BMC Public Health 22, 298 (2022). https://doi.org/10.1186/s12889-022-12649-4

Rubin, Samuel A (2022) Lead Data Analyst. Specializes in using Excel Software. Credited for Graph Creation.

APPENDIX E

Stakeholder Interview Survey

Thank you very much for taking the time to complete this survey. Your responses will be integral to the development of priorities and a health improvement plan to better the lives of our community residents.

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 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
   - ☐ Access to affordable childcare

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 exercises
   - ☐ 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 is the main issue your clients now face due to the COVID pandemic? Is this different than what was faced pre-pandemic?

11. How has the COVID pandemic changed the way you provide services to your clients?

12. Do you have any evidence-based interventions (practices or programs that have evidence to show that they are effective at producing results and improving outcomes when implemented) that you are currently using with your clients?

13. For 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, 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)

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 F

Community Asset Survey 2022

Thank you for taking the time to give your opinions about your community. With your input, Orange County Department of Health can find out the strengths and issues in our community. This short survey focuses on health and quality of life issues. All Orange County residents are encouraged to take the survey. Thank you!

1. Do you live in Orange County?
    a. Yes
    b. No

2. What is your zip code?

3. What are the greatest strengths of our community? Please select your top 3 choices.
    a. Access to affordable and healthy food
    b. Access to basic health care
    c. Access to good education
    d. Access to help during times of stress and crisis
    e. Affordable housing
    f. Arts and cultural events
    g. Bike-able, walk-able community
    h. Clean environment
    i. Good jobs and economy
    j. Good public transportation
    k. Low crime and safe neighborhoods
    l. Low violence and abuse (domestic, elder, child)
    m. Parks and recreation
    n. Programs, activities, and support for the senior community
    o. Programs, activities, and support for youth and teens during non-school hours
    p. Religious and spiritual values
    q. Respect for all persons
    r. Other (please specify)

4. Where should the community focus its resources and attention to improve the quality of life in our community? Please select your top 3 choices.
    a. Access to basic health care
    b. Access to good education
    c. More arts and cultural events
    d. Better jobs and economy
    e. Cleaner Environment
    f. Improve public transportation
    g. Improved access to affordable and healthy food

h. Lower Crime and safer neighborhoods
i. Lower violence and abuse (domestic, elder, child)
j. Making the community more bike-able and, walk-able community
k. More access to help during times of stress and crisis
l. More affordable housing
m. More programs, activities, and support for the senior community
n. More programs, activities, and support for youth and teens during non-school hours
o. More parks and recreation
p. More religious or spiritual values
q. Improving respect for all persons

5. What are the most important health issues that our community should focus on? Please select your top 3 choices.
    a. Aging problems (Alzheimer's, arthritis, hearing/vision loss, etc.)
    b. Alcohol Use
    c. Cancer
    d. Child abuse and neglect
    e. Dental issues
    f. Diabetes
    g. Domestic violence, rape and sexual assault
    h. Drug use (prescription and illegal)
    i. Gun violence
    j. Heart disease and stroke
    k. High blood pressure
    l. Homelessness
    m. Hunger
    n. Infectious diseases (COVID, Hepatitis, TB, etc.)
    o. Lack of access to health care
    p. Lack of walkability
    q. Mental health (depression, anxiety, stress)
    r. Mental illness (serious and persistent)
    s. Obesity
    t. Physical inactivity
    u. Poor diet
    v. Respiratory and lung diseases
    w. Safe, affordable & adequate housing
    x. Sexually transmitted diseases (HIV, STI)
    y. Suicide
    z. Teenage pregnancy
    aa. Tobacco and vaping use

Thank you for taking the survey and giving your opinions.

APPENDIX G

MID-HUDSON REGION COMMUNITY HEALTH SURVEY

ORANGE COUNTY

INTRODUCTION

The Siena College Research Institute (SCRI), on behalf of seven Mid-Hudson Region Health Departments, conducted a public opinion survey of 5,699 Mid-Hudson residents from March 14, 2022, to May 22, 2022. The Mid-Hudson Region is comprised of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties in New York. Residents aged 18 and older were interviewed from within those counties in NYS so as to ensure representative county-wide samples. The margin of error for the total sample of 5,699 is +/- 2.1% including the design effects resulting from weighting with a 95% confidence interval. The overall sample of 5,699 was weighted by age, gender, reported race/ethnicity, income, and county using the 2015-2020 American Community Survey 5-year estimates to ensure statistical representativeness. In 2018, SCRI conducted a similar survey for the counties of the Mid-Hudson.

METHODOLOGY AND DESIGN

Within Orange County, a total of 996 residents aged 18 or older completed the survey. The margin of error for the total sample of 996 is +/- 3.4% including the design effects resulting from weighting with a 95% confidence interval. There was a total of 172 respondents who completed the survey on a cell phone, 323 who completed it on a landline, 100 who completed the survey via the online panel, and 401 via online recruitment by the county. The county-wide sample of 996 was weighted by age, gender, reported race/ethnicity, income, and county using the 2015-2020 American Community Survey 5-year estimates to ensure statistical representativeness.

NATURE OF THE SAMPLE

Table 1

Respondent Demographic Breakdown	
	Orange
TOTAL COUNT	996
Gender	
Male	48%
Female	49%
Age	
18 to 34	29%
35 to 49	24%
50 to 64	24%
65 and older	20%
Ethnicity	
White	63%
Non-White	33%

RESULTS

Note: Percentages of the following figures may not add up to 100% due to rounding. The values on the charts match the crosstabs. 'Don't know' and 'Refused' have been combined into 'Don't know/Refused'. Due to spacing issues, any values less than or equal to 3% may not appear on the chart.

PERCEPTION OF COMMUNITY

Survey Question 1: *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.* ***There are enough jobs that pay a living wage.***

Figure 1

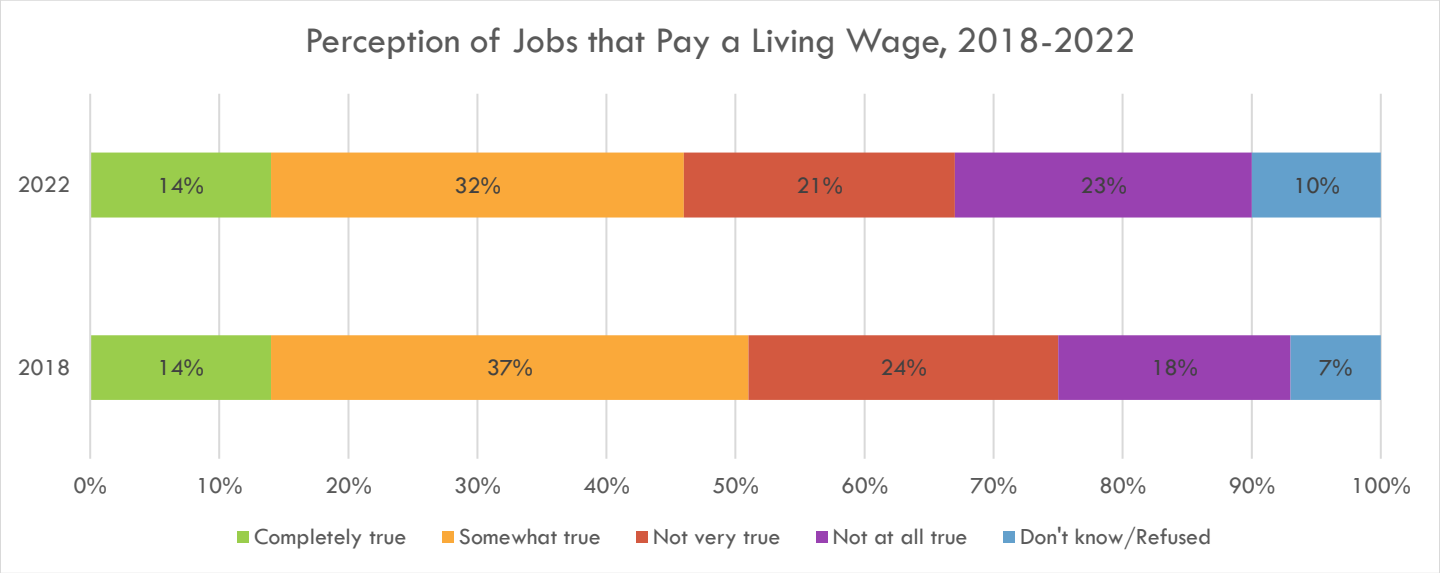
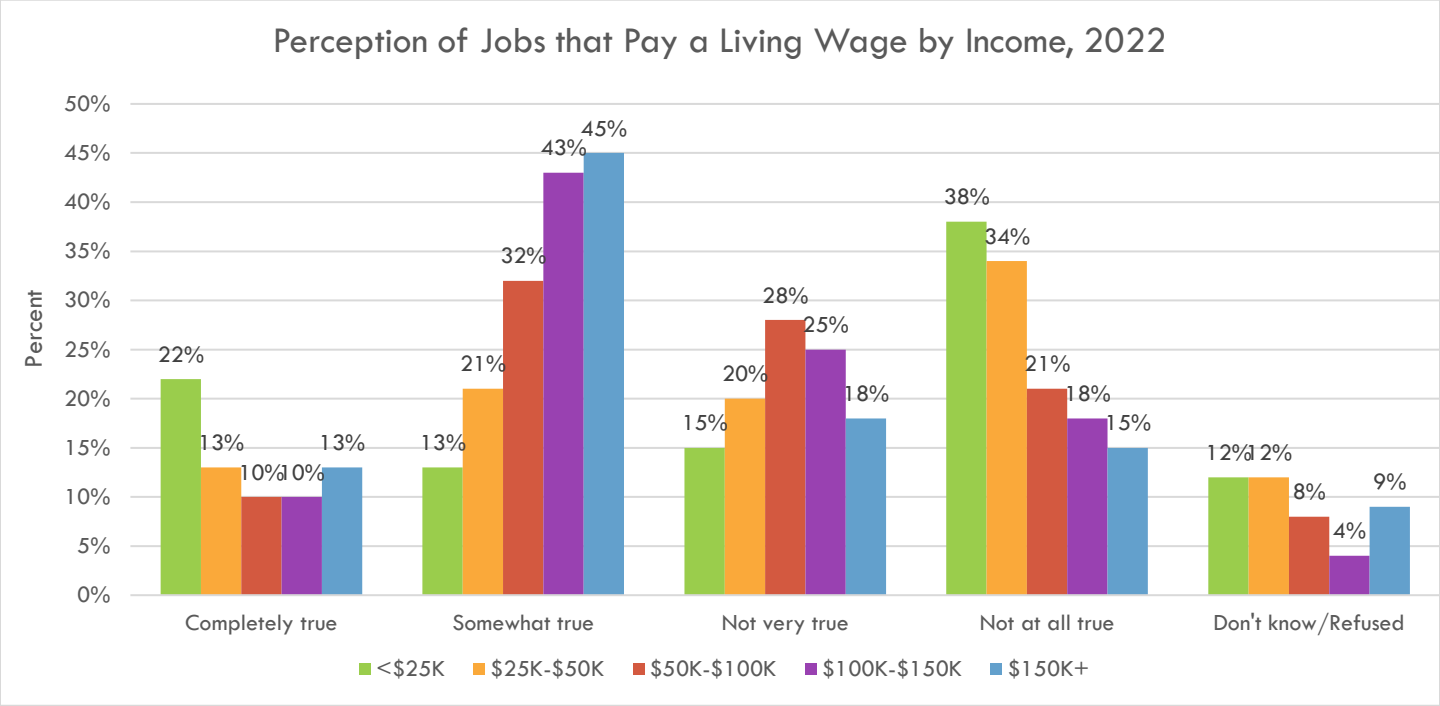


Figure 2



Survey Question 2: *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.* ***Most people are able to access affordable food that is healthy and nutritious.***

Figure 3

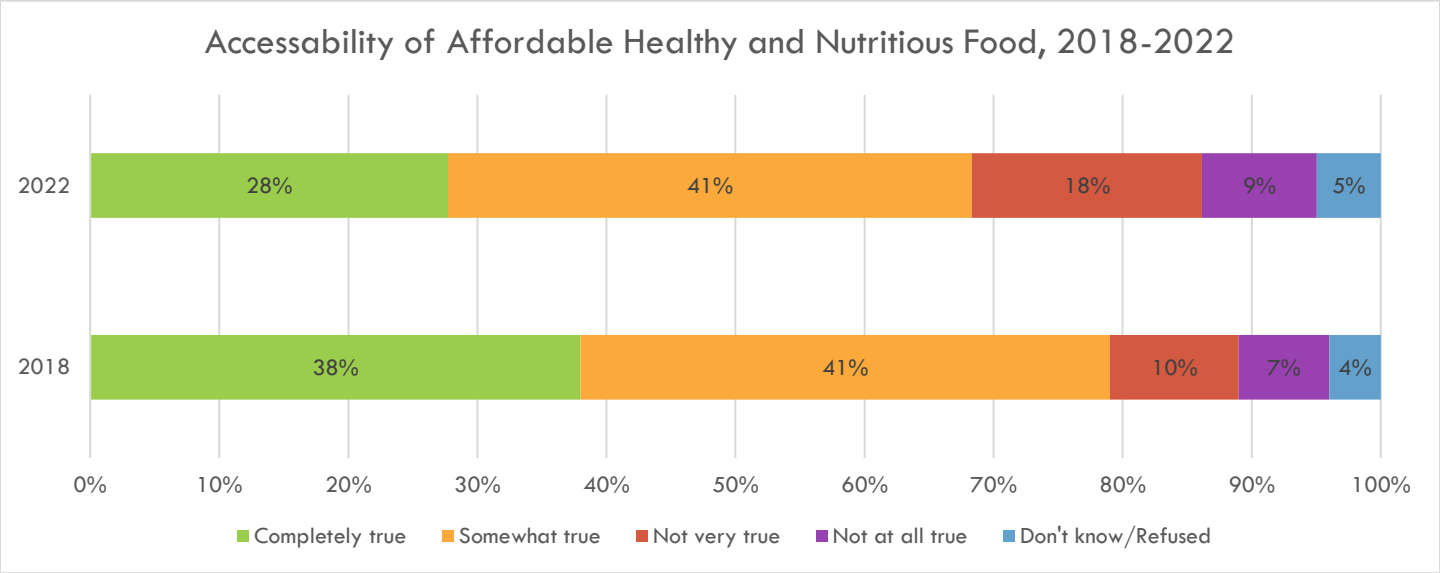
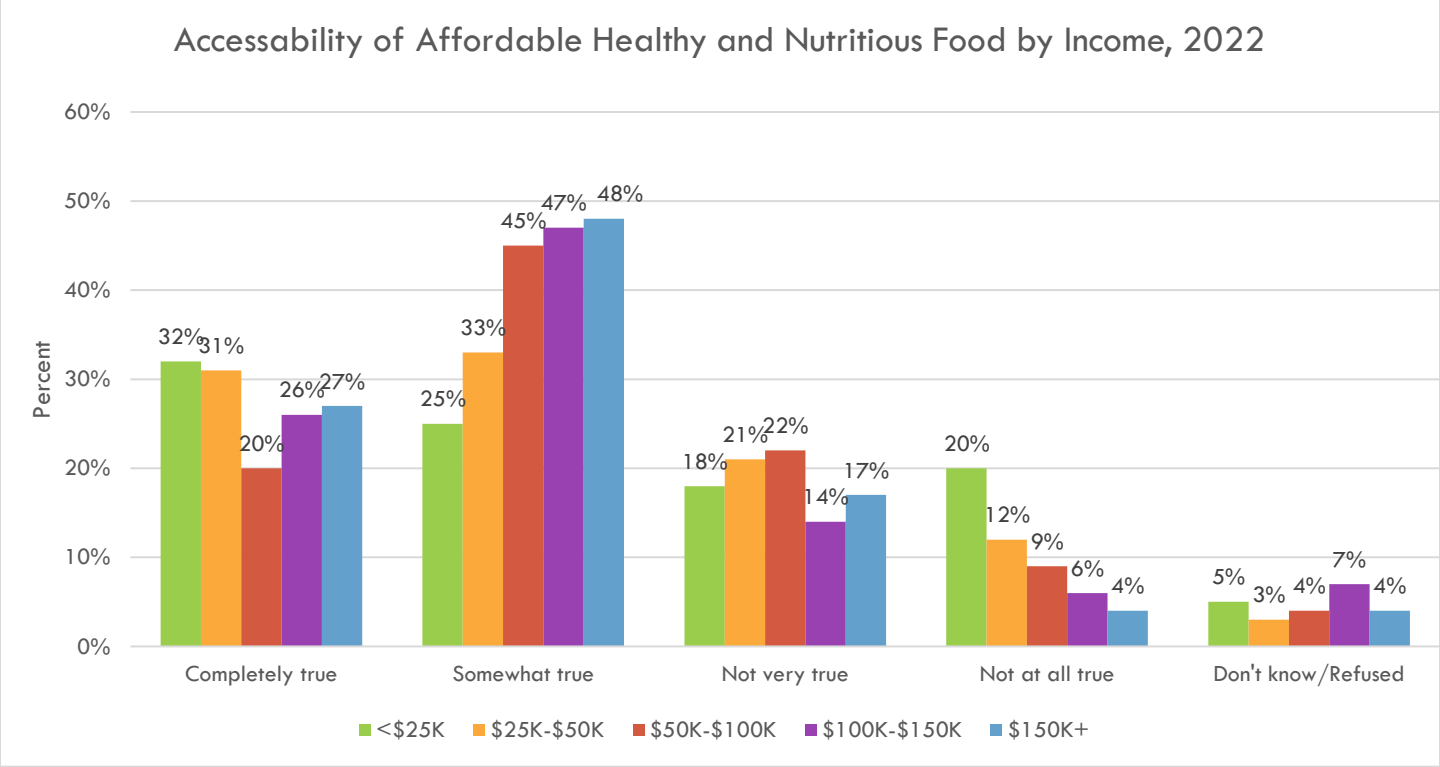


Figure 4



Survey Question 3: *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.* ***People may have a hard time finding a quality place to live due to the high cost of housing.***

Figure 5

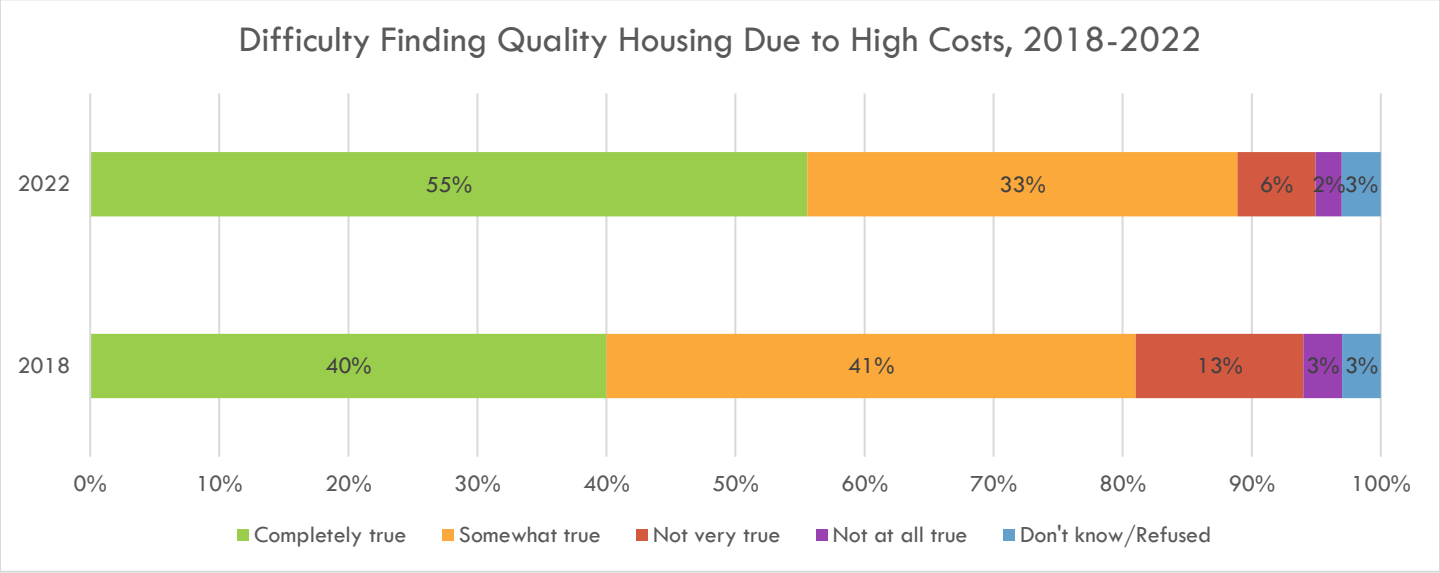
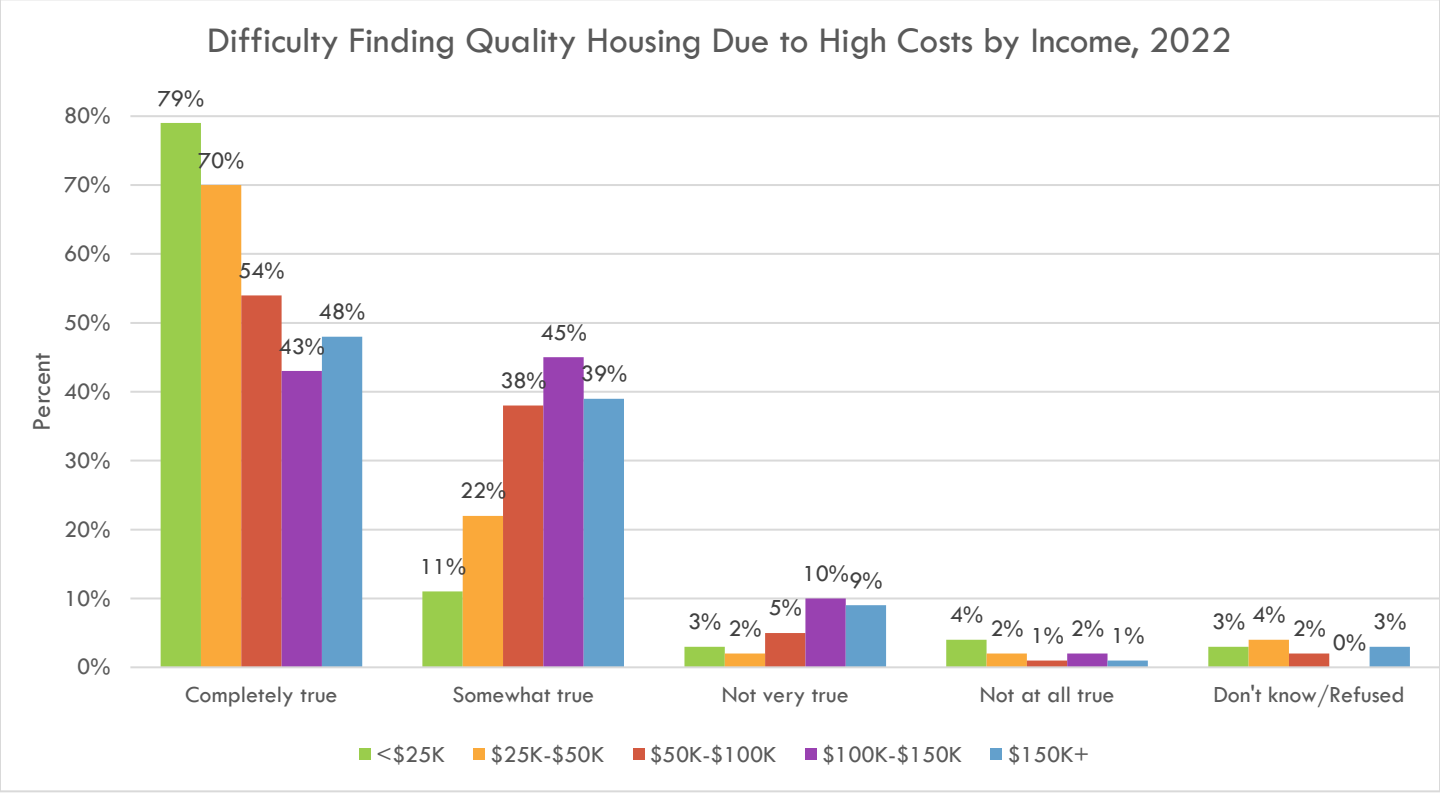


Figure 6



Survey Question 4: *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.* ***Parents struggle to find affordable, high-quality childcare.***

Figure 7

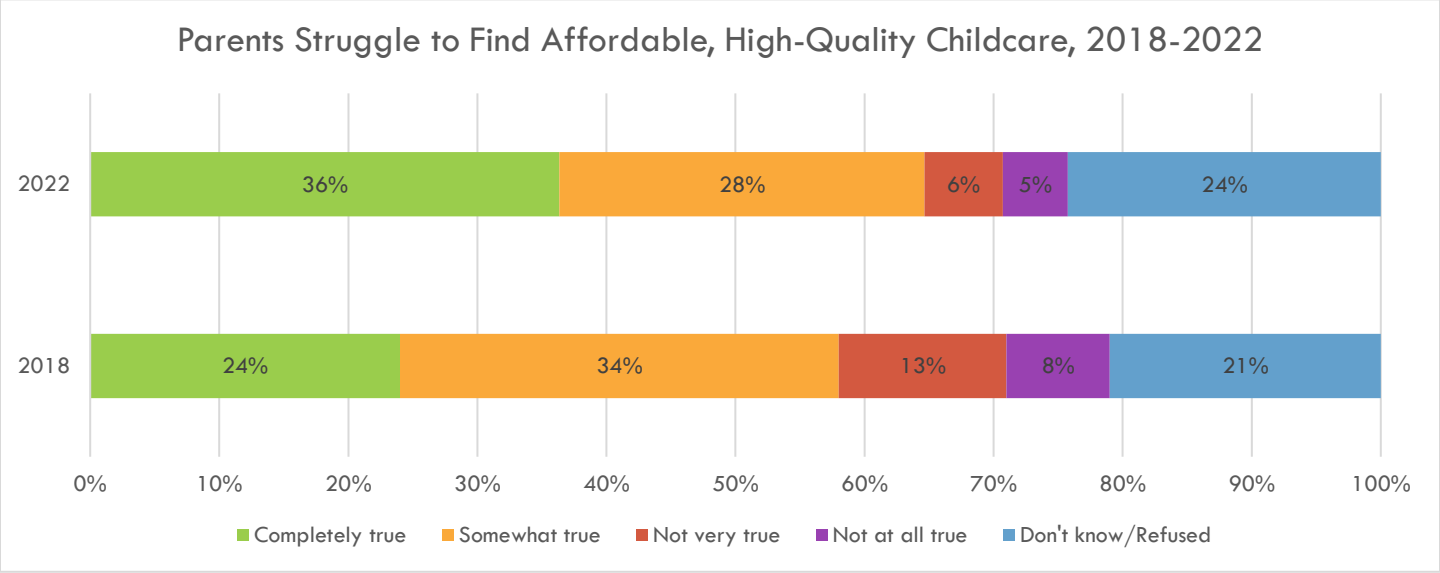
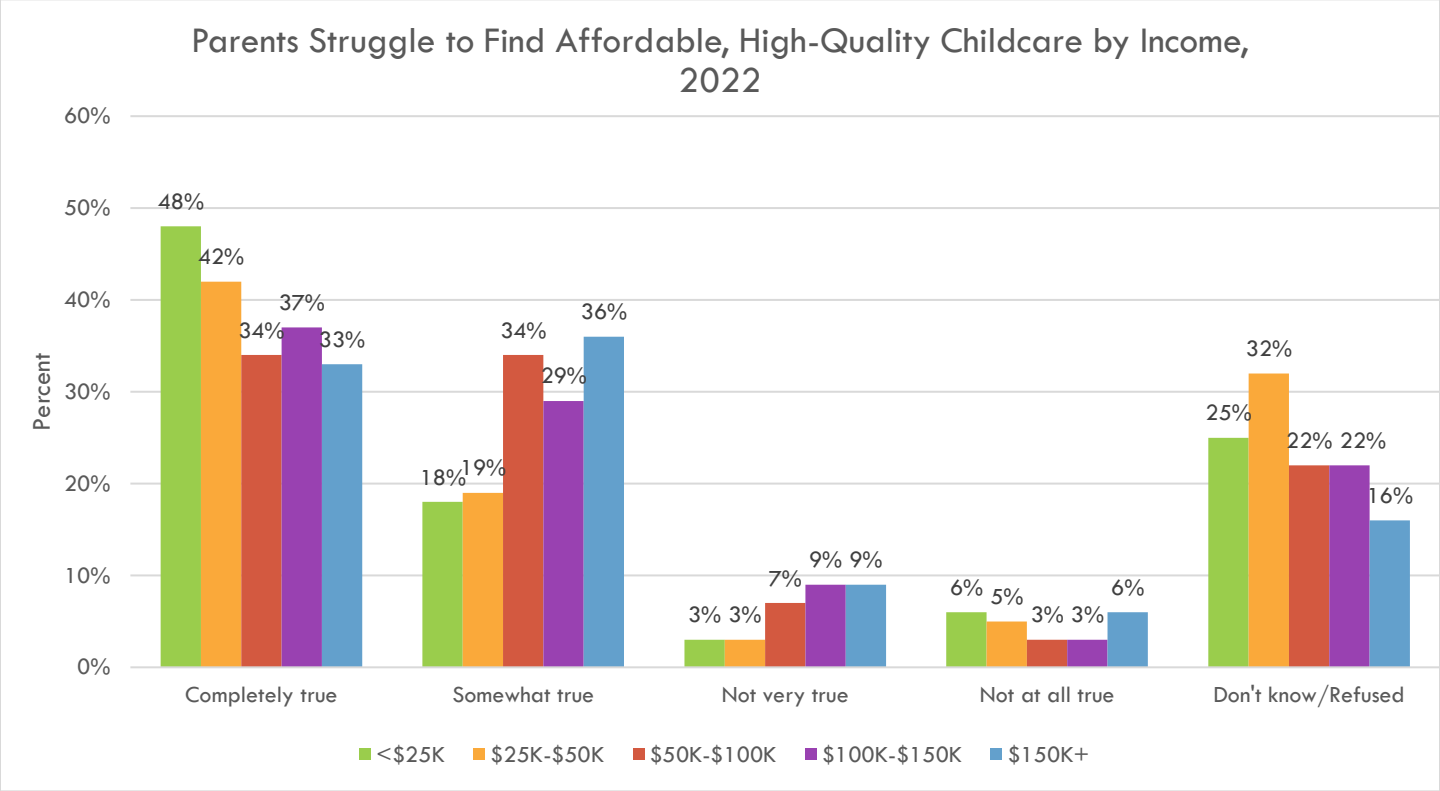


Figure 8



Survey Question 5: *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.* ***There are sufficient, quality mental health providers.***

Figure 9

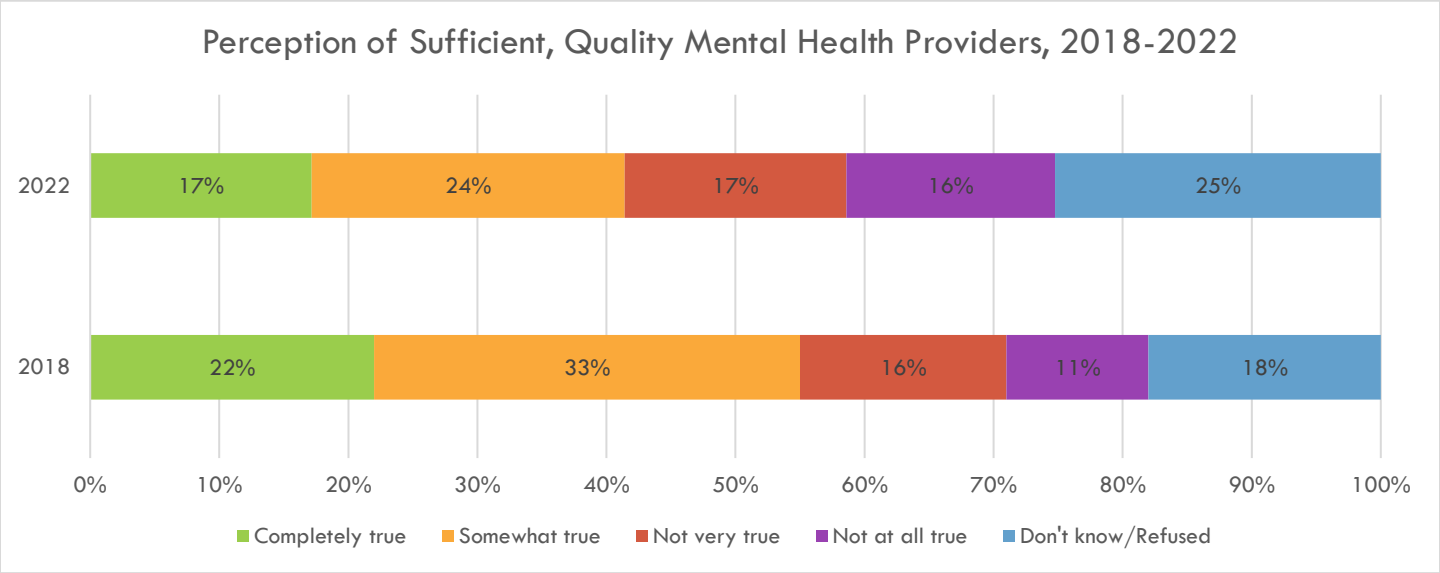
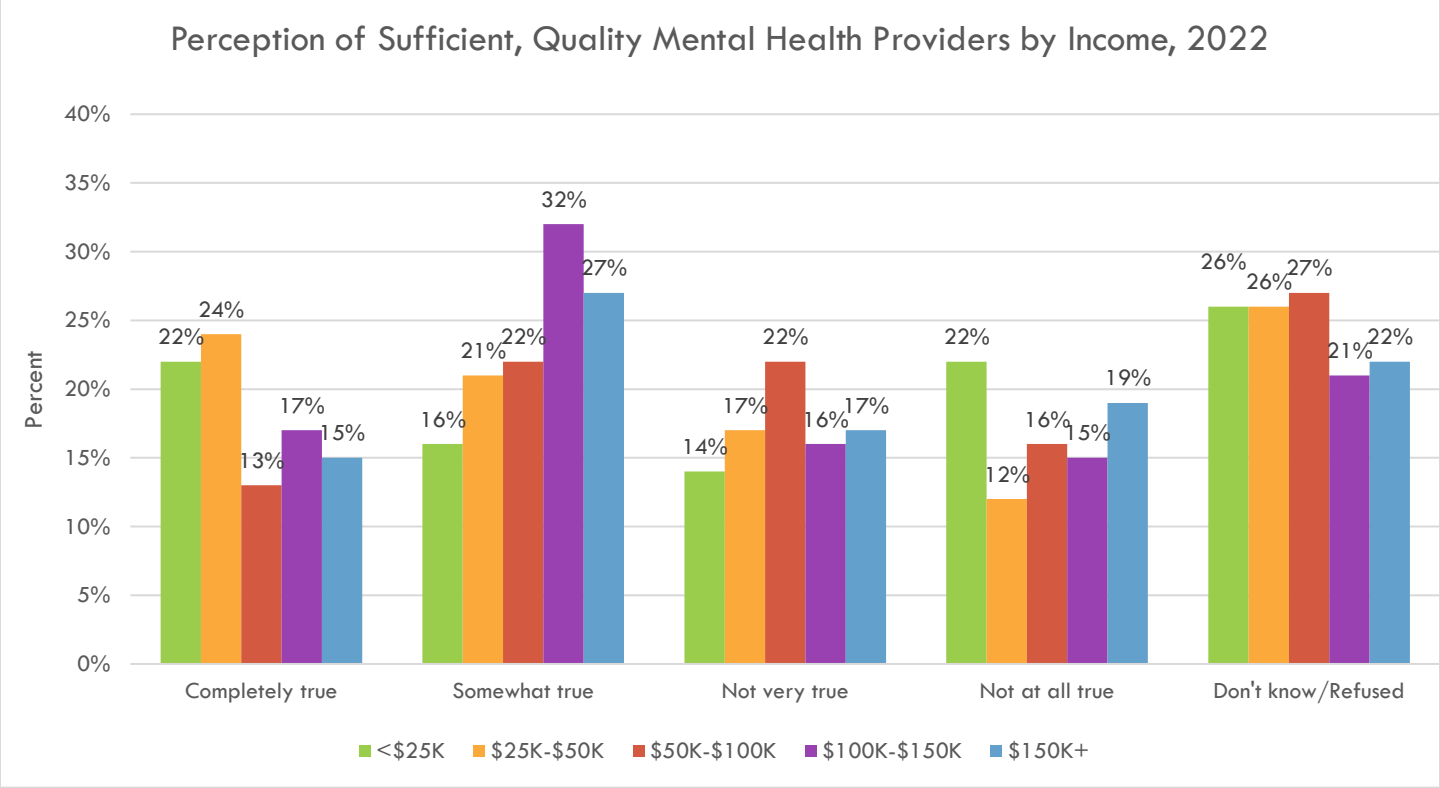


Figure 10



Survey Question 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.* ***Local government and/or local health departments, do a good job keeping citizens aware of potential public health threats.***

Figure 11

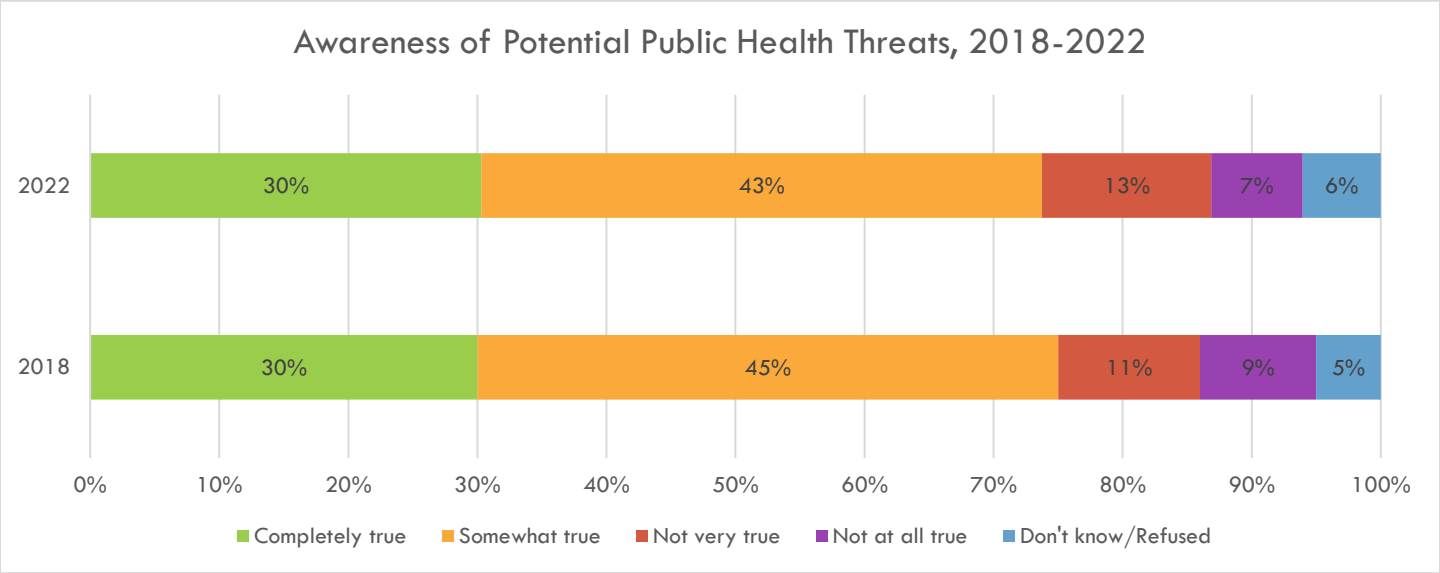
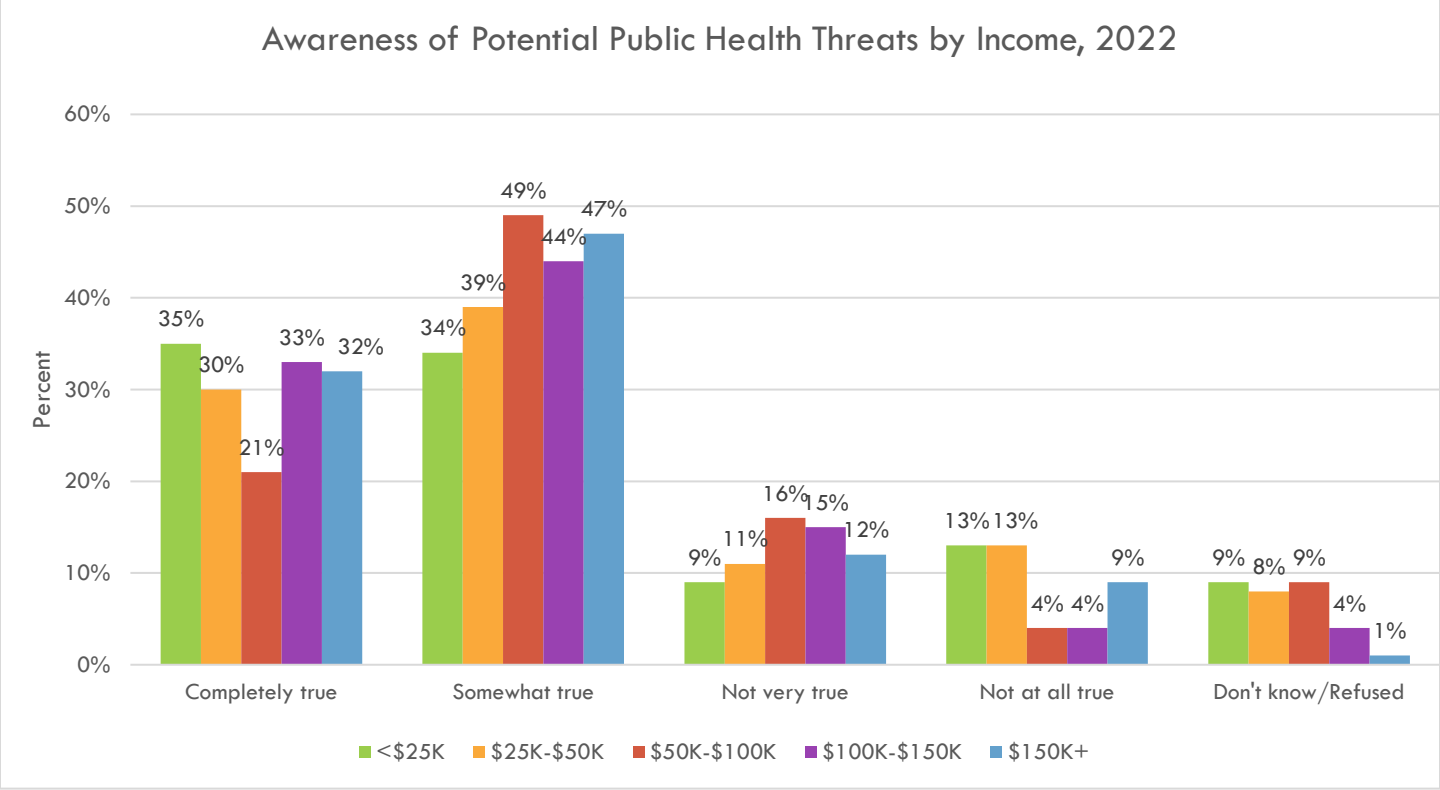


Figure 12



Survey Question 7: *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.* ***There are places in this community where people just don't feel safe.***

Figure 13

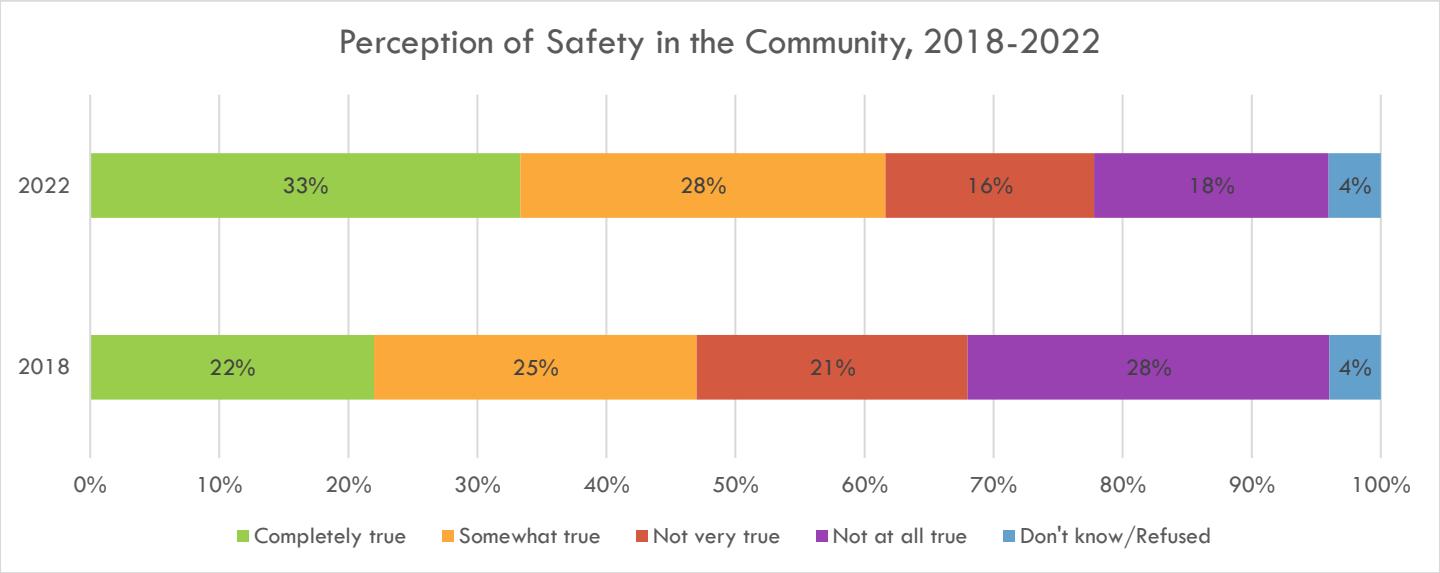
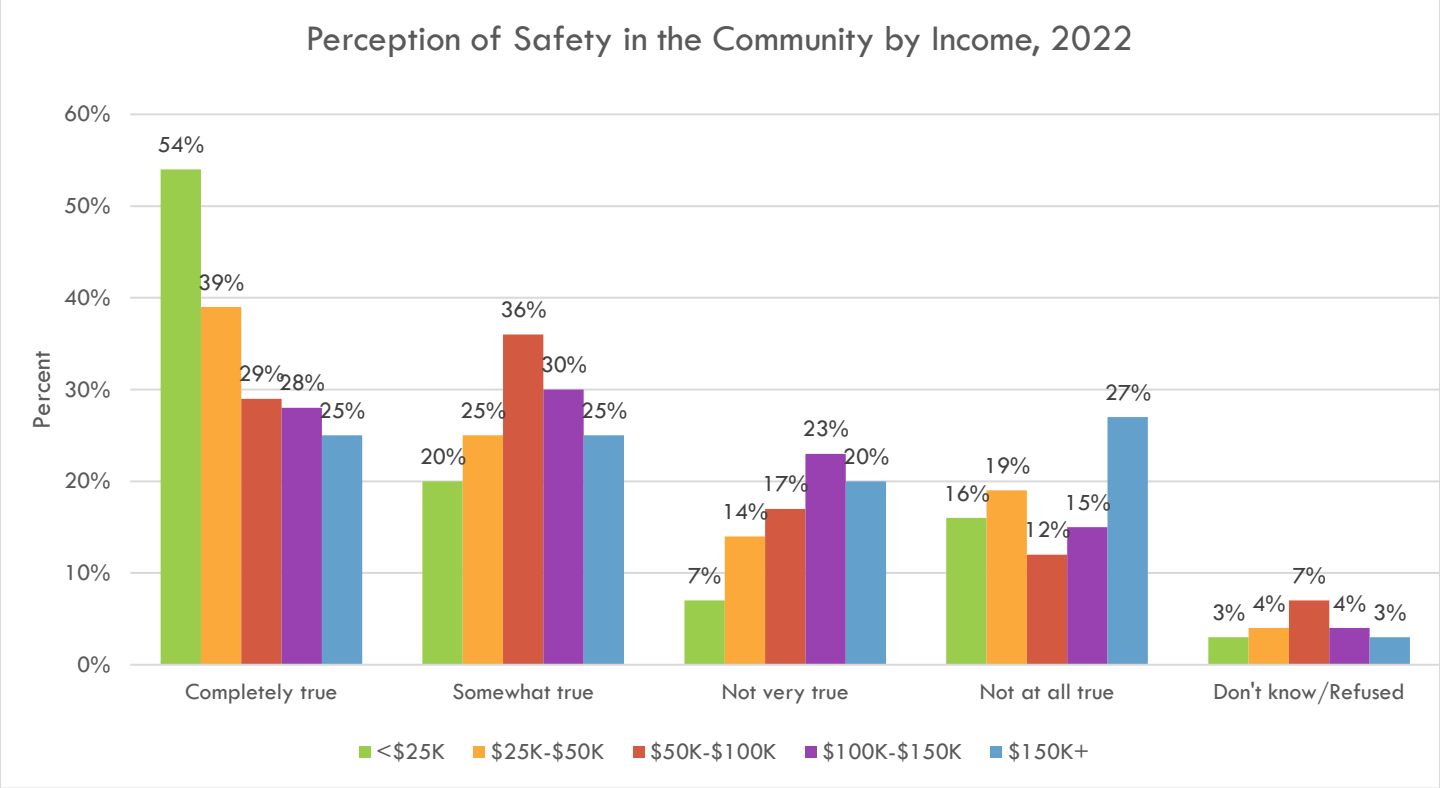


Figure 14



Survey Question 8: *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.* ***People can get to where they need using public transportation.***

Figure 15

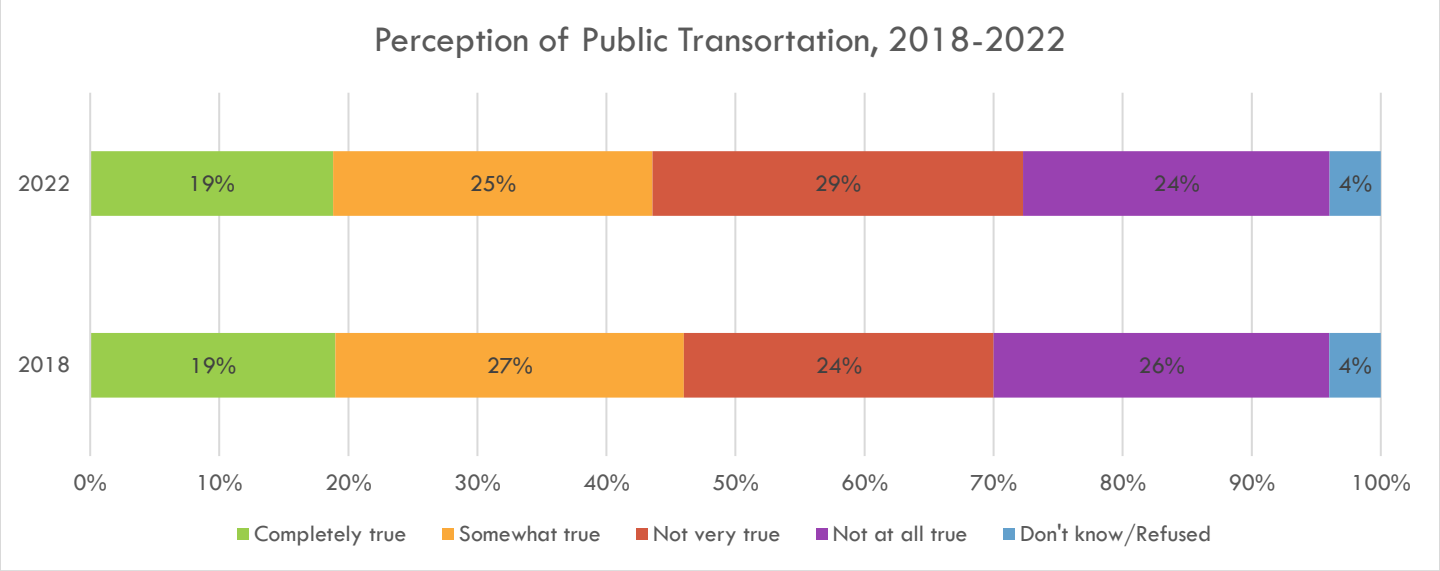
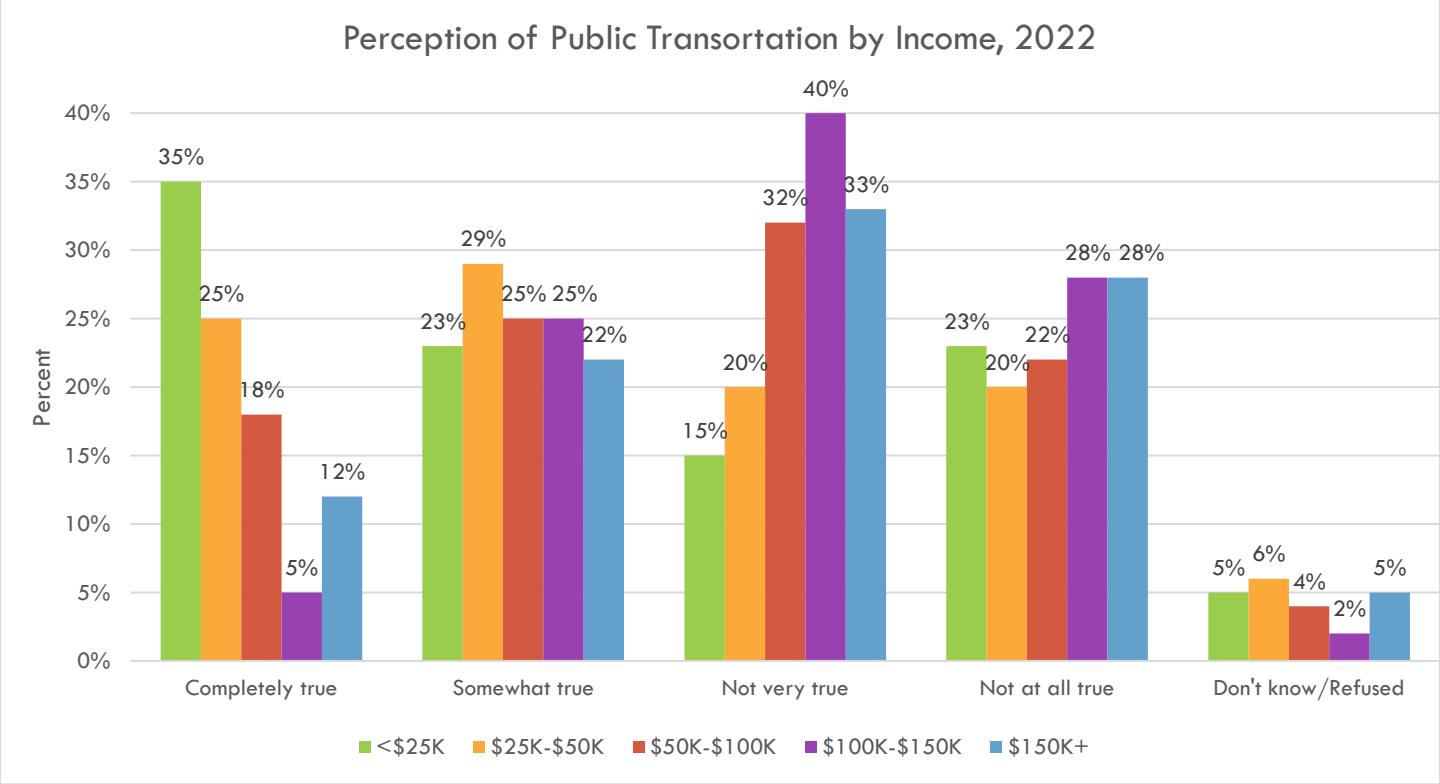


Figure 16



Survey Question 9: *Overall, how would you rate the quality of information you receive from county agencies during public emergencies, such as weather events or disease outbreaks? Would you say it is excellent, good, fair or poor?*

Figure 17

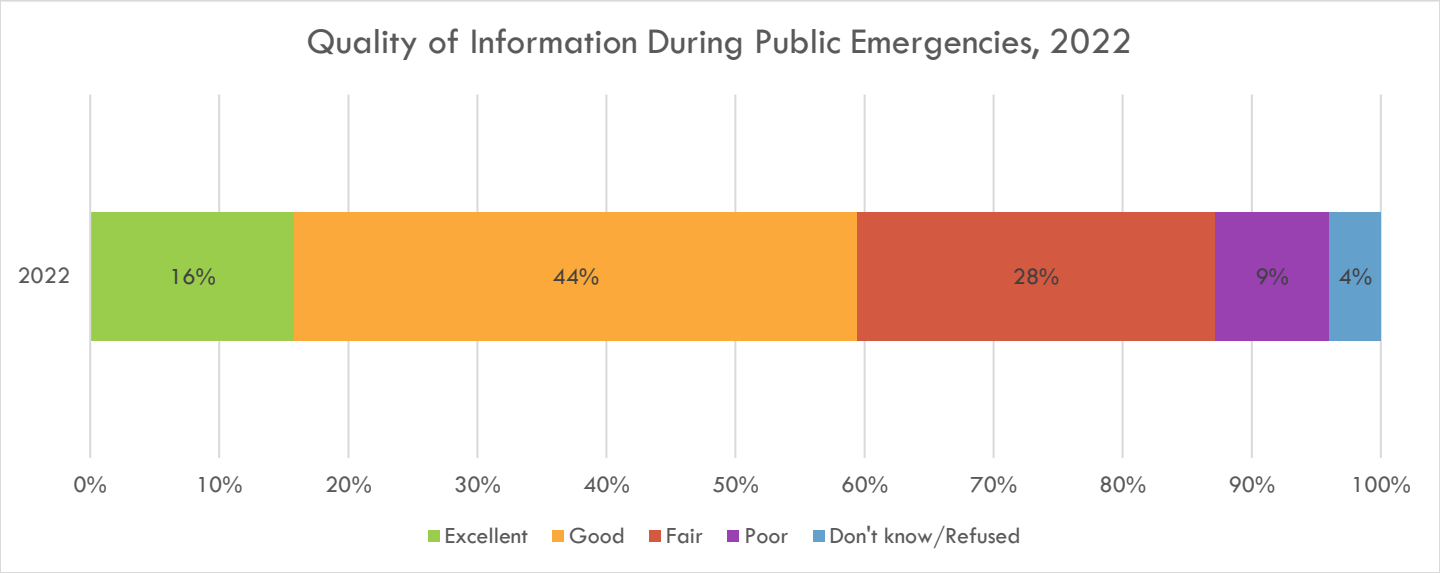
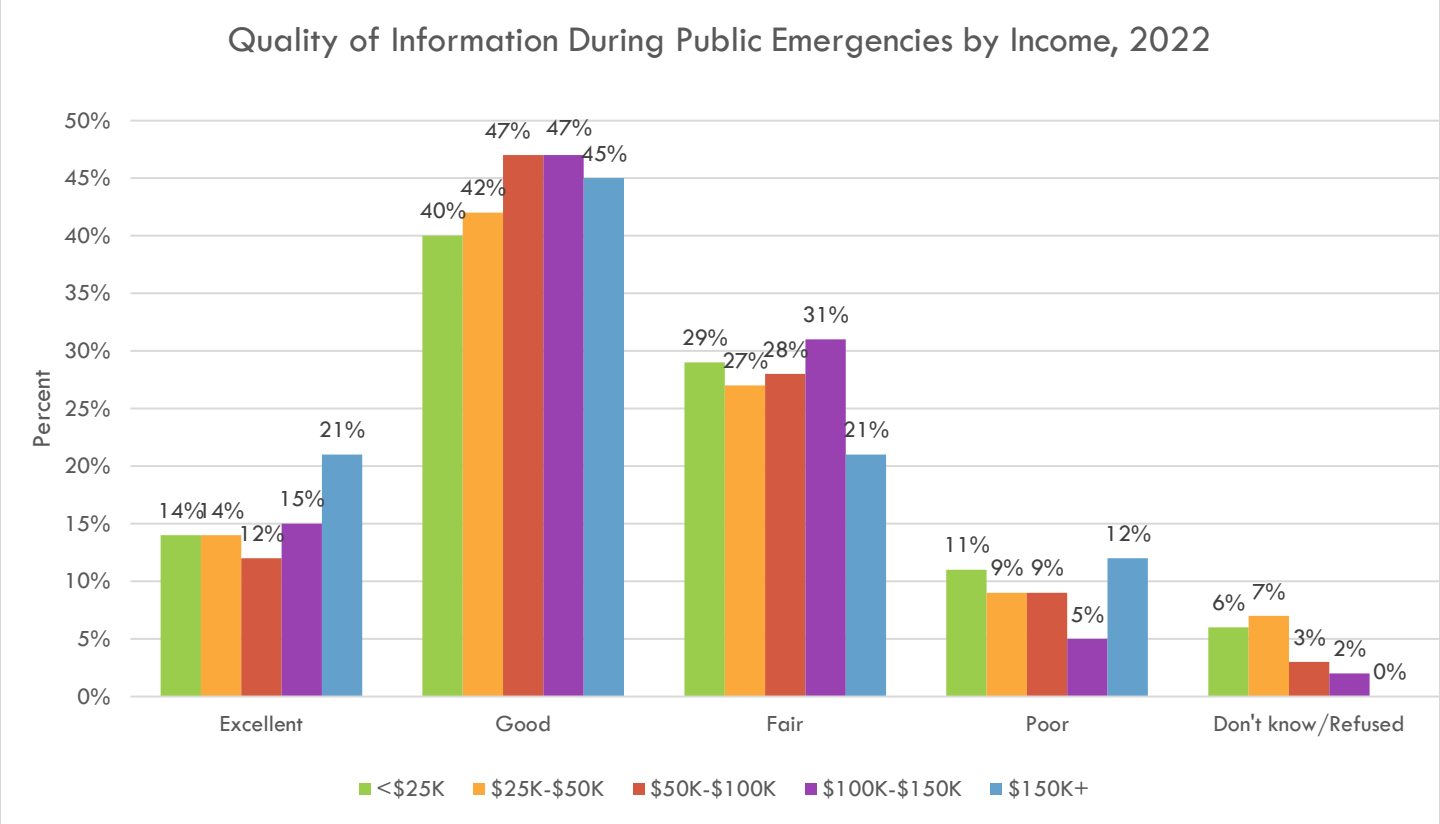


Figure 18



PERCEPTION OF HEALTH

Survey Question 10: *In general, how would you rate your physical health? Would you say that your physical health is excellent, good, fair or poor? (Survey question 2018: Q6. In general, how would you rate your health? Would you say that your health is excellent, good, fair or poor?)*

Figure 19

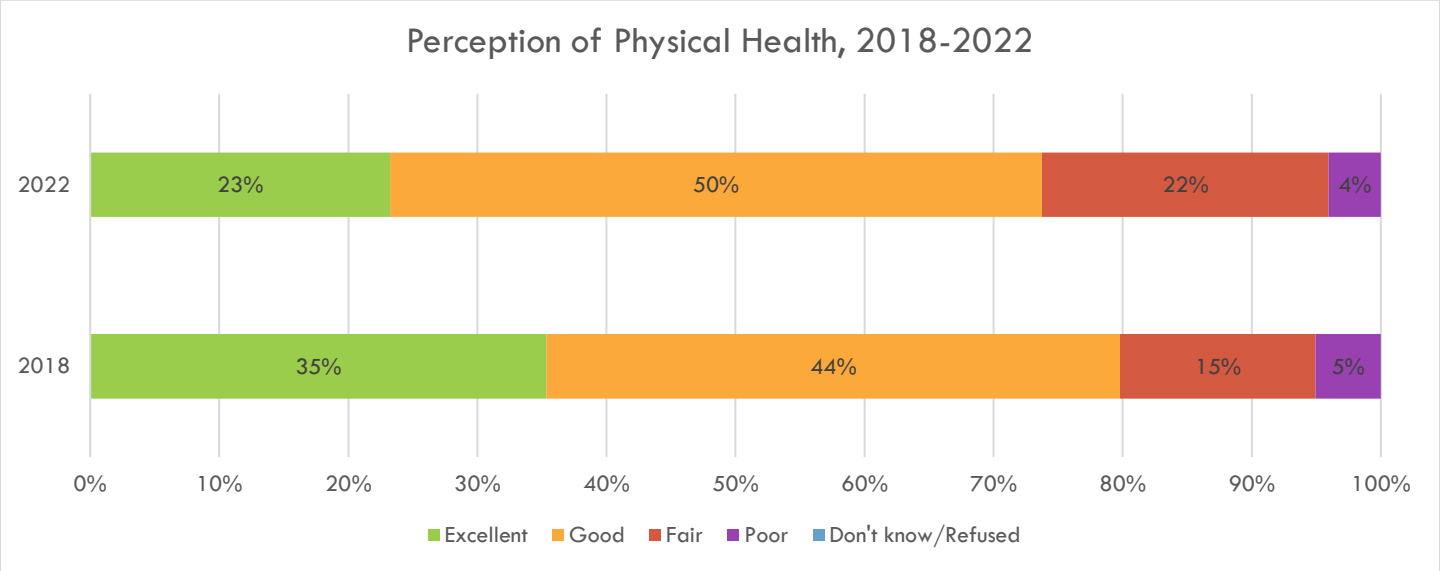
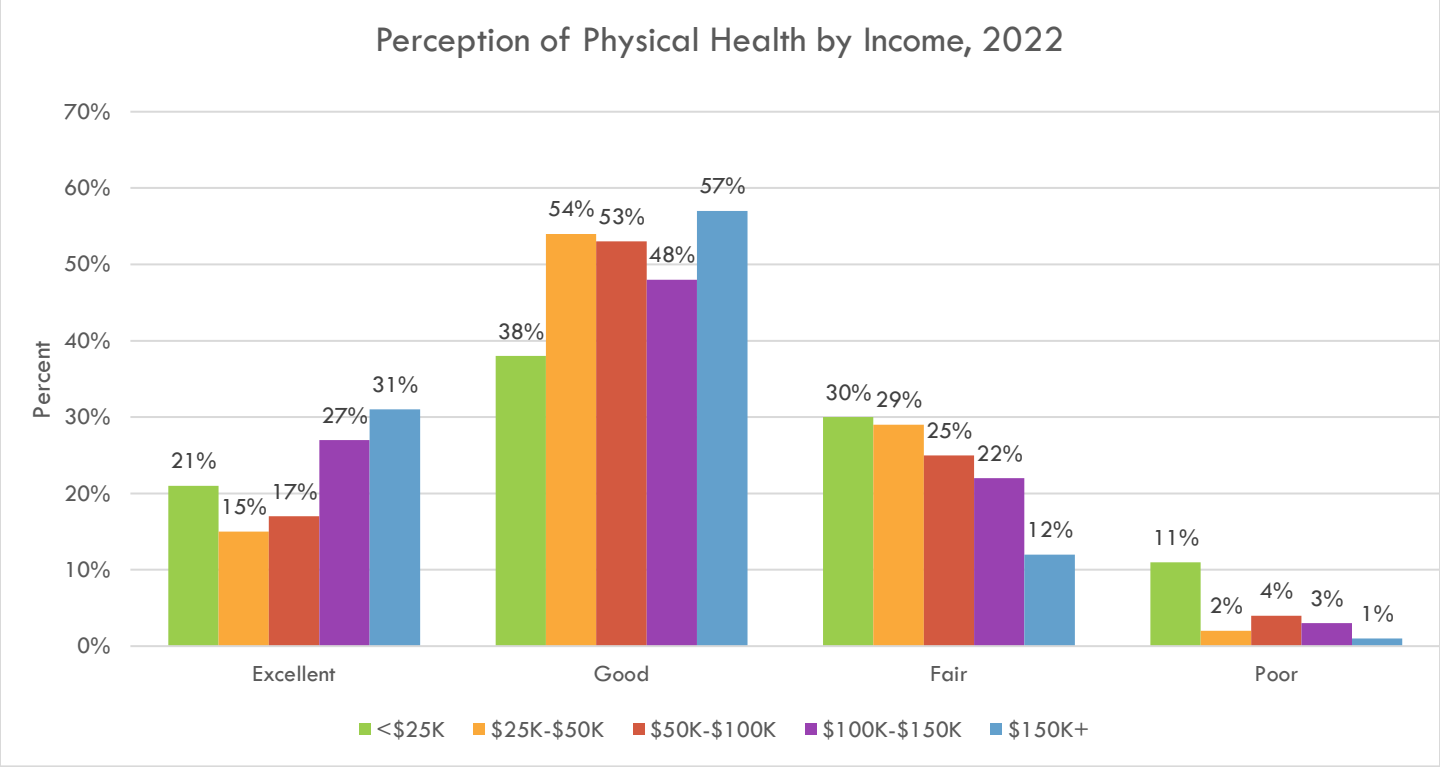


Figure 20



Survey Question 11: *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?*

Figure 21

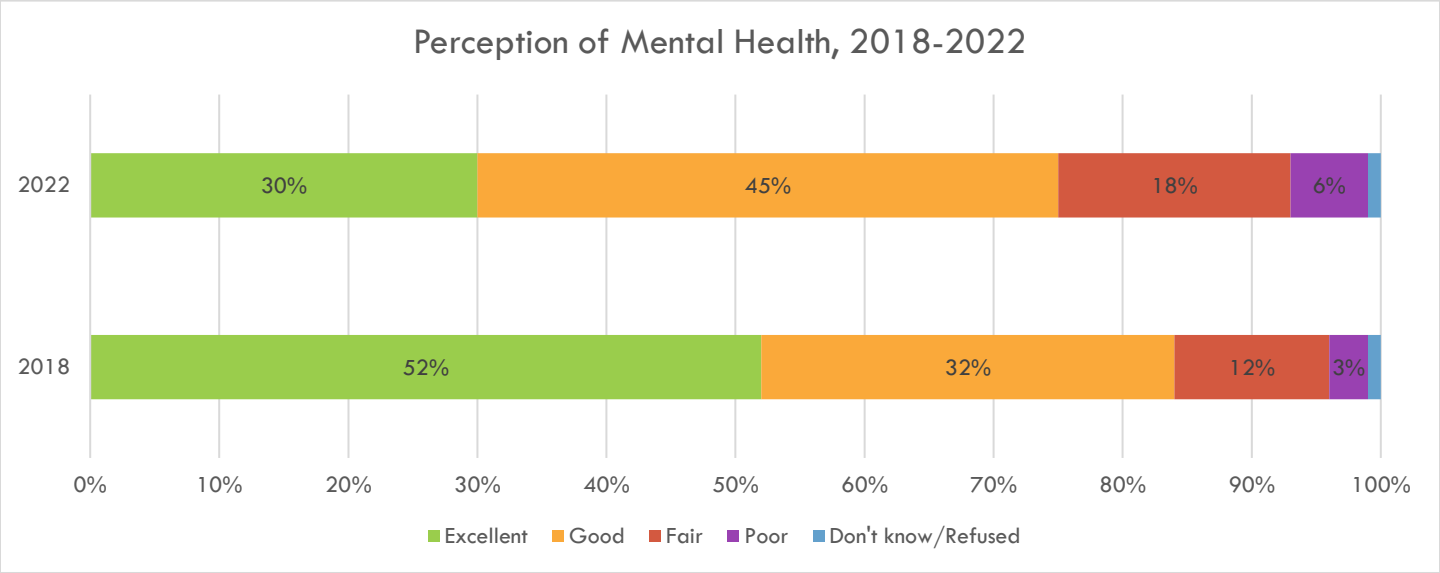
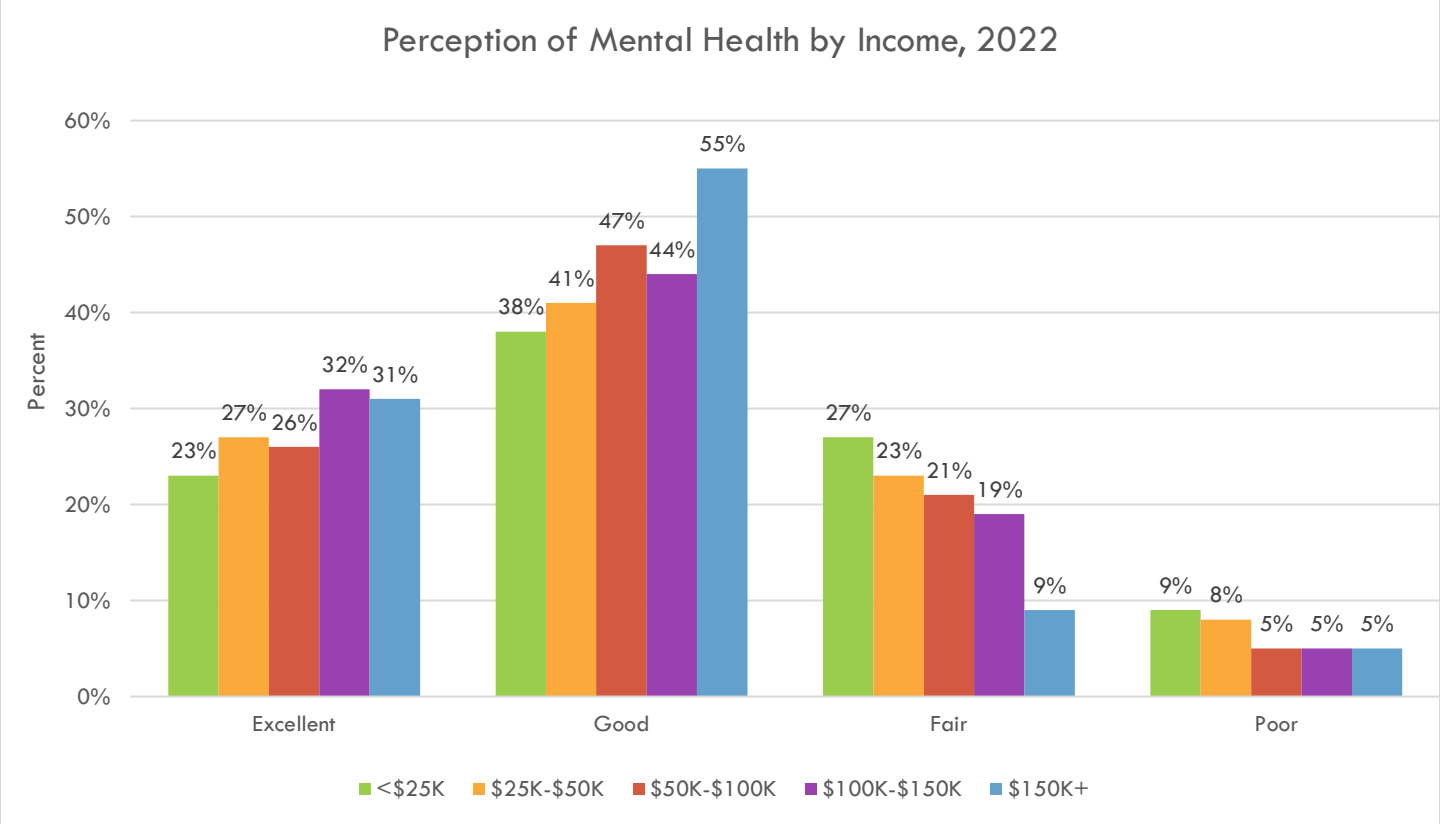


Figure 22



HEALTH BEHAVIORS

Survey Question 12: *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 eat a balanced, healthy diet?***

Figure 23

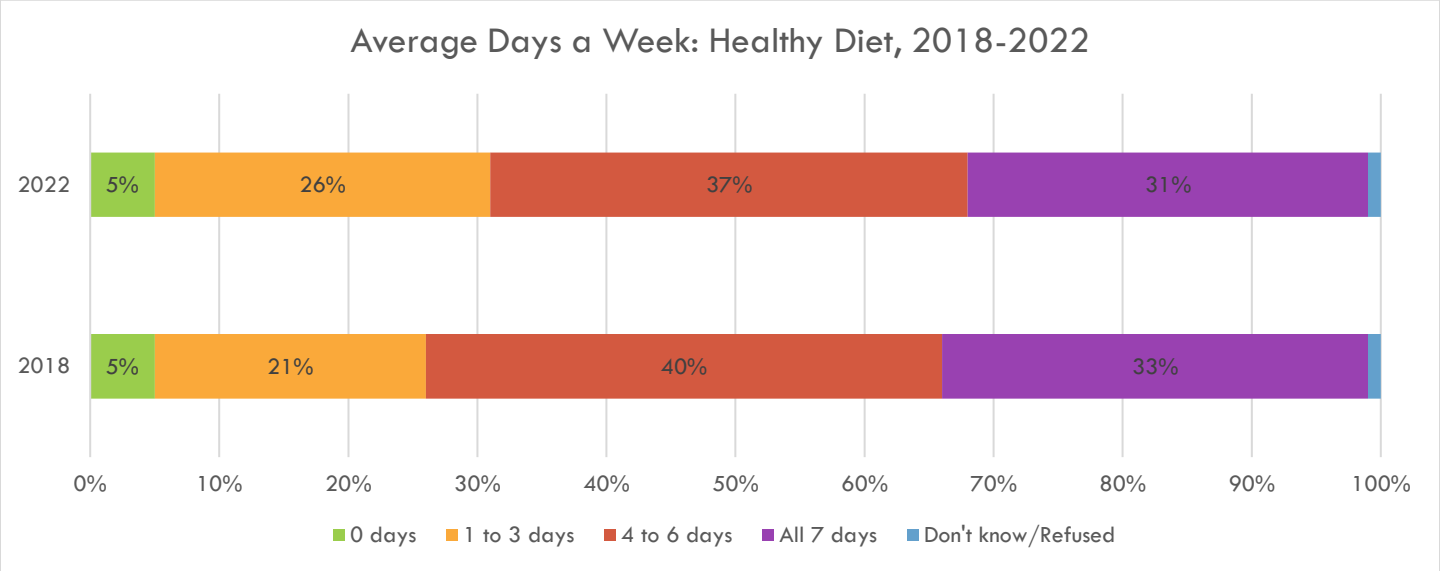
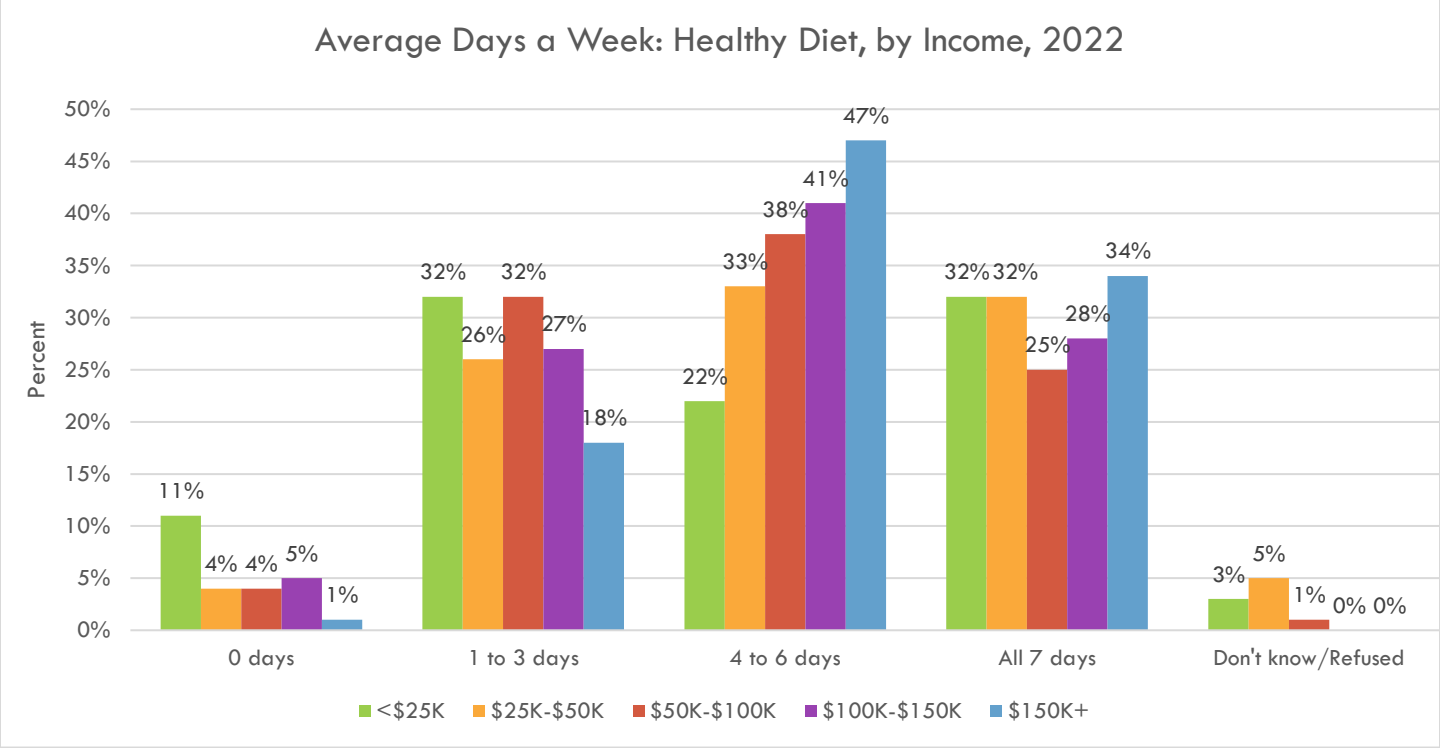


Figure 24



Survey Question 13: *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 exercise for 30 minutes or more a day?***

Figure 25

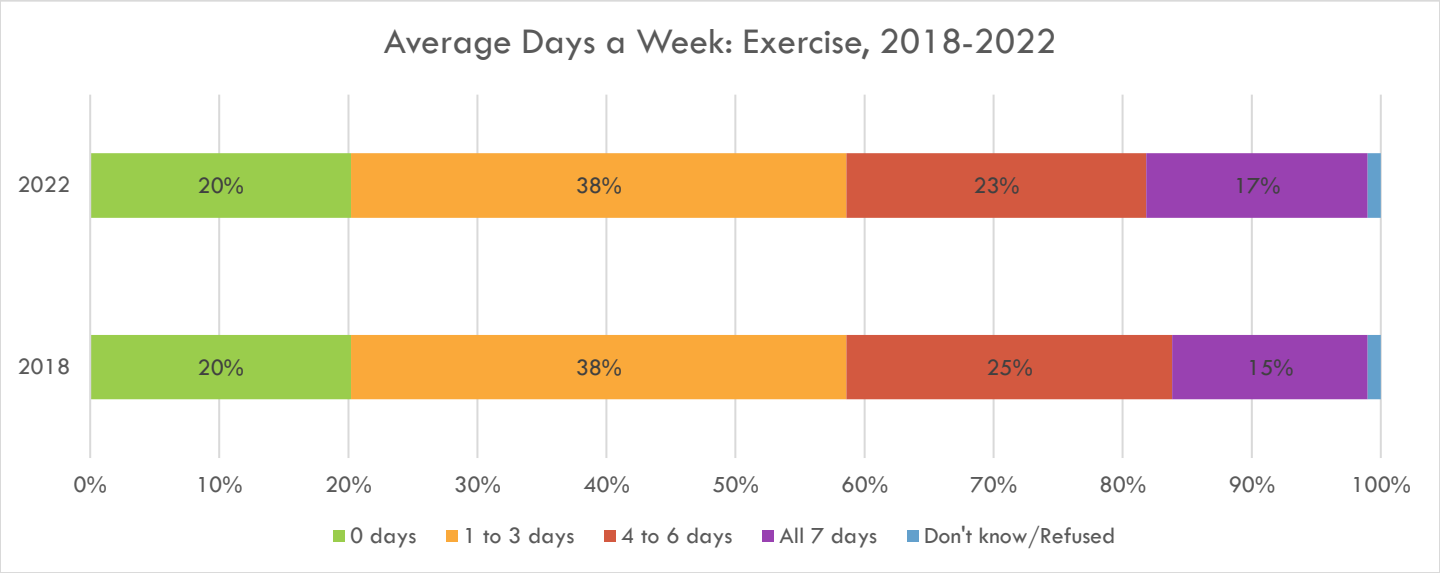
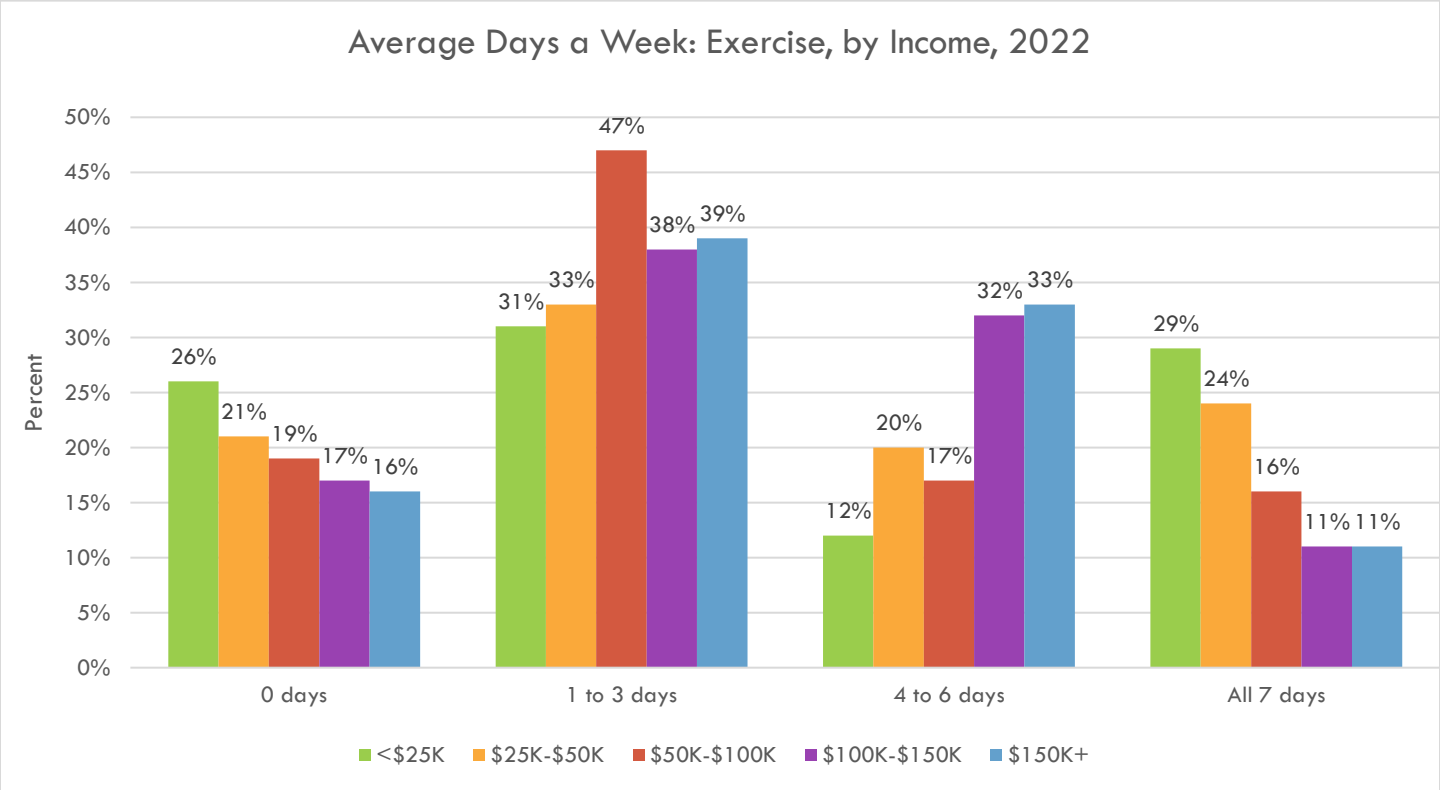


Figure 26



Survey Question 14: *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 get 7 to 9 hours of sleep in a night?***

Figure 27

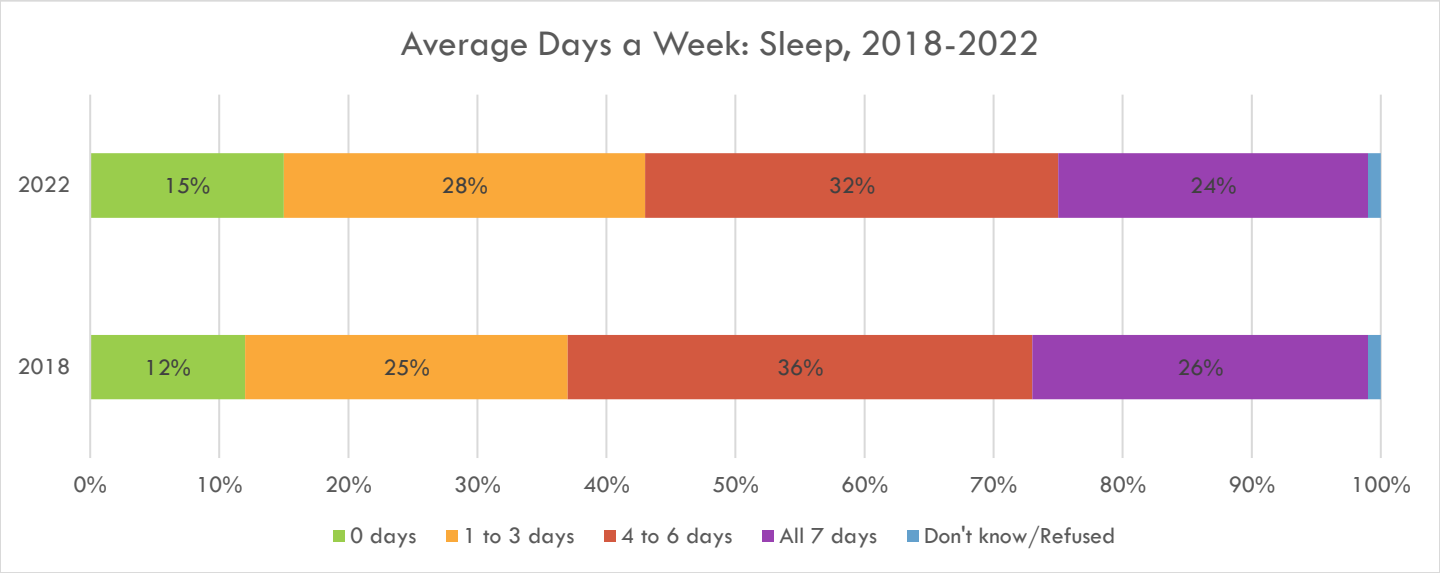
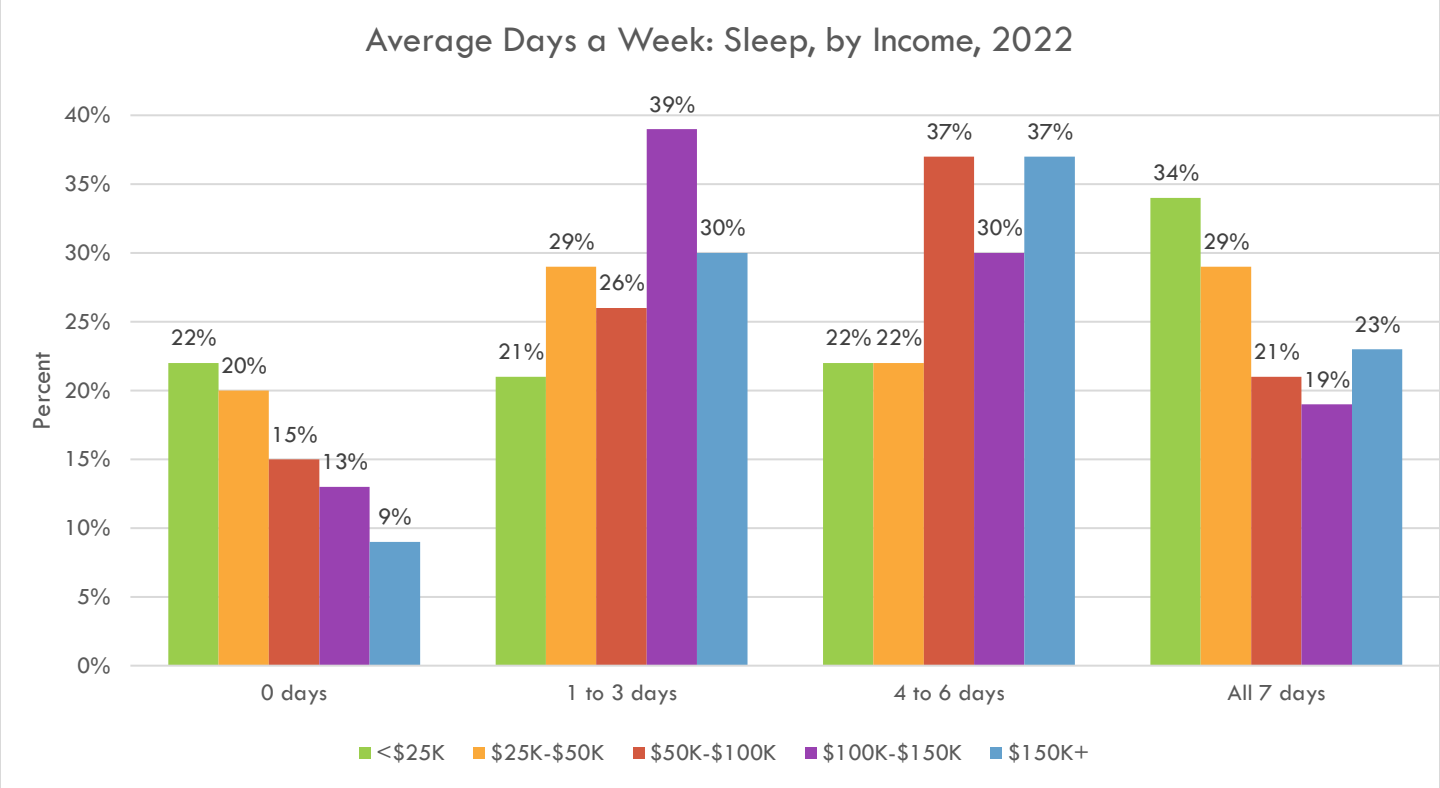


Figure 28



Survey Question 15: *On an average day, how stressed do you feel?*

Figure 29

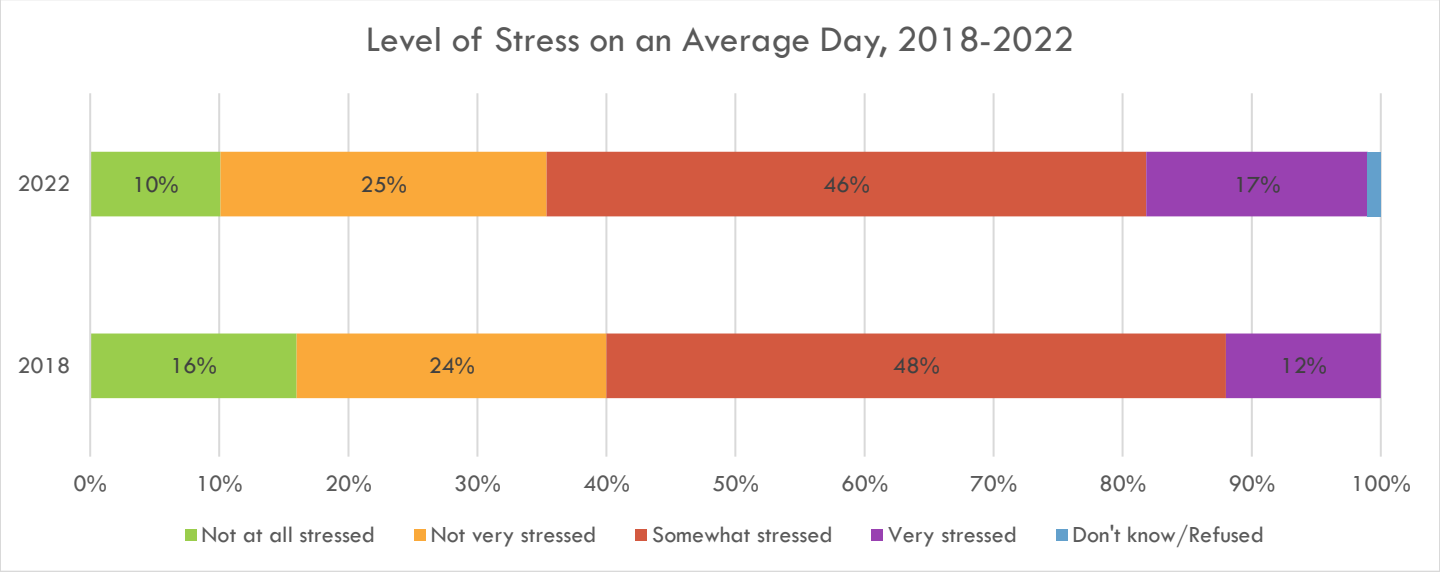
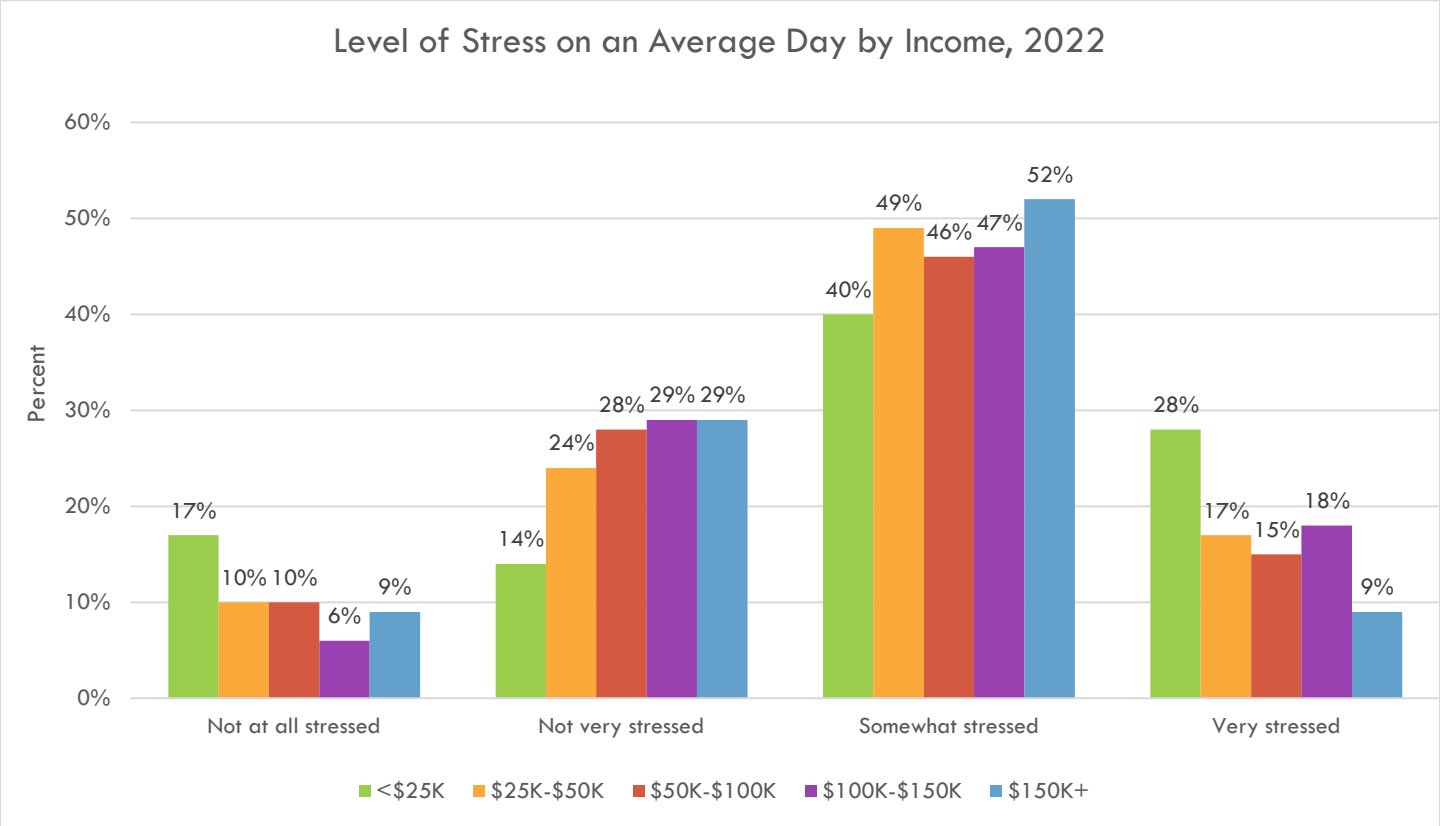


Figure 30



Survey Question 16: *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?*

Figure 31

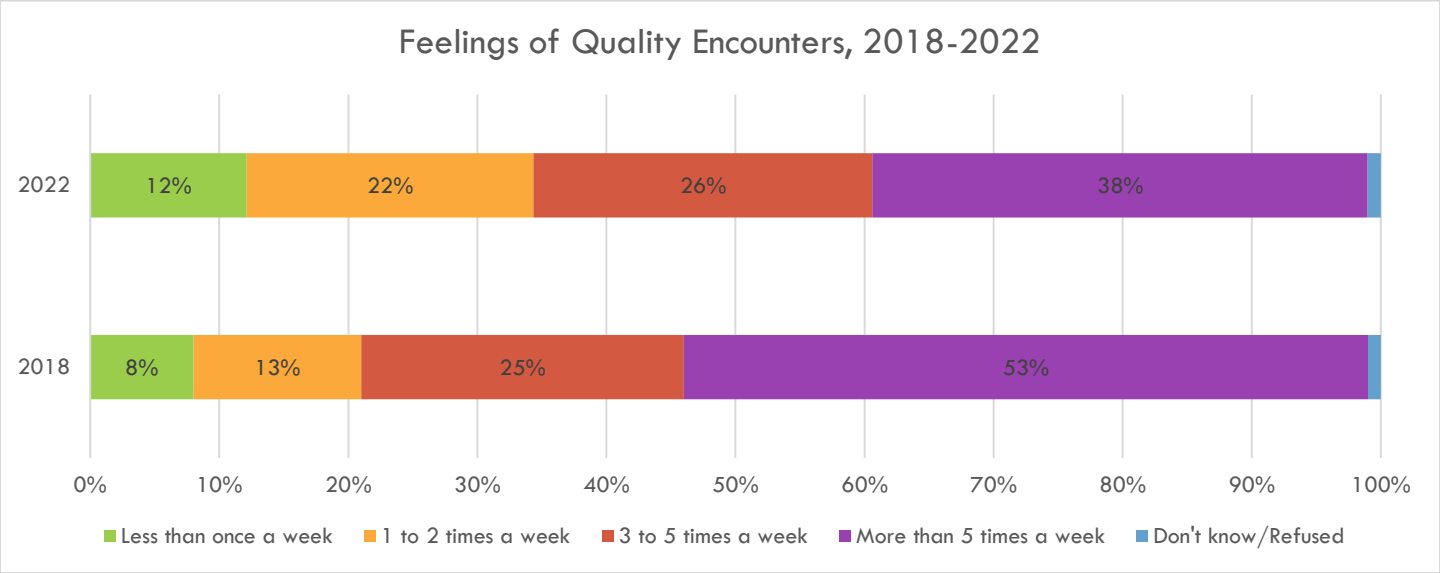
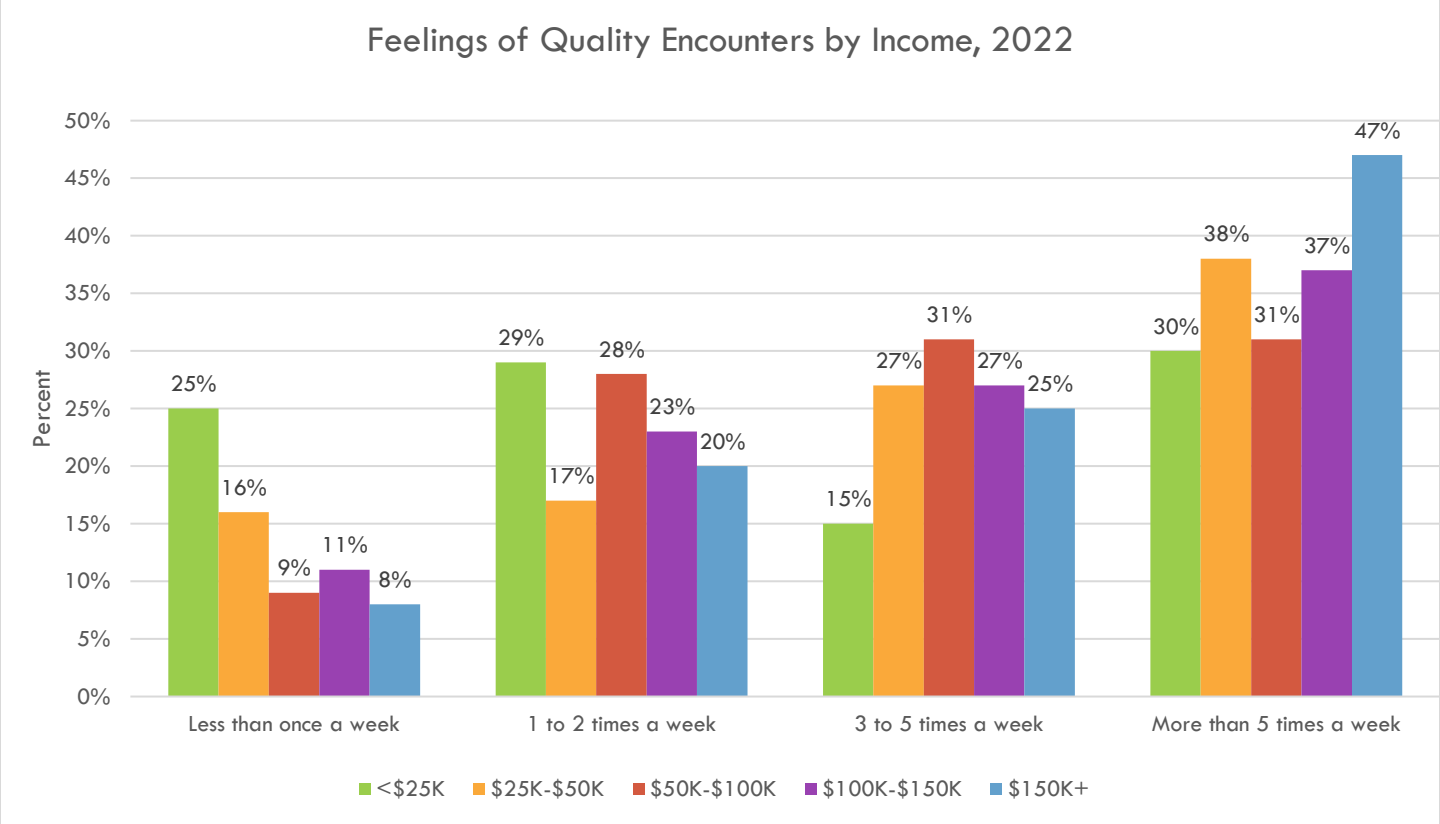


Figure 32



Survey Question 17: *How frequently in the past year, on average, did you drink alcohol?*

Figure 33

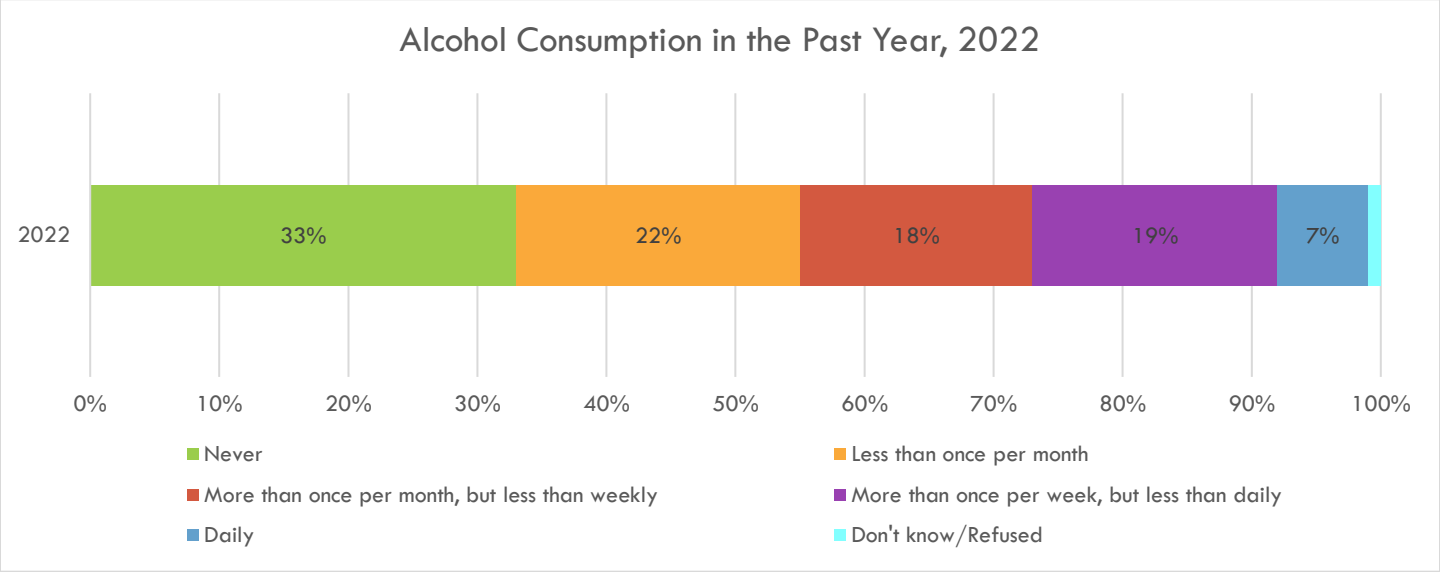
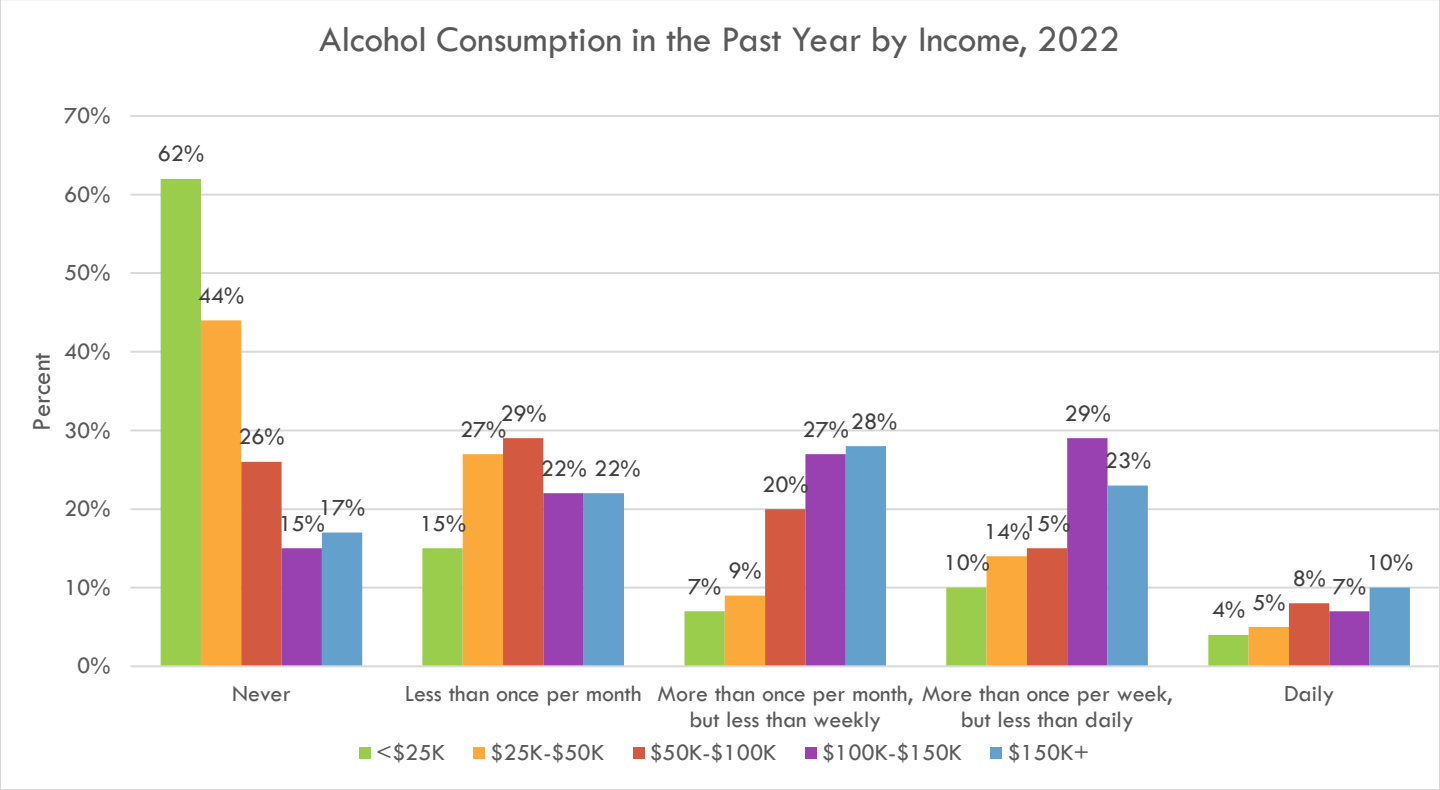


Figure 34



Survey Question 18: *(If drank in alcohol in the past year) Do you currently drink alcohol less often than you did before the COVID-19 pandemic, more often than you did before the pandemic or about as often as you did before the pandemic?*

Figure 35

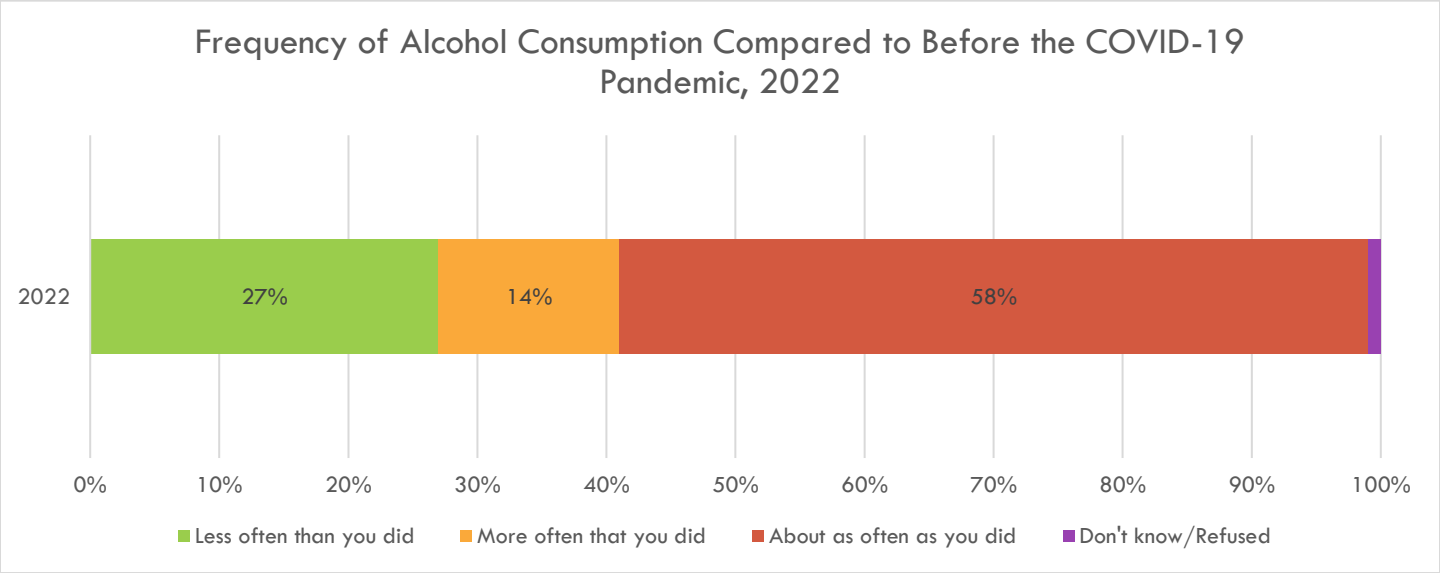
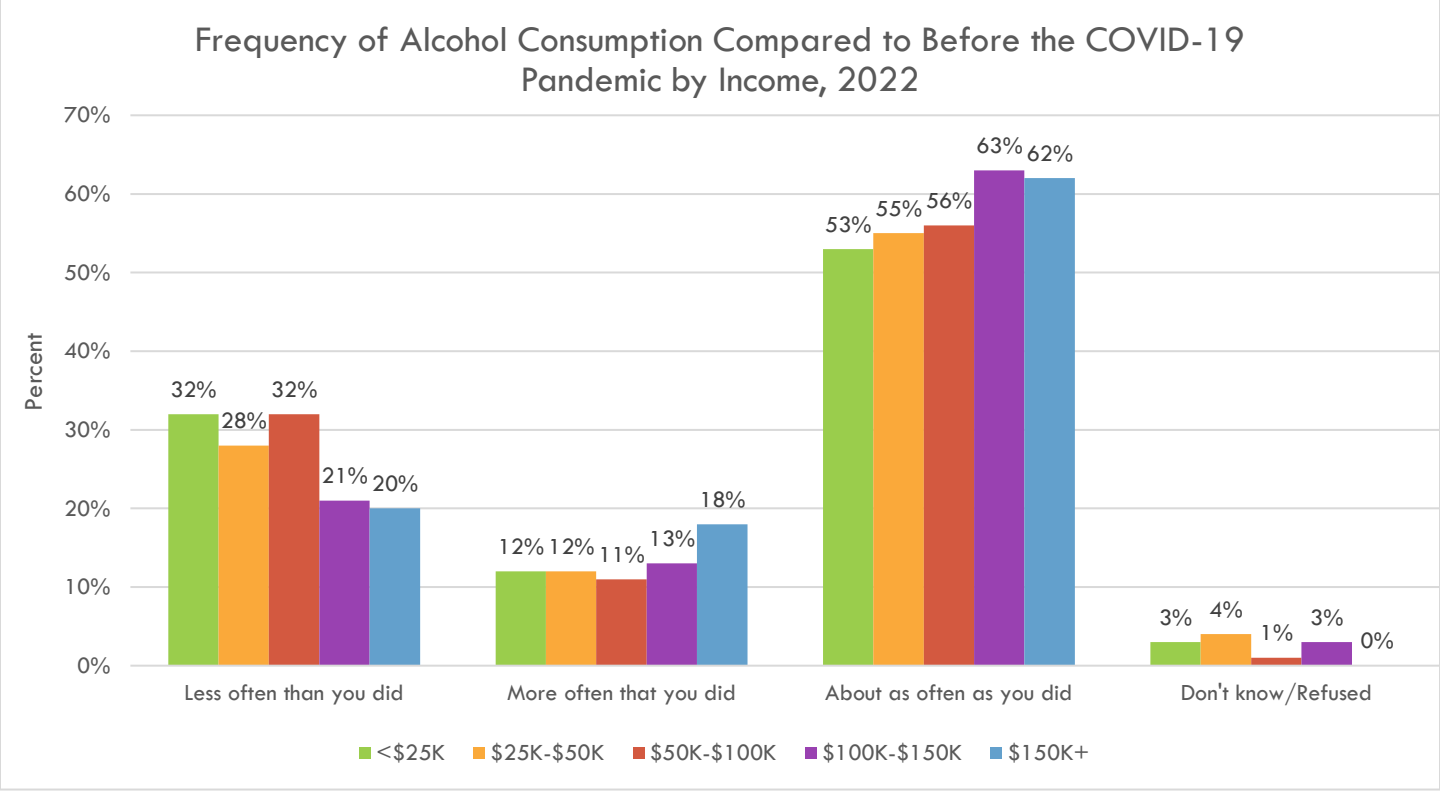


Figure 36



Survey Question 19: *How frequently in the past year have you used a drug whether it was a prescription medication or not, for non-medical reasons? (2018 survey question: How frequently in the past year have you used an illegal drug or used a prescription medication for non-medical reasons?)*

Figure 37

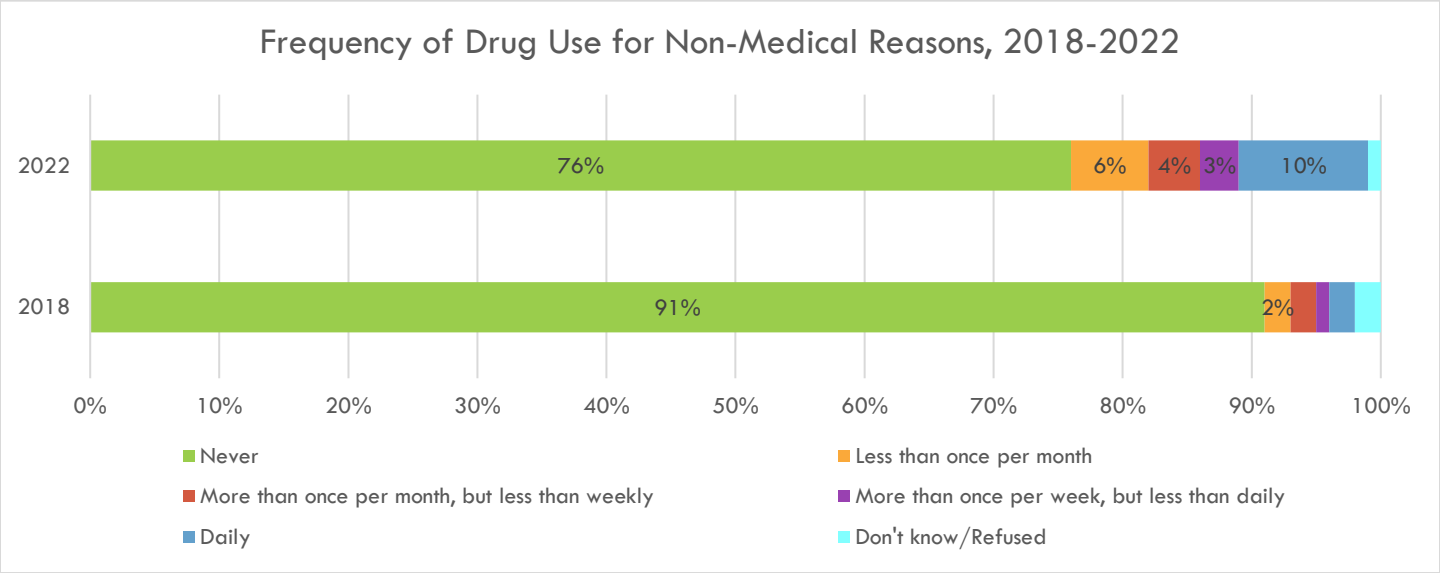
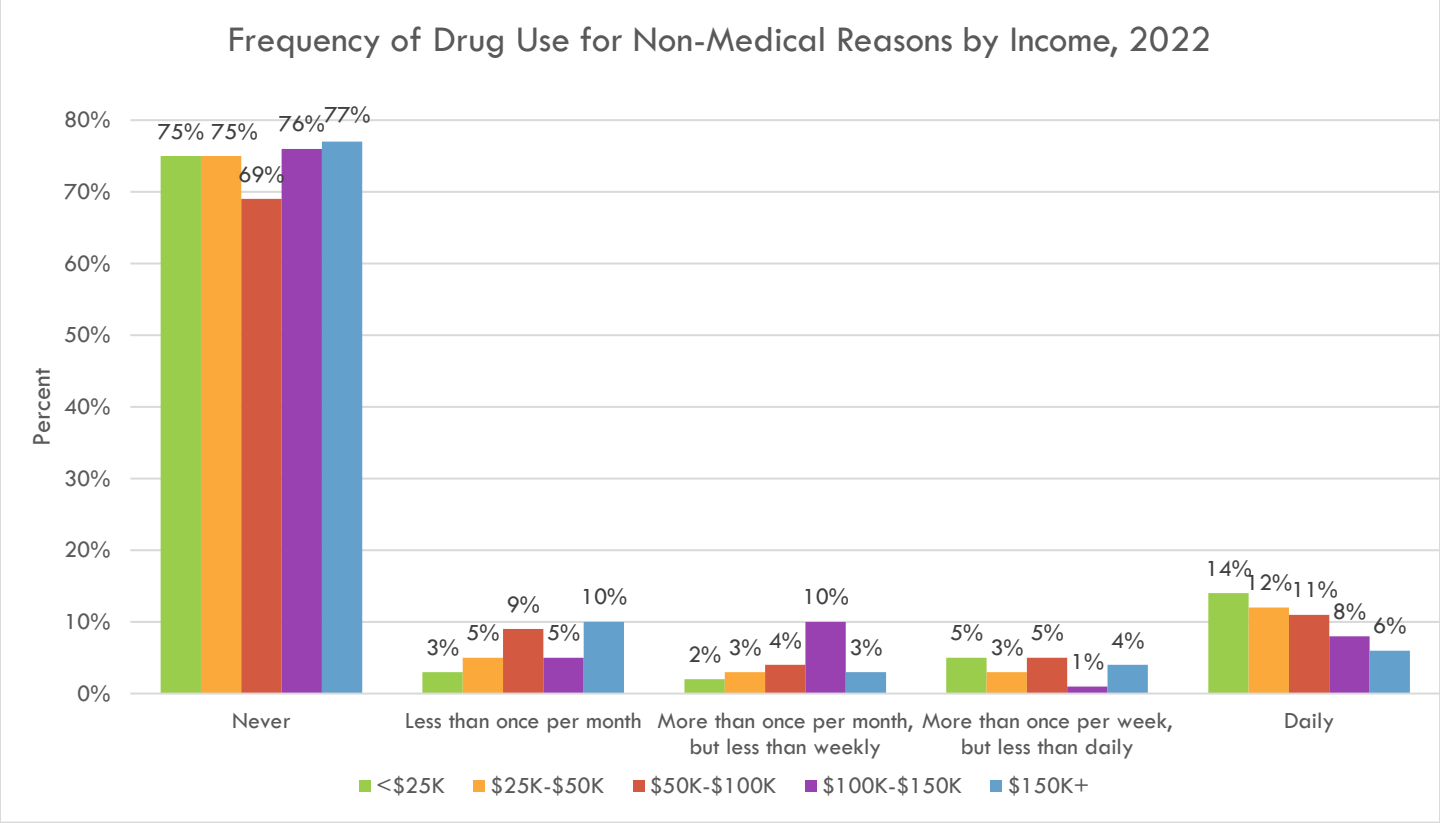


Figure 38



Survey Question 20: *(If used a drug for non-medical reasons in the past year) Do you currently use any type of drug less often than you did before the COVID-19 pandemic, more often than you did before the pandemic or about as often as you did before the pandemic?*

Figure 39

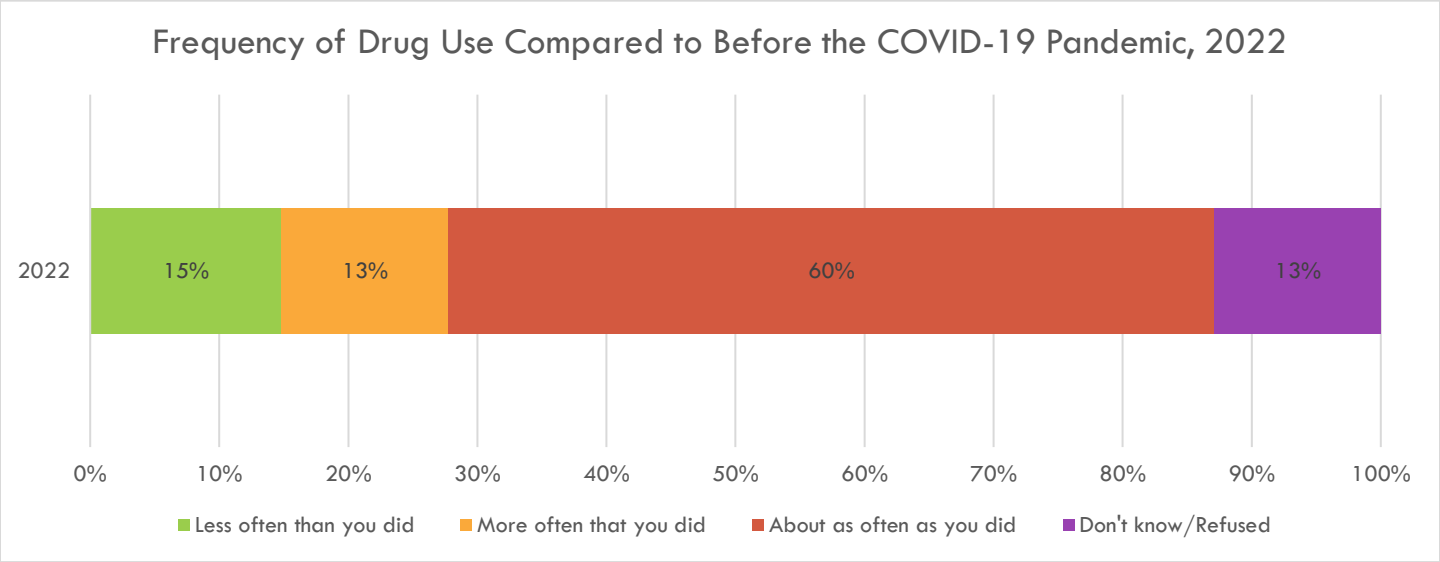
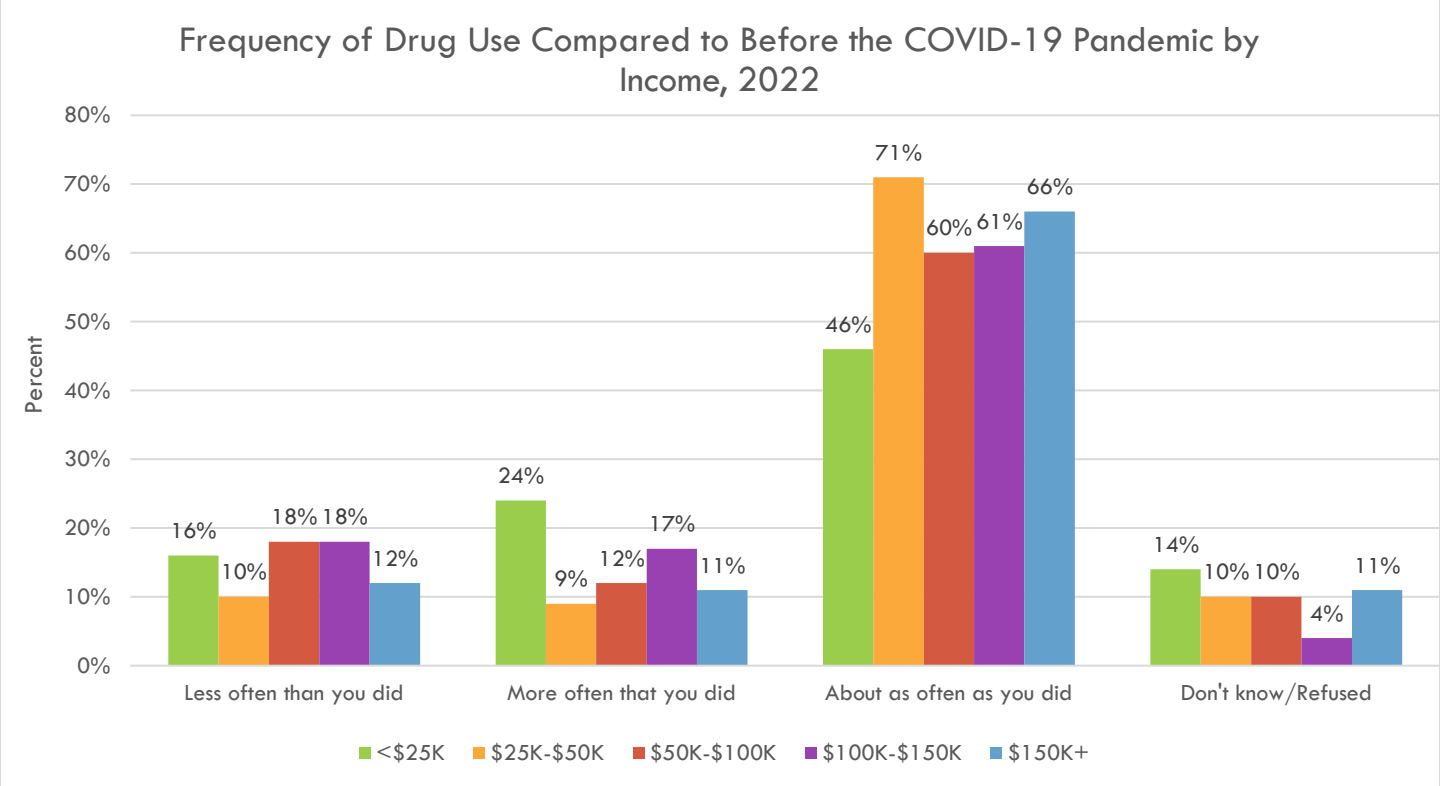


Figure 40



ACCESS TO RESOURCES

Survey Question 21: *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.* ***Food***

Figure 41

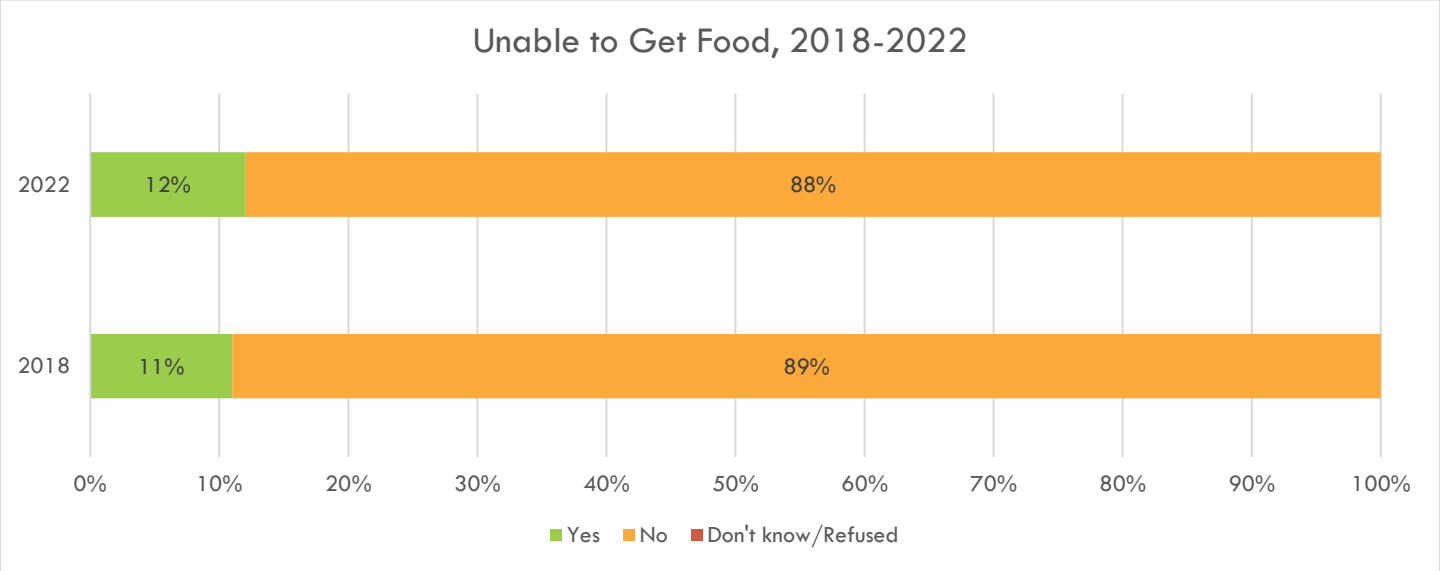
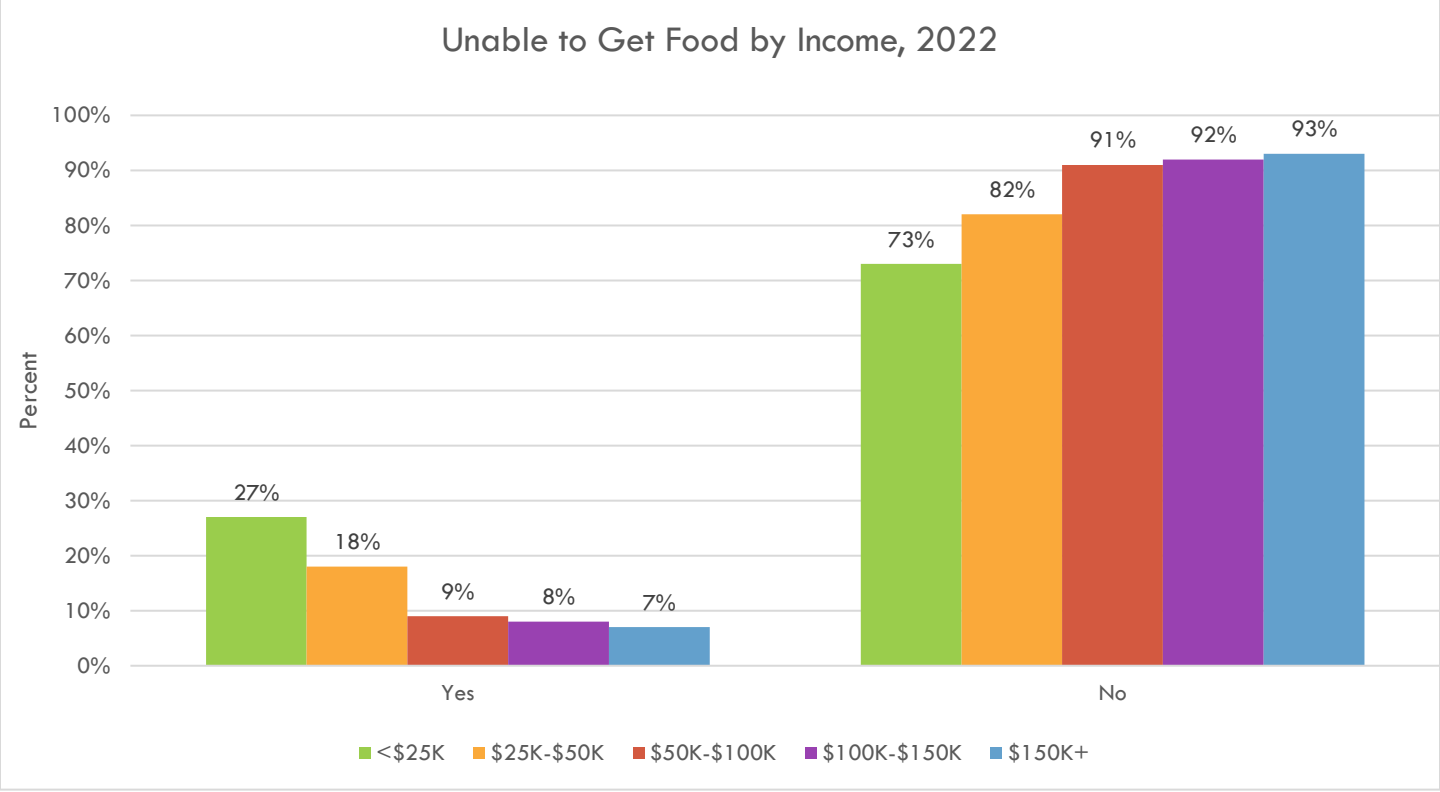


Figure 42



Survey Question 22: *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.* ***Utilities, including heat and electric***

Figure 43

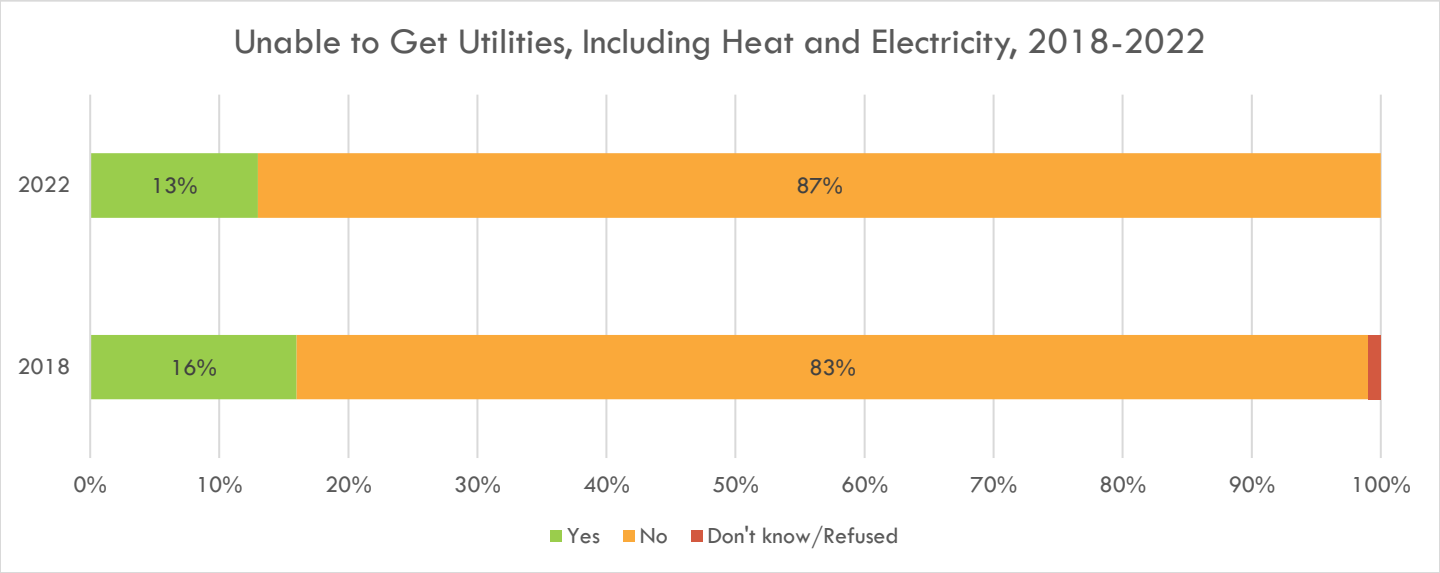
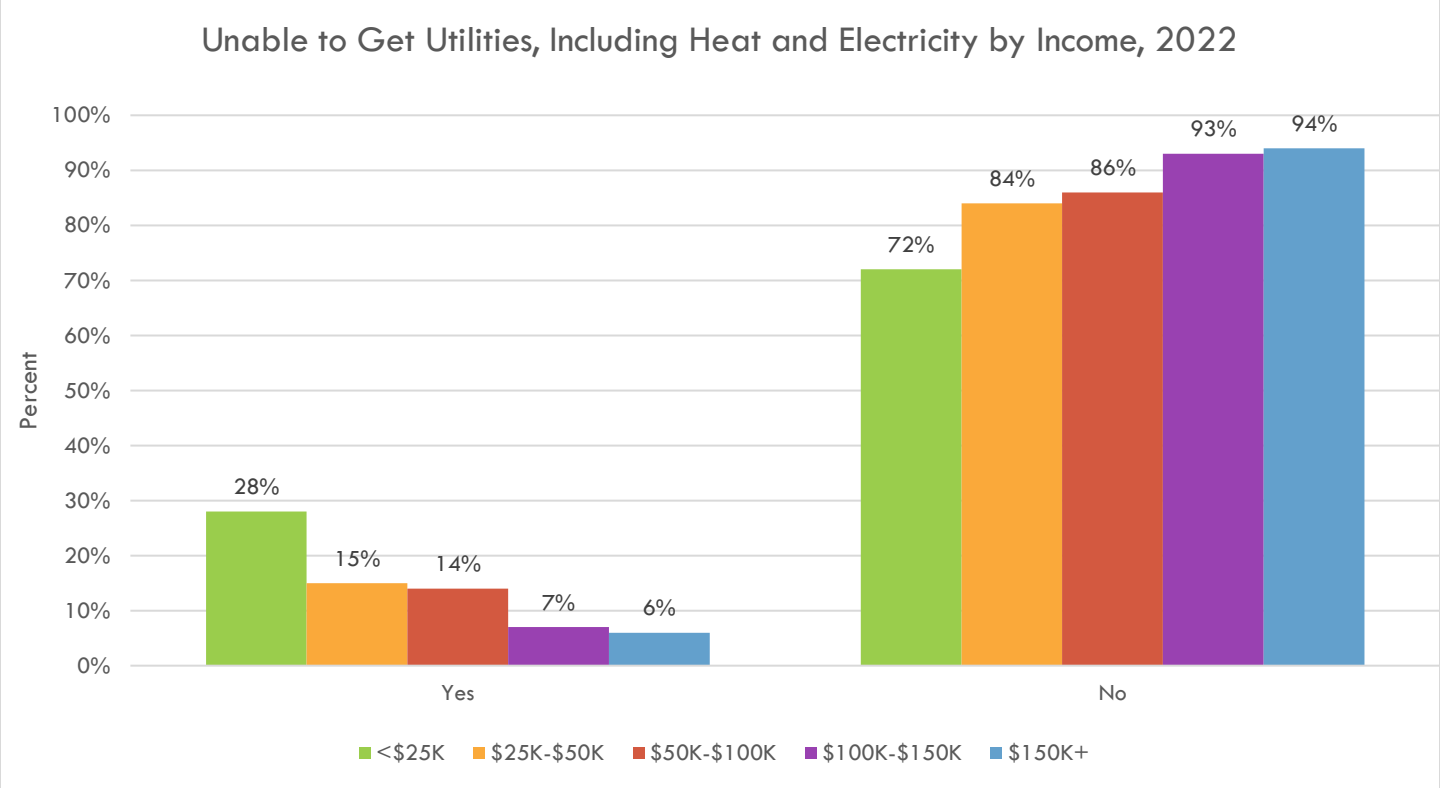


Figure 44



Survey Question 23: *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.* ***Medicine***

Figure 45

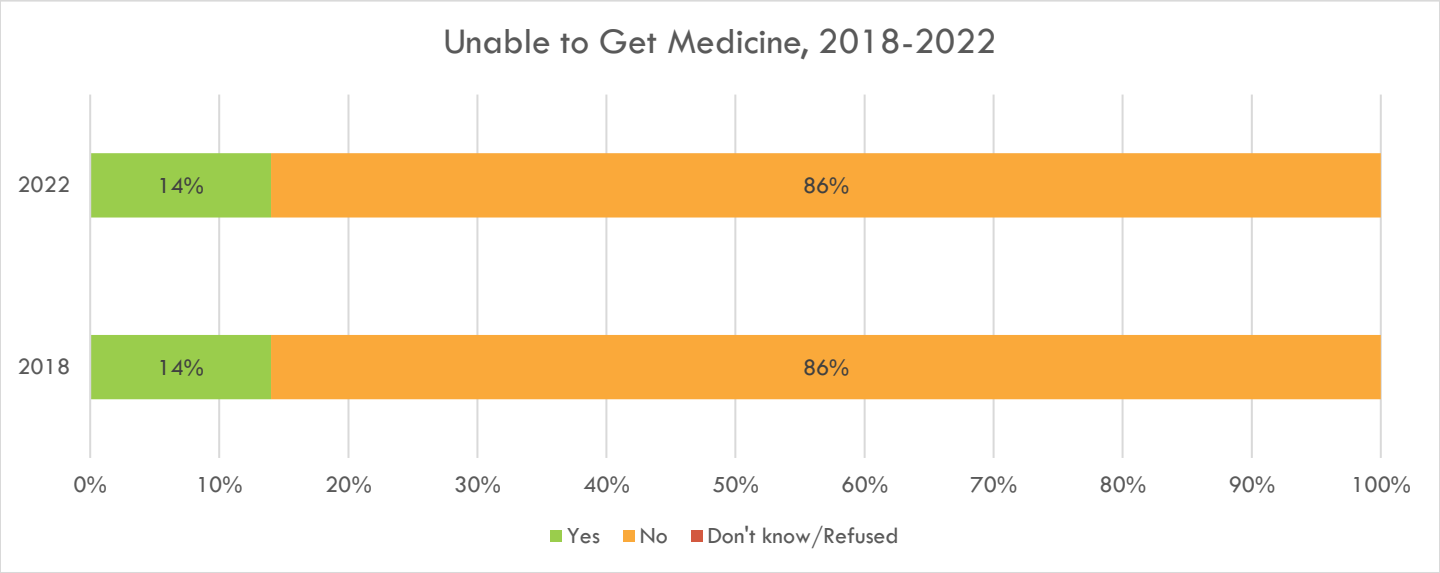
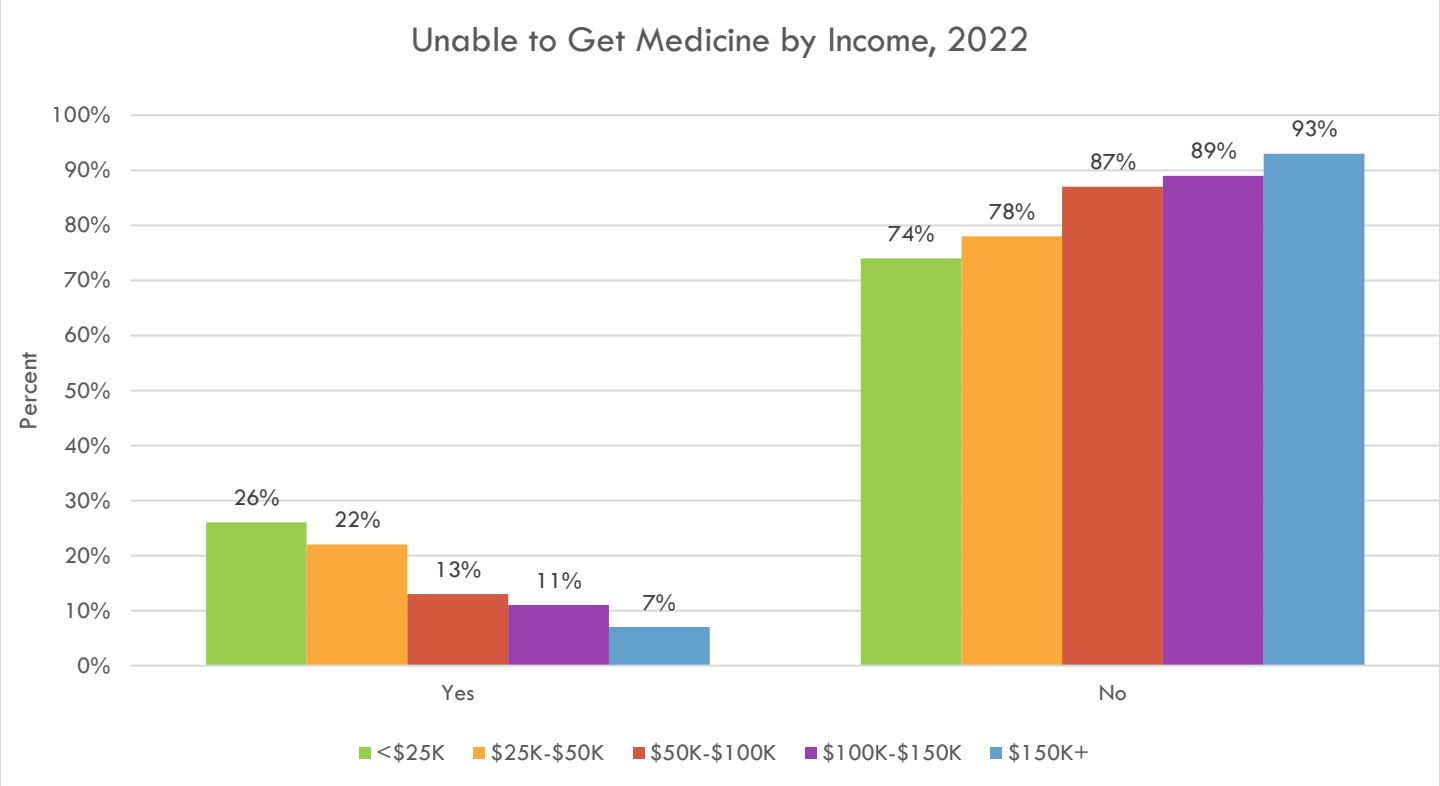


Figure 46



Survey Question 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.* ***Any healthcare, including dental or vision***

Figure 47

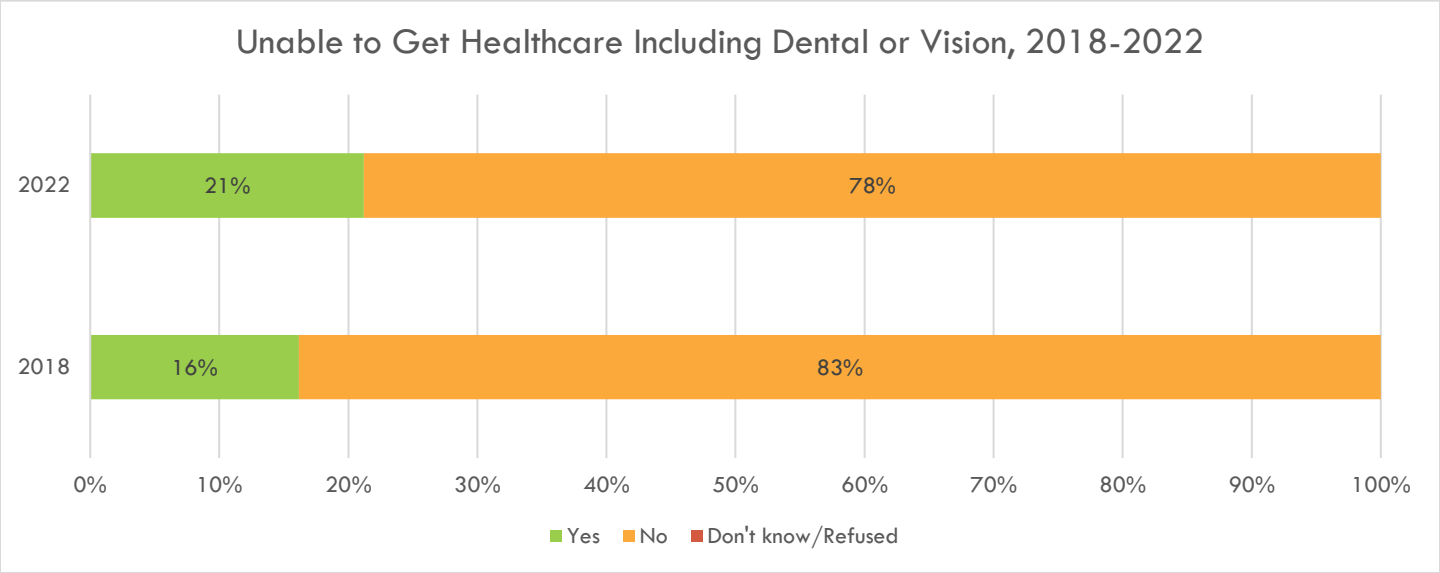
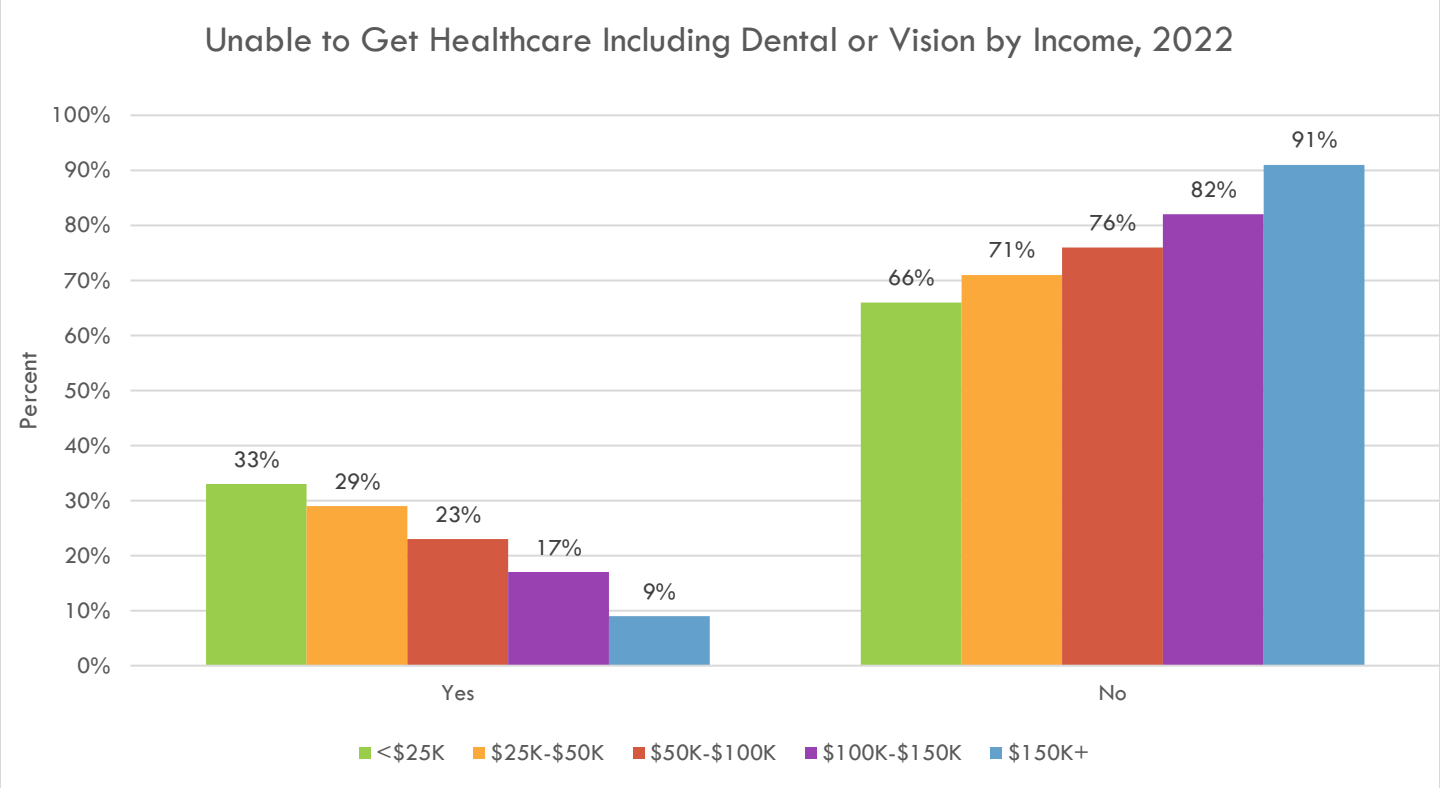


Figure 48



Survey Question 25: *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.* ***Phone***

Figure 49

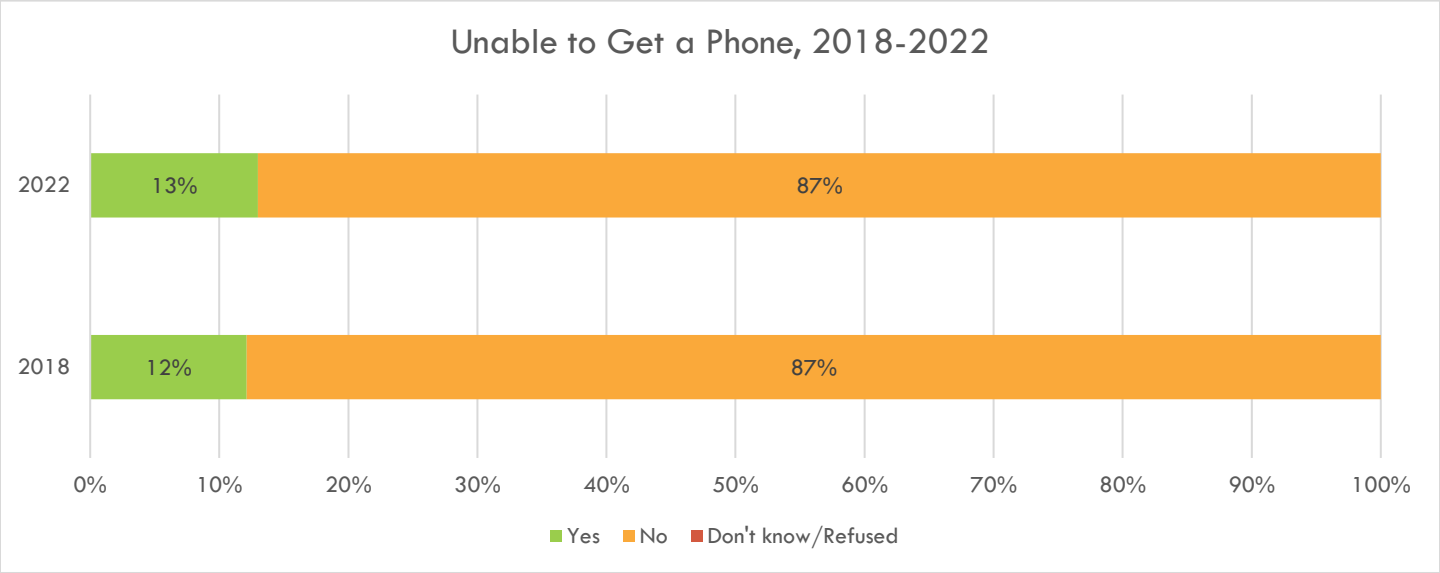
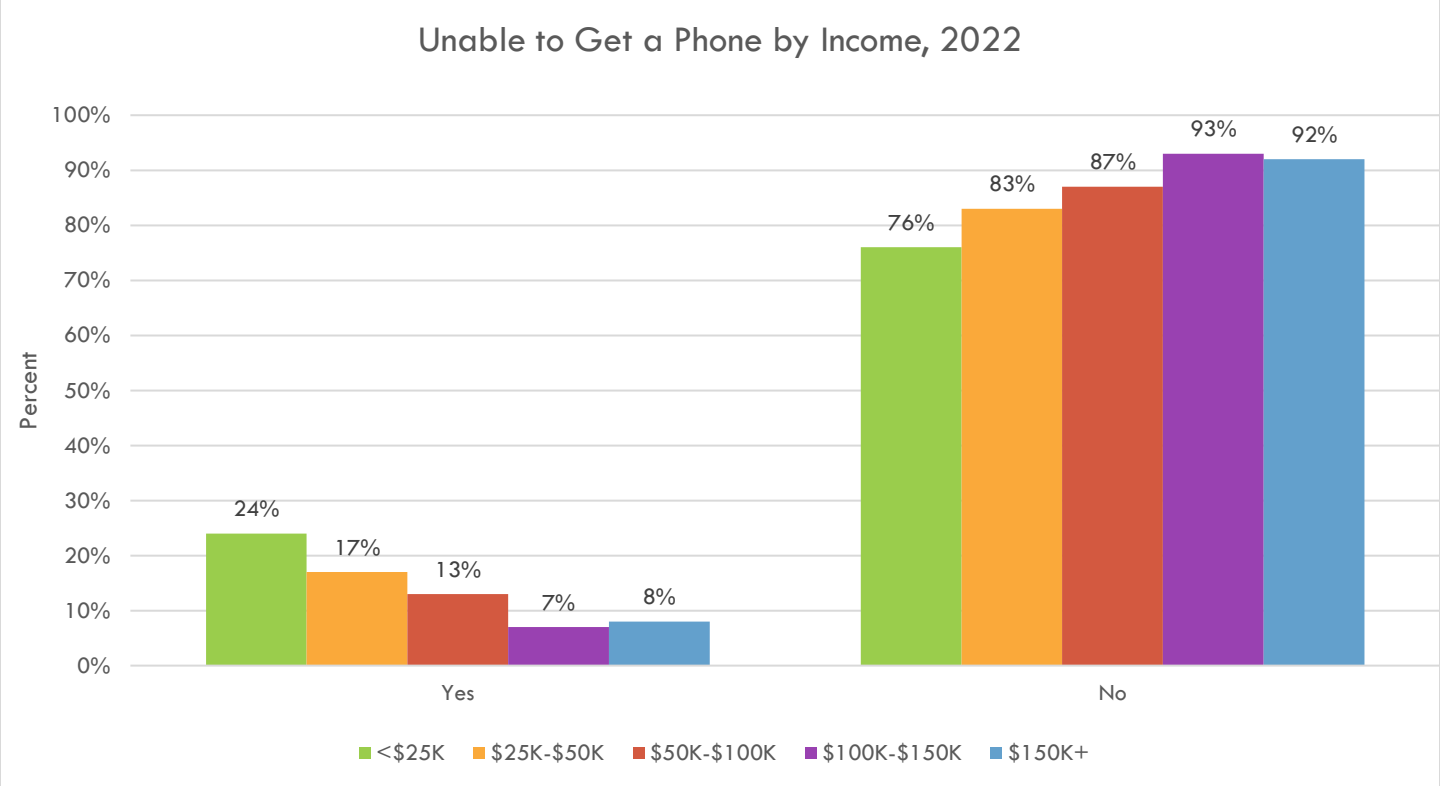


Figure 50



Survey Question 26: *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.* ***Transportation***

Figure 51

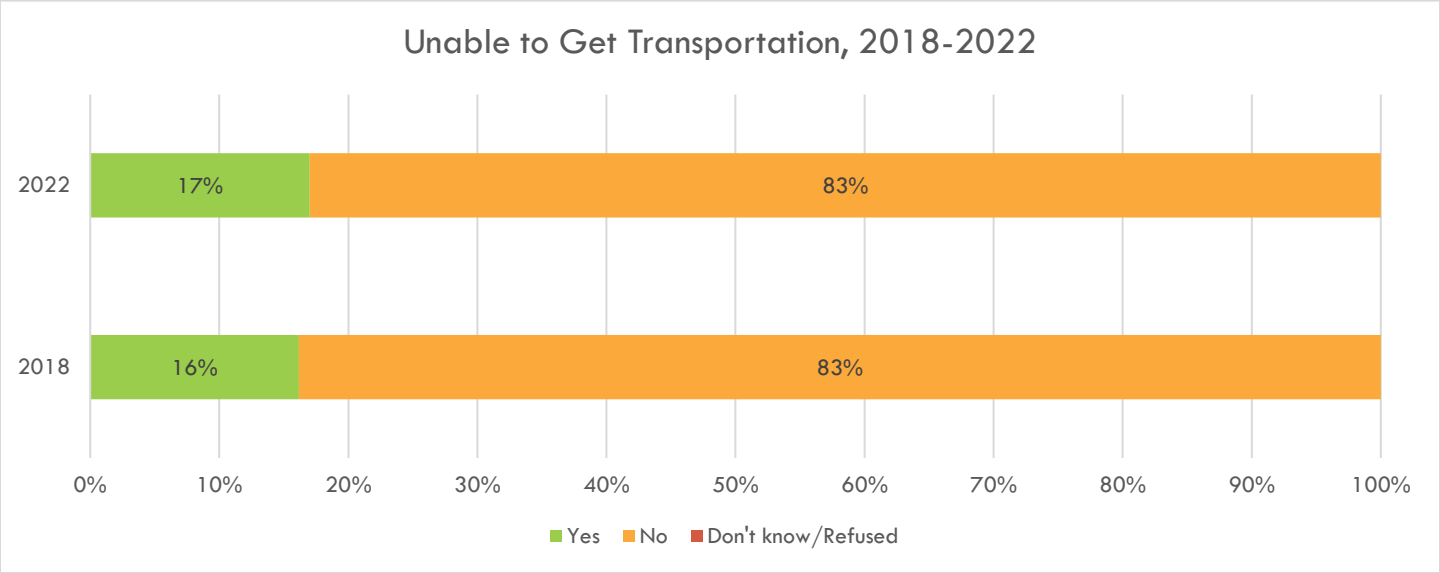
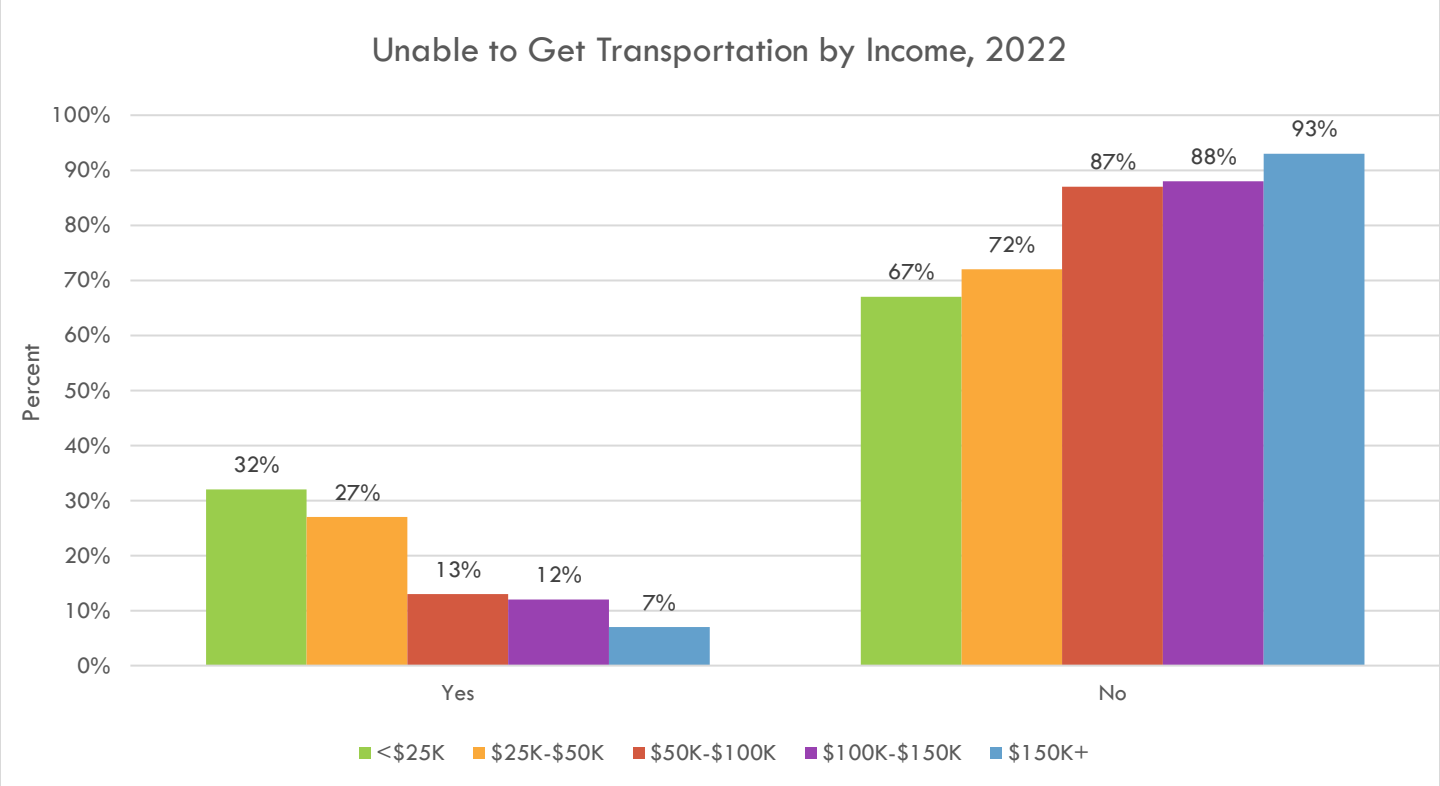


Figure 52



Survey Question 27: *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.* ***Housing***

Figure 53

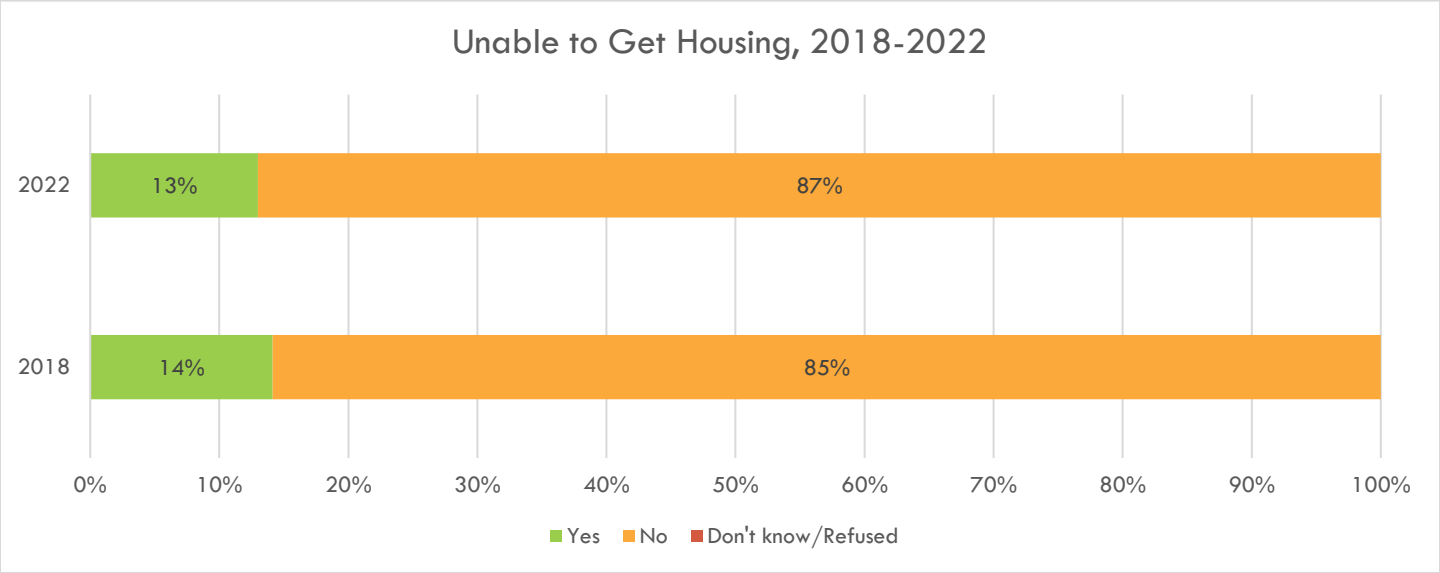
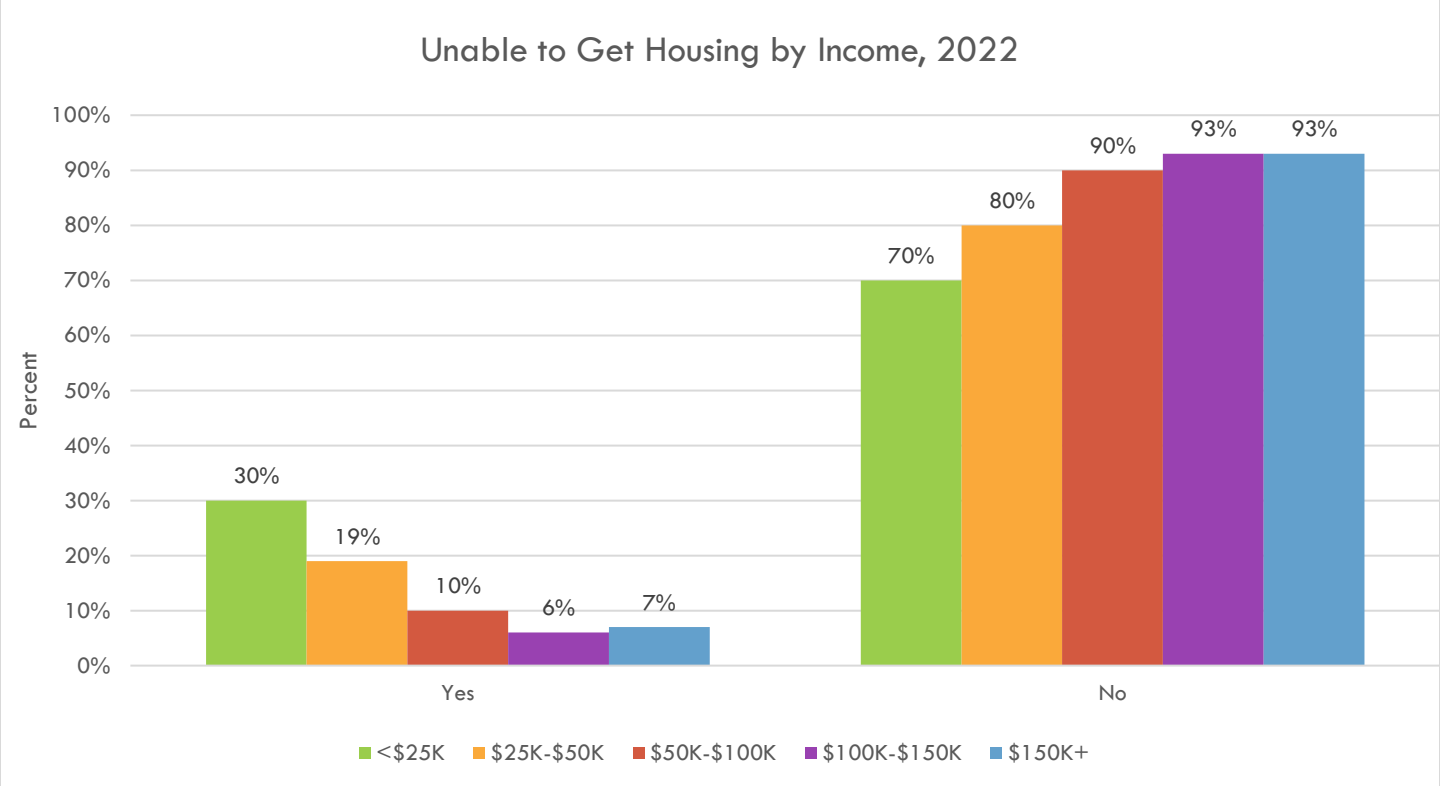


Figure 54



Survey Question 28: *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.* ***Childcare***

Figure 55

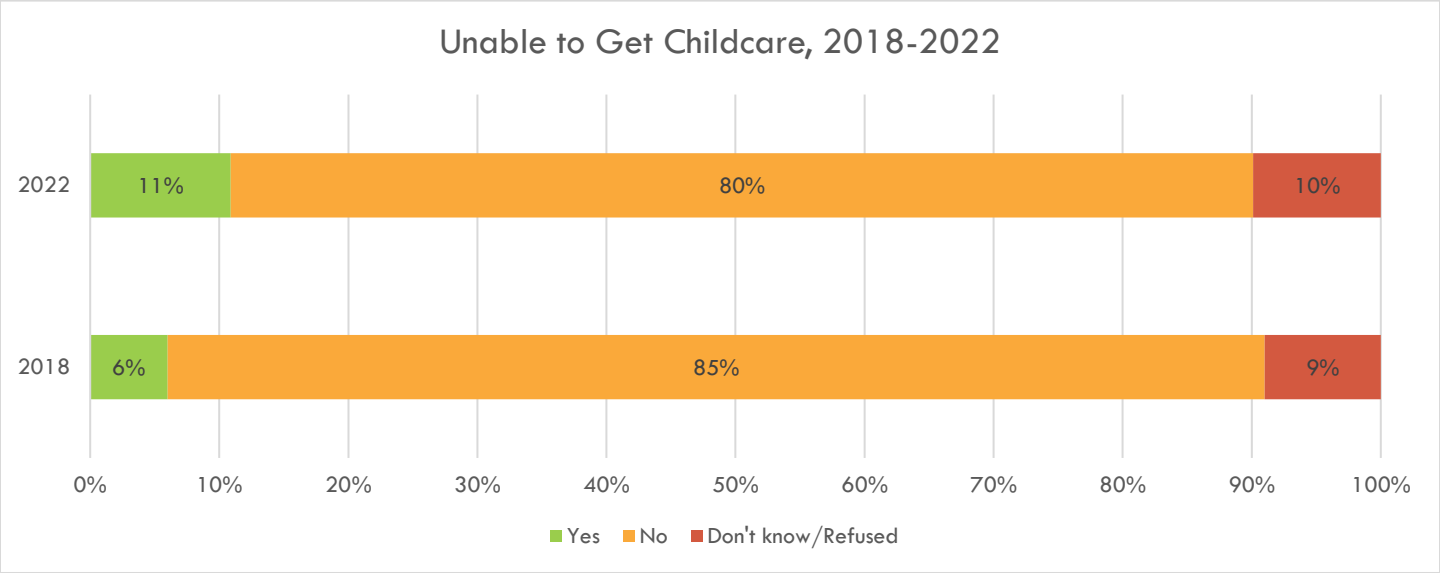
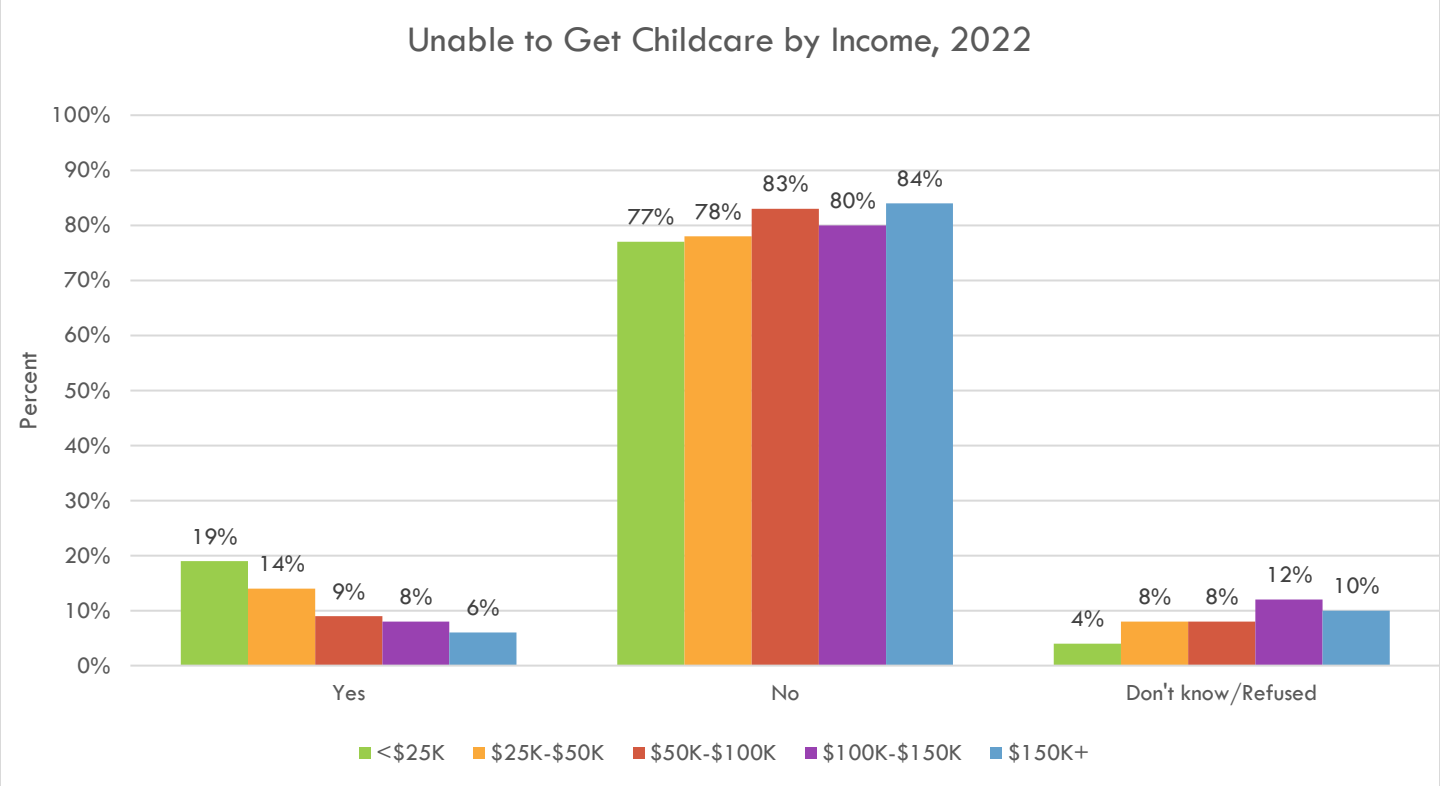


Figure 56



Survey Question 29: *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.* ***Access to the internet***

Figure 57

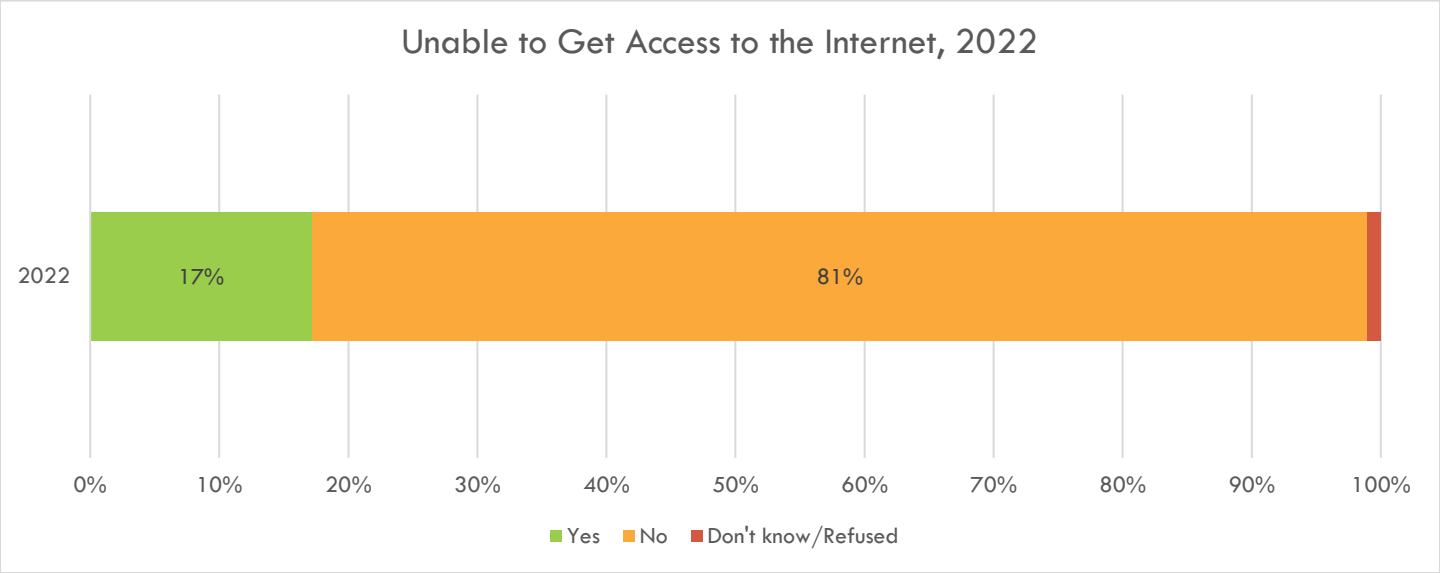
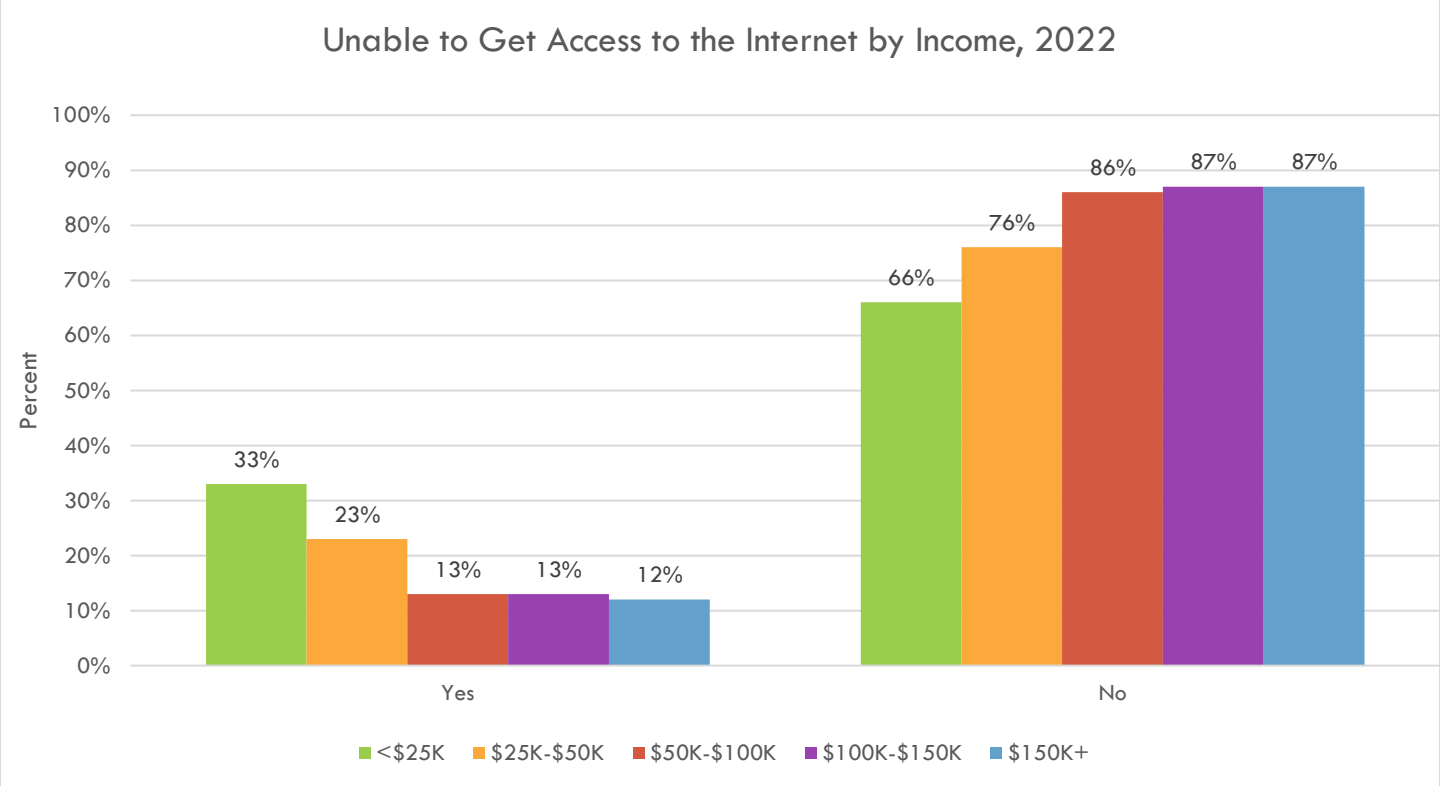


Figure 58



HEALTHCARE VISITATIONS

Survey Question 30: *Have you visited a primary care physician for a routine physical or checkup within the last 12 months?*

Figure 59

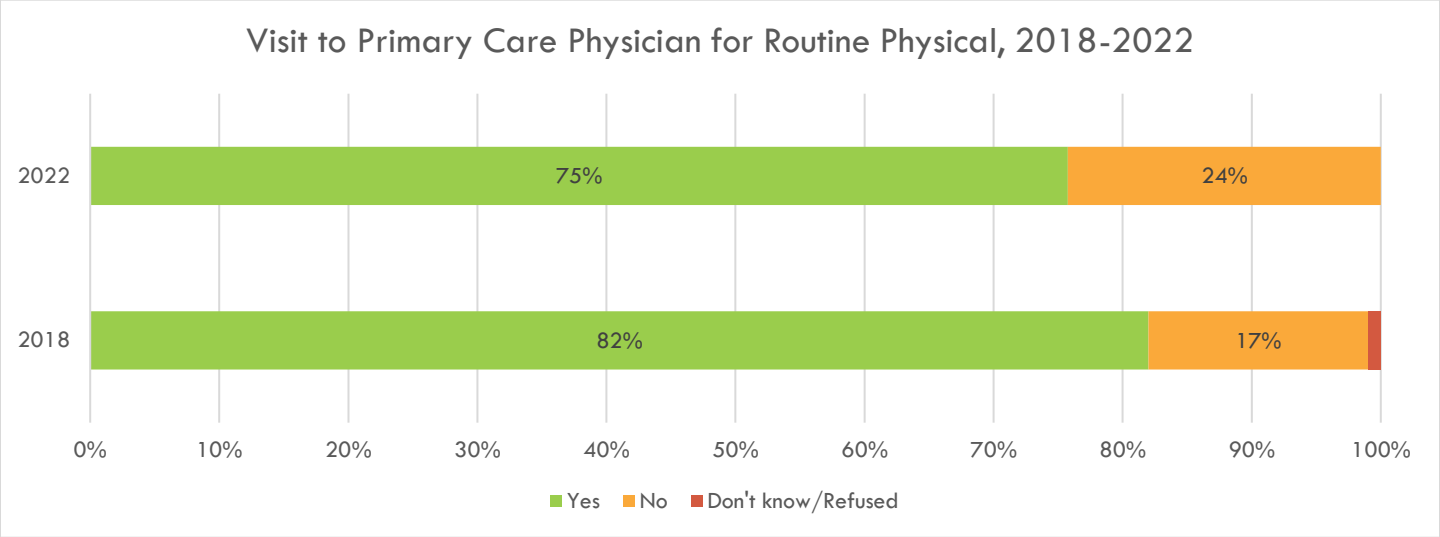
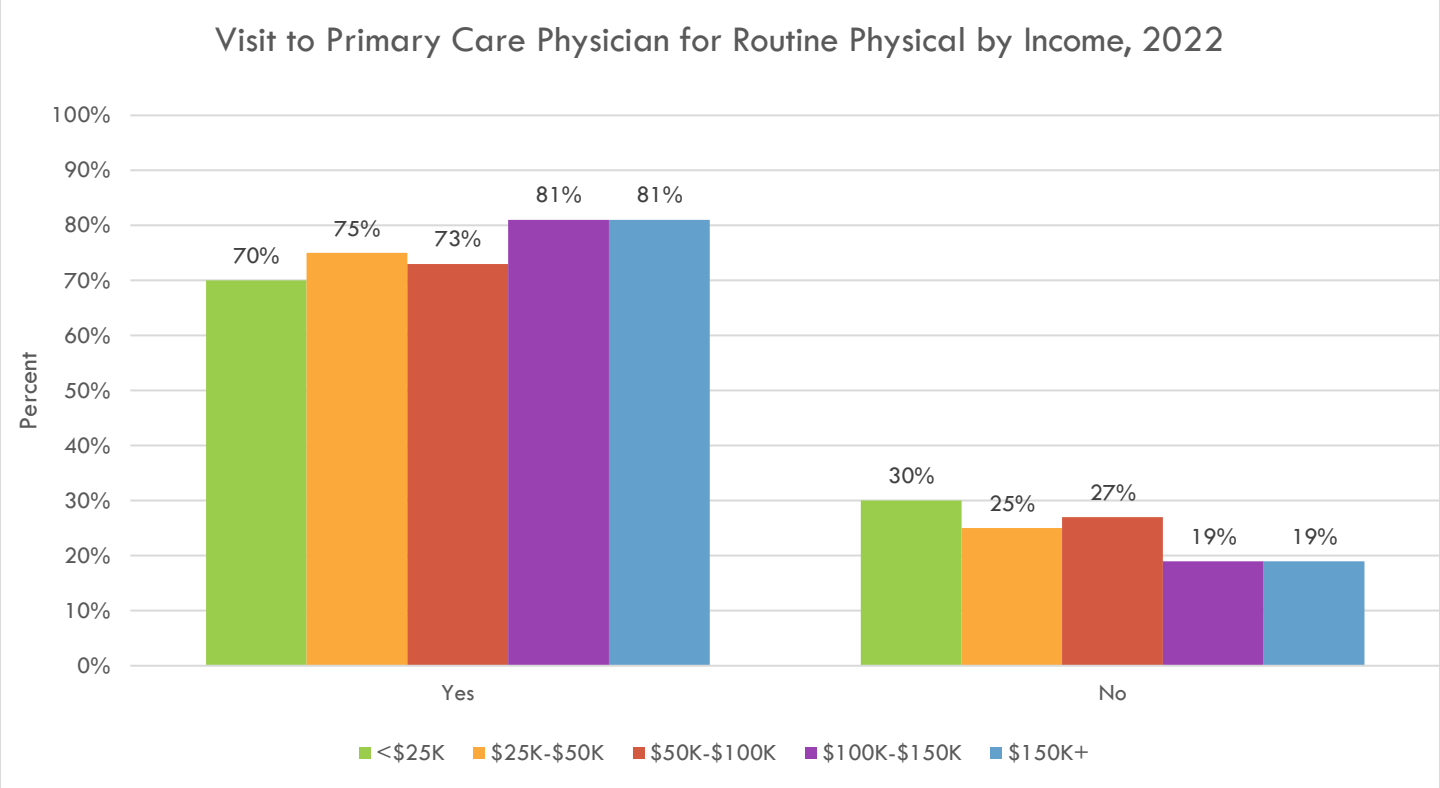
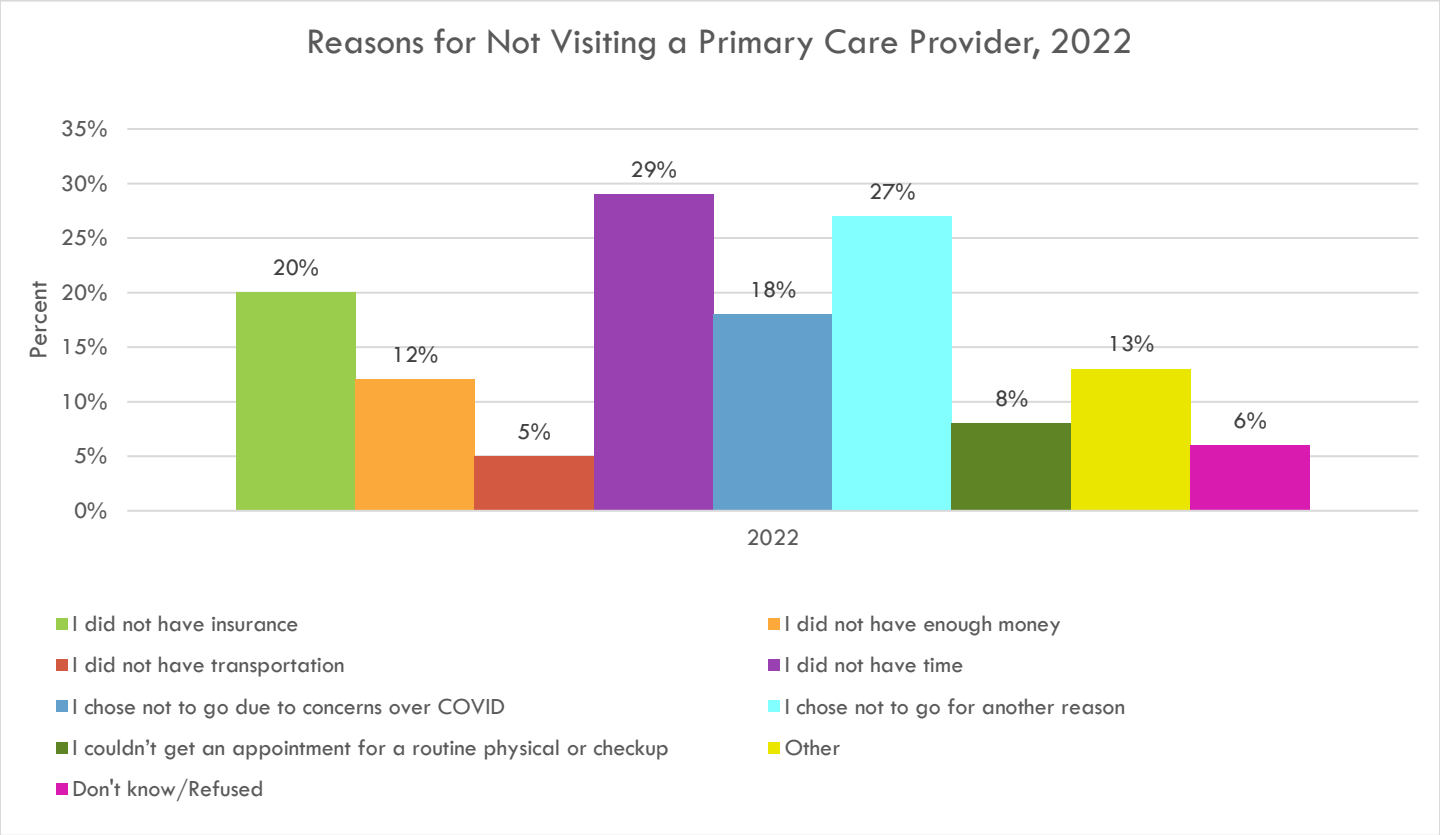


Figure 60



Survey Question 31: *(If did not visit primary care provider in the past year) 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?*

Figure 61



Reasons for Not Visiting a Primary Care Provider by Income, 2022

	<$25K	$25K-$50K	$50K-$100K	$100K-$150K	$150K+
I did not have insurance	30%	45%	12%	6%	27%
I did not have enough money	16%	20%	15%	6%	6%
I did not have transportation	7%	0%	3%	6%	0%
I did not have time	24%	14%	30%	52%	18%
I chose not to go due to concerns over COVID	10%	9%	24%	18%	23%
I chose not to go for another reason	17%	28%	31%	33%	24%
I couldn't get an appointment for a routine physical or checkup	8%	6%	8%	4%	7%
Other	11%	7%	9%	19%	16%
Don't know/Refused	4%	11%	6%	2%	10%

Survey Question 32: *Have you visited a dentist for a routine check-up or cleaning within the last 12 months?*

Figure 62

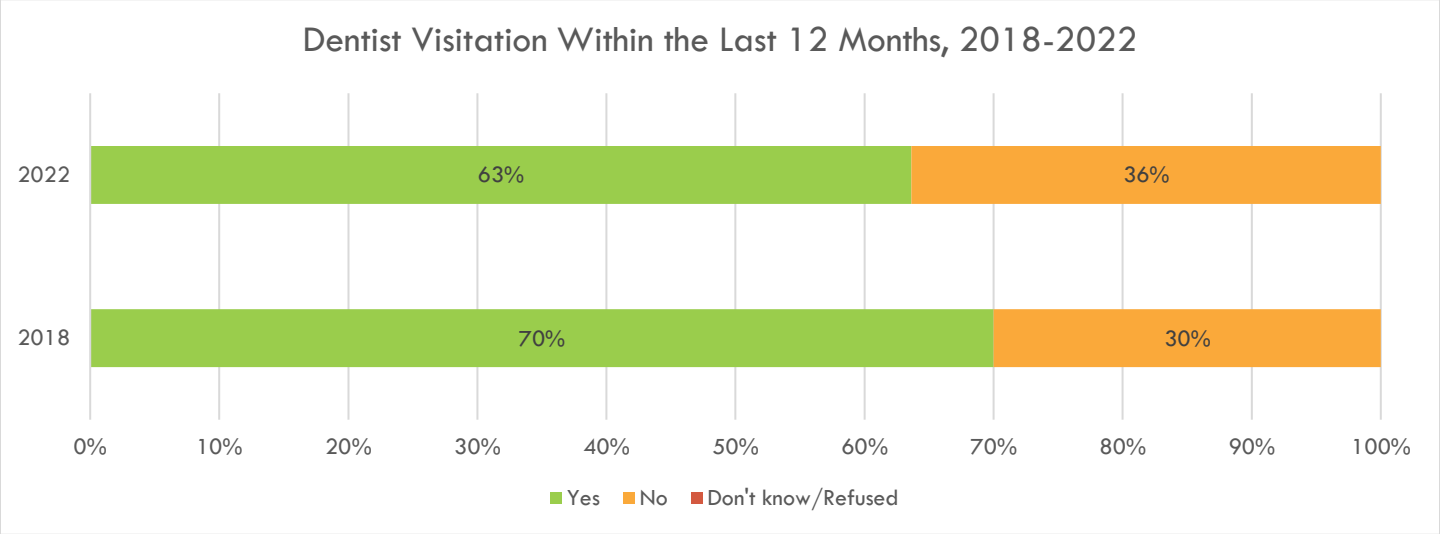
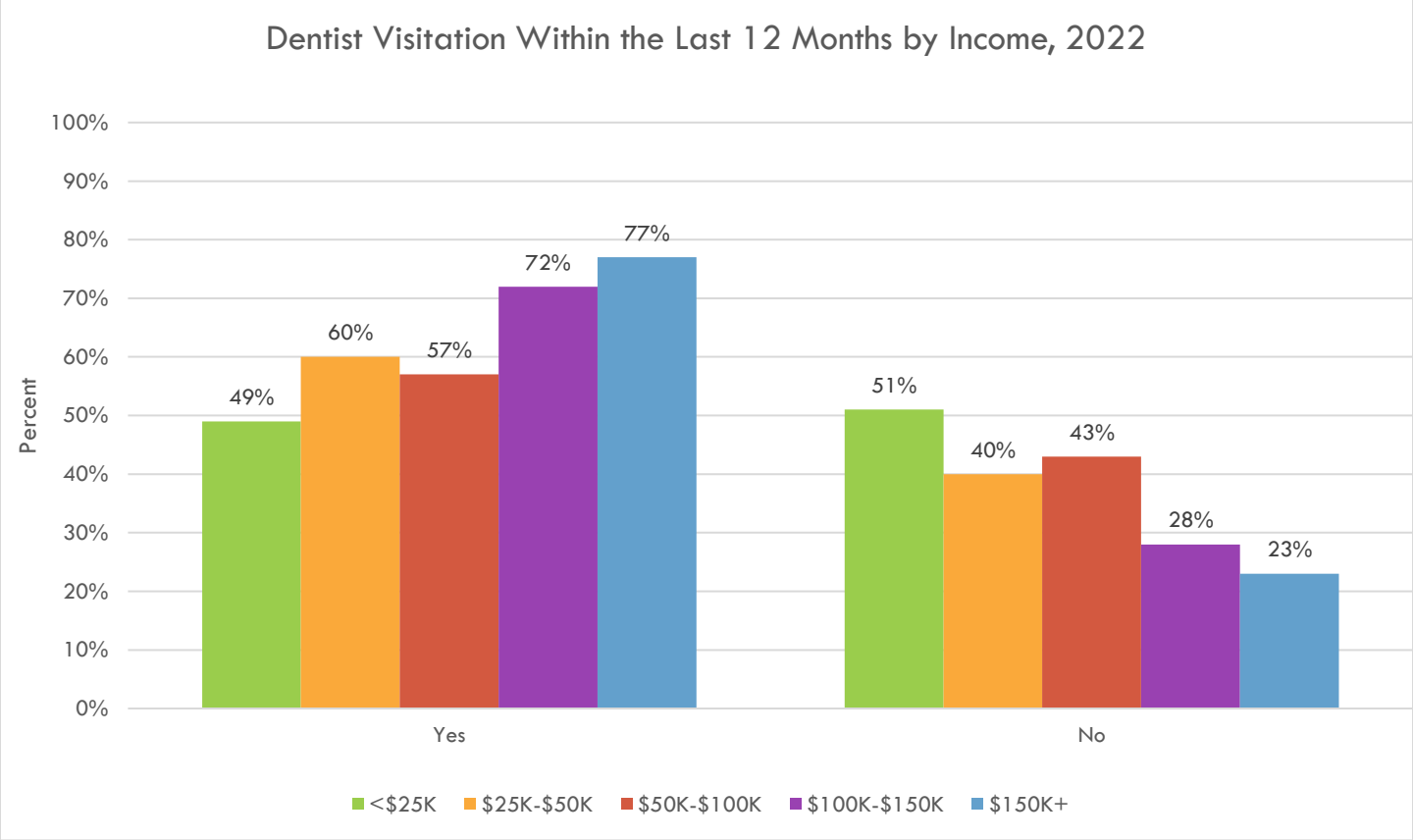
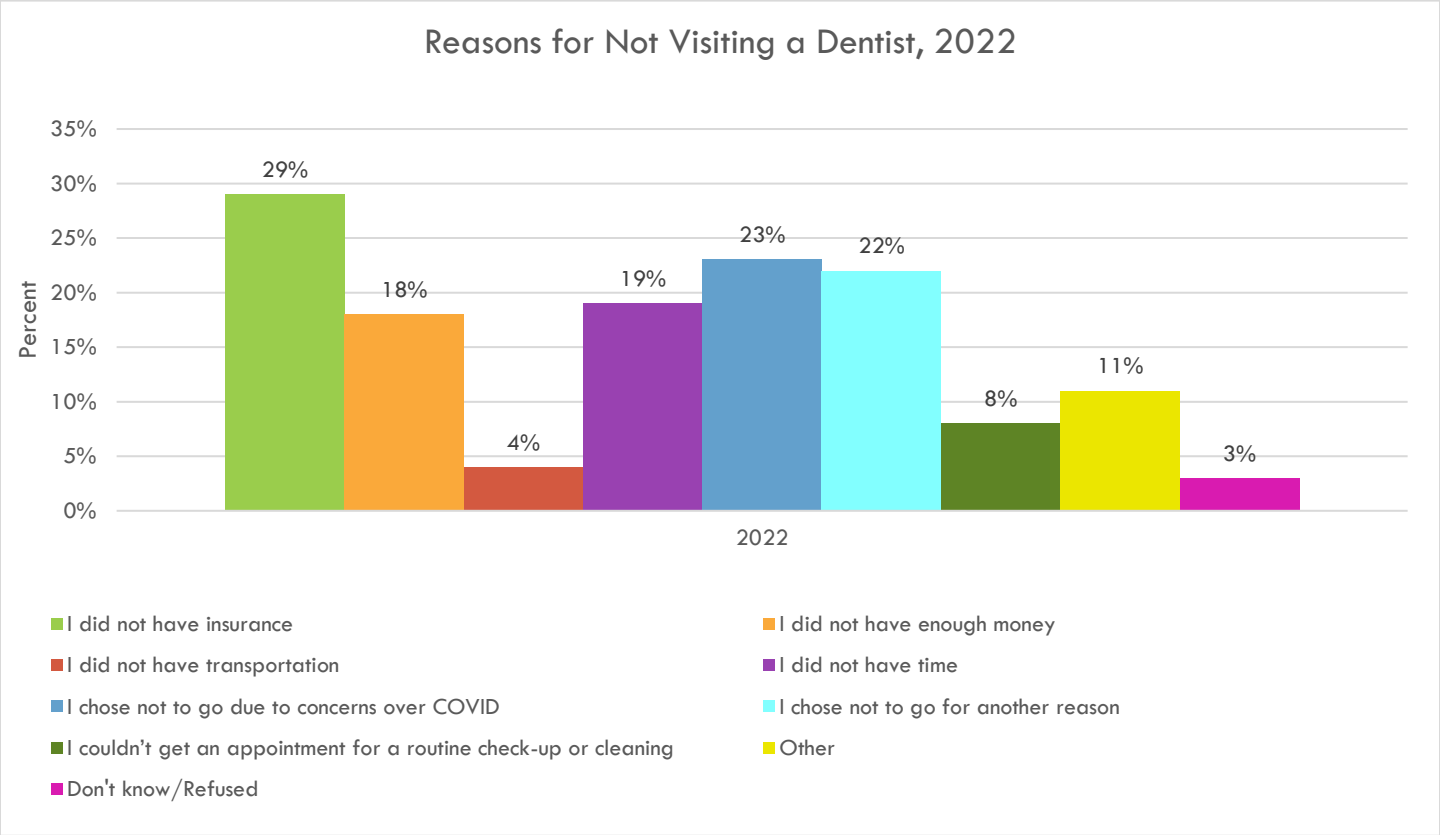


Figure 63



Survey Question 33: *(If did not visit dentist in the past year) 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?*

Figure 64



Reasons for Not Visiting a Dentist by Income, 2022

	<$25K	$25K-$50K	$50K-$100K	$100K-$150K	$150K+
I did not have insurance	34%	32%	31%	22%	22%
I did not have enough money	18%	23%	23%	21%	0%
I did not have transportation	5%	2%	3%	4%	3%
I did not have time	16%	9%	17%	27%	26%
I chose not to go due to concerns over COVID	10%	19%	27%	28%	31%
I chose not to go for another reason	16%	27%	24%	30%	15%
I couldn't get an appointment for a routine physical or checkup	7%	4%	4%	14%	11%
Other	14%	13%	7%	18%	7%
Don't know/Refused	4%	2%	0%	3%	8%

Survey Question 34: *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. Have you visited an emergency room for a medical issue that was not an emergency in the last 12 months? (2018 survey question: Have you visited an emergency room for a medical issue that was not an emergency in the last 12 months?)*

Figure 65

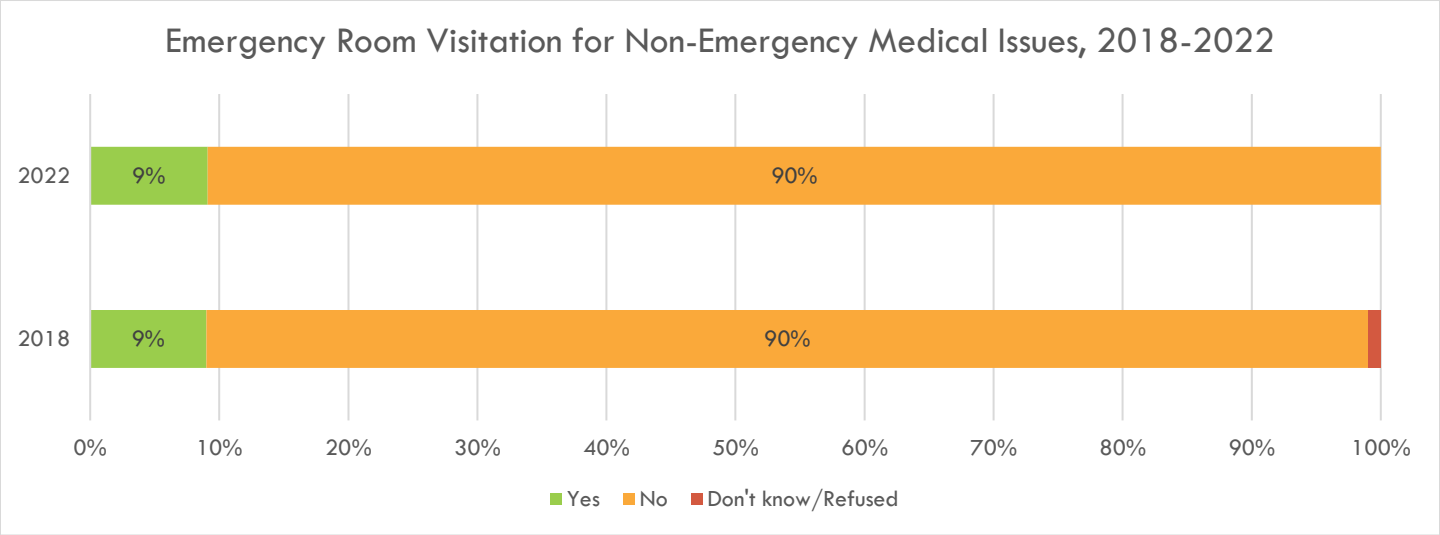
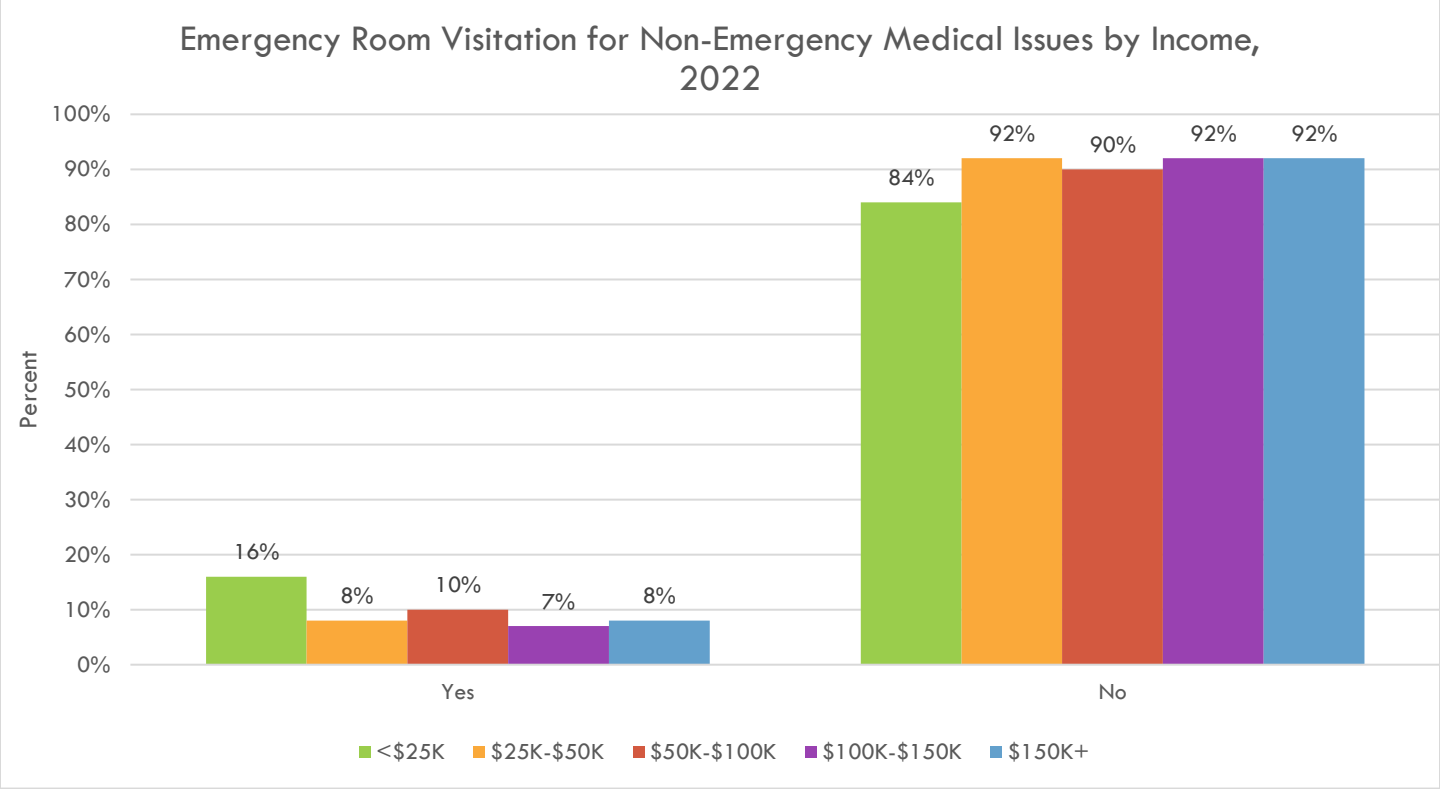
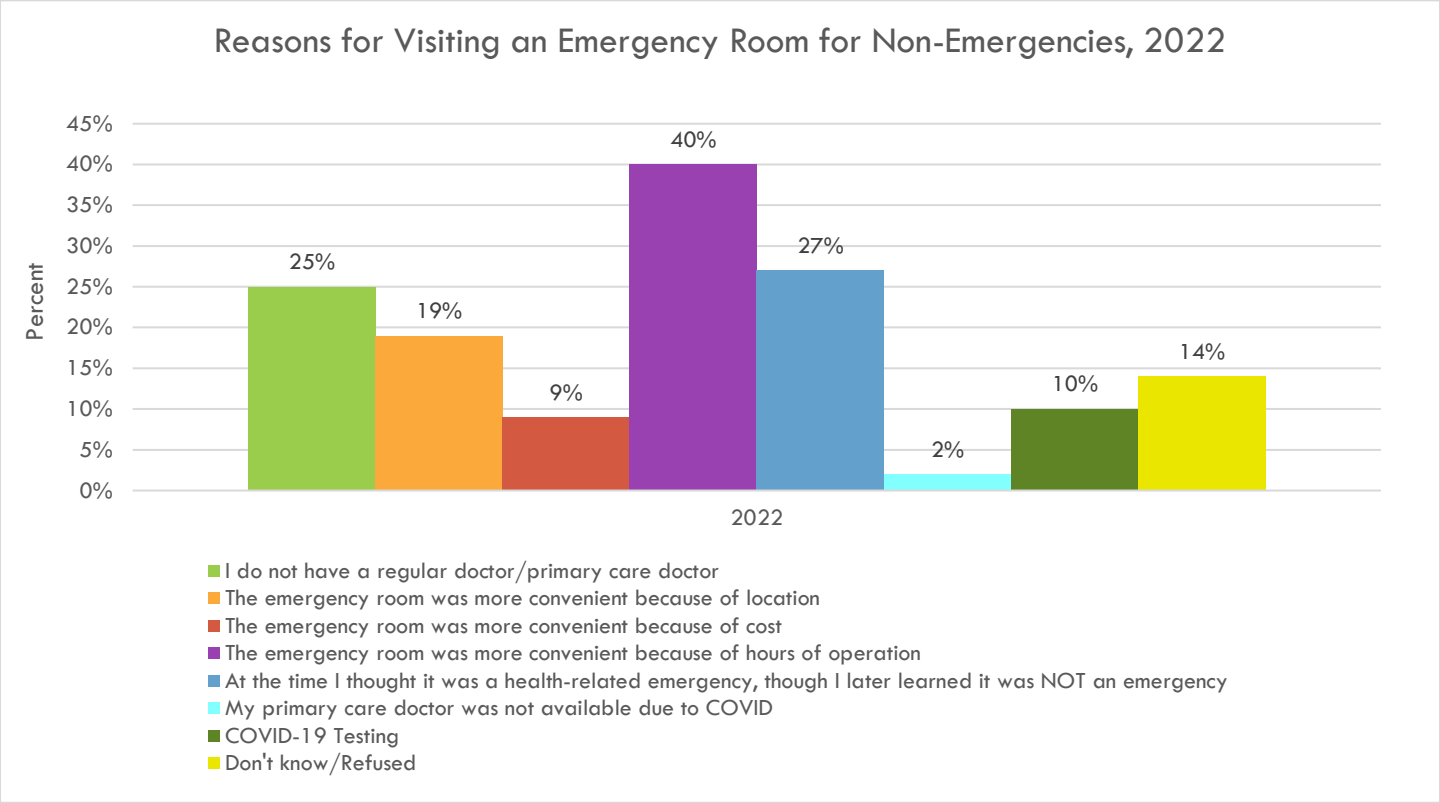


Figure 66



Survey Question 35: *(If visited Emergency Room for non-emergency in the past year) 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?*

Figure 67



Reasons for Not Visiting an Emergency Room for Non-Emergencies by Income, 2022

	<$25K	$25K-$50K	$50K-$100K	$100K-$150K	$150K+
I do not have a regular doctor/primary care doctor	26%	36%	22%	37%	6%
The emergency room was more convenient because of location	10%	7%	25%	15%	29%
The emergency room was more convenient because of cost	12%	0%	13%	15%	0%
The emergency room was more convenient because of hours of operation	32%	32%	48%	31%	57%
At the time I thought it was a health-related emergency, though I later learned it was NOT an emergency	15%	33%	18%	21%	50%
My primary care doctor was not available due to COVID	2%	5%	0%	0%	11%
COVID-19 Testing	6%	7%	6%	16%	11%
Don't know/Refused	27%	0%	11%	10%	0%

Survey Question 36: *Have you visited a mental health provider, such as a psychiatrist, psychologist, social worker, therapist for 1-on-1 appointments or group-sessions (either in-person or online), etc. within the last 12 months? (2018 survey question: (If experienced mental health condition or substance/alcohol use disorder) 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?)*

Figure 68

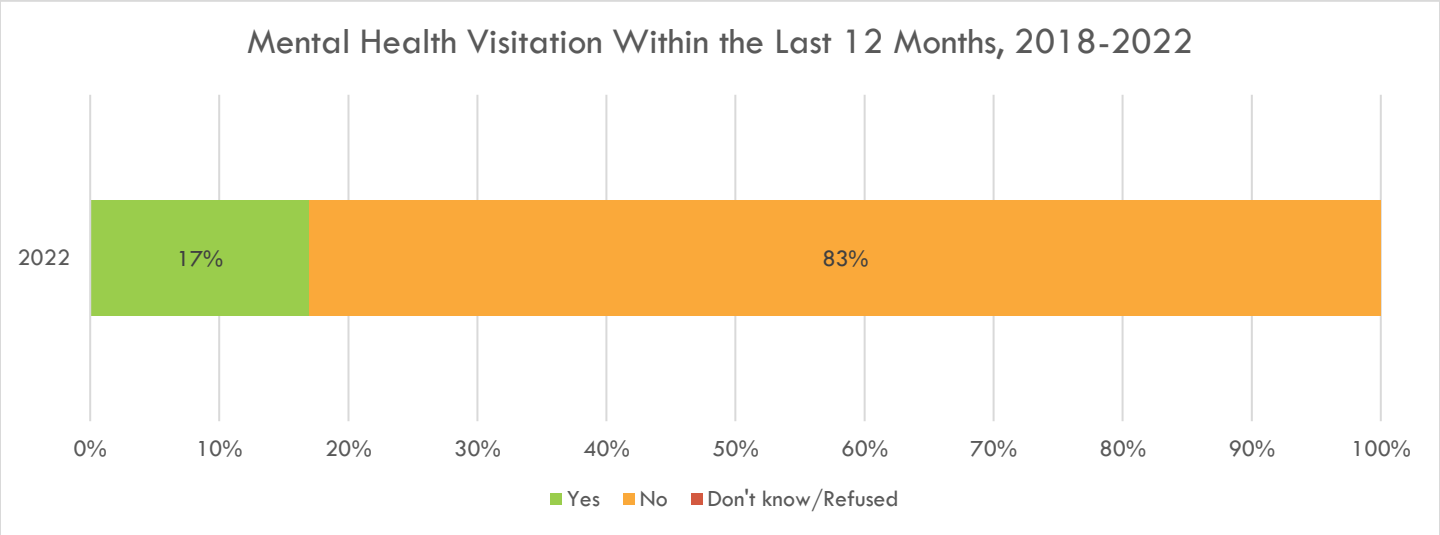
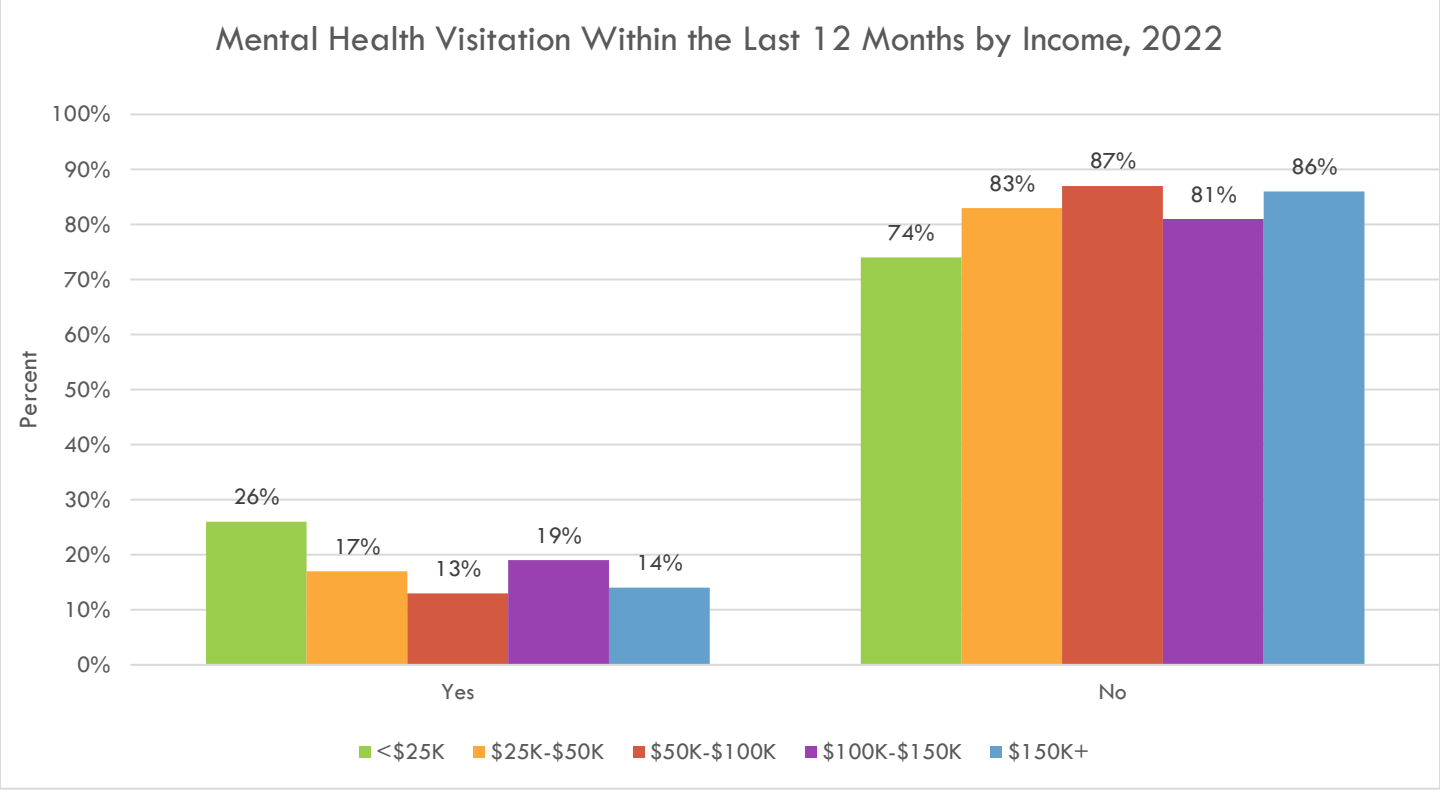
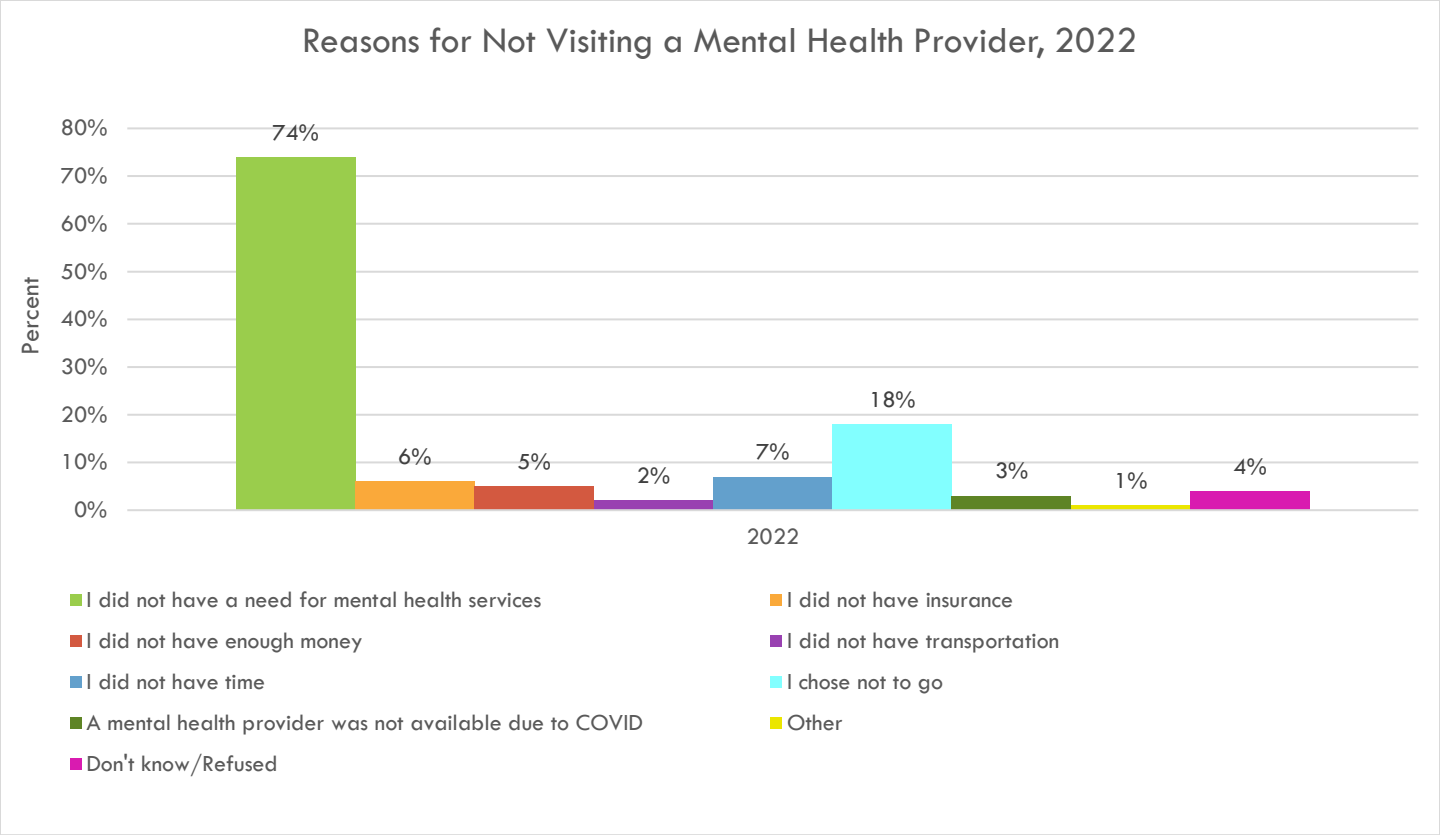


Figure 69



Survey Question 37: *(If did not visit mental health provider in the past year) In the last 12 months, were any of the following reasons that you did not visit a mental health provider?*

Figure 70



Reasons for Not Visiting a Mental Health Provider by Income, 2022

	<$25K	$25K-$50K	$50K-$100K	$100K-$150K	$150K+
I did not have a need for mental health services	65%	67%	73%	79%	75%
I did not have insurance	8%	11%	6%	5%	7%
I did not have enough money	7%	9%	6%	4%	3%
I did not have transportation	3%	1%	1%	3%	1%
I did not have time	6%	7%	8%	12%	3%
I chose not to go	12%	16%	21%	17%	20%
A mental health provider was not available due to COVID	6%	1%	2%	5%	1%
Other	3%	1%	1%	1%	2%
Don't know/Refused	6%	7%	4%	1%	2%

Survey Question 38: *During COVID, have you had a tele-health appointment with any healthcare provider?*

Figure 71

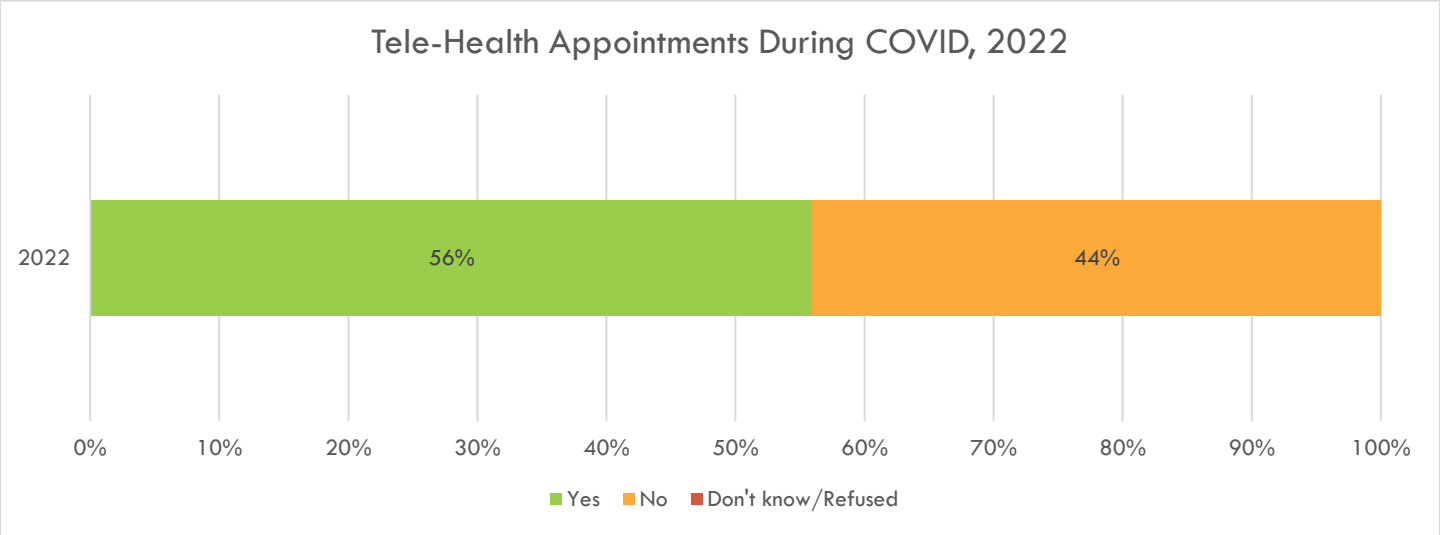
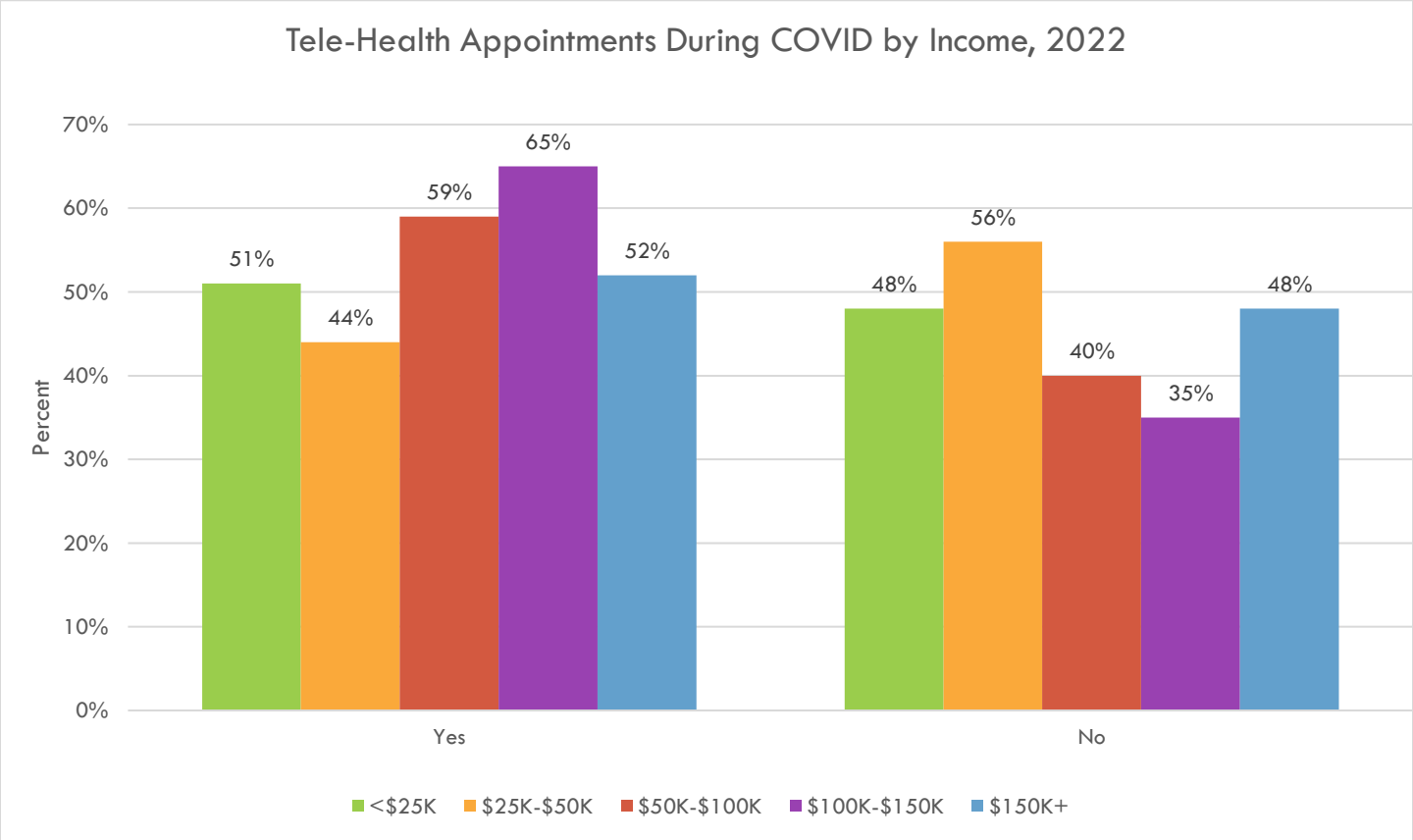
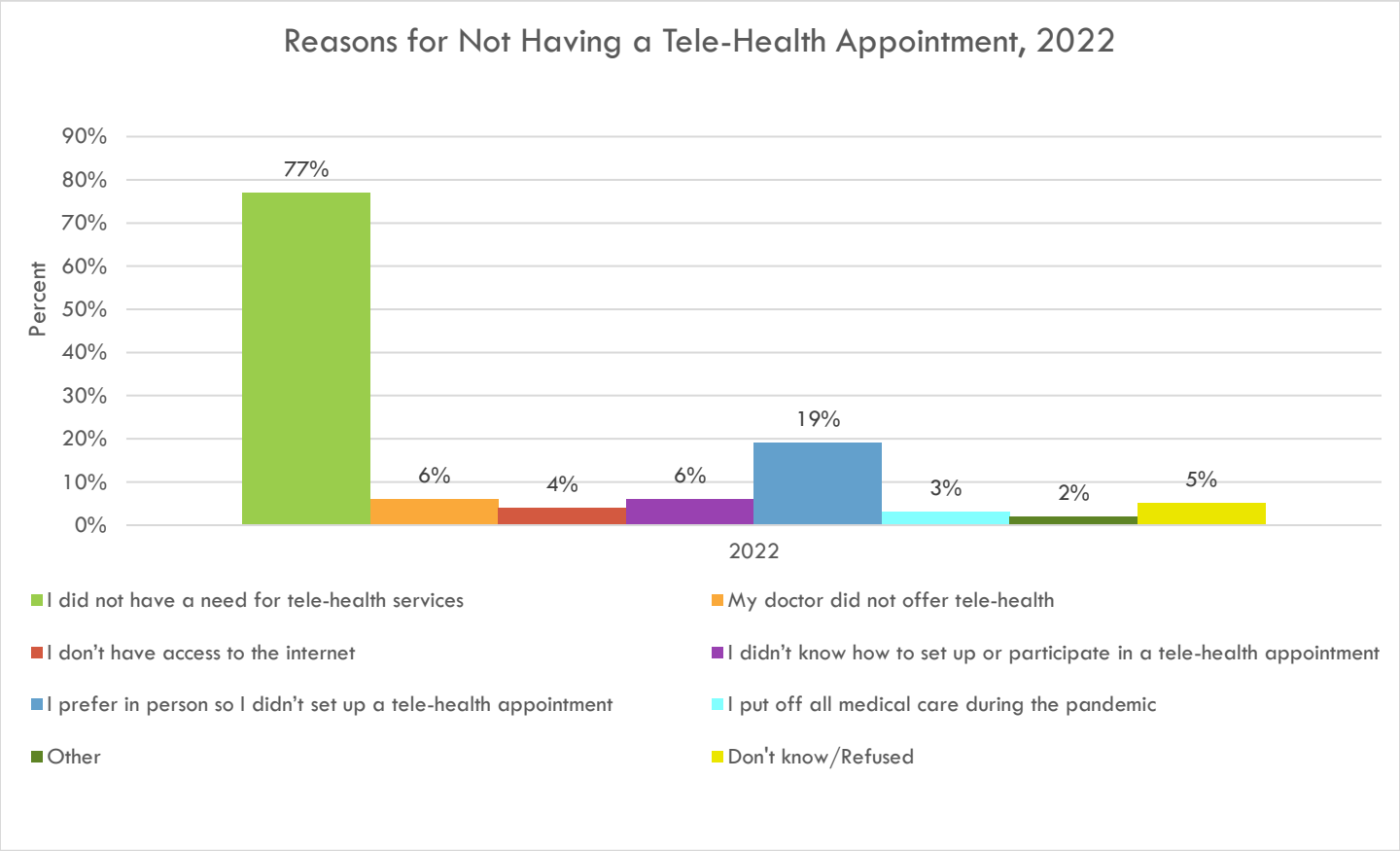


Figure 72



Survey Question 39: *(If did not have a tele-health appointment during COVID) Which of the following were reasons that you did not have a tele-health appointment?*

Figure 73



Reasons for Not Having a Tele-Health Appointment by Income, 2022

	<$25K	$25K-$50K	$50K-$100K	$100K-$150K	$150K+
I did not have a need for tele-health services	75%	75%	78%	74%	82%
My doctor did not offer tele-health	8%	5%	2%	5%	6%
I don't have access to the internet	4%	0%	2%	5%	4%
I didn't know how to set up or participate in a tele-health appointment	4%	4%	4%	9%	4%
I prefer in-person so I didn't set up a tele-health appointment	8%	14%	22%	22%	18%
I put off all medical care during the pandemic	5%	1%	1%	6%	2%
Other	6%	1%	0%	3%	0%
Don't know/Refused	5%	11%	5%	0%	0%

COVID-19 IMPACT

Survey Question 40: *Have you ever had COVID?*

Figure 74

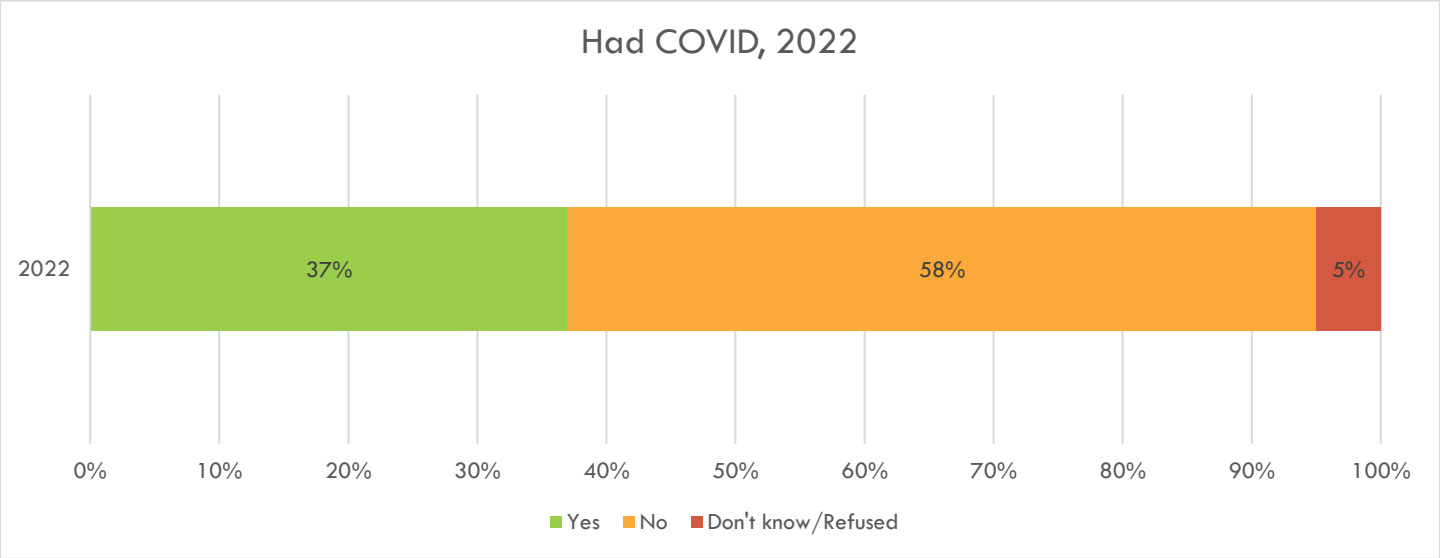
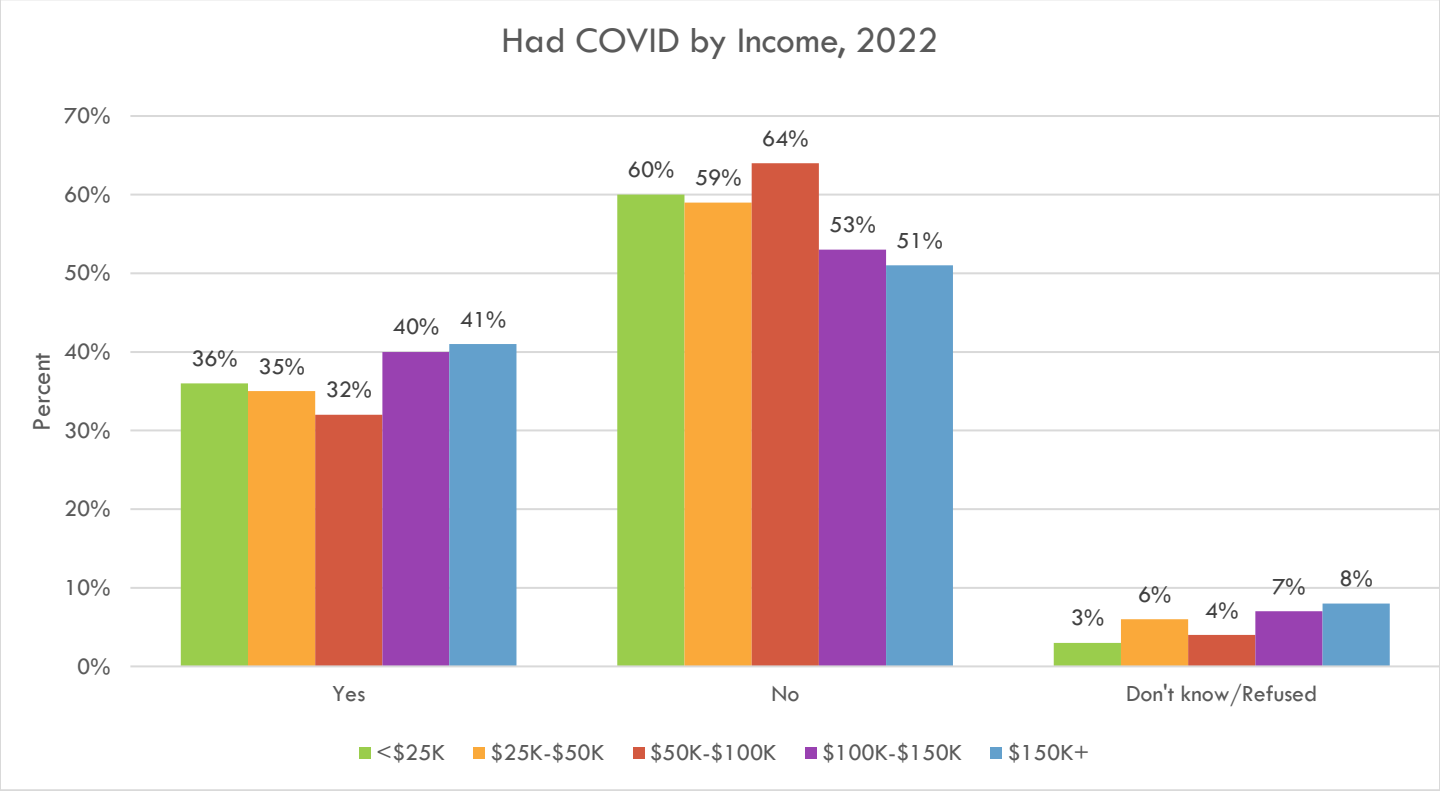


Figure 75



Survey Question 41: *And what about the other members of your household, has any other member of your household had COVID?*

Figure 76

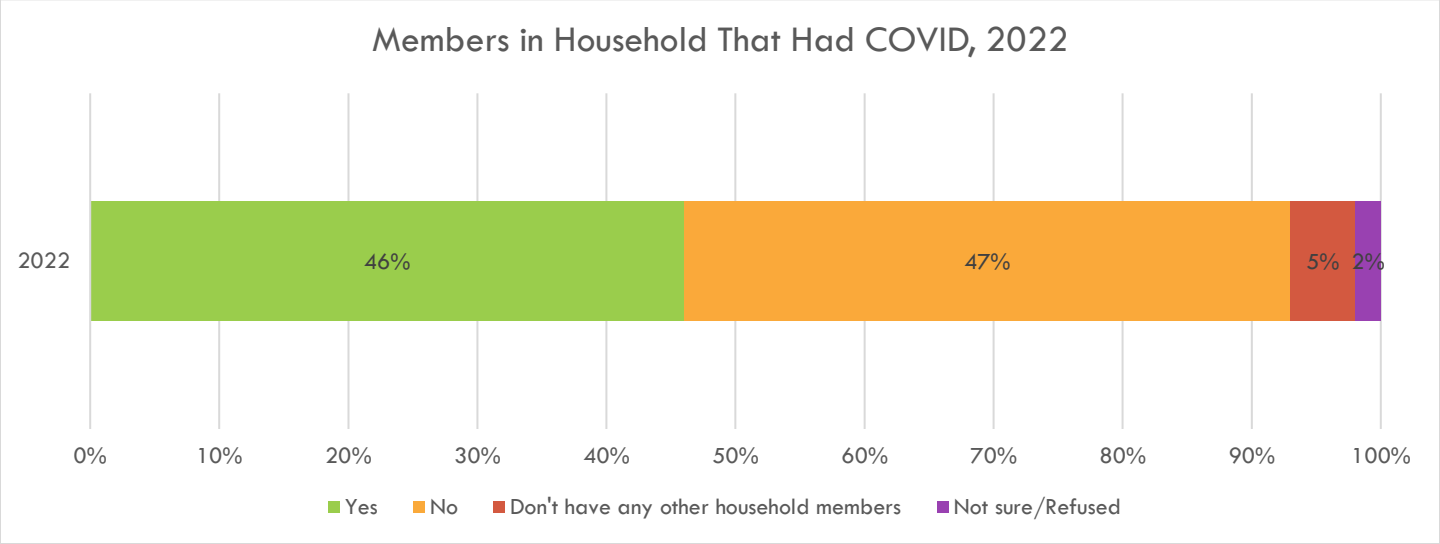
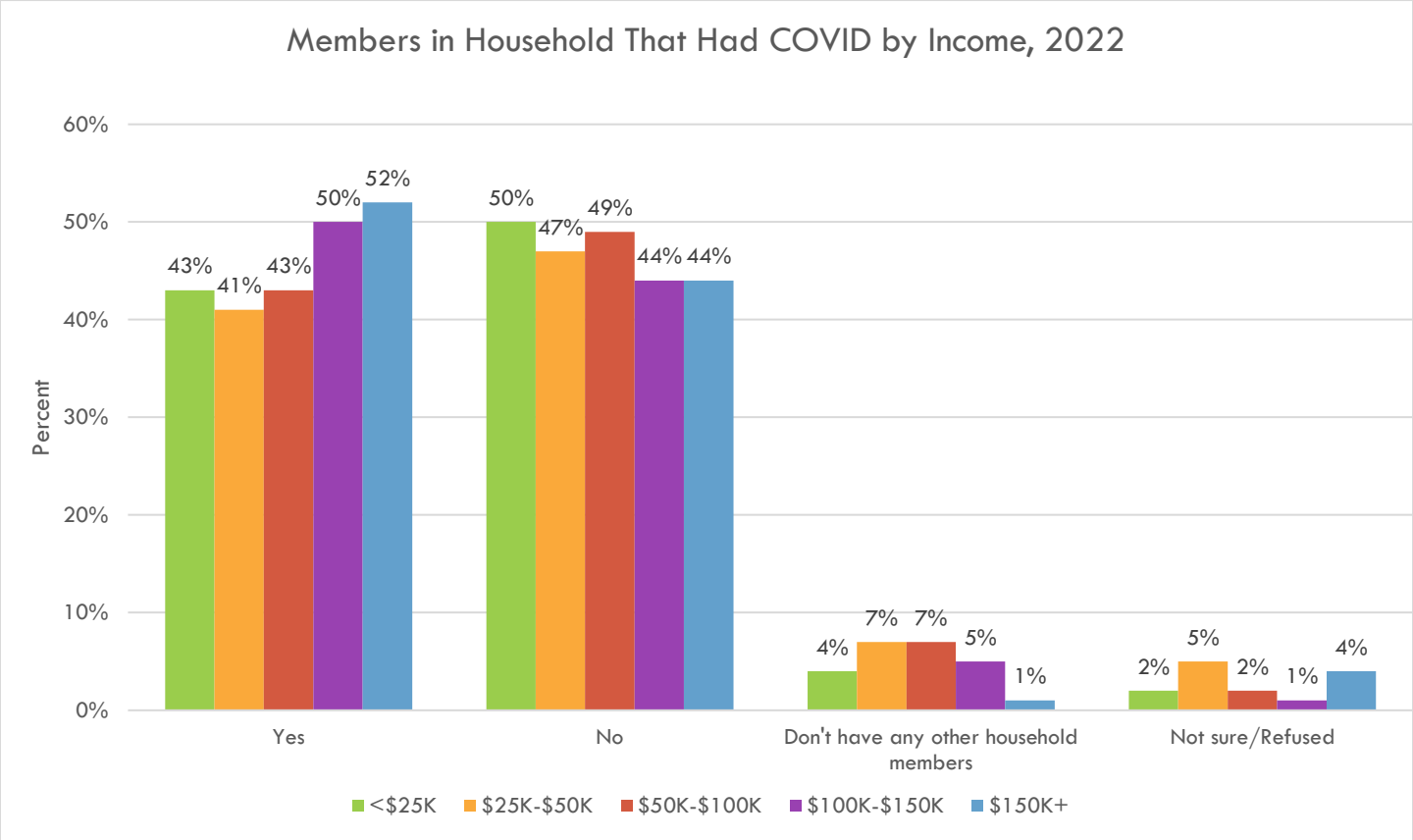


Figure 77



Survey Question 42: *(If COVID in Household) Have you or any other household member had ongoing COVID symptoms that have lasted more than four weeks - otherwise known as long-COVID?*

Figure 77

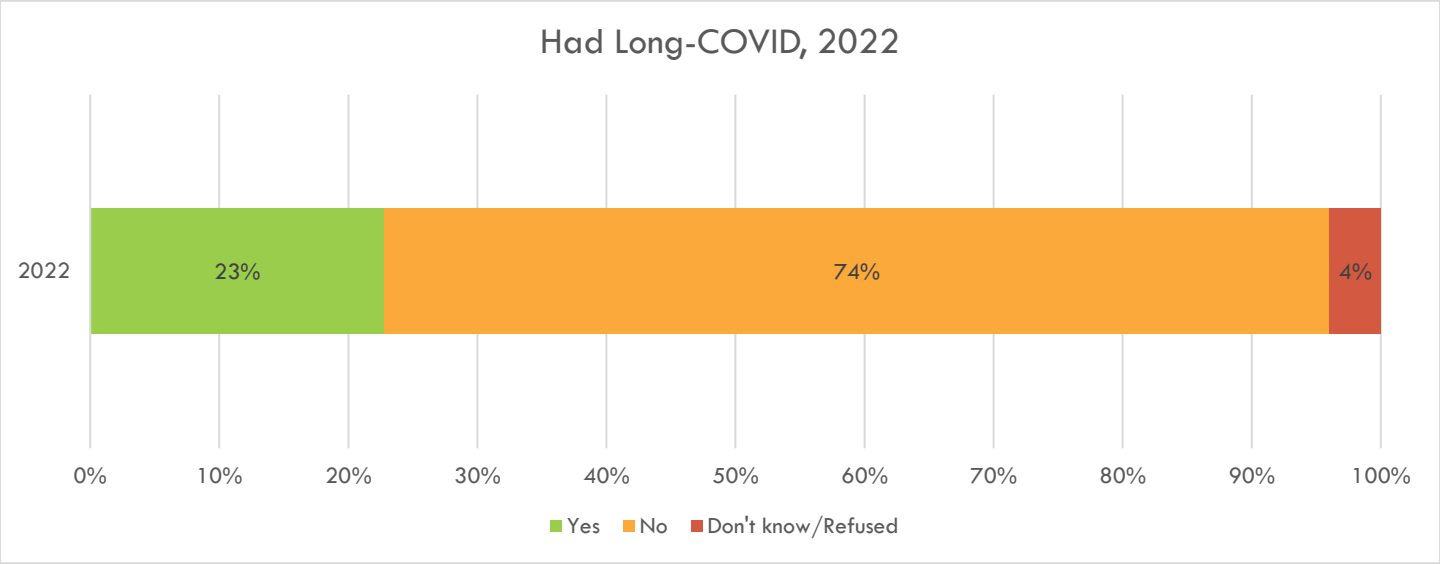
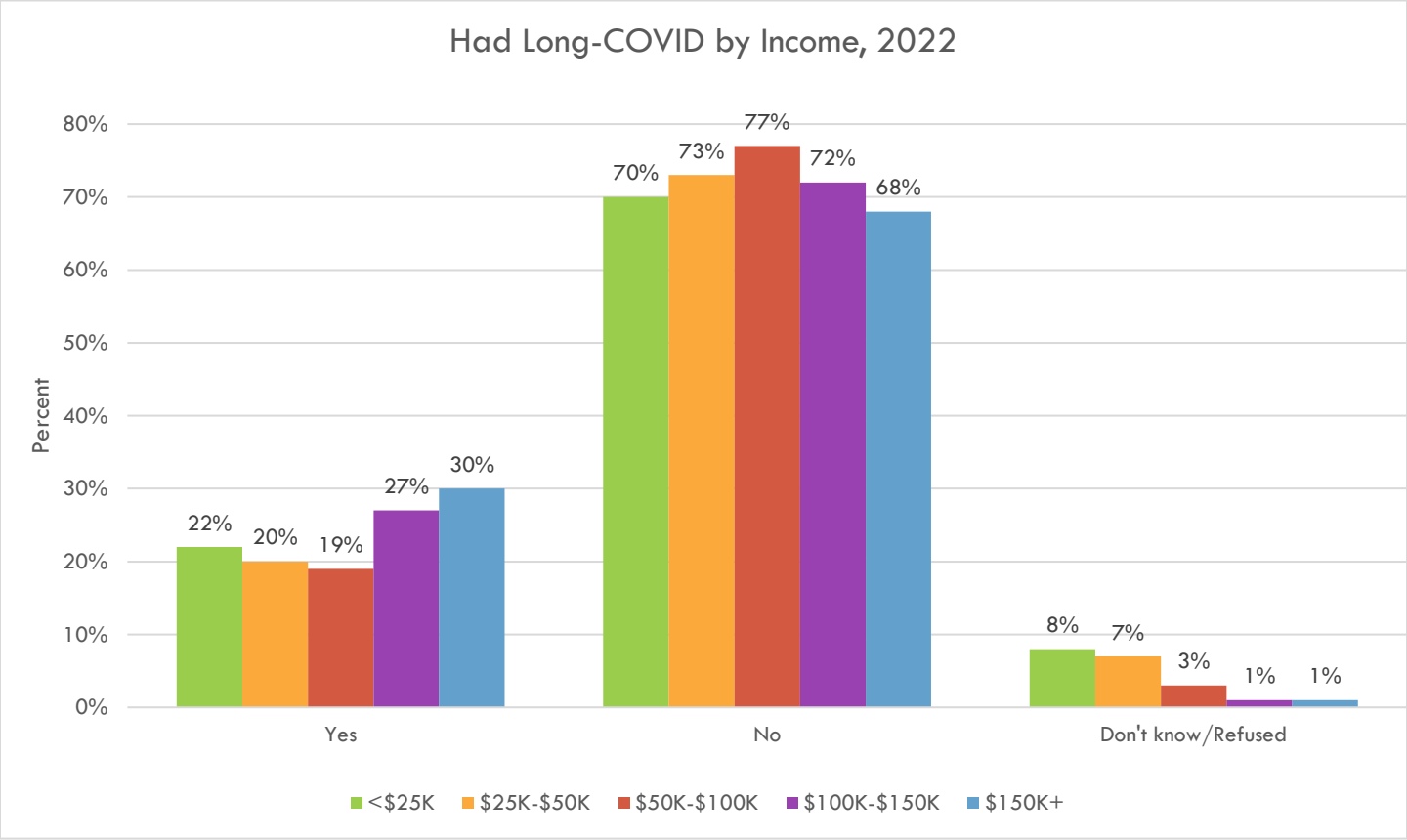


Figure 78



Survey Question 43: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your physical health***

Figure 79

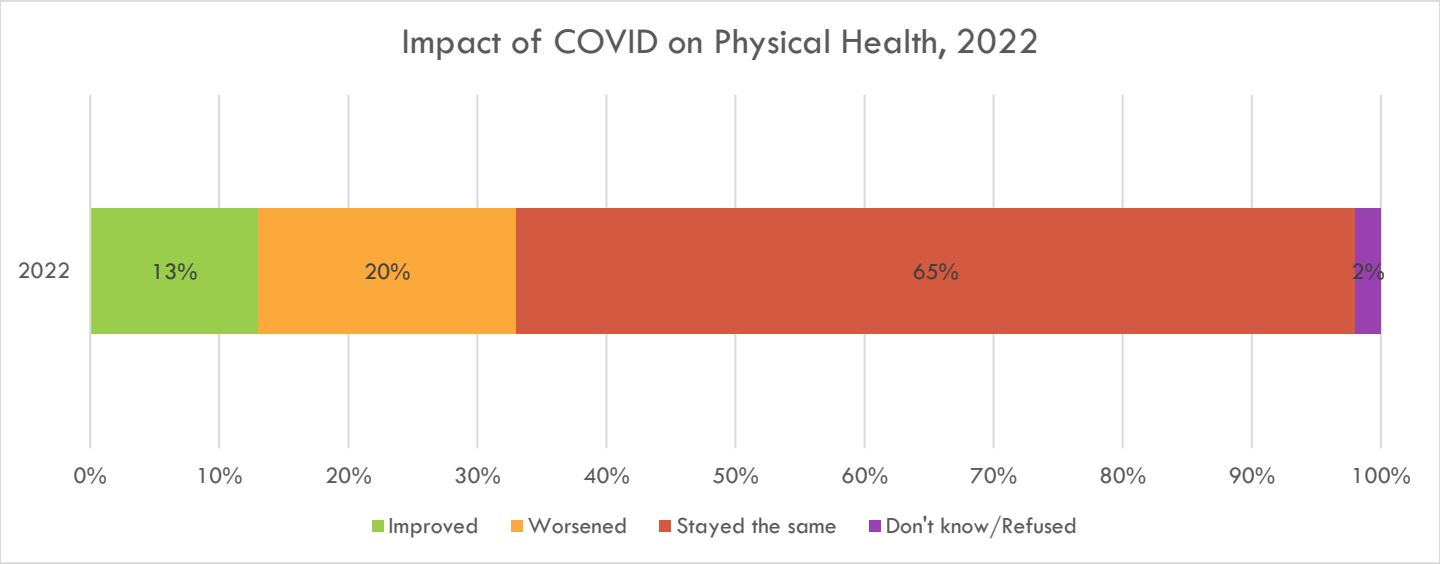
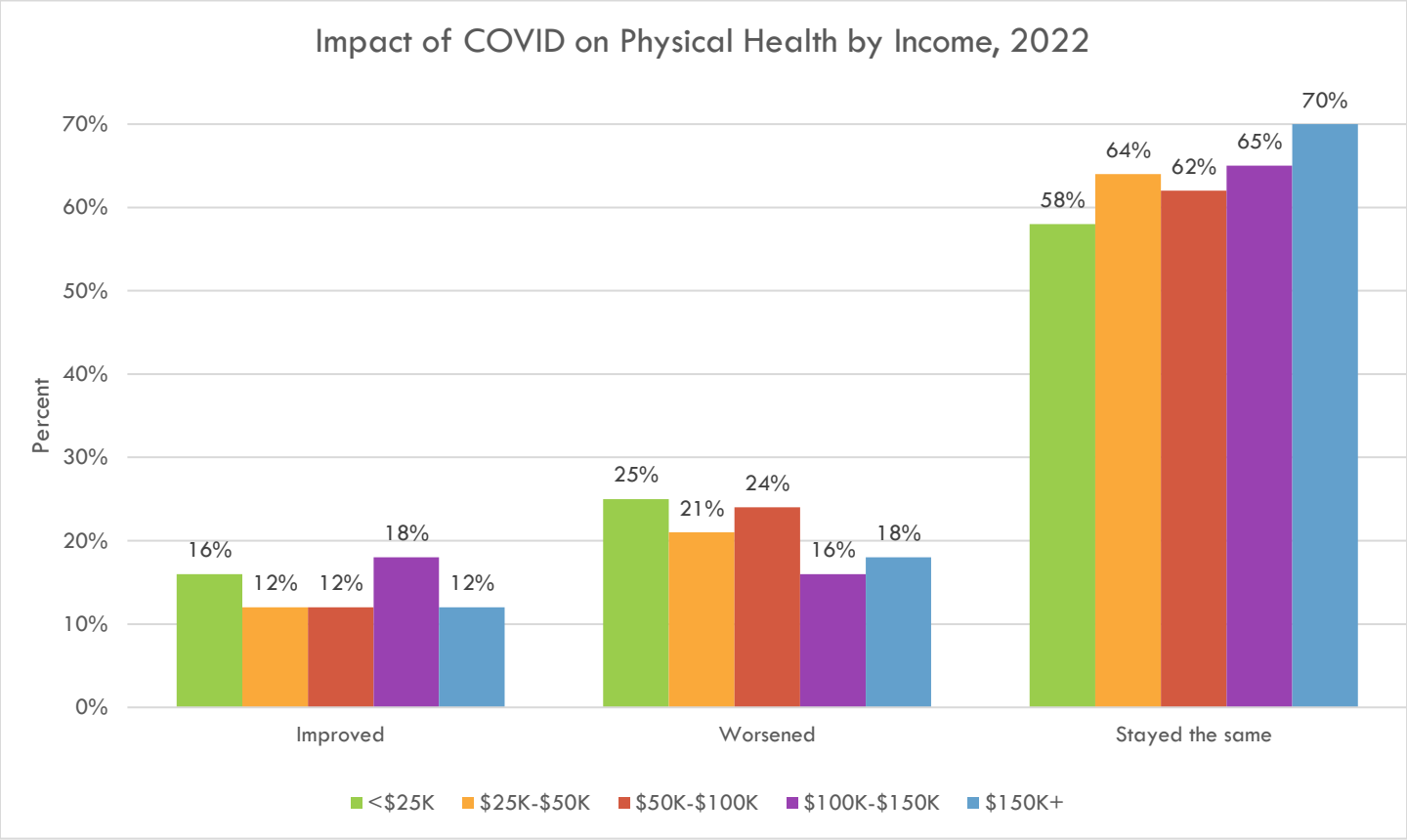


Figure 80



Survey Question 44: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your mental health***

Figure 81

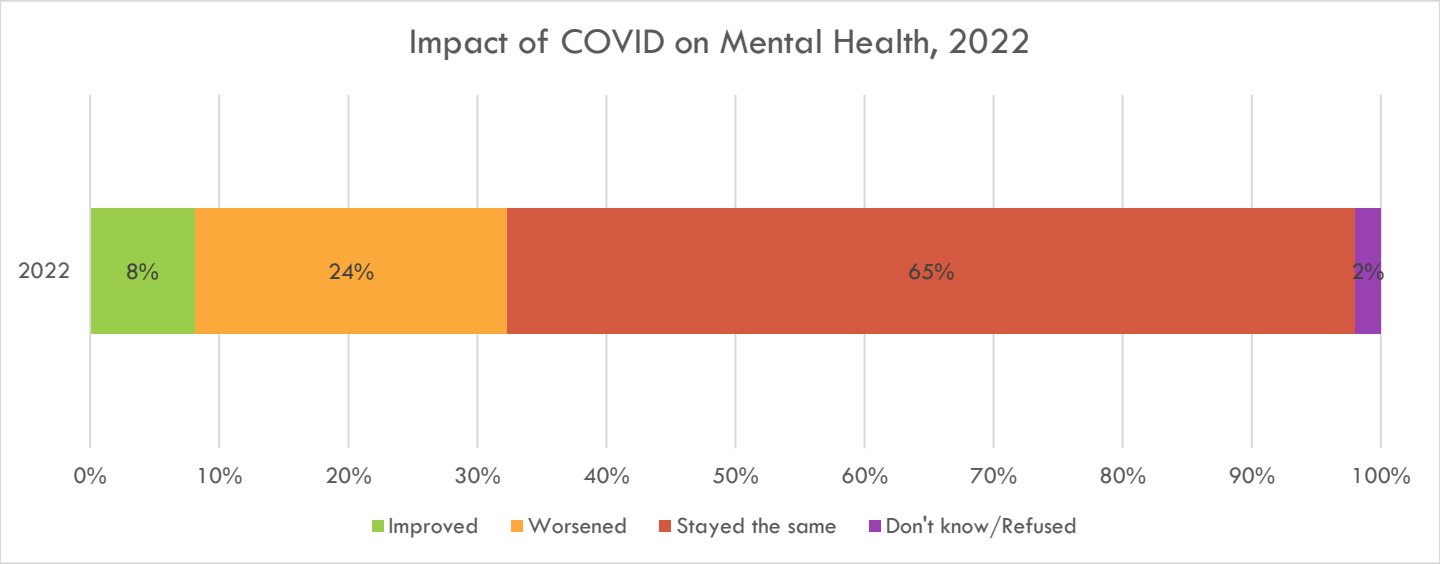
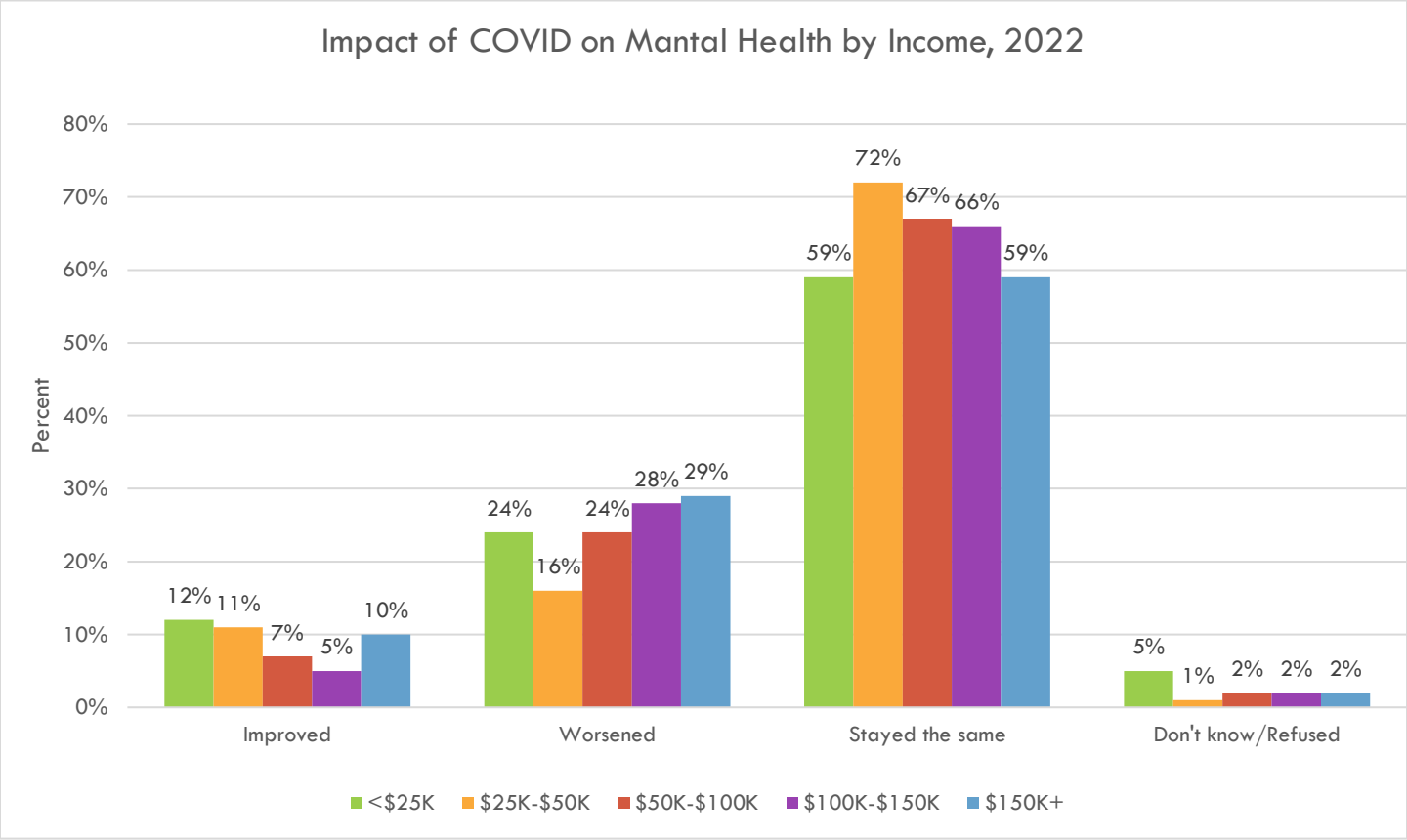


Figure 82



Survey Question 45: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to obtain affordable food that is nutritious***

Figure 83

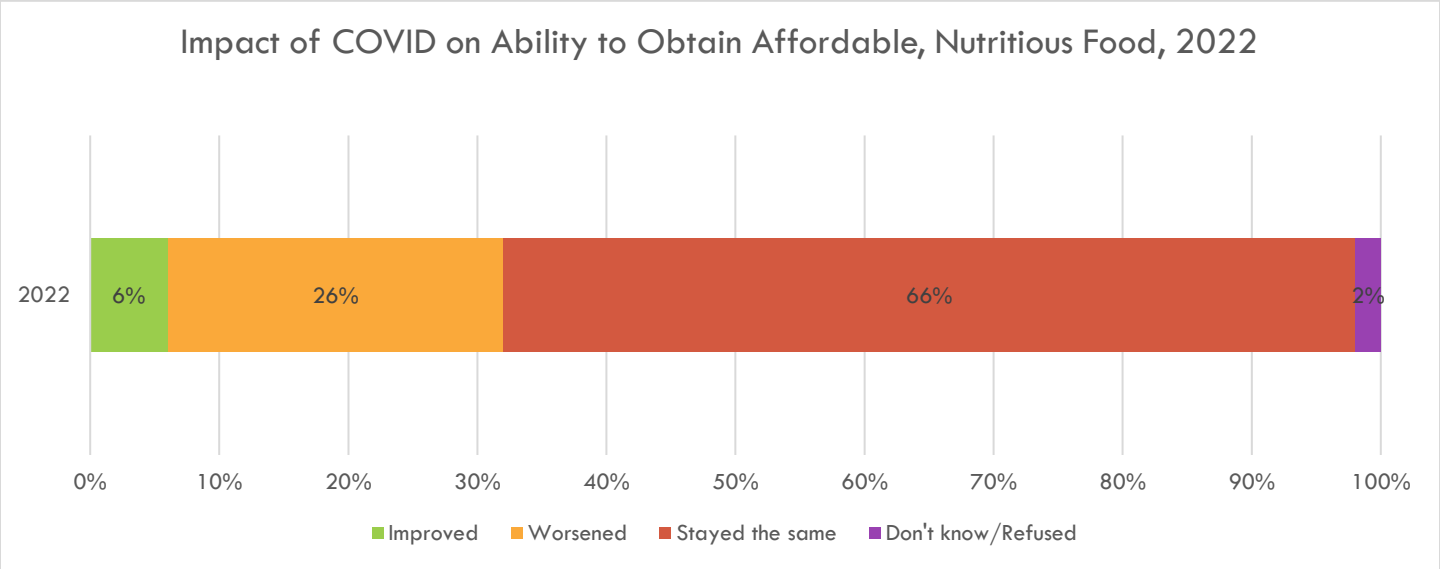
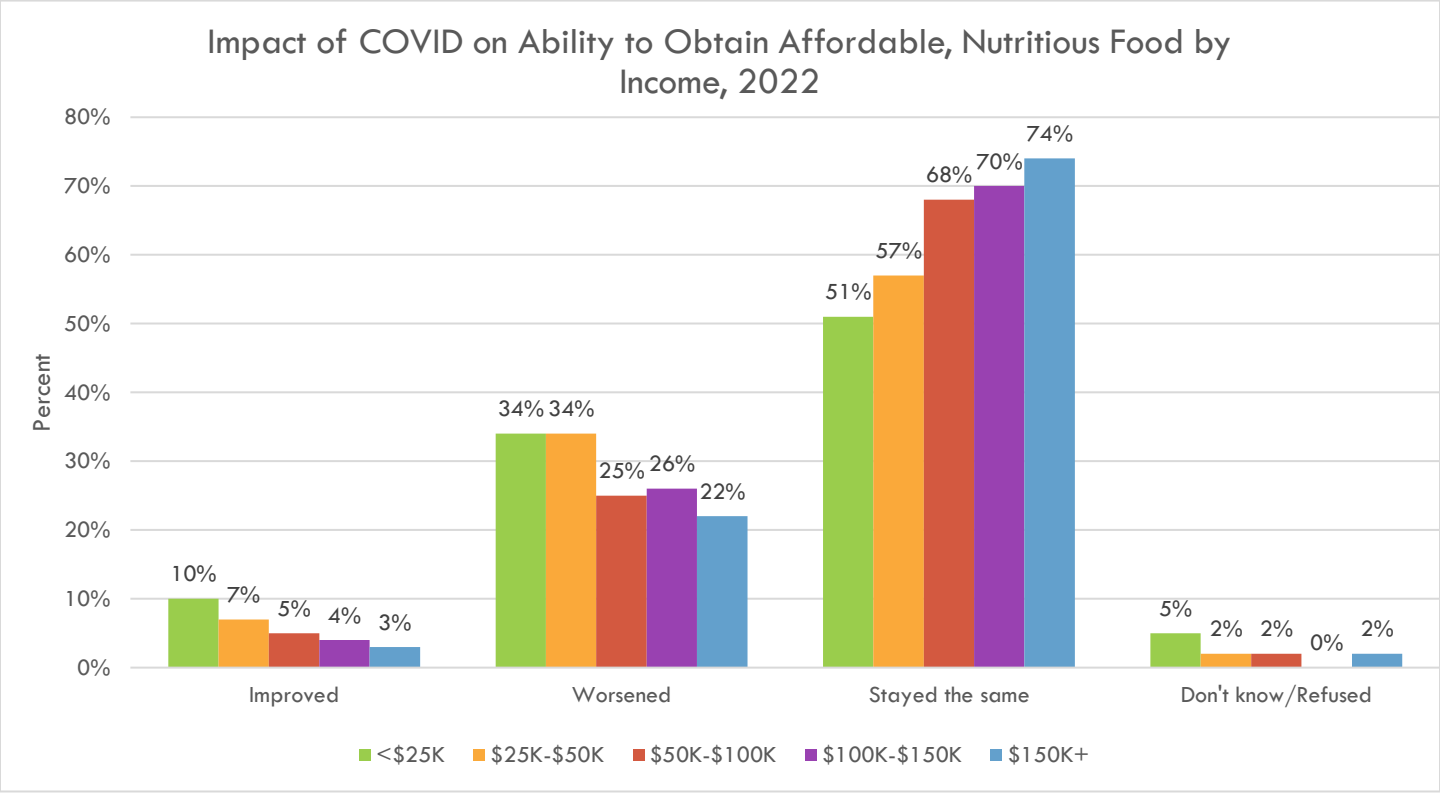


Figure 84



Survey Question 46: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to maintain employment that pays at least a living wage***

Figure 85

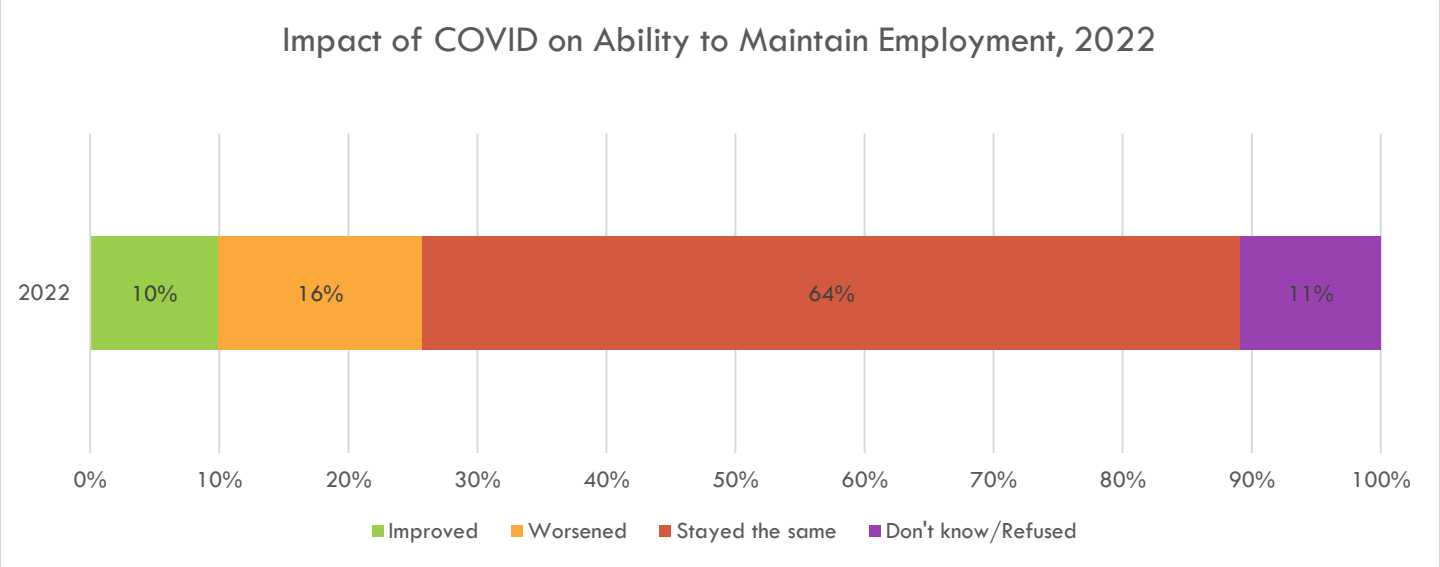
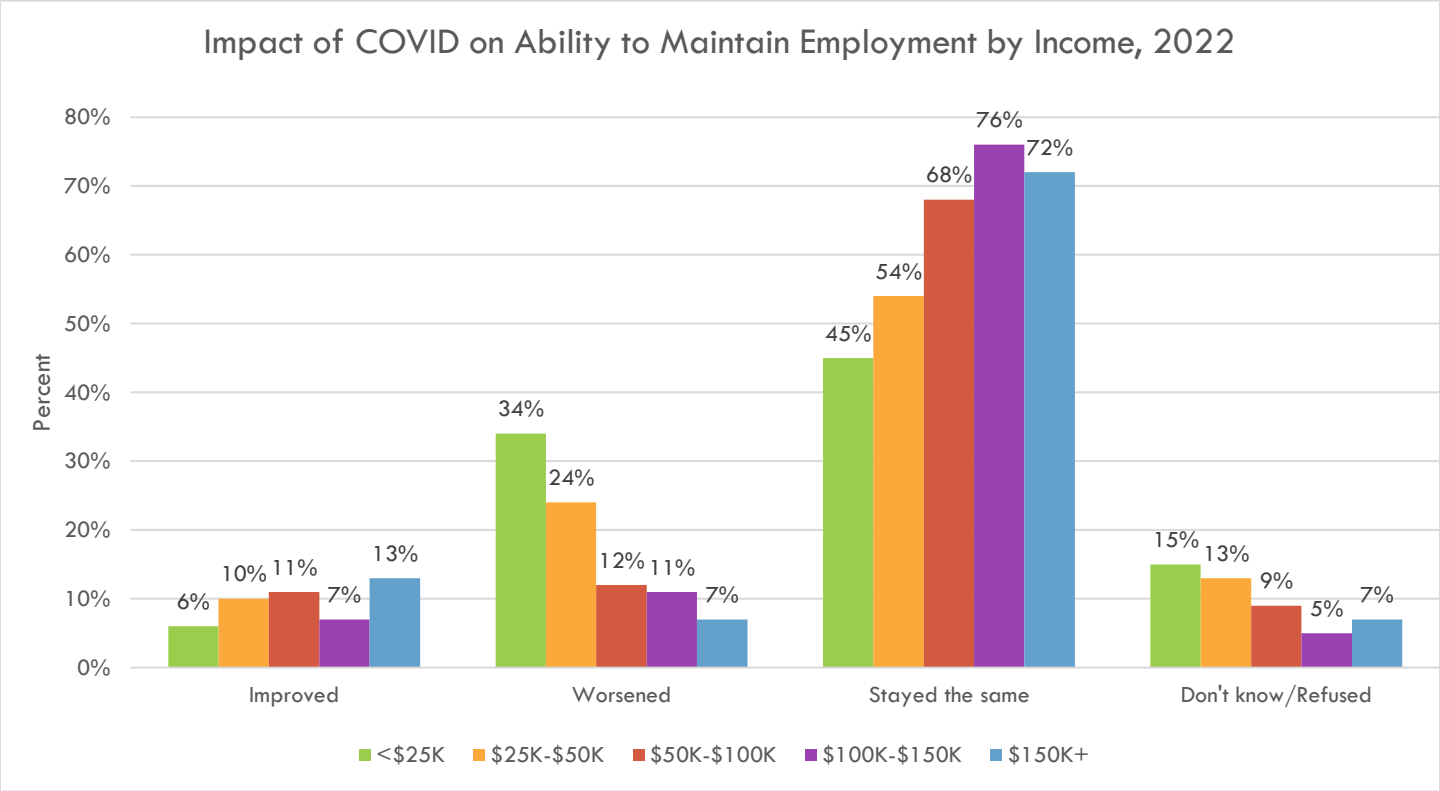


Figure 86



Survey Question 47: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to afford housing***

Figure 87

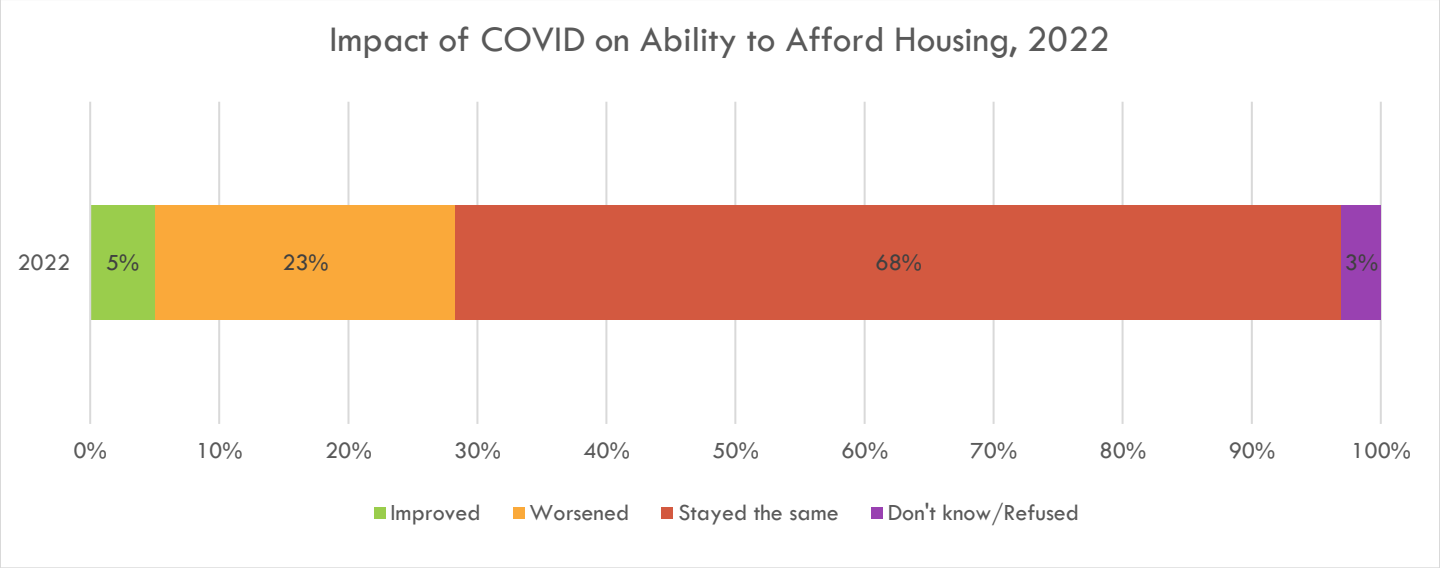
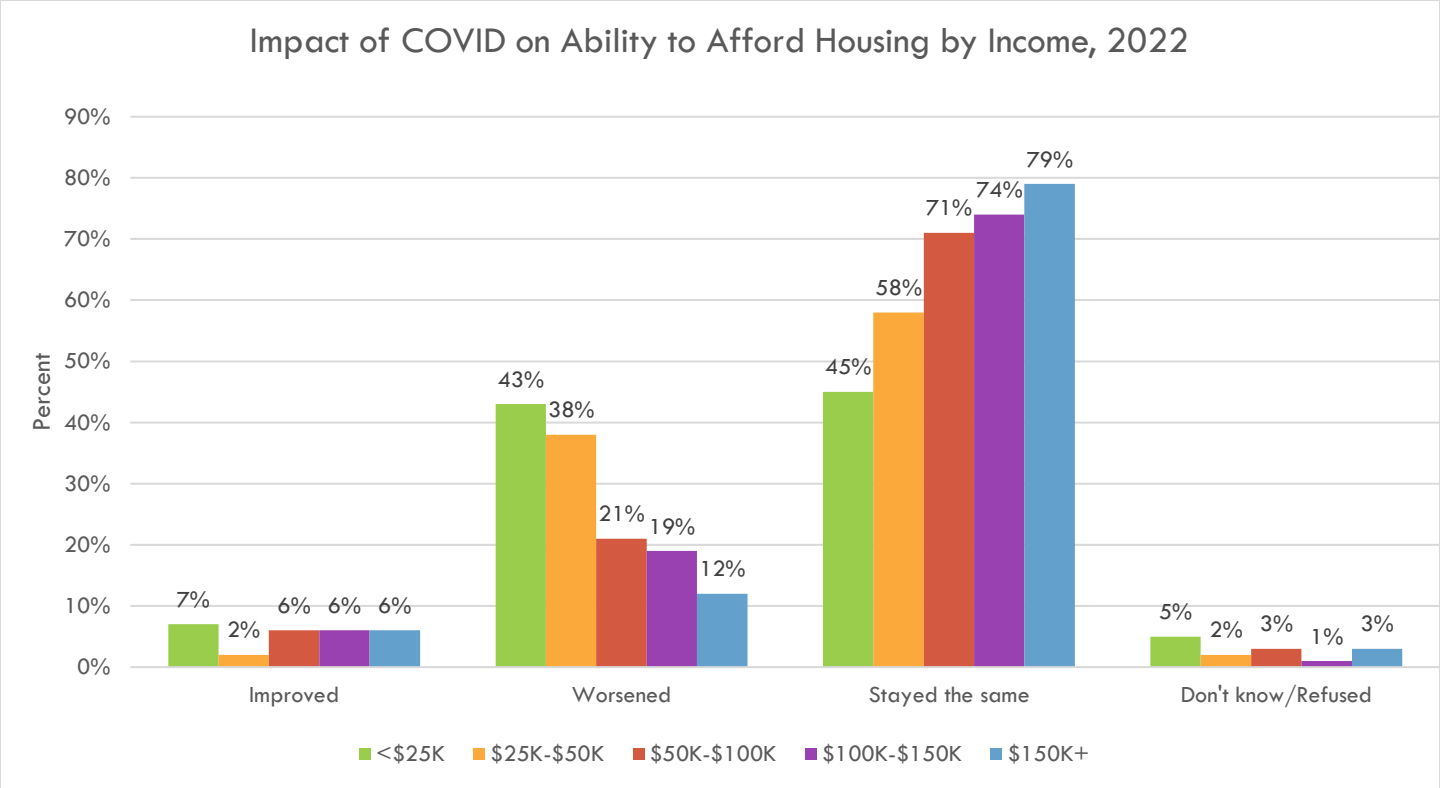


Figure 88



Survey Question 48: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to find available, quality childcare***

Figure 89

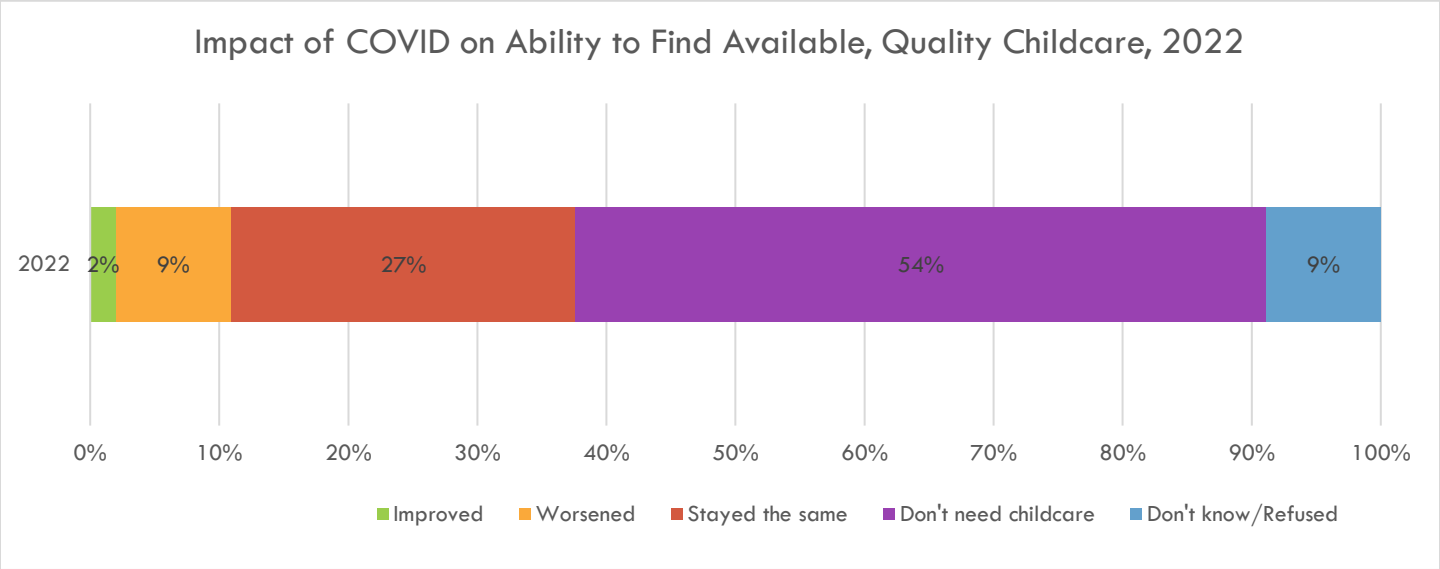
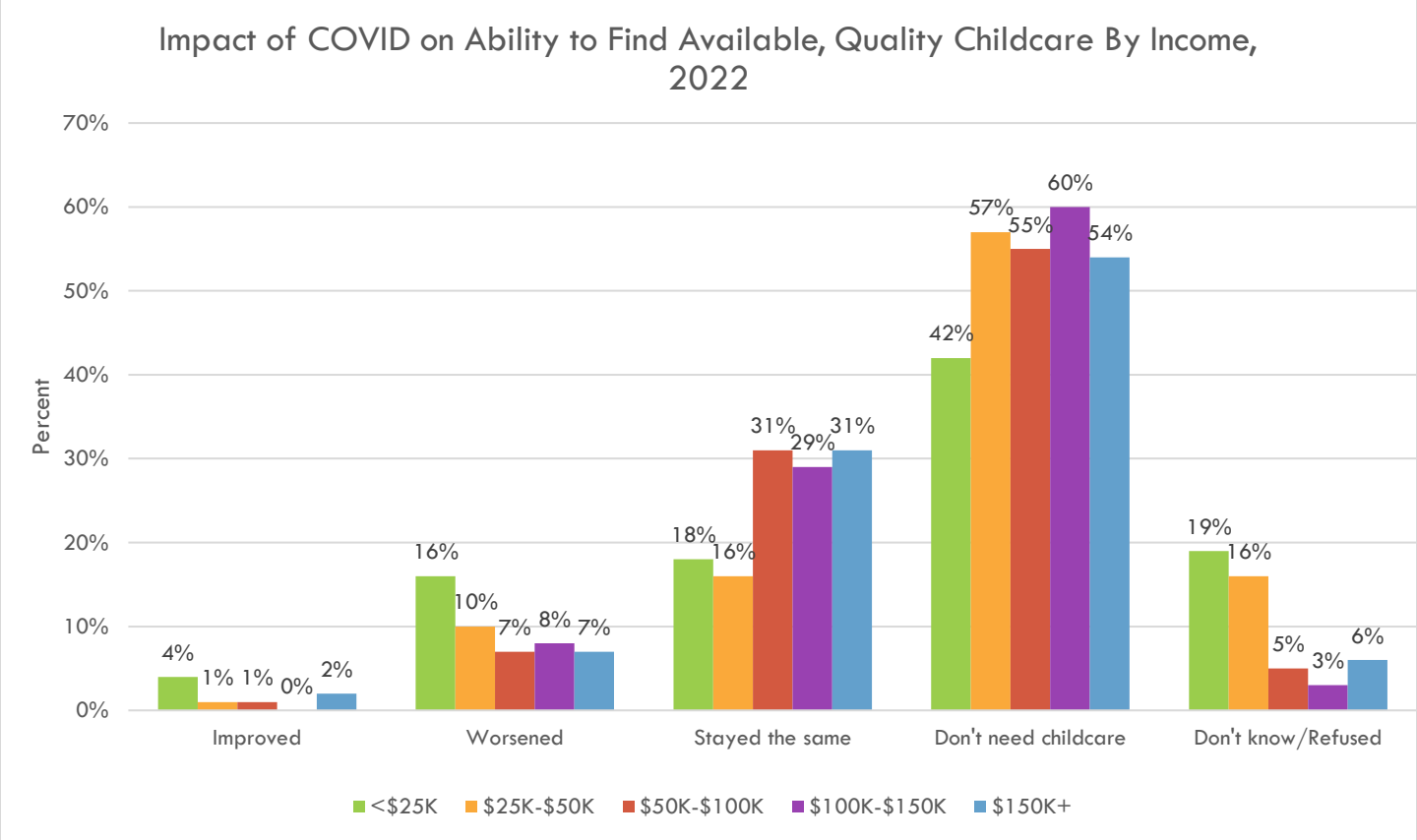


Figure 90



Survey Question 49: *Consider the impact of COVID on each of the following and indicate whether it has improved over the course of the pandemic, worsened or stayed the same?* ***Your ability to obtain care or to care for any member of your household that has a disability or chronic illness***

Figure 91

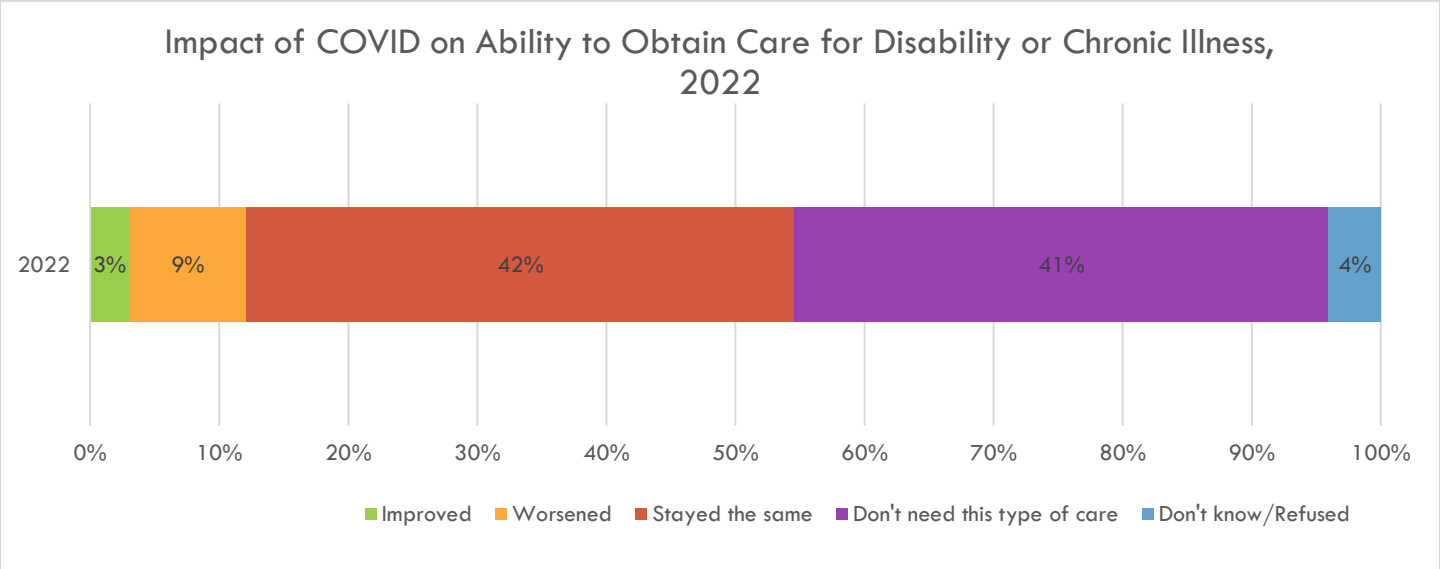
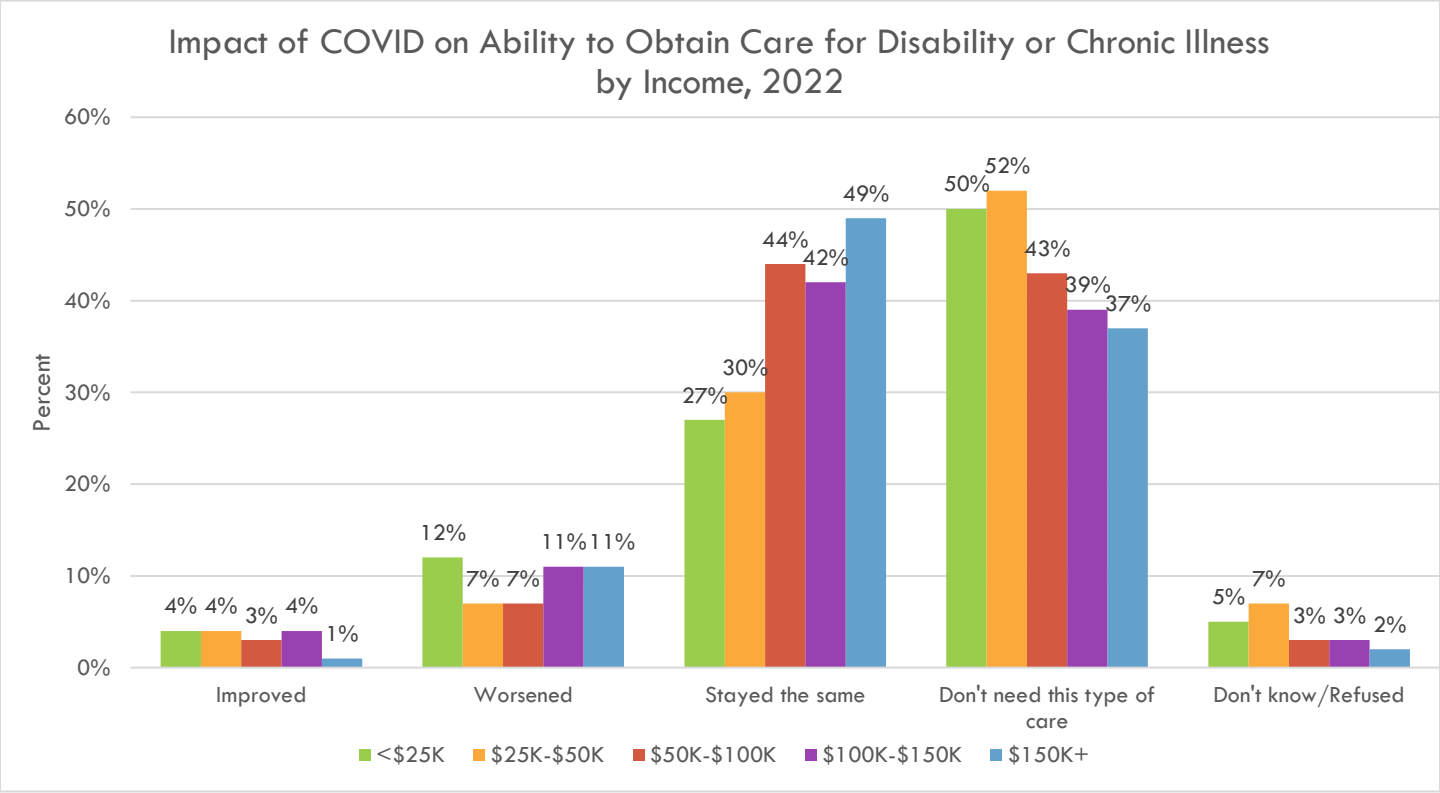


Figure 92



Survey Question 50: *Have you been vaccinated for COVID?*

Figure 93

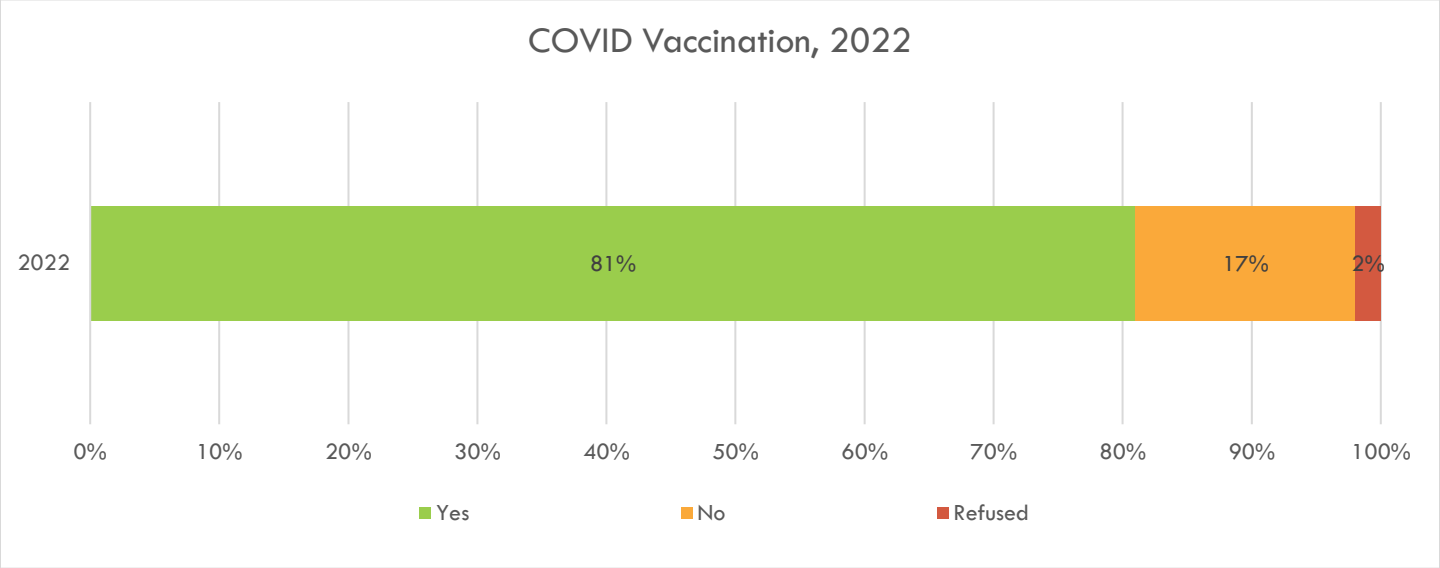
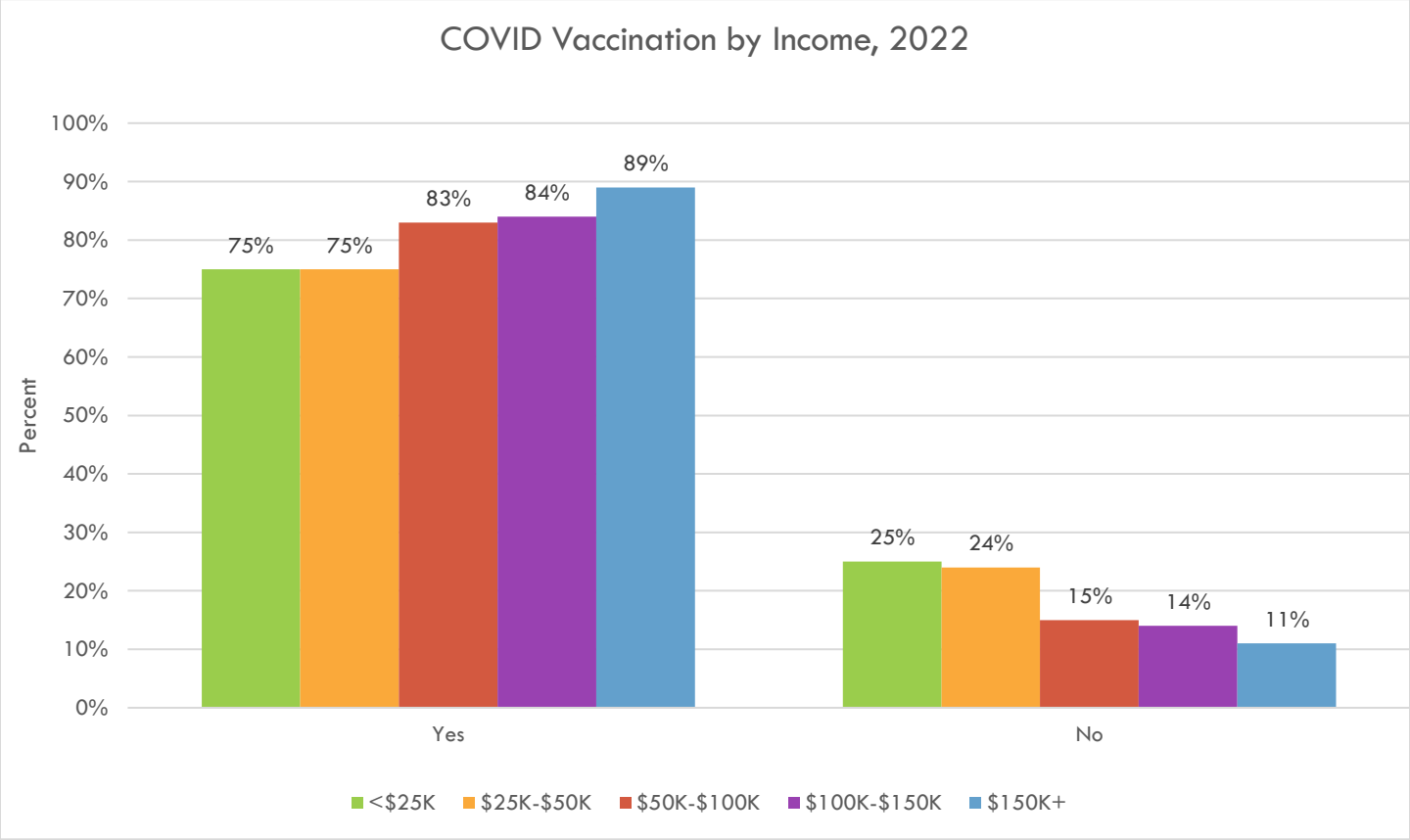


Figure 94



Survey Question 51: *(If vaccinated for COVID) Thinking back to when you got vaccinated, did you get it as soon as you were eligible or were you somewhat hesitant to get the COVID vaccine?*

Figure 95

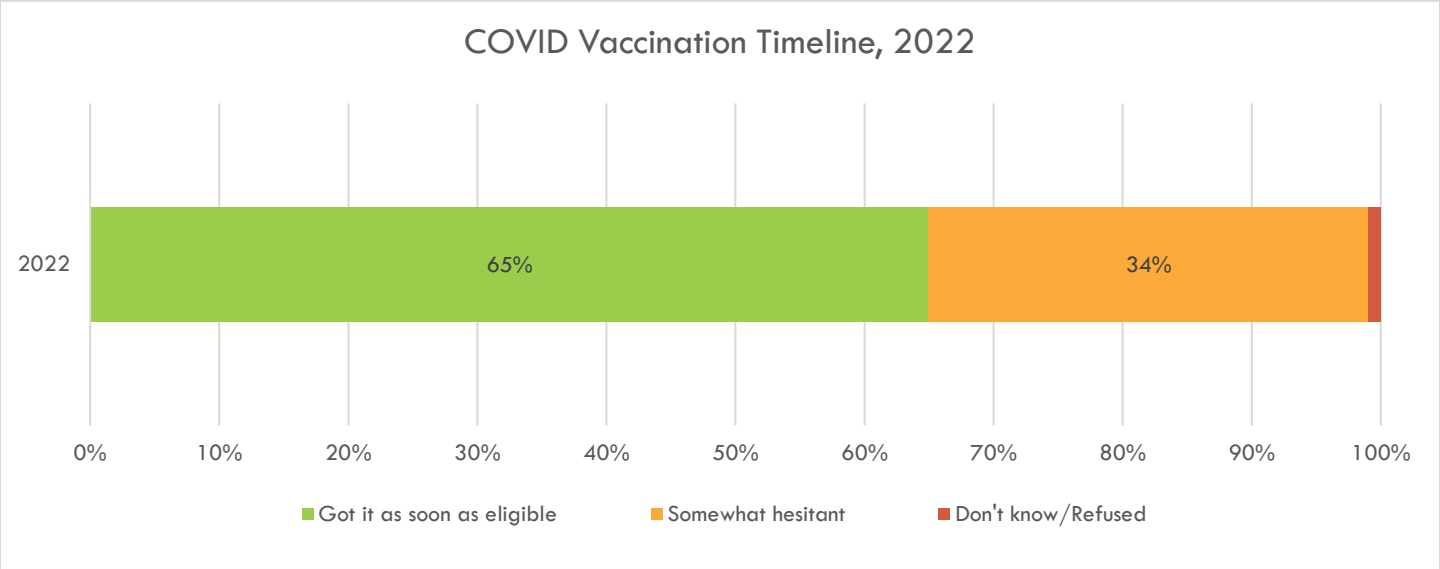
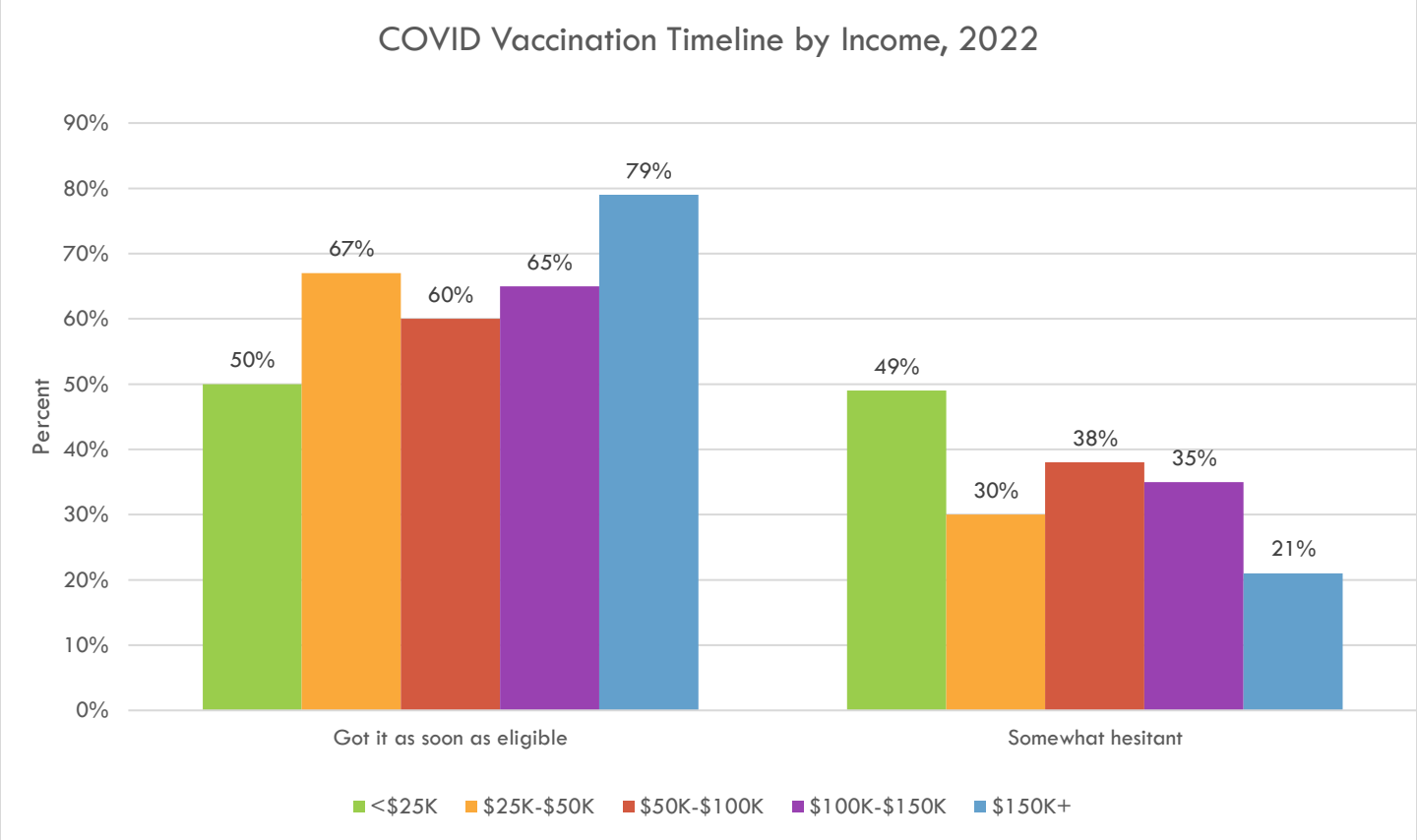
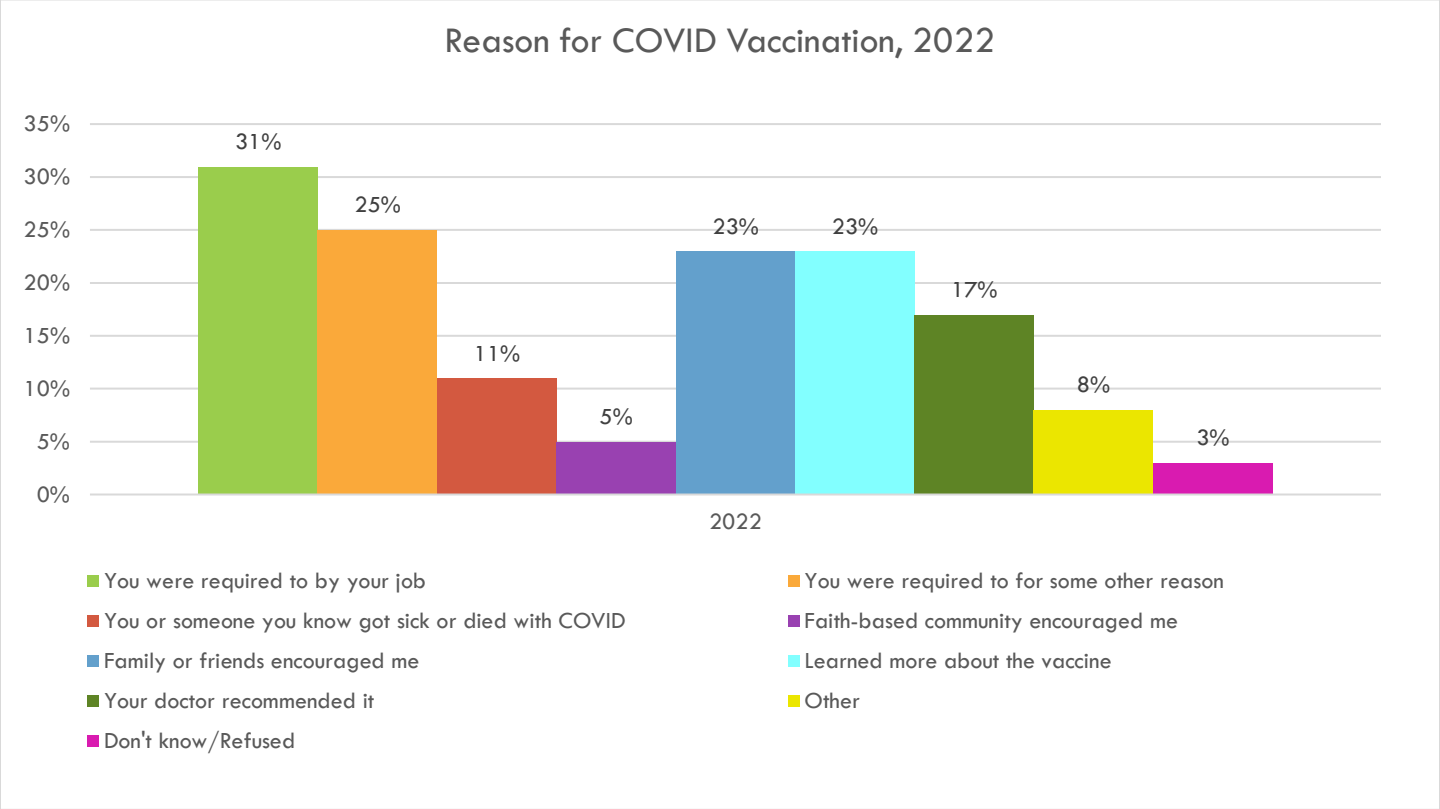


Figure 96



Survey Question 52: *(If vaccinated for COVID and somewhat hesitant) Why did you end up getting the vaccine?*

Figure 97



Reasons for COVID Vaccination by Income, 2022

	<$25K	$25K-$50K	$50K-$100K	$100K-$150K	$150K+
You were required to by your job	27%	27%	29%	36%	46%
You were required to for some other reason	26%	28%	23%	24%	17%
You or someone you know got sick or died with COVID	10%	7%	9%	12%	10%
Faith-based community encouraged me	3%	7%	4%	0%	8%
Family or friends encouraged me	16%	29%	26%	11%	22%
Learned more about the vaccine	16%	19%	24%	30%	18%
Your doctor recommended it	13%	26%	20%	7%	17%
Other	11%	8%	8%	3%	8%
Don't know/Refused	0%	4%	0%	3%	7%