



Warren Campus and Star Community Health Community Health Needs Assessment

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Icon Legend



St. Luke’s and Star Community Health Partner Quote (Key Informant/Community Forum Attendee)



St. Luke’s and Star Community Health Community Health Needs Assessment Data

Executive Summary

..... Key Findings

From our analysis of primary and secondary data, as well as the Community Health Needs Assessment (CHNA) key informant interviews and work with our community members, we see significant issues facing our communities that impede healthy lifestyles. Our efforts in prevention, care transformation, research, and partnerships help support our work to promote sustainable programs and opportunities for our reach to focus on a wide range of health promotion and quality of life initiatives. While there are many issues that need to be addressed, the results from the 2022 CHNA found the top priorities for the St. Luke’s network and Star Community Health include:

2022 Community Health Needs Assessment
Top Priority Outcomes
COVID-19
Access to Care
Workforce Development
Food Insecurity
Obesity Reduction
Physical Activity Promotion
Mental Health
Opioids and other Substance Use
Housing
Transportation

The needs discussed within the health categories outlined in this document will serve as our guide in creating a detailed campus-specific implementation plan to best address the specific needs of the St. Luke’s Warren campus and Star Community Health using three pillars:

***Wellness and Prevention**

***Care Transformation**

***Research and Partnerships**

We will work collaboratively in partnership with our community and network partners to create a more equitable society with better health outcomes, especially among our most vulnerable populations such as our Hispanic communities, seniors, women, and children.

Introduction

..... Background

As part of the Patient Protection and Affordable Care Act, nonprofit hospitals are required to conduct a Community Health Needs Assessment (CHNA) every three years to maintain tax-exempt status under section 501(c)(3) of the Internal Revenue Code. The goal of the assessment is to identify critical health disparities faced by populations within St. Luke’s University Health Network (SLUHN) service areas. The assessments state health priorities unveiled by community stakeholders, hospital professionals, and public health experts. Additionally, regional implementation plans will be crafted to build collaborative partnerships to determine the allocation of resources to address the specified health needs. To view our previous CHNA reports, please refer to the following link: <https://www.slhn.org/community-health/community-health-needs-assessment>. If you have any questions regarding any of these reports, please contact the Department of Community Health at (484) 526-2100.

..... Methodology

The CHNA is comprised of both primary and secondary data. The primary data were collected through three methods. First, key informant interviews were performed with leaders from each campus community to identify high level strengths and needs in their respective communities. A list of the interview questions can be found in Appendix A. Second, a community forum was held for each campus community through SLUHN and facilitated by Dr. Christopher Borick of Muhlenberg College. A list of organizations represented at the forum can be found in Appendix B. Due to the COVID-19 pandemic, key informant interviews were conducted through Microsoft Teams and the community forums were conducted through Zoom. Third, 11,523 voluntary community health surveys were administered throughout our fourteen campus geographic regions, where the main priority health needs were identified for each entity, and a total of 1,389 surveys were collected from the top 80 percent of zip codes in the Warren campus and Star Community Health service area. This assessment and data collection was also conducted in collaboration with Star Community Health, as the service areas and populations overlap. We used snowball sampling to reach respondents, especially those represented in our vulnerable populations. Snowball sampling is most effective when used to reach vulnerable populations to help to shed light on social determinants of health (SDOH) within hard-to-reach populations. To reach populations with diverse resources, surveys were completed in either paper or digital format. The survey findings document, also posted online, lists questions and responses recorded from CHNA surveys conducted in 2012, 2016, 2019, and 2022. Secondary data included the use of hospital network data as well as county, state, and national level data obtained from the following: U.S. Census, the Robert Wood Johnson Foundation, Vital Statistics, Community Commons, the American Community Survey (ACS), U.S. Department of Labor, the

Behavioral Risk Factor Surveillance System, as well as other data sources, which can be found in the footnotes. The needs identified in the interviews and community forums were supplemented by the survey data and secondary data to provide a comprehensive picture of the contributing factors and needs in the community.

..... Existing Warren Community Assets

When asking key informants to describe Warren county, one informant said it is “largely rural with some suburban and some higher density communities.” Others noted that it is geographically diverse, but there are pockets of the community that are divided into separate communities. One informant mentioned “one of the things I have long felt about the county is that it is divided into 5 separate communities. Hackettstown is its own thing, Phillipsburg is its own thing, Blairstown, Belvidere area and Washington.” When discussing the people in the community, there were varied responses from key informants. One mentioned the thought that “community members really feel that we are one community.” Another mentioned “I think professionally [there is a sense of community]. The social service providers and stakeholders function as a community and are looking to make the community better as a whole. As a resident, I don't feel that sense of community. As an outsider coming in, Phillipsburg is a tightknit community and if you aren't born and raised you don't really fit in. I have felt community in a professional attachment but not outside of that.” A community forum attendee also added, “we have very active advisory councils and a strong mental health board. They hold open public meetings that allow for important access and communication.”

St. Luke's Warren campus has a variety of programs including the Adopt-A-School garden which provided education on gardening and fresh produce to 40 classrooms, serving 662 students at Phillipsburg Elementary school. St. Luke's Sports Medicine serves five schools in Warren county and has enrolled 25 new students from Phillipsburg Middle School into the REACH Program during fiscal year 2020.

During COVID-19, Walk with a Doc and Get Your Tail on the Trail went virtual, but continued to promote participation. The Community Supported Agriculture (CSA) shares continued to distribute fresh produce to low-income patients and Warren county schools continued to improve literacy with Dr. Seuss Day and other reading initiatives. Throughout the pandemic, SLUHN has been able to pivot and meet the needs of the community through existing relationships built with nonprofits, schools, and community-based organizations who have assisted in events, education, and providing services in our communities.

..... County Health Rankings

Every year, the Robert Wood Johnson Foundation releases data that compare counties to state averages, as well as U.S. top performers. The table below depicts select health indicators for 2021 for each of the counties in SLUHN's service area. There are 20 indicators evaluated for each county, with the U.S. top performers being the counties at the 90th percentile in the nation. The indicators are color-coded using a

2022 St. Luke's University Health Network Warren Campus and Star Community Health Community Health Needs Assessment

stoplight approach, in which green indicates that the value is better than both state and U.S. top performers, yellow indicates that the value is in between state and U.S. top performers, and red indicates that the value is at or worse than both state and U.S. top performers. In looking at the 2021 data table out of 180 values, 60% of values are red (108), 21% are yellow (38), and 19% are green (34). There was a 47.8% overall increase in green tiles, previously 23 total, since 2018 during the last CHNA cycle. Additionally, in Warren county, there are 55% red values, 30% yellow values, and 15% green values. In 2018, there were 50% red values, 35% yellow values, and 15% green values. From 2018 to 2021, there was a 10% increase in red values, a 14.3% decrease in yellow values, and no change in green values.

The Robert Wood Johnson Foundation reports their findings as the year 2021, but many of the measures are reported from previous years. Please see <https://www.countyhealthrankings.org/> for more information.

2021	U.S. Top Performers*	Pennsylvania (PA)	Berks (BR) County, PA	Bucks (BU) County, PA	Carbon (CR) County, PA	Lehigh (LH) County, PA	Monroe (MO) County, PA	Montgomery (MT) County, PA	Northampton (NO) County, PA	Schuylkill (SC) County, PA	New Jersey (NJ)	Warren (WA) County, NJ
Unemployment	2.6%	4.4%	4.3%	3.8%	5.4%	4.5%	5.4%	3.5%	4.5%	5.4%	3.6%	3.3%
Uninsured	6%	7%	7%	5%	6%	8%	8%	5%	6%	6%	9%	7%
Primary care physicians	1,030:1	1,230:1	1,600:1	1,180:1	2,380:1	990:1	2,420:1	730:1	1,210:1	1,870:1	1,180:1	1,680:1
Dentists	1,210:1	1,410:1	1,780:1	1,150:1	2,290:1	1,130:1	2,580:1	920:1	1,700:1	2,210:1	1,140:1	1,350:1
Poor physical health days	3.4	4.0	4.0	3.1	4.3	4.1	4.0	3.3	4.0	4.5	3.7	3.9
Food environment index	8.7	8.4	8.6	9.1	8.3	8.4	8.0	9.1	8.7	8.3	9.4	8.7
Physical inactivity	19%	22%	22%	18%	24%	17%	24%	18%	27%	24%	27%	28%
Access to exercise opportunities	91%	84%	86%	89%	75%	82%	86%	95%	87%	75%	95%	97%
Adult obesity	26%	31%	34%	28%	34%	31%	33%	25%	31%	37%	27%	32%
Excessive drinking	15%	20%	21%	23%	22%	22%	20%	22%	22%	21%	16%	21%
Adult smoking	16%	18%	20%	16%	23%	18%	20%	14%	19%	23%	13%	17%
Poor mental health days	3.8	4.7	4.6	4.4	5.1	4.7	4.9	4.4	4.7	5.2	3.8	4.6
Mental health providers	270:1	450:1	680:1	390:1	1,600:1	510:1	830:1	280:1	420:1	1,210:1	420:1	470:1
Low birthweight	6%	8%	8%	8%	9%	8%	9%	7%	8%	8%	8%	8%
Teen births	12	17	21	6	19	21	11	7	12	22	12	9
Sexually transmitted infections	161.2	463.4	475	245.1	175.4	511.9	367.8	295.1	411.0	244.8	405.5	206.9
High school graduation	94%	91%	87%	94%	89%	89%	90%	94%	91%	89%	90%	91%
Children in poverty	10%	17%	16%	7%	14%	18%	17%	7%	10%	16%	12%	9%
Severe housing problems	9%	15%	15%	15%	14%	16%	18%	15%	14%	11%	21%	15%
Social associations	18.2	12.2	11.4	7.7	13.9	10.2	7.6	11.2	10.6	13.2	8.7	9.5

University of Wisconsin Population Health Institute.
County Health Rankings and Roadmaps. 2021.

KEY

At or above State/Top Performer

Between Top Performers and State

At or below State/Top Performer

Figure 1

Demographics

..... Population

For the purposes of the CHNA, we define the top zip codes as those that account for 80% of the population served by the Warren Campus and Star Community Health (i.e., service area). In the Warren campus and Star Community Health service area (Figure 2), 64% of the patients served reside in zip codes 08865 (Phillipsburg), 07882 (Washington), and 07823 (Belvidere). These remained the same as in the previous 2019 CHNA.¹

A total of 148,316 people live in the 195.42 square mile area outlined in Figure 3 according to the U.S. Census Bureau American Community Survey (ACS) 5-year estimates (2015-2019). The population density for this area is estimated at 758.85 persons per square mile, compared to 1,207.50 persons per square mile in New Jersey and 91.93 persons per square mile nationally.

Zip Code	% SLW Total (n = 98,755)	% Network Total (n = 1,554,201)
08865	46%	2.9%
07882	9%	0.6%
07823	9%	0.6%
08886	6%	0.4%
18042	3%	0.2%
07863	2%	0.2%
18040	2%	0.1%
18045	2%	0.1%
Total	80%	5.1%

Figure 2

When looking at population, we also assess the percentage of the population living in urban and rural areas. According to the 2010 Decennial Census, 85.7% of the Warren campus and Star Community Health service area lives in an urban setting and 14.3% of the service area lives in a rural setting. Urban areas are defined by population density, count, size thresholds and the amount of impervious surface or development (i.e., areas impervious to water seeping into the ground, concrete-heavy areas). Rural areas are all other areas not defined as urban. The New Jersey percentages for urban and rural living are 94.7% and 5.3%, respectively. The United States urban and rural percentages are 80.9% and 19.1%, respectively.



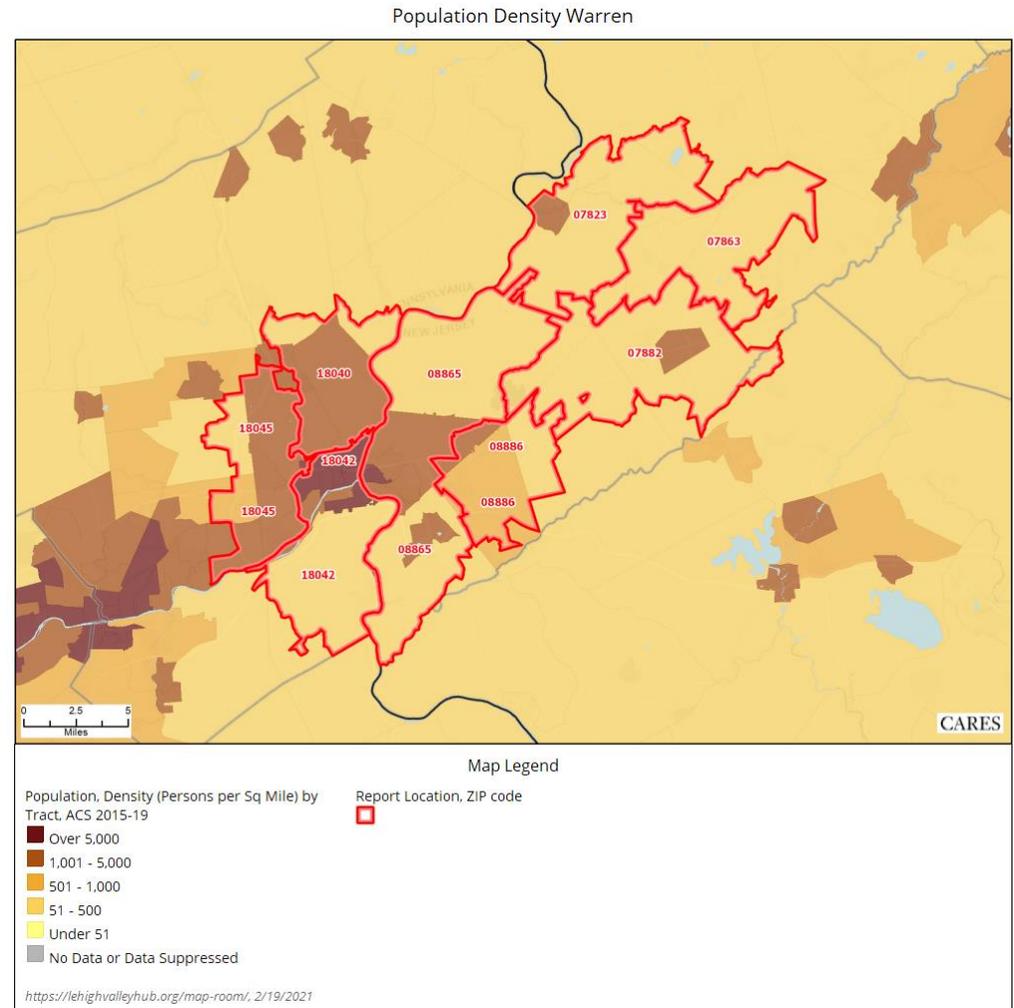
“There are a lot of resources, but the challenge is getting people to find out about them.”

¹ <https://www.slnh.org/community-health/community-health-needs-assessment/-/media/AF20DB13CA9B4726B971D511B5BF729B.ashx>



“There is not a newspaper that everyone reads, where everyone gets their information. This is happening all over the county. Our challenge has been how do we get our message out? We used to send out a press release and there would be several newspapers and a local radio show where people could get information. If you needed to advertise, there were a few places to go and managed to get a lot of views. Now there are so many websites and social media platforms and I don’t know that there is any one good place to communicate to people.”

The following sections give a brief overview of the populations that St. Luke’s Warren campus and Star Community Health serves. Understanding the demographics of the service area is essential to addressing needs and improving upon the region’s health services. The following data comes from ACS 5- year estimates (2015-2019) by the Census Bureau and St. Luke’s CHNA survey data unless otherwise noted.² Please refer to the Network and Campus Community Health Needs Assessment Survey Findings document for more detailed information from the survey.



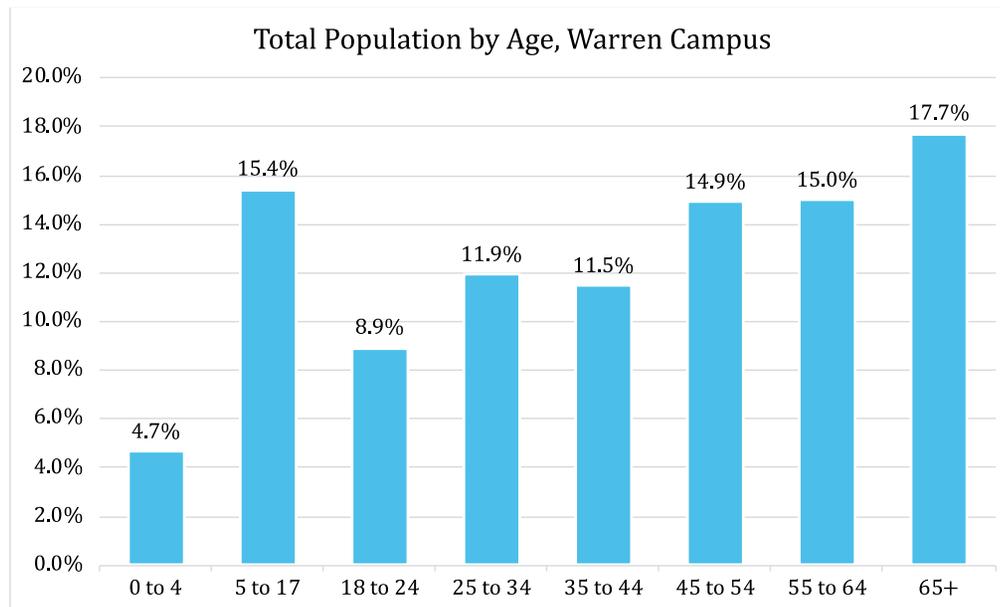
² <https://www.census.gov/programs-surveys/acs/>

..... **Age**

The ACS reports that 20.1% of the service area population are people under 18 years old and 17.7% are 65 years and older (Figure 4). Combined, these groups account for 37.8% of the service area population, leaving 62.2% between the ages of 18 and 64. In Warren county, 20% of people are under 18 and 17.6% are 65 and older, leaving 62.4% between the ages of 18 and 64.

Most CHNA survey respondents from the Warren campus and Star Community Health service area were 65 years and older (46%), 23% were ages 55 to 64, 15% ages 45 to 54, 9% ages 35 to 44, 5% ages 25 to 34, and 2% ages 18 to 24. The CHNA survey was only administered to people 18 years and older, therefore, younger ages are not reflected in the sample. The median age of respondents was 63 years old.

Figure 4



..... **Sex**

According to the ACS, 51.5% of people identified as female and 48.5% identified as male in the Warren campus and Star Community Health service area (Figure 5). This is similar to the national average, 50.8% and 49.2%, respectively. In Warren county, 51% of people identify as female and 49% as male.

When asked about sex assigned at birth, 61% of Warren campus and Star Community Health service area respondents indicated female and 39% male.

Total Population by Sex, Warren Campus

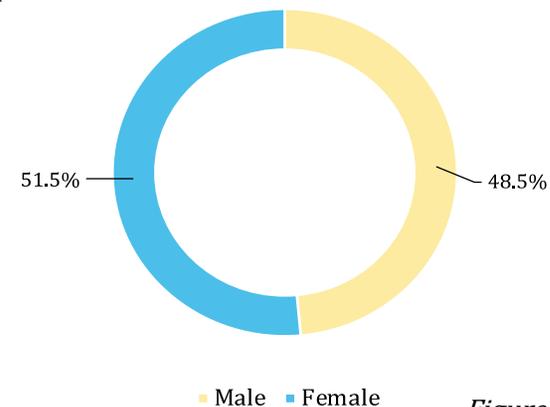


Figure 5

Ethnicity

Total Population by Ethnicity, Warren Campus

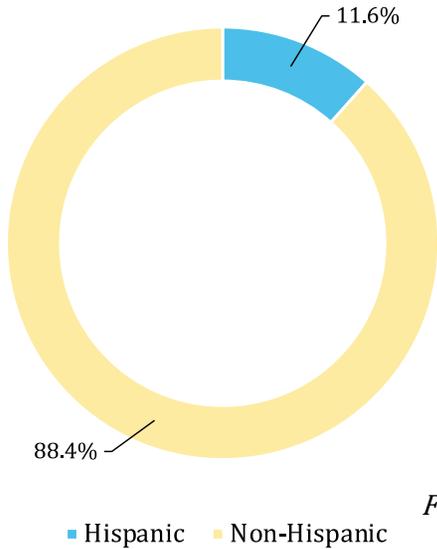


Figure 6

The ACS reports that 88.4% of the Warren campus and Star Community Health service area identifies as non-Hispanic and 11.6% identifies as Hispanic (Figure 6). The population in New Jersey is 79.8% non-Hispanic and 20.2% Hispanic; the United States population is 82% and 18%, respectively. In Warren county, 90.7% of people identify as non-Hispanic and 9.3% as Hispanic.

When asked about ethnicity, 91% of Warren campus and Star Community Health service area survey respondents identify as non-Hispanic while 9% of respondents identify as Hispanic.

Race

The ACS reports that 82.5% of the service area identifies as White, followed by Black (7.9%), Other Race (6.3%), and Asian (3.2%). Data for individuals identifying as Native Hawaiian/Pacific Islander, Native American/Alaska Native, and Multiple Races were combined with Other Race due to small sample sizes. In Warren county, 88.5% of people identify as White, followed by Black (4.5%), Other Race (4.4%), and Asian (2.7%).

The majority of CHNA survey respondents in the Warren campus and Star Community Health service area identified as White (89%), followed by Black (5%), Other Race (5%), and Asian (1%).

Total Population by Race, Warren Campus

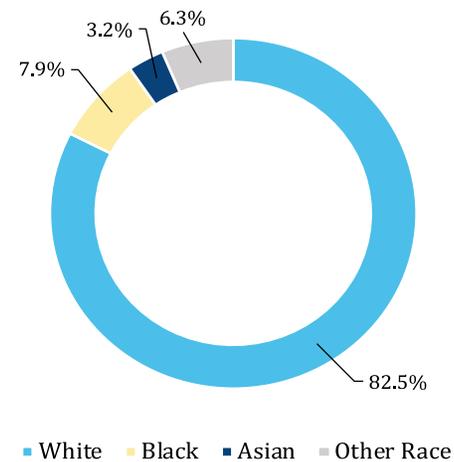


Figure 7

..... Vulnerable Populations

The following data was retrieved from the 5-year American Community Survey (2015-2019) by the Census Bureau.³

..... Black, Indigenous, People of Color (BIPOC)

It is important for St. Luke's to identify the BIPOC communities within the St. Luke's community in order to address specific needs. For example, Indigenous peoples historically lack proper access to health resources and information and often face discrimination when accessing healthcare facilities.⁴ Additionally, in regard to the COVID-19 pandemic, more than half of the infections have occurred among Black Americans, despite only comprising approximately 14% of the United States Population.^{5,6} Disparities in access to care for BIPOC communities can be detrimental to health outcomes and generate mistrust in healthcare.⁷ In the Warren campus and Star Community Health service area, 5% of survey respondents identify as Black and 9% of respondents identify as Hispanic. Out of the BIPOC individuals who were surveyed for the network, 32% identified as Black, 10% identified as Asian, 2% as American Indian/Alaskan Native, 23% as multiple races, and 33% as another race.

..... Uninsured Population

Lack of insurance or adequate coverage is a primary barrier to healthcare because it prevents people from accessing crucial services required to monitor and maintain a healthy lifestyle. Medicare, a federal healthcare program in the United States available to most of the population ages 65 years and older, helps to nearly eliminate the uninsured population in that age demographic, with only 0.4% in Pennsylvania and 0.8% in the United States ages 65 years and older uninsured. While Medicare is available to most of the population over 65 years old, lack of health insurance, or adequate health insurance, can lead to serious barriers to care. Of the population less than 65 years old, 7% in Pennsylvania and 10.2% in the United States are uninsured.

³ <https://www.census.gov/programs-surveys/acs/>

⁴ <https://www.bsr.org/en/our-insights/blog-view/respecting-the-rights-of-vulnerable-groups>

⁵ <https://www.bsr.org/en/our-insights/blog-view/respecting-the-rights-of-vulnerable-groups>

⁶ <https://covid.cdc.gov/covid-data-tracker/>

⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194634/>

In the Warren and Star Community Health service area, only 0.3% of the 65 and older population are uninsured, 7.4% of ages 18 to 64 are uninsured, and 3% of children under 18 years old are uninsured. According to CHNA survey results, 3.4% of all surveyed respondents in the network either have no coverage and pay cash or do not know if they have insurance. The discrepancy between service area statistics and CHNA survey respondents is important to note as we continue to increase our outreach efforts in the communities we serve to reach our most vulnerable populations, which includes the uninsured population.

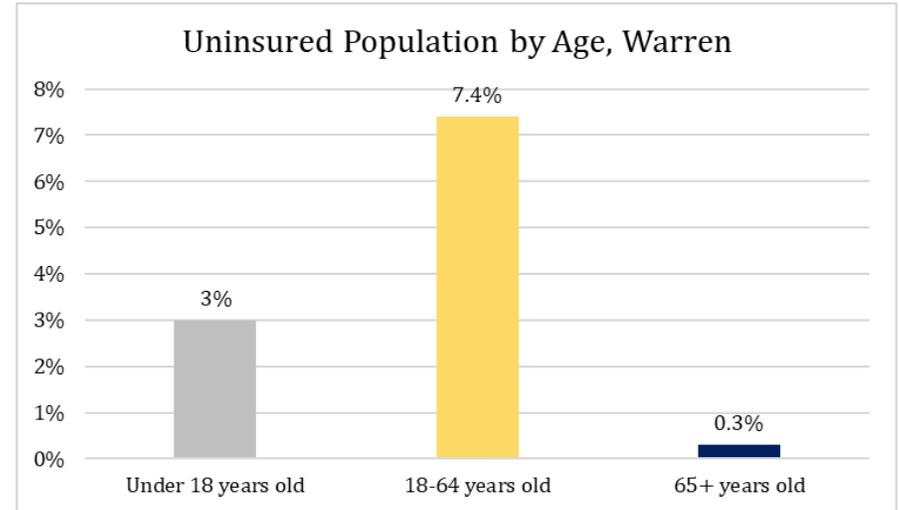


Figure 8

..... **ALICE**

Asset Limited, Income Constrained, Employed (ALICE) are households that earn more than the Federal Poverty Level, but less than the basic cost of living.⁸ Because ALICE households do not qualify for Federal assistance, they cannot always pay bills and have little money left over to put towards savings. ALICE households are often forced to make difficult decisions like choosing between paying rent or quality childcare. Problems that ALICE families face are often intertwined and affect each other, all of which can pose risks to health, safety and financial stability.⁹ The areas that are often intertwined are housing, childcare and education, food, transportation, health care, technology, and taxes. The most recent ALICE report (2018) found that 30% of households in Warren county were considered ALICE¹⁰, 3% higher than the New Jersey state average of 27%. In Warren county, 4,569 single or cohabitating households were ALICE, 2,087 families with children were ALICE, and 5,801 people 65 years and older were ALICE. This is partially due to the increase in living costs while wages have stayed stagnant. In 2018, the average cost of living for a single adult in Warren county was \$2,461 a month and \$29,532 a year, while the average hourly wage was \$14.77.¹¹ Out of all of the cities, boroughs and townships in Warren county, Belvidere town has the highest ALICE percent with 40% of households and Phillipsburg town is second with 39% of households.

⁸ <https://www.unitedforalice.org/>

⁹ <https://www.unitedforalice.org/consequences>

¹⁰ <https://www.unitedforalice.org/pennsylvania>

¹¹ <https://www.unitedforalice.org/pennsylvania>

..... Children and Adolescents

According to 5-Year ACS (2015-2019) estimates, 20.1% of the Warren campus and Star Community Health service area is below 18 years old. Childhood is a crucial time for development in all aspects of life, thus it important to study health behaviors and target initiatives towards addressing negative health patterns in youth. In order to gain insight into the population, the 2019 Youth Risk Behavior Surveillance System (YRBSS) was used for New Jersey High School data and the Warren County Needs Assessment results (2020) and New Jersey Middle School Risk and Protective Factor Survey (2018) was used to inform trends in Warren county.^{12,13,14}

..... Drug Use

According to YRBSS, 30.3% of high school students in New Jersey reported using alcohol within the past 30 days of being surveyed and 20.1% report using marijuana in the past 30 days. In Warren county, 10.2% of middle school students reported lifetime use of alcohol and only 2.1% reported lifetime use of marijuana. According to the YRBSS, 3.8% of high school students smoke cigarettes and 44.7% have used e-cigarettes or vaped in their lifetime. In Warren county, only 0.7% of middles school students reported lifetime use of cigarettes compared to 4.6% that have vaped in their lifetime.



“We are not seeing vaping as much anymore. It was a lot more when it first started, but it is not as prevalent now. Also substance [use]. There are kids that get involved with opioids or pot and alcohol.”

..... School Violence

According to the YRBSS, 13.8% of high school students in New Jersey were in a physical fight on school property in the last year, and 13.8% were electronically bullied. Additionally, 7.5% of high school students missed school in the last 30 days because they felt unsafe at school or on their way to school, and 2.1% of high school students carried a weapon on school property in the last 30 days. In Warren county, no middle school students reported taking a handgun to school, but 1.2% reported carrying a handgun elsewhere.

¹² <https://nccd.cdc.gov/Youthonline/App/Default.aspx>

¹³ <https://www.nj.gov/dcf/about/divisions/opma/docs/WarrenCountyNeedsAssessment2020.pdf>

¹⁴ <https://www.state.nj.us/humanservices/dmhas/publications/surveys/Middle%20School%20Risk%20&%20Protective%20Factors/2015.pdf>

..... Mental Health

According to YRBSS, 35.8% of high school students felt sad or hopeless almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the last 12 months. Additionally, 14.5% of high school students in New Jersey reported seriously considering suicide in the last 12 months, 12.4% made a plan to attempt suicide, 5.9% attempted suicide. Due to the COVID-19 pandemic, current mental health issues are projected to be much higher, and the significant need for mental health providers and school support is critical as we address the mental health needs of youth in our service area.



“The isolation that students are feeling has had an incredible impact. For a low socio-economic community, the support and mentorship from school personnel is relied upon. That has largely been taken away during the pandemic and it’s having a debilitating effect.”

..... Risk and Protective Factors

Many risk and protective factors come into play when understanding observed rates of drug use and mental health issues addressed in the CHNA. A risk factor is something that poses potential harm to a student’s life and a protective factor is something that can help keep the student safe. The New Jersey Middle School Risk and Protective Factors Survey assessed risk and protective factors with different measures than PAYS. In Warren county, the risk factor with the highest percentage is low commitment to school (35%), followed by laws and norms favorable to drug use (26%). The factors with the highest protective effect include interaction with prosocial peers (69%) followed by positive school opportunities (67%), and school rewards for prosocial interactions (59%).

..... Seniors

According to the ACS (2015-2019), there are an estimated 26,159 people 65 years and older living in the Warren campus and Star Community Health service area.¹⁵ The 65 and older population grew 34.2% in the last ten years, and by 3.2% from 2018 to 2019.¹⁶ It is also

¹⁵ <https://www.census.gov/programs-surveys/acs/>

¹⁶ <https://www.census.gov/newsroom/press-releases/2020/65-older-population-grows.html>

estimated that the 65 and older population will outnumber children by the year 2034.¹⁷ By 2060, adults 65 and older will account for 23.4% of the population, approximately 94.7 million people.

In 2018, 19.3% of Medicare beneficiaries in the Warren campus and Star Community Health service area reported suffering from depression. In the same time frame, 18.8% of Medicare beneficiaries in Warren county report suffering from depression¹⁸, higher than both New Jersey (16.3%) and United States (18.4%).

Important factors to observe in the senior population include the prevalence of diseases that begin to appear or worsen with age.

Percent of Medicare Beneficiaries					
	St. Luke's Survey	Warren service area	Warren County	New Jersey	United States
Diabetes	20.7%	27.2%	28.1%	31.2%	27.0%
Heart Attack and other Disease	9.3%	29.6%	31.9%	31.8%	26.8%
High Blood Pressure	53.3%	63.3%	62.1%	62.6%	57.2%
High Cholesterol	39.6%	56.8%	54.7%	56.7%	47.7%

 *Figure 9: Data reported from the CHNA survey and Centers for Medicare and Medicaid Services 2018 and gathered from lehighvalleyhub.org*

Examples include diabetes, heart disease, high blood pressure and high cholesterol. Figure 9 illustrates the percentage of Medicare beneficiaries within the Warren campus and Star Community Health service area that report having these diseases.¹⁹ The Warren campus and Star Community Health service area has the lowest percentage for diabetes, which is also closest to the United States average. However, there are still large gaps in heart disease, high blood pressure and high cholesterol. Of adults 65 years and older surveyed from the Warren campus and Star Community Health service area, 20.7% have diabetes, 9.3% have experienced a heart attack or other heart disease, 53.3% have high blood pressure, and 39.6% have high cholesterol. These numbers indicate that chronic disease in seniors continues to be an area of need as we continue to promote and support healthy aging.

Food insecurity is another important factor in terms of senior health. Feeding America released a 2020 food insecurity report on seniors in America and found that 7.3% of seniors are food insecure.²⁰ The report found that of the food insecure senior population, the highest insecure rates were found in racial and ethnic minorities, those with lower incomes, those who are younger seniors (ages 60-69), and those who are renters.

¹⁷ <https://www.census.gov/library/visualizations/2018/comm/historic-first.html>

¹⁸ https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF

¹⁹ https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF

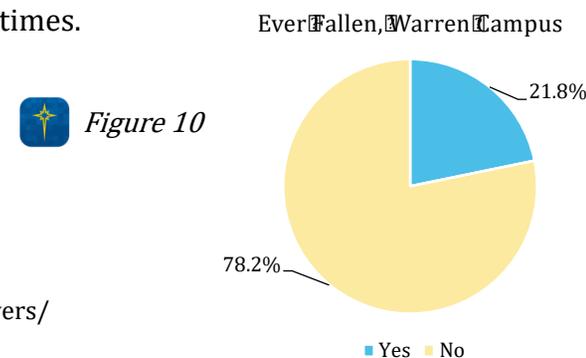
²⁰ <https://www.feedingamerica.org/research/senior-hunger-research/senior>

Each year America's Health Rankings produces senior health reports for each state in the United States. The organization assesses the state on six categories: overall, behaviors, social and economic, physical environment, clinical care, and health outcomes, on a scale of 1-50 with a score of 1 as the best.²¹ New Jersey's best ranking was in health outcomes, ranked 8 out of 50, and its worst in physical environment, ranking 48 out of 50. Health outcomes assess the prevalence of diseases and quality of life. Physical environment assesses factors like air and water quality, pollution, and housing conditions.

Senior mental health is a growing concern in the United States, especially with isolation during the COVID-19 pandemic. According to America's Health Rankings (2020), 11.6% of senior adults 65 and older in New Jersey experience frequent mental health distress, making it the unhealthiest state in the nation.²² The 2020 United States Average is 7.9% of senior adults. Frequent mental distress is defined as 14 or more poor mental health days a month and is associated with physical inactivity, insufficient sleep, obesity, smoking, and alcohol consumption. Other factors that can contribute to frequent mental distress are the inability to afford healthcare, living alone, and activity limitations due to chronic conditions, physical disabilities, or mental health problems.²³ One reason that the senior population may not receive adequate mental care is due to the fact that symptoms of some mental health issues like depression or lapses in memory often get dismissed as typical aspects of aging, preventing seniors from getting the care they need.²⁴ Other health conditions related to aging also impact mental health in seniors; older adults with diabetes have a higher risk of developing depression or cognitive impairments while adults with coronary heart disease or whom have had a stroke are more likely to have frequent mental distress.^{25,26}

Falls are an important warning sign in senior populations because falls are costly in dollars but also in quality of life. Falls are the leading cause of fatal and nonfatal injuries in older Americans.²⁷ The 2020 senior health report found that 21.2% of older adults in New Jersey had fallen within the last 12 months.²⁸ One in five falls among older adults causes serious injury, including hip fractures and head injuries. Common factors that can lead to falls are balance and gait, vision, medications, environment, and chronic conditions.²⁹

However, the number of falls can be reduced through practical lifestyle adjustments, educational programs, and community partnerships.³⁰ Of the adults 65 years and older surveyed in the Warren campus and Star Community Health service area, 21.8% have ever fallen. Of this group, 18% have fallen 1-2 times, 2% have fallen 3-4 times, and 2% have fallen 5 or more times.



²¹ https://www.americashealthrankings.org/explore/senior/measure/overall_sr_3/state/PA

²² https://www.americashealthrankings.org/explore/senior/measure/overall_sr_3/state/NJ

²³ https://www.americashealthrankings.org/explore/senior/measure/mental_distress_sr/state/NJ

²⁴ <https://www.agingcare.com/articles/understanding-mental-health-issues-in-seniors-209387.htm>

²⁵ <https://www.cdc.gov/aging/publications/coronary-heart-disease-brief.html>

²⁶ <https://www.nia.nih.gov/health/diabetes-older-people>

²⁷ <https://www.ncoa.org/healthy-aging/falls-prevention/preventing-falls-tips-for-older-adults-and-caregivers/>

²⁸ https://www.americashealthrankings.org/explore/senior/measure/falls_sr/state/NJ

²⁹ <https://www.ncoa.org/healthy-aging/falls-prevention/preventing-falls-tips-for-older-adults-and-caregivers/6-steps-to-protect-your-older-loved-one-from-a-fall/>

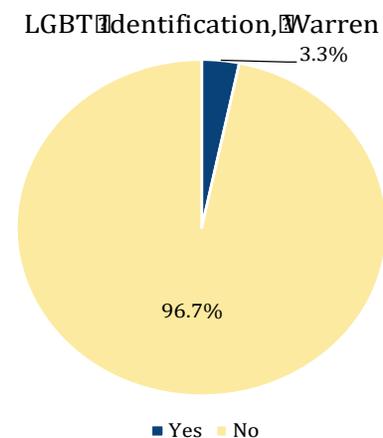
³⁰ <https://www.ncoa.org/healthy-aging/falls-prevention/>

Along with other health concerns that increase with aging, polypharmacy is one of the hardest to track. Polypharmacy lacks a central definition, but authors Dagli and Sharma define polypharmacy as the use of multiple medications generally referred to as five or more prescribed drugs per day.³¹ This is common among the senior population because of the need to treat various diseases and injuries that increase with age. Some symptoms of polypharmacy include tiredness, decreased alertness, incontinence, lack of appetite, falls, depression, tremors, hallucinations, and more.³² In 2020 it was estimated that 44% of men and 57% of women 65 and older take five or more prescription and/or nonprescription drugs a week.³³ Polypharmacy has severe negative impacts on patient care and increases the risk for adverse drug reactions.³⁴

By increasing protective factors in the community, the effects of aging can be mitigated, and the senior population can thrive. A protective factor is a condition or characteristic that helps people deal more effectively with stressful events and lessens risk of vulnerability.³⁵ Engaging in physical activities or hobbies and eating well can have a positive impact on senior well-being. Regular exercise can reduce the risk of some diseases, lower blood pressure and help cognitive function.³⁶ Self-efficacy, the belief in one’s ability to achieve goals and influence life events, is also a potential protective factor. Research indicates that self-efficacy in older adults was related to increased energy, better sleep, decreased pain or discomfort, and increased overall satisfaction with life.³⁷ Engaging seniors in meaningful relationships and coordinating resources in the community can help their overall well-being and protect against some negative effects from aging. Healthy People 2030 also sets outcome objectives for a variety of groups and illnesses. For the senior population, Healthy People 2030 seeks to reduce the rate of hospital admissions for diabetes among older adults, reduce fall related deaths, and to reduce the proportion of older adults who use inappropriate medicines.³⁸

..... Lesbian, Gay, Bisexual, Transgender (LGBT)

According to the Williams Institute, 4.1% of New Jersey’s adult population identifies as LGBT³⁹, with 52% of this population identifies as female and 48% identify as male. Just over half (51%) identify as White,



³¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4295469/>
³² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4295469/>
³³ <https://www.uspharmacist.com/article/polypharmacy-and-drug-adherence-in-elderly-patients>
³⁴ [https://www.njournal.org/article/S1555-4155\(19\)31051-7/fulltext](https://www.njournal.org/article/S1555-4155(19)31051-7/fulltext)
³⁵ https://www.respectaging.ca/training/Participant_Manual_-_Module_08.pdf
³⁶ <https://www.ncbi.nlm.nih.gov/books/NBK316205/>
³⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4437657/>
³⁸ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/older-adults>
³⁹ <https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/?topic=LGBT&area=34#density>

27% as Hispanic/Latino, 13% as Black, 5% as Asian, and 4% as Other Races. The average age of LGBT individuals in New Jersey is 37, with 31% of the population between ages 18-24. Additionally, 8% of New Jersey LGBT individuals are unemployed (compared to 7% of non-LGBT individuals), 12% are uninsured, 22% are food insecure, and 23% have an income less than \$24,000 a year. Regarding education, 41% of New Jersey LGBT individuals have a high school diploma, but only 19% have a bachelor's degree.

According to the Movement Advancement Project (MAP), New Jersey fairs high for LGBT policies, with New Jersey scoring 32.5 out of 38.5 for overall policies. The state has implemented universal (100%) nondiscrimination laws for sexual orientation and gender identity, and conversion therapy is banned across the state. From the St. Luke's CHNA survey, we found that 3.3% of respondents from the Warren campus and Star Community Health service area identify as LGBT. Additionally, 0.28% of all respondents in the network identify as non-binary, 0.08% identify as genderqueer, 0.06% identify as gender fluid, and 0.1% identify as another gender.

..... Disabled Population

In the Warren campus and Star Community Health service area, 12.8% of people have a disability.⁴⁰ The six disability types considered in this category are hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty (serious difficulty walking or climbing stairs), self-care difficulty, and independent living difficulty.⁴¹ Of those who have a disability in the Warren campus and Star Community Health service area, 6.9% are under 18 years old, 50.4% are between 18 and 64 years, and 42.7% are 65 years and older.

..... Veteran Population

Of the Warren population 18 years and older, 7.2% are veterans. The Census Bureau classifies a veteran as "a person 18 years old or over who has served (even for a short time), but is not now serving, on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or who served in the U.S. Merchant Marine during World War II."⁴² Of the 7.2% of veterans in the Warren campus and Star Community Health service area, 92.7% are male and 7.3% are female.

⁴⁰ data.census.gov/ Table (S1810)

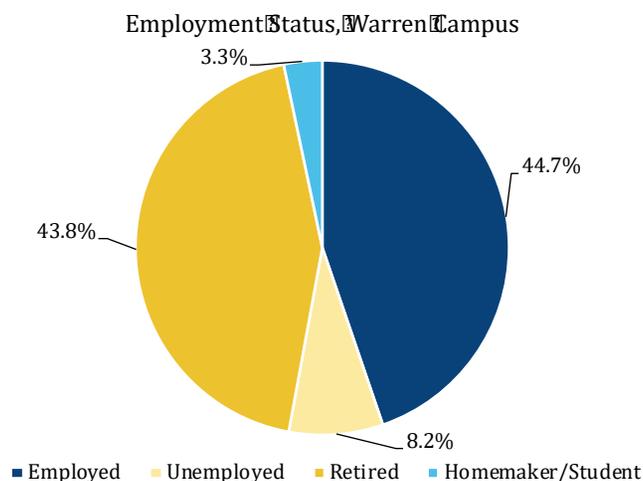
⁴¹ <https://www.census.gov/topics/health/disability/guidance/data-collection-ac.html>

⁴² <https://www.census.gov/content/dam/Census/topics/population/veterans/guidance/acs-topic-information-veterans.pdf>

Social and Economic Environment

..... Employment

Unemployment and underemployment have serious impacts on an individual’s health. Income is a social determinant of health, and in addition to affecting one’s income, unemployment and underemployment can leave individuals without health insurance, paid sick leave and parental leave—exacerbating negative health outcomes when people are at their most vulnerable. According to Robert Wood Johnson, the unemployment rate is 3.6% in New Jersey.⁴³ However, unemployment rates varied widely within the year due to the COVID-19 pandemic. New Jersey started off 2020 with a low unemployment rate of 3.8% in January and peaked in June with an employment rate of 16.8%. New Jersey reached unemployment rates below 10% by September of 2020, however, rates began to rise again in New Jersey toward the end of 2020 due to newly imposed COVID-19 restrictions during the worst surges of the second-wave.⁴⁴ In Warren county, 3.3% of residents experienced unemployment. Warren county consistently follows unemployment trends in New Jersey and the United States, indicating that employment opportunities closely mirror those of the state and country.⁴⁵ The majority of respondents from the Warren Campus and Star Community Health service area are employed (44.7%) or retired (43.8%), while 8.2% of respondents are unemployed and 3.3% are either a homemaker or a student.



 **Figure 12**



“Economic stability and development are huge issues in Phillipsburg. Warren county generally has a low socioeconomic status. Phillipsburg is pretty bad in terms of that. Walking up and down south main street and seeing these businesses close because of COVID, there is very little economic opportunity here which adds layers to the health outcomes and what we are trying to better.”

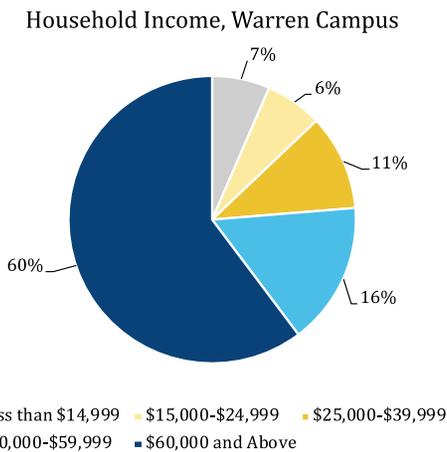
⁴³ <https://www.countyhealthrankings.org/>

⁴⁴ https://data.bls.gov/timeseries/LASST42000000000003?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true

⁴⁵ <https://www.countyhealthrankings.org>

..... Household Income and Poverty

The 2021 Federal Poverty Level (FPL) guideline is measured at \$12,880 a year for one person and \$26,500 for a family of four.⁴⁶ If one person is 200% of the FPL, they make \$25,760; if a family of four is 200% of the FPL, they make \$53,000. The ACS (2019) reports that 21.5% of the Warren campus and Star Community Health service area live 200% below the FPL. This is slightly lower than New Jersey (22.9%) and the United States (30.9%); 18042 is the zip code most affected by poverty. The ACS also reports that the median household income in Warren county is \$81,307, which falls between the median household income in New Jersey (\$82,545) and the United States (\$62,843).⁴⁷ The majority of the respondents surveyed in the Warren campus and Star Community Health service area have a household income of \$60,000 and above (60%), 13% of respondents have a household income of \$24,999 and below, while 27% of respondents have a household income between \$25,000 and \$59,999. While we cannot determine how many people live below the FPL based on household size, these survey results do reveal that there are many people who could use support from food pantries, Federally Qualified Health Centers, government assistance, rent assistance, and more to supplement their income.



 **Figure 13**

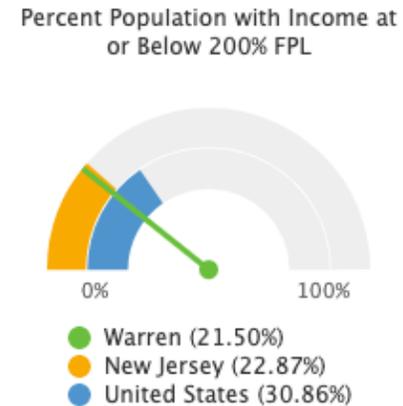


Figure 14



“When it comes to long-term challenges there is none bigger than poverty. Many of the issues that we have to address with students have their roots in poverty.”

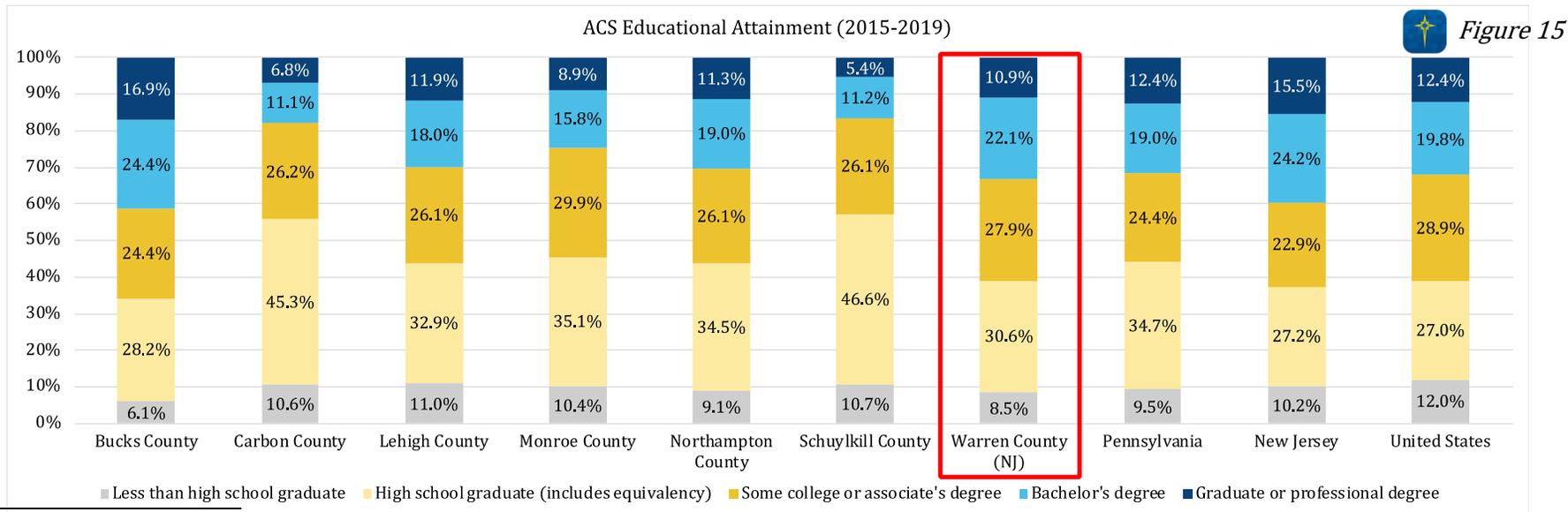
⁴⁶ <https://aspe.hhs.gov/2021-poverty-guidelines>

⁴⁷ [Data.census.gov/](https://data.census.gov/)

..... Education

While income and employment are linked to health status, educational attainment is linked to income and employment. These lay the building blocks for the next generation to have improved socioeconomic status and correlated positive health outcomes. The Healthy People 2030 high school target graduation rate is 90.7%.⁴⁸ In Warren county, 91% of people have a high school diploma or equivalent.

Of all respondents from the Warren campus and Star Community Health service area, 98% have a high school degree or higher, 0.3% of respondents have less than a high school education, and 1.8% have some high school education. Broken down further, 23.5% have only a high school degree, 31.4% have some college or an associate’s degree (19.8% have some college and 11.6% have an associate’s), 22.3% have a bachelor’s, and 20.8% have a graduate degree. CHNA survey results show that respondents have much higher rates of higher education than the general public (Figure 15). Additionally, CHNA survey data has lower percentages of respondents with less than a high school diploma compared to ACS findings. It should be noted that people with higher levels of education are more likely to live healthier and longer lives than those with lower education levels.⁴⁹ Healthy People 2030 states that children with less access to quality education are less likely to get safe, high-paying jobs and will be more likely to have health problems (e.g., heart disease, diabetes). This is a significant concern because it is crucial to identify and work with populations with lower access to education and healthcare in order to support healthy lifestyles and overall well-being.



⁴⁸ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents/increase-proportion-high-school-students-who-graduate-4-years-ah-08>

⁴⁹ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/education-access-and-quality>

..... Language

English is the language that is most widely spoken in New Jersey. However, many people in our service area may be identified as having limited English proficiency. Limited English proficiency is reported as the percentage of the population five years and older who speak a language other than English at home and speak English less than “very well.” Respondents were not instructed on how to interpret the meaning of “very well.”⁵⁰ Speaking and understanding English is important in this service area because many health services are provided in English. Language can also be a large barrier to educational attainment, higher income, employment, accessing healthcare and thus good

Population Age 5+ with Limited English Proficiency, Percent

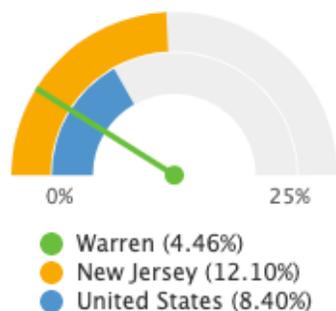


Figure 16

Warren Service Area Languages			
Top Zip Codes	Percentage and Number of Spanish Speakers in Zip Code	Percentage and Number of Spanish Speakers in Zip Code Who Speak English Less than "Very Well"	Next Frequent Language
08865	6.8% (1,867 people)	56.2% (1,049 people)	Other Indo-European languages (2.0%- 538 people)
07882	3.7% (513 people)	9.7% (50 people)	Other Indo-European languages (3.4%- 472 people)
07823	3.3% (248 people)	43.5% (108 people)	Other Indo-European languages (1.0%- 78 people)
08886	3.3% (226 people)	37.2% (84 people)	Tagalog (incl. Filipino) (2.3%- 154 people)
18042	12.8% (5,141 people)	42.6% (2,188 people)	Other Indo-European languages (1.5%- 591 people)
07863	4.0% (146 people)	20.5% (30 people)	Other Indo-European languages (1.6%- 59 people)
18040	3.5% (546 people)	18.9% (103 people)	Other Indo-European languages (1.4%- 227 people)
18045	6.0% (1,547 people)	22.1% (342 people)	Other Indo-European languages (3.8%- 972 people)

Figure 17

⁵⁰ https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2019_ACSSubjectDefinitions.pdf

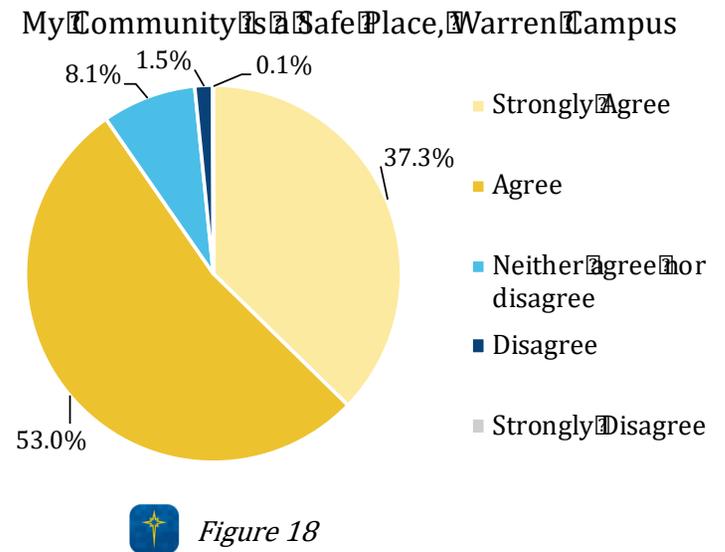
health outcomes. Of the Warren campus and Star Community Health service area, 4.5% are considered to have limited English proficiency, compared to 12.1% in New Jersey and 8.4% in the United States. Figure 17 shows a dial of all three percentages. While knowing that there are individuals with English language limitations, it is also crucial to understand which other languages are widely spoken. Translators and interpreters are required in locations where either 5% of the community speaks a different language or over 1,000 members speak a different language.⁵¹ A translator typically only translates the written word while interpreters translate orally. Figure 17 shows the Warren campus and Star Community Health service area zip codes. Columns shown in red text indicate areas that require translator or interpreter services. 3 zip codes require services for Spanish speakers in the Warren service area.

..... Safety

Perceived safety is an important component of integrating into one's community. People who do not feel safe in their neighborhood are less likely to participate in outdoor activities and are more likely to isolate themselves, which can have negative impacts on both physical and mental health.

Violent crime, defined as “offenses that involve face-to-face confrontation between a victim and a perpetrator, including homicide, rape, robbery, and aggravated assault”⁵², is one measure of community safety. Warren county has a violent crime rate of 71 per 100,000, which is comparatively less than New Jersey’s violent crime rate of 253 per 100,000 and comparable to U.S. top performers at 63 per 100,000. Violent crime rates in Warren county have improved in recent years.⁵³

When asked to rate the degree to which they agree that their community is a safe place to live, the majority of CHNA survey respondents in the Warren campus and Star Community Health service area agreed (53%) or strongly agreed (37.3%), while 8.1% of respondents nether agreed nor disagreed, 1.5% disagreed that their community is a safe place, and 0.1% strongly disagreed.



⁵¹ https://www.hud.gov/program_offices/fair_housing_equal_opp/promotingfh/lep-faq#q3
⁵² <https://www.countyhealthrankings.org/app/new-jersey/2021/measure/factors/43/data>
⁵³ <https://www.countyhealthrankings.org>

Social Associations

Related to safety, social association is a measure of the emotional and social support available to an individual. This indicator measures the number of membership associations per 10,000 population. The social association indicator in Warren county is 9.5, above New Jersey at 8.7 but far below U.S. top performers at 18.2,⁵⁴ demonstrating room for improvement in the area social associations.

One of the challenges that a community forum attendee mentioned was awareness of services in the community. With more social associations, more people can be aware of what programs and services there are to aid them:

“There are many individuals in the area that qualify for services and programs, and would probably utilize the services, but just don’t know about them. It’s been a long-term roadblock in this community.”

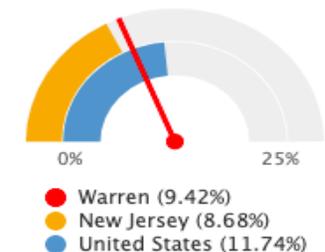
Physical Environment

Food Insecurity

Food insecurity, according to the United States Department of Agriculture (USDA), is the lack of consistent access to a variety of foods for a quality diet.⁵⁵ A quality diet is one with access to a variety of foods that meet the individual’s taste and nutritional needs. Very low food security (VLFS) is when normal eating patterns are disrupted and households lack money or other resources to obtain food. The USDA’s annual report (2019) found that 10.5% of households nationwide are food insecure, 6.5% of which have low food security and 4.1% have VLFS.⁵⁶ Among households with children, 6.5% are food insecure and 0.6% have VLFS. The USDA report stated that households with children facing VLFS had to skip meals or not eat for entire days due to a lack of money for food.⁵⁷ In 2019, New Jersey had a food insecurity rate of 7.7% and VLFS rate of 3%.

Percent Households Receiving SNAP Benefits

Figure 19



⁵⁴ <https://www.countyhealthrankings.org>

⁵⁵ <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx>

⁵⁶ <https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4>

⁵⁷ <https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4>

Government assistance programs aim to help reduce food insecurity through national programs such as the Supplemental Nutrition Assistance Program (SNAP), the National School Lunch Program (NSLP), and Women, Infants and Children (WIC). In 2019, an estimated 49.7% of households receiving SNAP were food insecure, 36.9% of households receiving free or reduced school lunches were food insecure, and 34.1% of households receiving WIC were food insecure.⁵⁸ Additionally, 57.7% of households classified as VLFS reported participating in one of these three federal assistance programs, with SNAP having the largest number of participants (47.8%). According to the ACS (2015-2019), 9.4% of the Warren campus and Star Community Health service area households received SNAP benefits.⁵⁹ Figure 20 depicts households receiving SNAP benefits by Census tract and Figure 19 compares the Warren campus and Star Community Health service area compared to New Jersey and the United States.

The COVID-19 pandemic required shutdowns across the county in 2020, resulting in many people losing jobs and their ability to afford food and other essential items to survive. Feeding America (2021) projected the potential rates of food insecurity because of COVID-19, estimating more than 50 million people experiencing food insecurity because of the pandemic.⁶⁰ Feeding America projects the annual food insecurity rate to increase to 12.9% in 2021, meaning that 1 in 8 people will be food insecure, along with 1 in 6 children.

Additionally, the report projects the unemployment rate to be around 6.7% and the annual poverty rate to be 12% in 2021, which is a 0.9% increase from 2020.⁶¹ In Warren county, the food insecurity rate in 2021 was projected to be 11.5% and 12% in 2020, a 40% increase from 2019. The projected food insecurity rate in New Jersey is 11.7%. Additionally, 14.5% of children in Warren county in 2021 were projected to be food insecure. Warren county ranked 10 out of the 21 counties in New Jersey for food insecurity, with 1 ranked at the highest food insecurity rate.

It is also important to note that the pandemic affected people of color (BIPOC) communities hardest in terms of unemployment and food insecurity. The Hispanic/Latino population had the highest unemployment rate among all racial and ethnic groups, spiking to 18.9% in April 2020. Additionally, Black individuals were already 2.4 times more likely to live in food insecure households than White individuals prior to the pandemic, and

⁵⁸ <https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4>

⁵⁹ data.census.gov/

⁶⁰ <https://www.feedingamerica.org/research/coronavirus-hunger-research>

⁶¹ <https://www.feedingamerica.org/research/coronavirus-hunger-research>

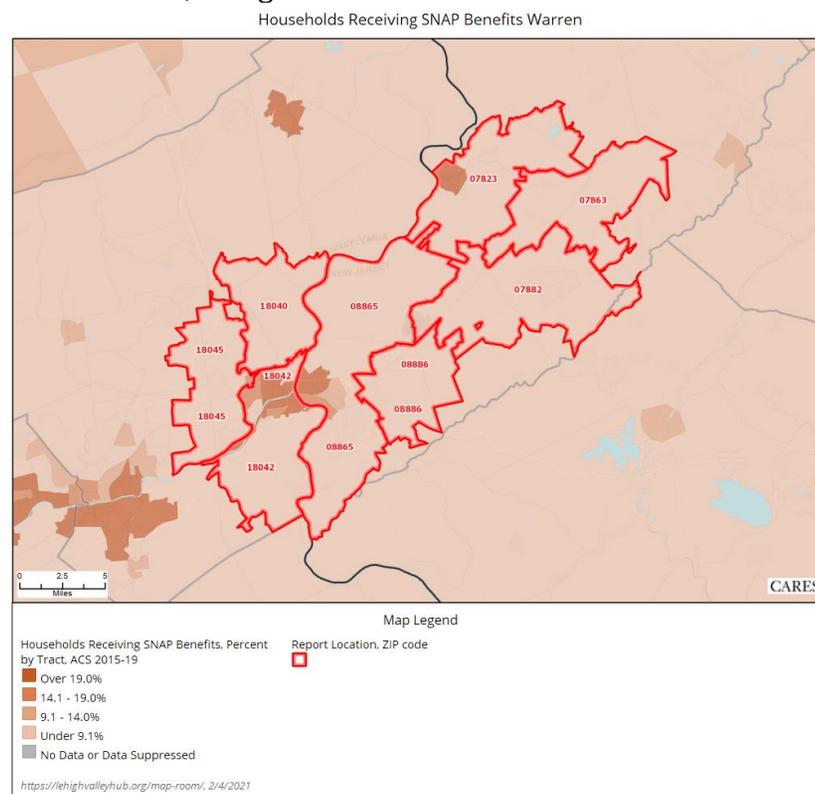


Figure 20

18 of the 25 counties across the country projected to have the highest food insecurity rates in 2020 are predominantly Black.⁶²

Research studies have found that stress from inconsistent access to food can play an active role in fat accumulation and chronic disease.⁶³ In non-senior adults, food insecurity is associated with decreased nutrient intakes, increased rates of mental health problems, hypertension, and poor sleep outcomes.⁶⁴ In children, food insecurity is associated with increased risks of asthma, lower nutrient intakes, cognitive problems, aggression, and anxiety. Food insecure children may also have higher risks of hospitalization, poorer overall health, asthma, depression, and worsened oral health.⁶⁵ Food deserts also play a role in food insecurity and chronic disease.

A food desert is an area that has limited or nonexistent access to affordable and healthy grocery stores.⁶⁶ Living in a food desert has been linked to a poor diet and a greater risk for obesity, while people who live near a grocery store are more likely to consume fruits and vegetables and less likely to be obese.⁶⁷ Typically, in food deserts, there is a large amount of fast food and corner stores with inexpensive, high calorie food that lacks nutritional value. Long term consumption of unhealthy food can increase likelihood of obesity, type 2 diabetes, heart disease, and other diet-related conditions.⁶⁸

Warren County Feeding America COVID-19 Food Insecurity Projections					
Rank 2021	2021	2020	2019	Change 2019-2020	2021 Child
10/21	11.5%	12.0%	8.6%	40.0%	14.5%

Figure 21

“Food insecurity is a huge thing here along with obesity. One of the issues too is access. There used to be a super market on 22 that served Phillipsburg, Ahart’s, and now people have to drive quite a distance... not being able to easily access a grocery store is a big challenge here.”

..... Housing and Blight

Stable and safe housing is an important factor that sets the foundation to achieve quality education, valuable social interactions, and access to nutritious foods. According to Healthy People 2030, safe housing is considered a social determinant of health, which are “conditions in the

⁶² <https://www.feedingamerica.org/research/coronavirus-hunger-research>

⁶³ <https://doi.org/10.3945/an.112.002543>

⁶⁴ <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0645>

⁶⁵ <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0645>

⁶⁶ <https://foodispower.org/access-health/food-deserts/>

⁶⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708005/>

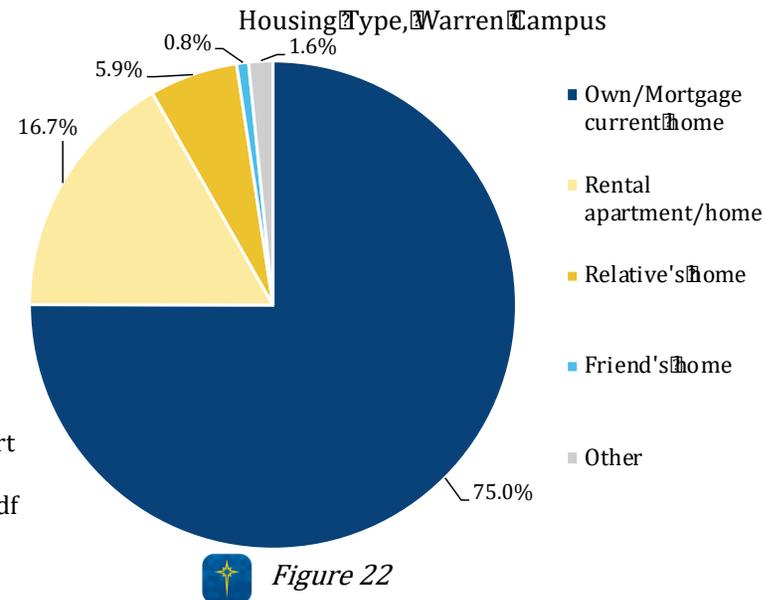
⁶⁸ <https://foodispower.org/access-health/food-deserts/>

environments in which 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.”⁶⁹ Housing affects other sectors including education, health, racial equity, economic stability, homelessness, hunger, crime, the environment, and disability rights.⁷⁰ Over time, homeownership can help build wealth and savings, which are important in relation to health; but not everyone has had equal opportunity to homeownership. Years of discriminatory practices and inability to benefit from homeownership programs has led to a disproportionate homeownership rate between races.⁷¹ Healthy People 2030 has made housing a focus, including efforts to reduce the proportion of families that spend 30% or more of income on housing, increase the proportion of homeless adults who get mental health services, and to increase the proportion of homes that have an entrance without steps to make it accessible for people with disabilities.⁷²

The COVID-19 pandemic has resulted in thousands of people losing jobs, leaving them vulnerable to evictions or foreclosures. The CDC issued a moratorium on September 4, 2020 temporarily halting evictions. The moratorium was set to end December 31, 2020, however it was pushed back until January 31, 2021 and was extended further to March 31, 2021 as the virus persisted.⁷³ The moratorium was meant to keep people in their current housing situations regardless of ability to pay rent, however it did not exclude tenants from paying rent. While this was a temporary solution, people facing eviction are likely to experience high rates of depression, anxiety, and psychological distress.⁷⁴

To get an understanding of how the Warren campus and Star Community Health service area population lives, we asked respondents to indicate their housing type. Due to small sample size, “Other” consists of individuals living in a shelter (0%), group home (0.36%), senior living (0.29%), homeless (0.22%), or Other (0.8%). The majority of respondents own or have a mortgage on their home (75%), followed by renting their home (16.7%), living at a relative’s home (5.9%), Other (1.6%), and living at a friend’s home (0.8%).

One indicator used to assess housing status is the percentage of households that are cost-burdened. According to the department of Housing and Urban Development (HUD), a household is considered cost-burdened if 30% or more of the income goes toward their mortgage or rent.⁷⁵ A household is considered to be severely cost-burdened if 50% or more of their income goes toward paying mortgage or rent.



 **Figure 22**

⁶⁹ <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

⁷⁰ <https://www.opportunityhome.org/related-sectors/>

⁷¹ <https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report>

⁷² <https://health.gov/healthypeople/objectives-and-data/browse-objectives/housing-and-homes>

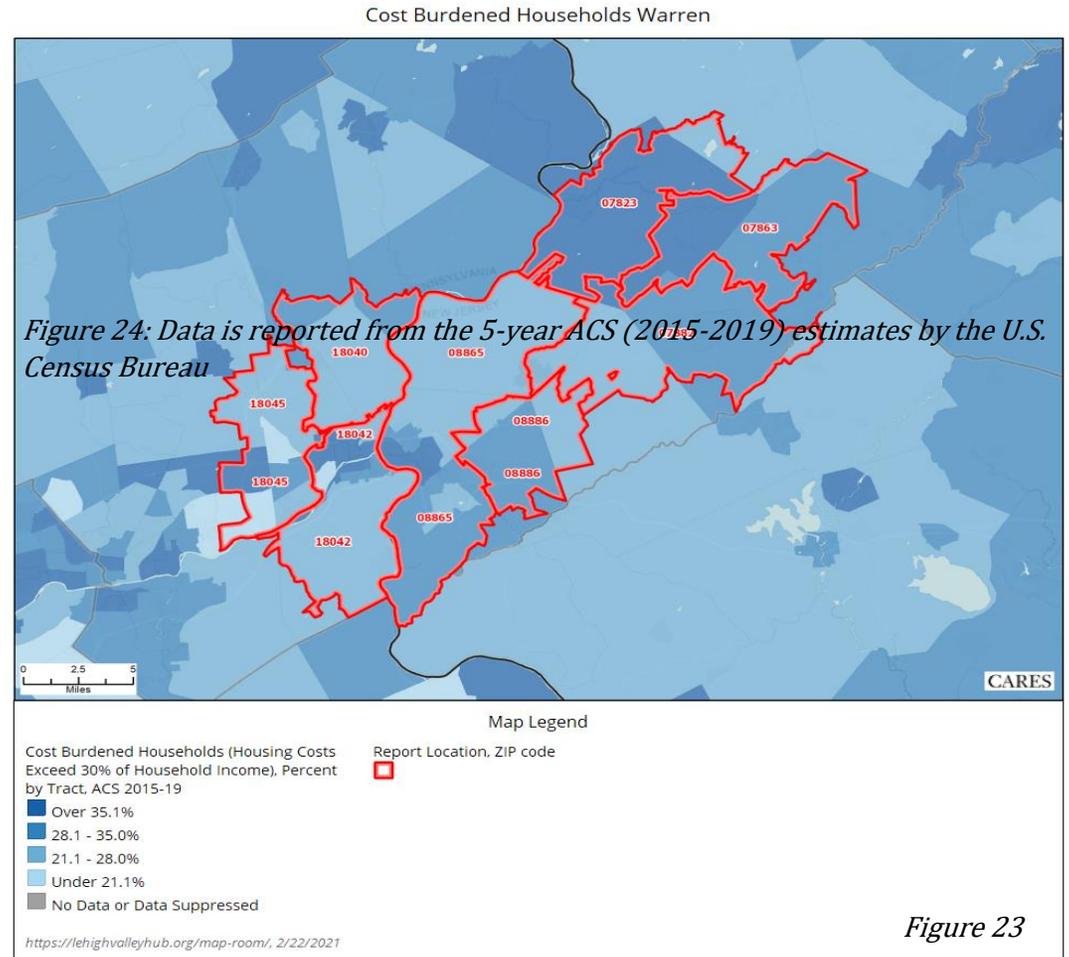
⁷³ <https://www.cdc.gov/coronavirus/2019-ncov/more/pdf/CDC-Eviction-Moratorium-01292021.pdf>

⁷⁴ <https://doi.org/10.1016/j.socscimed.2017.01.010>

⁷⁵ https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html

These situations can be detrimental to an individual's overall well-being because there is less disposable income to pay for food, healthcare costs, transportation and other out of pocket expenses. A 2019 report by the County Health Rankings and Robert Wood Johnson (RWJ) Foundation found that 1 in 10 households across the United States spend more than half of their income on housing costs (severe cost-burdened).⁷⁶ The report also found that severe cost-burdened households are more likely to be affected by food insecurity, child poverty, and fair or poor health.⁷⁷ Additionally, segregated counties across the United States have higher cost-burdened rates for both Black and White households. However, nearly 1 in 4 Black households spend more than half of their income on housing.⁷⁸ Cost-burdened housing is a significant problem in the St. Luke's service area as wages and housing costs are not always aligned.

Further assessing the wage disparities, the National Low Income Housing Coalition (NLIHC) released a report on fiscal year 2020's housing costs and wages. Out of all states, New Jersey ranks 7 of states with the highest housing costs.⁷⁹ In New Jersey, the fair market rent for a two-bedroom apartment is \$1,544, meaning that for a household to not be cost burdened, they must earn \$5,147 a month or \$61,762 annually.⁸⁰ This income translates into an hourly wage of \$29.69, however the state minimum wage is \$11 an hour. Someone living on \$11 an hour would need to work 108 hours a week to afford the average two-bedroom apartment in New Jersey. In Warren county, the fair market rate for a two-bedroom apartment is slightly lower at \$1,171, meaning the household would need to earn \$22.52 an hour or \$46,840 annually to afford the apartment and not be cost-burdened. Based on the estimated hourly mean wage that a renter in



⁷⁶ <https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report>

⁷⁷ <https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report>

⁷⁸ <https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report>

⁷⁹ <https://reports.nlihc.org/oor>

⁸⁰ <https://reports.nlihc.org/sites/default/files/oor/files/reports/state/NJ-2020-OOR.pdf>

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Warren county earns, \$13.08, the individual would need to work 1.7 full time jobs to afford rent.⁸¹

The average cost-burdened rate of the 10 lowest income census tracts is 38.2%, which well above the national percentage (31.8%) and slightly below the New Jersey percentage (38.7%). Nine out of 10 tracts have 30% or more households that are cost-burdened. Census tracts 309 and 314.02 have the highest percent of households that are cost-burdened, 45.7% and 45.9%, respectively. Figure 23 depicts the cost-burdened households in the Warren campus and Star Community Health service area.

Warren		
Geographic Area Name (Zip Code)	Median Household Income (lowest first)	% Cost Burdened
Census Tract 309, Warren County, NJ (08865)	\$ 48,773	45.7%
Census Tract 306, Warren County, NJ (08865)	\$ 50,114	32.3%
Census Tract 316.01, Warren County, NJ (07823, 07832, 07863, 07882, & 08865)	\$ 57,050	38.6%
Census Tract 307, Warren County, NJ (08865)	\$ 59,057	43.5%
Census Tract 308, Warren County, NJ (08865)	\$ 59,236	36.3%
Census Tract 317, Warren County, NJ (07823)	\$ 59,250	42.0%
Census Tract 314.02, Warren County, NJ (07840)	\$ 60,972	45.9%
Census Tract 320, Warren County, NJ (07882)	\$ 64,906	33.3%
Census Tract 324, Warren County, NJ (08865)	\$ 72,463	26.5%
Census Tract 316.02, Warren County, NJ (07863)	\$ 74,357	38.5%
Average 10 Census Tracts	\$ 60,618	38.2%
New Jersey	\$ 82,545	38.7%
National	\$ 62,843	31.8%

Two other important metrics to look at are the percentage of households that lack complete kitchens and the percentage of households that lack complete plumbing. It is important to assess the conditions inside of houses because they give an indication of living standards and assess the quality of household facilities.⁸² According to the 2019 ACS subject definitions guide, a complete kitchen must include a sink with a faucet, a stove or range, and a refrigerator.⁸³ If a household lacks any one or more of these facilities, the household is considered to lack a complete kitchen. A complete plumbing facility must include hot and

Warren		
Geographic Area Name (Zip Code)	Median Household Income (lowest first)	% Lacking complete kitchen
Census Tract 309, Warren County, NJ (08865)	\$ 48,773	6.3%
Census Tract 306, Warren County, NJ (08865)	\$ 50,114	0.0%
Census Tract 316.01, Warren County, NJ (07823, 07832, 07863, 07882, & 08865)	\$ 57,050	3.4%
Census Tract 307, Warren County, NJ (08865)	\$ 59,057	5.8%
Census Tract 308, Warren County, NJ (08865)	\$ 59,236	5.8%
Census Tract 317, Warren County, NJ (07823)	\$ 59,250	6.1%
Census Tract 314.02, Warren County, NJ (07840)	\$ 60,972	0.0%
Census Tract 320, Warren County, NJ (07882)	\$ 64,906	0.0%
Census Tract 324, Warren County, NJ (08865)	\$ 72,463	2.6%
Census Tract 316.02, Warren County, NJ (07863)	\$ 74,357	4.5%
Average 10 Census Tracts	\$ 60,618	3.5%
New Jersey	\$ 82,545	2.2%
National	\$ 62,843	2.8%

⁸¹ <https://reports.nlihc.org/sites/default/files/oor/files/reports/state/NJ-2020-OOR.pdf>

⁸² https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2019_ACSSubjectDefinitions.pdf

⁸³ https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2019_ACSSubjectDefinitions.pdf

Figure 25: Data is reported from the 5-year ACS (2015-2019) estimates by the U.S. Census Bureau

cold running water, and a bathtub or shower.⁸⁴ If a household lacks one or both facilities, the house is considered to lack complete plumbing. Without a complete kitchen, families are unable to cook nutritious meals and may rely more heavily on fast food or other ready-made food. For households lacking complete plumbing facilities, families may not be able to bathe regularly leading to worsened hygiene.

The average percent of households lacking a complete kitchen from the 10 lowest income census tracts is 3.5%. This is slightly above both the New Jersey and national percentages. Census tracts 309 and 317 have the highest percentages of households lacking a complete kitchen, 6.3% and 6.1%, respectively.

Warren		
Geographic Area Name (Zip Code)	Median Household Income (lowest first)	% Lacking complete plumbing
Census Tract 309, Warren County, NJ (08865)	\$ 48,773	7.4%
Census Tract 306, Warren County, NJ (08865)	\$ 50,114	4.7%
Census Tract 316.01, Warren County, NJ (07823, 07832, 07863, 07882, & 08865)	\$ 57,050	0.7%
Census Tract 307, Warren County, NJ (08865)	\$ 59,057	9.3%
Census Tract 308, Warren County, NJ (08865)	\$ 59,236	7.5%
Census Tract 317, Warren County, NJ (07823)	\$ 59,250	9.4%
Census Tract 314.02, Warren County, NJ (07840)	\$ 60,972	0.0%
Census Tract 320, Warren County, NJ (07882)	\$ 64,906	4.2%
Census Tract 324, Warren County, NJ (08865)	\$ 72,463	6.8%
Census Tract 316.02, Warren County, NJ (07863)	\$ 74,357	0.0%
Average 10 Census Tracts	\$ 60,618	5.0%
New Jersey	\$ 82,545	1.4%
National	\$ 62,843	2.1%

Figure 26: Data is reported from the 5-year ACS (2015-2019) estimates by the U.S. Census Bureau

In Warren county, the average percent of households lacking complete plumbing from the lowest income tracts is 5.0%, which is well above the New Jersey and national percentages; 5 out of the 10 census tracts have 5% or more of households lacking complete plumbing. Census tracts 307 and 317 have the highest percent of households, 9.3% and 9.4%.

 ***“Food insecurity and housing concerns are enormous. We have tried to put patches on the problems using federal funds, but with aid from the feds and eviction restrictions going away the situation can quickly deteriorate.”***

Homelessness is another important indicator when assessing housing. Each year, HUD collects homeless data across the country, also known as the Continuums of Care data. As of January 2019, New Jersey had an estimate of 8,862 people experiencing homelessness⁸⁵ and of that population, 993 were family households, 551 were Veterans, 496 were unaccompanied young adults (ages 18-24), and 1,419 were individuals experiencing chronic homelessness.

⁸⁴ https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2019_ACSSubjectDefinitions.pdf

⁸⁵ <https://www.usich.gov/homelessness-statistics/nj/>

Each school year in New Jersey, the Stewart B. McKinney-Vento Education of Homeless Children and Youth Program ensures that homeless children have access to free and appropriate public education. In the 2017-2018 school year, the program identified 13,326 homeless students in the New Jersey public school system, 218 of which were from Warren county.⁸⁶

The Robert Wood Johnson Foundation produces County Health Rankings measuring many social determinants of health. One measure pertinent to housing is the percent of people living with severe housing problems. A household is considered to have a severe housing problem if one or more of these conditions is met: lacking a complete kitchen, lacking complete plumbing facilities, house is overcrowded, or the house is severely cost-burdened.⁸⁷ Warren county ranks 3 out of 21 New Jersey counties for severe housing problems, with 1 ranked as the least amount of problems. Of the housing problems outlined above, 15% of residents in Warren county have one or more, compared to 21% of households in New Jersey.⁸⁸

..... Air and Water Quality

Air quality is a growing concern, especially in urbanized and industrialized areas. Poor air quality can irritate the eyes, nose, throat, and cause long term health effects.⁸⁹ Air quality is typically assessed by two components, ozone (O₃) and Particulate Matter (PM). Ozone is a gas molecule that is harmful to breathe and aggressively attacks lung tissue. Ozone is dangerous because it can be carried by wind far downstream, causing harm to people in multiple areas. Ozone can cause premature death, immediate breathing problems, long term exposure risks, and potential cardiovascular harm.⁹⁰ PM is

a particle that occupies the air we breathe but is small enough that we cannot see it unless there are large amounts of PM in one area. Large amounts of PM would result in reduced visibility, or haziness in the air. PM 2.5 is the smallest particle and most dangerous size because it can easily pass through lung tissue and into the blood stream.⁹¹ Objectives for environmental health determined by Healthy People 2030 are to increase the proportion of people with safe water to drink, reduce the amount of toxic pollutants in the environment, and to reduce the number of days people are exposed to unhealthy air.⁹² According to the American Lung Association, Warren county earned a

	Warren			
	Weight average	Orange days	Red days	Purple days
High Ozone	1.7	5	0	0
High PM	0	0	0	0

Figure 27: Orange- unhealthy for sensitive groups, Red- unhealthy, Purple- very unhealthy, DNC- Did Not Collect

⁸⁶ <https://www.nj.gov/education/homeless/counts/>

⁸⁷ <https://www.countyhealthrankings.org/app/pennsylvania/2020/measure/factors/136/description>

⁸⁸ <https://www.countyhealthrankings.org/app/new-jersey/2021/measure/factors/136/data?sort=sc-2>

⁸⁹ <https://www.sparetheair.org/understanding-air-quality/air-pollutants-and-health-effects/whos-at-risk>

⁹⁰ <https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/ozone>

⁹¹ <https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/particle-pollution>

⁹² <https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health>

'C' for high ozone days for 2016-2018. The weighted average of O₃ was 1.7 and the county had a total of 5 orange days. Orange days are characterized as unhealthy days for sensitive groups. Warren county earned an 'A' for PM days, with 0.0 weight average and 0 unhealthy days for anyone.

Additionally, the CHNA survey asked respondents to indicate if they have ever been diagnosed with asthma. When distributed by income, 21.2% of respondents in the Warren campus and Star Community Health service area who make less than \$14,999 have asthma. While there is no consistent trend by income and asthma, those whose household income is lower than \$40,000 have somewhat higher rates of asthma than above \$40,000.

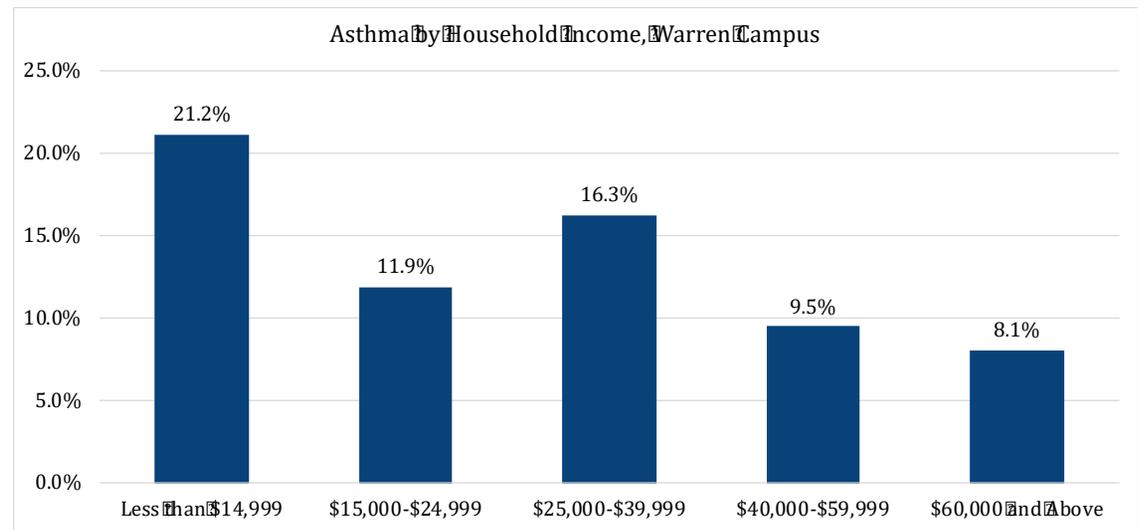


 Figure 28

Water quality is another important aspect of the environment. Water is delivered in two ways, through wells and through municipalities. Each municipality is required to report water quality reports each year, but well quality is difficult to track because it is typically not regulated by the state. The annual reports track violations within the Maximum Contaminant Level (MCL) which is the highest level of contaminant allowed in drinking water. The water is permitted to have some contaminants if it does not exceed the MCL. This is important to note because though a water system does not have violations, it does not necessarily mean the water is completely safe. The water report also tracks the Maximum Residual Disinfectant Level (MRDL) which limits the amount of disinfectants allowed in safe drinking water.⁹³ Some of the typical contaminants tested are chlorine, fluoride, radium, turbidity, organic carbon, lead, and copper.⁹⁴ Water contaminants can result in a variety of negative health impacts, like gastrointestinal illness, worsened nervous system or reproductive system, and a variety of diseases (e.g., cancer).⁹⁵ The effects can also be short term or long term, while also going unseen, potentially worsening over time.

Warren county serves residents through Aqua America. Warren county has five systems that service residents, four of which come from Phillipsburg and one from Port Murray.⁹⁶ Four systems (Cliffside Park, Harker Hollow, Riegelsville, and Phillipsburg) were in compliance

⁹³ <https://www.state.nj.us/dep/watersupply/pdf/violations2019.pdf>

⁹⁴ http://files.dep.state.pa.us/Water/BSDW/DrinkingWaterManagement/PublicDrinkingWater/PA_DEP_2019_Annual_Compliance_Report.pdf

⁹⁵ <https://www.epa.gov/report-environment/drinking-water>

⁹⁶ <https://www.aquaamerica.com/customer-service-center/water-quality.aspx>

with New Jersey MCLS. The Brainard system reported 58ppm of sodium, which exceeded the recommended upper limit of 50ppm⁹⁷ as well as maximum levels of Perfluorooctanesulfonic Acid (PFOS) and Perfluorooctanoic Acid (PFOA). PFOS are manmade chemicals used to stain products and resist grease. PFOA are used in fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives, and photographic films to be a surfactant. A surfactant is used to reduce surface tension and increase wetting properties, helping to spread the material evenly. These contaminants are an issue because PFOS and PFOA can have adverse health effects such as cancer, liver damage, thyroid effects, and immune effects.⁹⁸ It is also important to understand the risk of lead in drinking water. While most counties in the St. Luke's service area do not have lead that contaminates drinking water from the source, lead pipes, faucets, and other risks of lead poisoning may exist in homes. Higher prevalence for lead poisoning is found in low income homes.⁹⁹

..... Transportation

The type of transportation a person takes to work can be a good indicator of health. Walking, biking, or taking public transportation to work promotes regular physical activity and decreases air pollution, which in turn decrease chronic diseases and obesity rates.¹⁰⁰ A goal of Healthy People 2030 is to increase the amount of people using public transportation to get to work.¹⁰¹ People who drive to work are less likely to reach the recommended physical activity goal for the day. Driving to work can also have a significant effect on obesity, diabetes, and heart disease.¹⁰² However, it is not always feasible for someone to walk, bike, or take public transportation to work as many cities lack the proper infrastructure.



“Getting people to the services and resources they need is very challenging. There are some good programs and services that I believe would get more use if there weren’t such big transportation impediments present.”

Figure 29 illustrates the modes of transportation used to get to work by people in Warren county, New Jersey, and the United States. For all three geographies, the majority of people drive alone to work. Warren county reported 81.4% of commuters drive alone to work, which is higher than New Jersey (71.2%) and the United States (76.3%). Carpooling to work is the next highest category for Warren county, which falls in between the percentages for New Jersey and the United States. Additionally, Warren county has a combined 3.9% of people who walk

⁹⁷ <https://www.aquaamerica.com/WaterQualityReports/2019/NJ/NJ2110001.pdf>

⁹⁸ <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>

⁹⁹ https://www.cdc.gov/nceh/lead/prevention/populations.htm?CDC_AA_refVal=https%3A%2F%2F

¹⁰⁰ <https://ephtracking.cdc.gov/showCommunityDesignAddLinkTypesOfTransportationToWork>

¹⁰¹ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/transportation>

¹⁰² <https://ephtracking.cdc.gov/showCommunityDesignAddLinkTypesOfTransportationToWork>

and use public transportation to commute to work. This is much lower than both New Jersey and the United States, but relatively high compared to the St. Luke’s service area.

Though a large portion of Warren county commutes to work by car, 6.4% of residents do not have access to a car. People who do not have access to a car must then rely on public transportation, walking, or other modes of transportation. This can be an issue because poor public transportation and lack of walkability in some parts of the county may lead to individuals missing health appointments or screenings, which are crucial to healthy living.

Warren county residents have access to public transportation through the Warren County Transportation (WCT) system. The WCT offers fixed bus routes and special services to people with disabilities, veterans, low-income, and people who are 65 years and older.¹⁰³

Warren			<i>Figure 29</i>
Mode of Transportation to Work	Warren %	NJ %	US %
Drive Alone (Car, Truck or Van)	81.4%	71.2%	76.3%
Carpool	8.3%	8.0%	9.0%
Use Public Transportation	1.5%	11.7%	5.0%
Taxi	0.4%	0.4%	0.2%
Motorcycle	0.0%	0.0%	0.2%
Bike	0.4%	0.3%	0.5%
Walk	2.4%	2.8%	2.7%
Other	0.7%	1.1%	0.9%
Work From Home	4.8%	4.5%	5.2%



“Our big population centers are Phillipsburg, Hackettstown and Washington. The downside is getting to them. If you are not someone who hops in the car, our public transportation is pretty limited.”



“I think that transportation in the rural parts of the county really pose an issue. Even just having a testing site in the middle of the county, we had complaints about access from the northern part about not being able to get there. There are disparities across the county because of the rural and urban-ish nature of the different parts.”

¹⁰³ <http://www.co.warren.nj.us/humanservices/transportation.html>

Clinical Care

..... Access to Care

..... Primary Care Providers (PCPs)

Primary care providers (PCPs) are gatekeepers to the healthcare system. Often, they are a patient's first point of contact and referral to further care by specialists. Warren county has a ratio of individuals in the population to PCPs of 1,680:1, which underperforms compared to New Jersey overall ratio at 1,180:1 and U.S. top performers with a ratio of 1,030:1.¹⁰⁴

To assess the frequency of visits, our survey asks how long it has been since the respondent last visited their PCP. The majority of CHNA respondents from the Warren campus and Star Community Health service area have seen a PCP within the past year (83.7%), followed by within the past 2 years (10.2%), within the past 5 years (3.1%), 5 or more years (1.2%), and 1.8% of respondents do not know the last time they saw a PCP (0.6%) or do not have a PCP (1.2%). It is also important to look at an individual's last visit to a PCP with their type of insurance. Lack of insurance or high copays may hinder individuals from seeking medical attention, which could result in worsened health conditions.

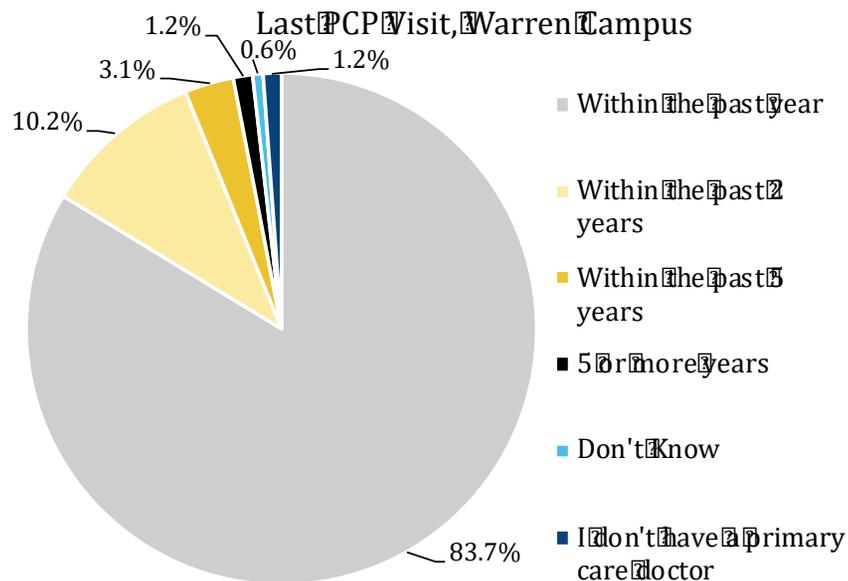
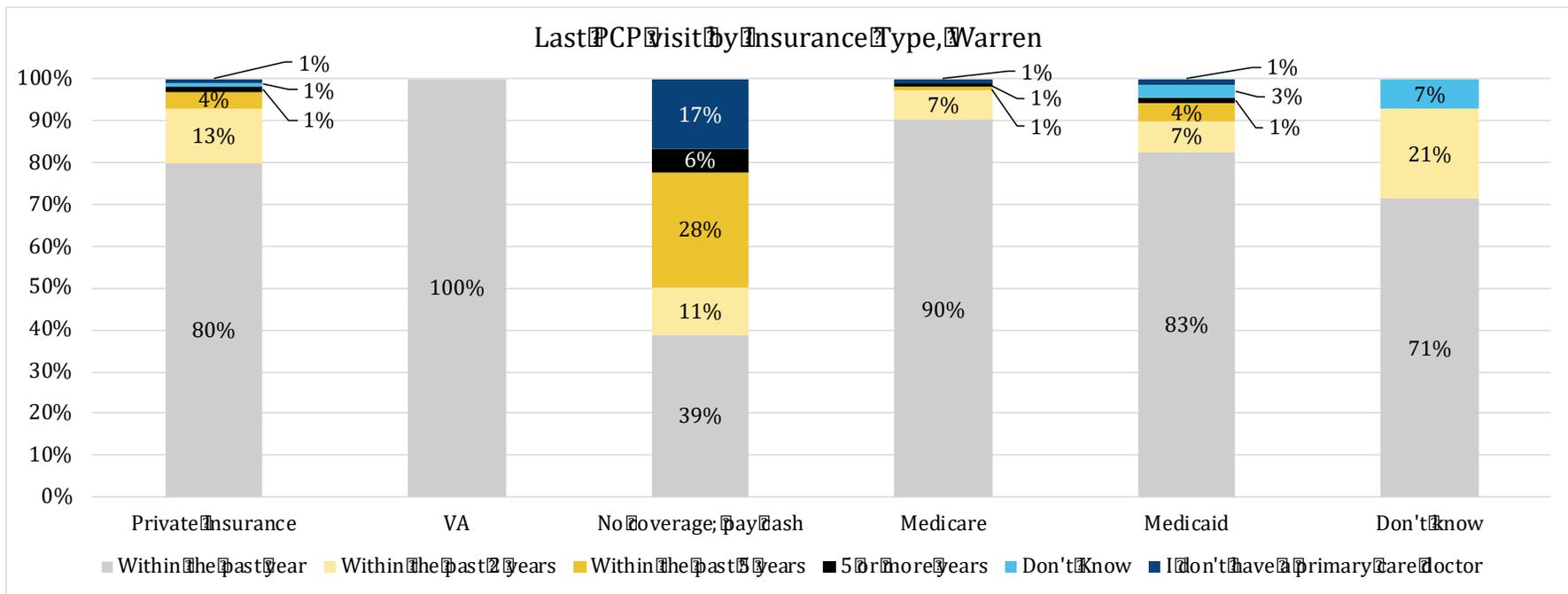


 Figure 30

As seen in the CHNA survey results, lack of insurance does hinder the frequency of doctor's visits (Figure 31). Of respondents who do not have insurance coverage, only 39% have seen a PCP within the past year and 17% do not have a PCP. This finding reinforces the need for doctors who take a variety of insurance types and a need for Federally Qualified Health Centers who offer services on a sliding pay scale, making healthcare affordable to all patients.

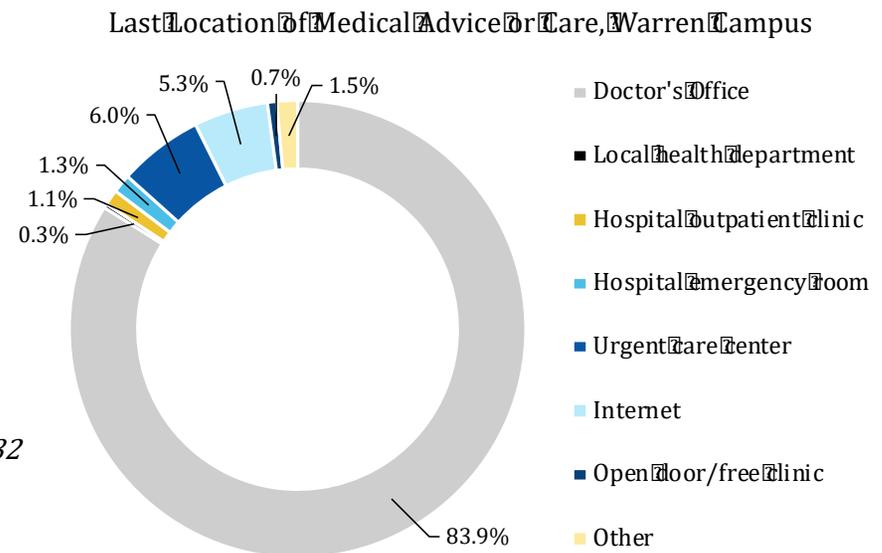
¹⁰⁴ <https://www.countyhealthrankings.org/>

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 *Figure 31*

Finally, the CHNA survey asked respondents where they go most often when they are sick or in need of medical advice to get and understanding of their use of service providers. The majority of respondents go to a doctor's office (83.9%), followed by an urgent care center (6%), using the Internet (5.3%), and other (1.5%). While a majority of respondents use a doctor's office, bringing in more PCPs who have diverse backgrounds and accept many types of insurances will allow more individuals to seek help at a doctor's office rather than on the Internet.



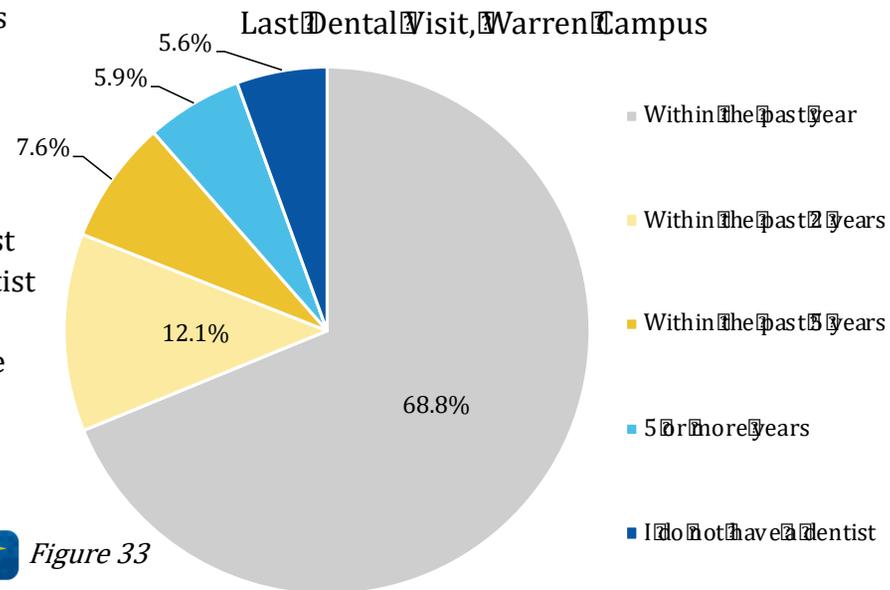
 *Figure 32*

..... Dentists

The Mayo Clinic refers to dental health as “a window to your overall health.”¹⁰⁵ Oral pain can be debilitating in some circumstances and can affect one’s overall daily life, impacting their ability to go to work or school. Poor oral health can also lead to a host of other issues in the body. A build-up of bad bacteria in your mouth due to poor oral hygiene can cause respiratory, digestive, and cardiovascular diseases.

Warren county has a ratio of population per dentist of 1,350:1, which scores worse than New Jersey overall with a ratio of 1,140:1 and U.S. top performers with a ratio of 1,210:1.¹⁰⁶ However, in recent years, there has been a trend of an increasing number of dentists in the county.

In the Warren campus and Star Community Health service area, 68.8% of respondents visited a dentist within the past year, 12.1% have seen a dentist within the past 2 years, 7.6% within the past 5 years, 5.9% have seen a dentist 5 or more years ago, and 5.6% do not have a dentist. Additionally, 60.6% of respondents use private insurance for dental care, followed by no insurance (31.9%), Medicaid (7.2%), and Veteran’s Administration (0.3%).



 **Figure 33**



“There are a lot of people with dental issues...that has been going on for years.”



“I would think there have to be a large percentage of people who do not have health insurance. I think they can get care if they walk in to the hospital, but some may not go unless they are really, really sick. We had a dental van which has been great for our kids. We had a kid get their teeth capped last year. It was incredible to see it take place. That kid’s smile just lit up. There was no way that he could’ve gotten that done through the dentist. Dental care is just so expensive. Not going to the dentist then leads to other problems.”

¹⁰⁵ <https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475>

¹⁰⁶ <https://www.countyhealthrankings.org/>

..... Mental Health Providers

Mental health has also been identified as a large challenge facing the communities in all our counties. The COVID-19 pandemic has greatly impacted access to mental healthcare. As an indicator of mental health providers and access in the county, Warren has an overall ratio of population to mental health providers of 470:1 which is slightly worse than New Jersey overall at 420:1 and far below U.S. top performers at 270:1.¹⁰⁷



“There is great demand for mental health support that is exceeding the capacity of providers. The pandemic has added fuel to a fire that was already there.”

..... Health Insurance

Uninsured rates represent a major barrier to access to care. Often, uninsured patients get very ill before seeking care, leading to higher medical costs. An issue that is prevalent in many areas is the lack of providers ability to take a range of insurances. Federally Qualified Health Centers (FQHC) are a crucial step in treating people without insurance and insurance that has minimal coverage. The Health Resources and Services Administration (HRSA) defines a community-based health care provider as one who offers primary care services to underserved areas.¹⁰⁸ FQHCs must provide services on a sliding fee scale based on the patient’s ability to pay. While FQHCs are crucial to addressing health needs, knowledge that FQHCs exist and take all or no insurance is crucial. Community Health Workers (CHW) are the next step in bridging the health gap. CHWs are defined as “a frontline public health worker who is a trusted member and/or has an unusually close understanding of the community served.”¹⁰⁹ The CHW is the liaison between health and social services and the community. They serve an important role in improving quality of services with cultural competency, increasing health knowledge in the community, and by providing advocacy. CHWs help inform people of the services available, regardless of insurance type or being uninsured, helping to increase access.

Uninsured rates in Warren county stand at 5.7% overall compared to 5.2% in the Warren campus and Star Community Health service area. When looking at age break down, 3% of those uninsured in the service area are under 18 years old, 7.4% are 18-64 years, and 0.3% are 65 years and older.¹¹⁰ In New Jersey, 7.8% of people are uninsured and 8.8% in the United States. Of the survey respondents in the Warren campus and Star Community Health service area, those with a household income \$14,999 and below primarily use Medicaid (32.8%) or use

¹⁰⁷ <https://www.countyhealthrankings.org/>

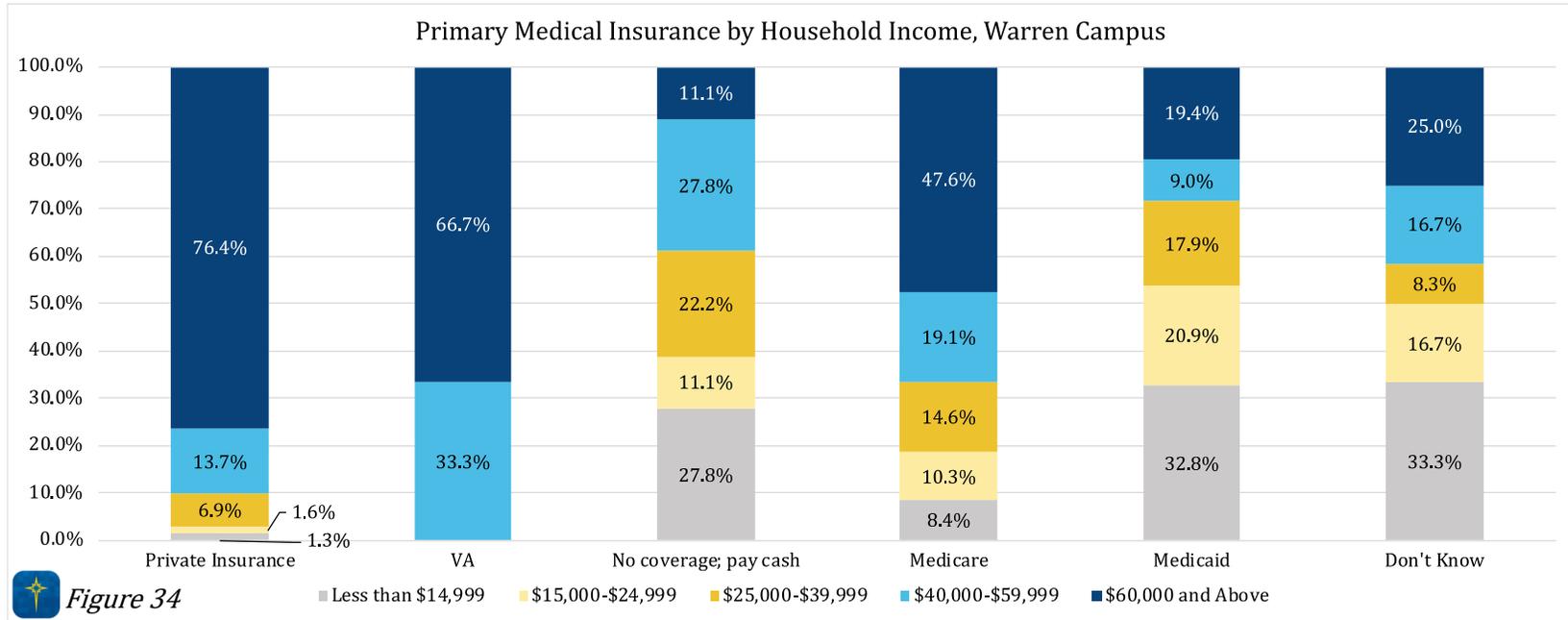
¹⁰⁸ <https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html>

¹⁰⁹ <https://www.apha.org/apha-communities/member-sections/community-health-workers>

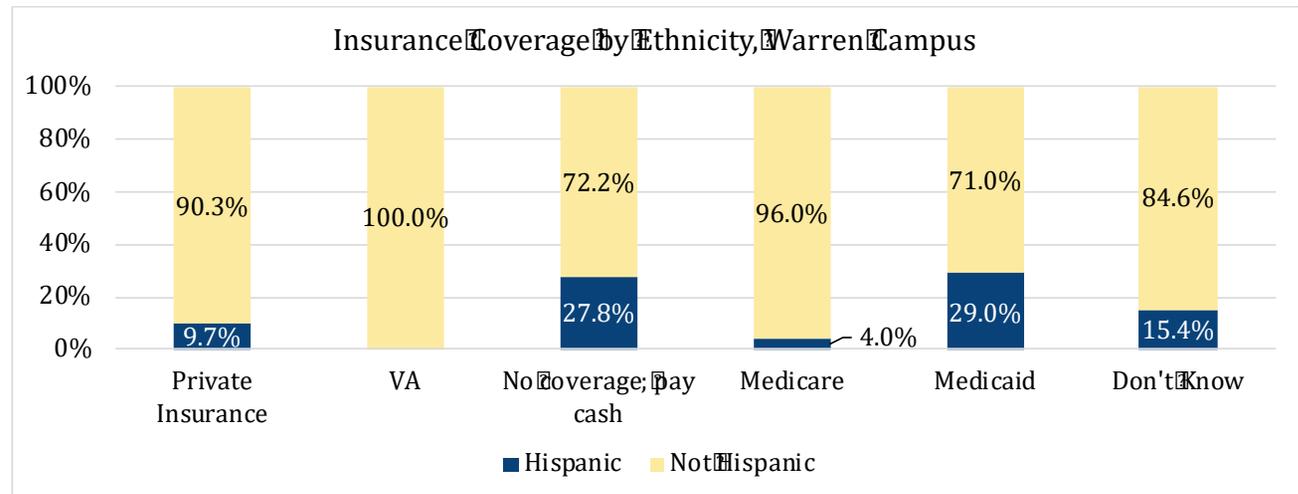
¹¹⁰ <https://data.census.gov/cedsci/>

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cash (27.8%) as their primary insurance and 33.3% do not know their primary insurance. Conversely, those whose household income is \$60,000 and above primarily use private insurance (76.4%), Veterans Administration (66.7%), and Medicare (47.6%). These findings reinforce the need for FQHCs in St. Luke's service areas along with doctors who accept Medicaid and uninsured patients.



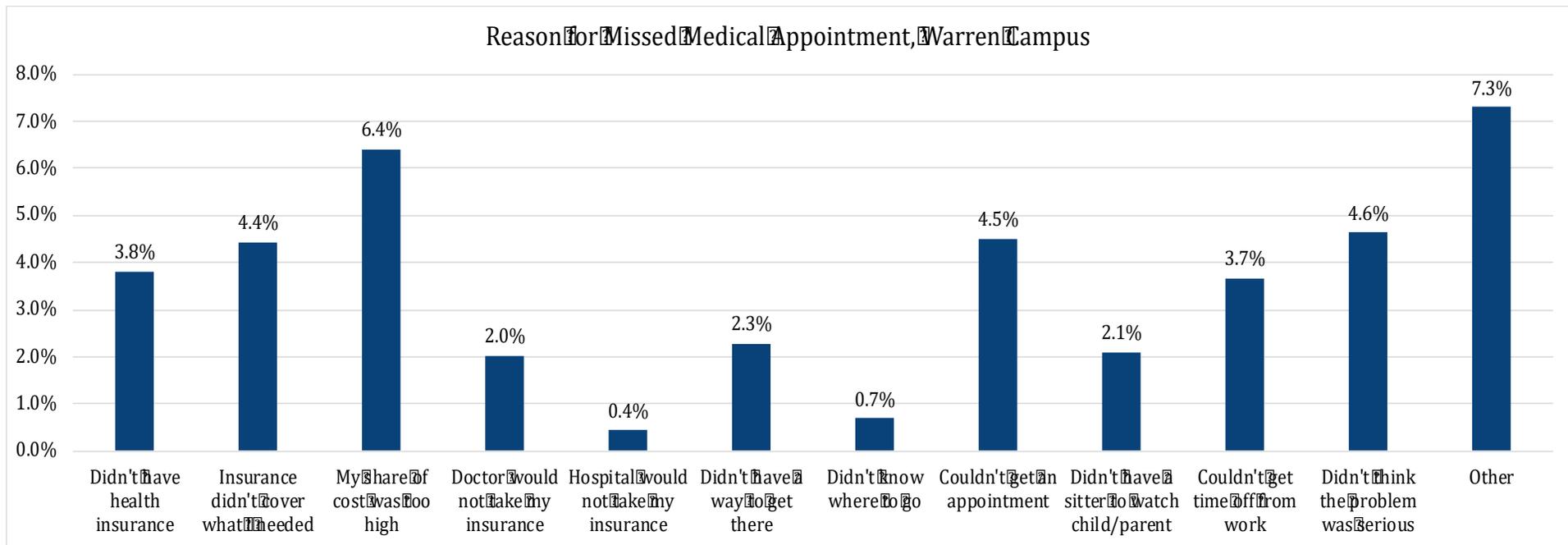
In addition, to assess the relationship between income and insurance, it is also important to look at ethnicity and insurance. Of respondents in the Warren campus and Star Community Health service area with private insurance, 9.7% were Hispanic, compared to 27.8% of respondents without insurance and 29% of respondents that have Medicaid.



..... Hospital Data

St. Luke’s is one of two major health networks in the Lehigh Valley with a variety of health services ranging from behavioral health to cardiology to gastroenterology and more. St. Luke’s addresses the inequities through partnerships in the communities with nonprofits, schools, and businesses. Through these partnerships we implement enhanced care, health initiatives, support, as well as outreach for health education, healthy lifestyles, and preventative care.

When asked to indicate reasons for any recently missed medical appointments, the top three reasons reported in the Warren campus and Star Community Health service area were: the copay was too high (6.4%), did not think the problem was serious enough (4.6%), and couldn’t get an appointment (4.5%). Only 0.4% of respondents indicated their reason for missing an appointment was due to the hospital not taking their insurance. These findings further reinforce the need for more adequate health insurance and facilities that offer assistance or sliding scales to lessen the financial burden of healthcare. In order to better support our service area population, St. Luke’s provides charity care to help alleviate some of the financial burden. During the 2020 fiscal year, St. Luke’s provided \$287.3 million dollars in charity care throughout the network.



 **Figure 36**
43

..... Top Reasons for Hospitalization

Hospital data helps us to better understand the major health issues in our community. This allows us, from both a treatment and prevention perspective, to focus efforts on priority areas most affecting the health of our patient population. The top 10 reasons for hospitalization at St. Luke’s Warren campus and Star Community Health are listed in Figure 37. Sepsis is the most common diagnosis during an inpatient encounter, accounting for 8.7% of Warren campus and Star Community Health total inpatient encounters.

Principal Diagnosis	Ranking
Sepsis, unspecified organism	1
Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	2
Acute kidney failure, unspecified	3
Other specified sepsis	4
Sepsis due to Escherichia coli [E. coli]	5
COVID-19	6
Hypertensive heart disease with heart failure	7
Acute and chronic respiratory failure with hypoxia	8
Urinary tract infection, site not specified	9
Paroxysmal atrial fibrillation	10

Figure 37

..... Emergency Department Encounters

In fiscal year 2020, the average number of emergency department (ED) encounters per ED patient seen at St. Luke’s Warren Campus and Star Community Health was 1.73, which is below the network average of 1.75 and the second highest number of average ED encounters per patient in the network (Figure 38). Note that multiple service areas contain multiple hospitals and therefore multiple EDs. The ED encounters are an average of the encounters at those hospitals.

Emergency department utilization can be used as an indicator to gauge lack of PCP coverage. When comparing ED visits by household income, there is no clear pattern. CHNA survey results showed that 62.8% of respondents who have not visited the ED in the past year make \$60,000 and above along with 77.8% of those who have visited the ED 4 times in the past year. These findings may indicate that there is a large PCP shortage in general, not just a shortage of affordable PCPs, as well as a need for education related to appropriate ED use.

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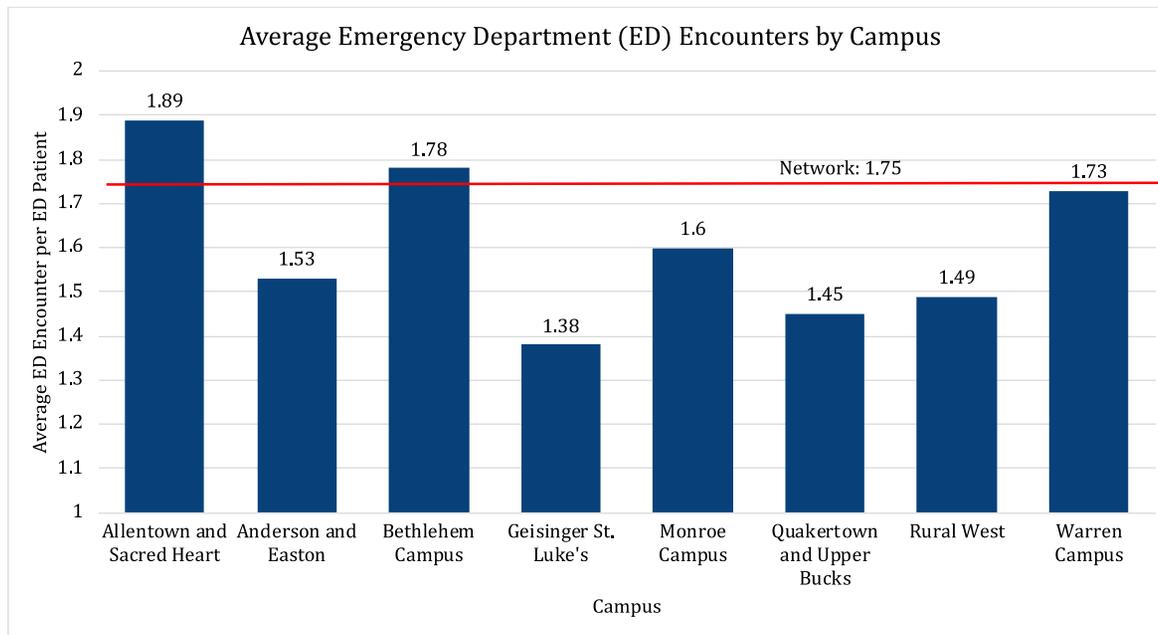


Figure 38

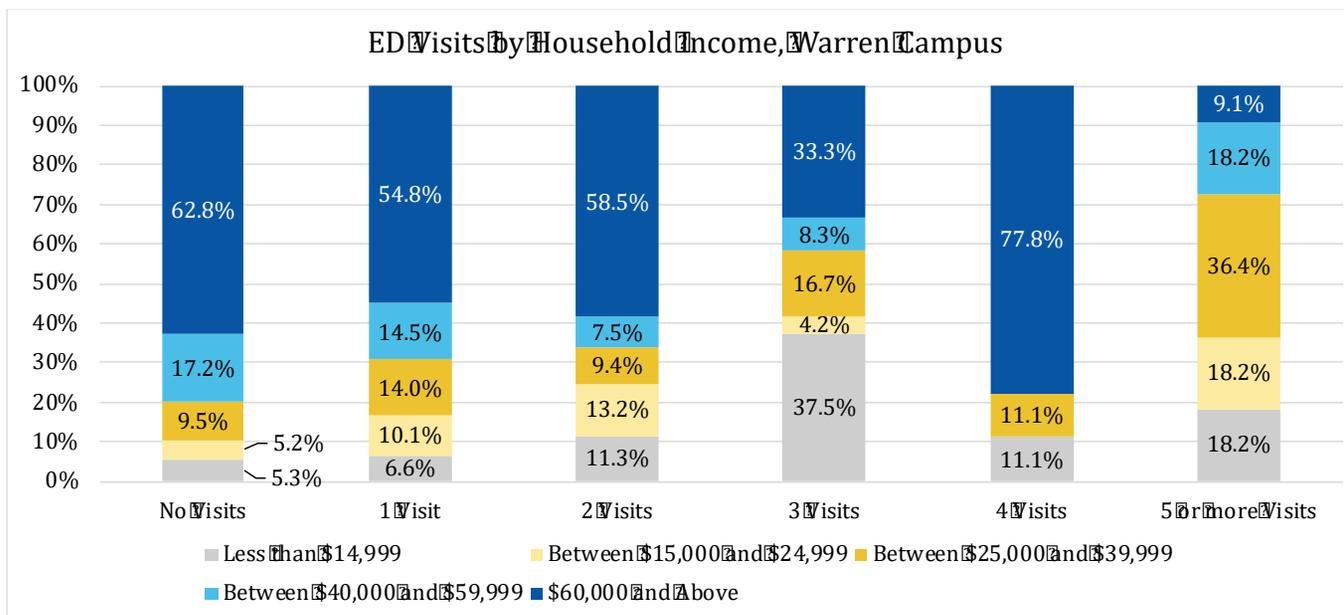


Figure 39

Health Behaviors

..... Obesity

According to the CDC, obese adults have a higher risk for developing heart disease, type 2 diabetes and certain cancers, and, as a result, obesity is estimated to cost the U.S. healthcare system \$147 billion annually.¹¹¹ For each obese individual, their medical costs are estimated to be \$1,429 higher than the medical costs of an individual whose BMI falls into the normal weight category. Many factors play a role in the obesity epidemic and its rapid increase over the last few decades including: lack of vegetable consumption, lack of physical activity, poor portion control, and poor access to outdoor recreational activities and healthy foods.

In 2018, 42.4% of U.S. adults were obese—an almost 12% increase in obesity rates since 2000.¹¹² The 2020 report by Trust for America's Health (TFAH) using 2019 data reports that “socioeconomic factors such as poverty and discrimination have contributed to higher rates of obesity among certain racial and ethnic populations. Black adults have the highest level of adult obesity nationally at 49.6%; that rate is driven in large part by an adult obesity rate among Black women of 56.9%.”¹¹³ Additionally, concerns have risen in recent years as obesity is an underlying health condition associated with some of the most serious consequences of COVID-19. This means that 42% of all Americans are at increased risk of serious, possibly fatal, health impacts from COVID-19 due to their weight and health conditions related to obesity.¹¹⁴

The TFAH did not have any available New Jersey data, however, they reported that Pennsylvania ranks 22 out of 51 states (including Washington, DC) for percentage of adults with obesity and ranks 21 for adults who are overweight.¹¹⁵ When assessing childhood obesity, the report found that 14.8% of children ages 2-4 (data from 2018) and 15% of children ages 10-17 (data from 2017-2018) in New Jersey are obese.

Robert Wood Johnson's County Health Rankings also assess obesity by measuring the percentage of the adult population (age 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m². According to the CDC, “Body Mass Index (BMI) is a person's weight in kilograms divided by the square of height in meters. A high BMI can be an indicator of high body fatness. BMI can be used to screen for weight categories that may lead to health problems, but it is not diagnostic of the body fat or health of an individual.”¹¹⁶ A BMI below 18.5 is

¹¹¹ <https://www.cdc.gov/obesity/adult/causes.html>

¹¹² <https://www.cdc.gov/obesity/data/adult.html>

¹¹³ <https://www.tfah.org/report-details/state-of-obesity-2020/>

¹¹⁴ <https://www.tfah.org/report-details/state-of-obesity-2020/>

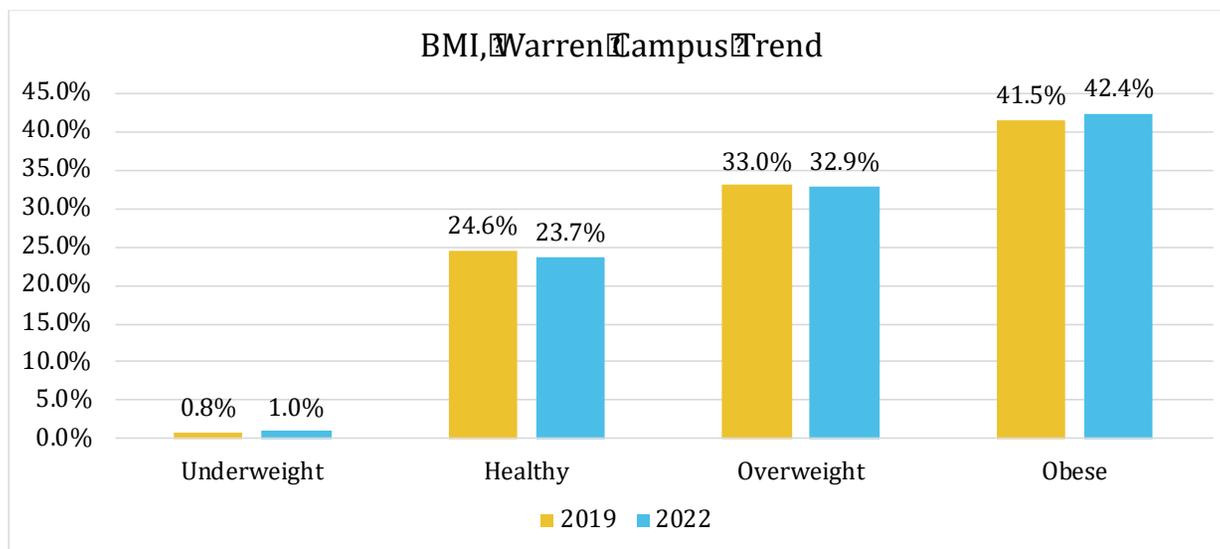
¹¹⁵ https://www.tfah.org/wp-content/uploads/2020/09/TFAHObesityReport_20.pdf

¹¹⁶ <https://www.cdc.gov/healthyweight/assessing/bmi/index.html>

considered underweight, 18.5-24.9 is considered normal, 25.0-29.9 is considered overweight, and 30 or above is considered obese. The County Health Rankings reports that 27% of adults in New Jersey are obese. Warren county reports that 32% of adults in the county are obese.

Results from the 2022 CHNA survey show that in the Warren campus and Star Community Health service area, 1% of respondents are underweight, 23.7% are healthy, 32.9% are overweight, and 42.4% are obese according to BMI.

 *Figure 40*



..... Physical Inactivity

According to the CDC, fewer than 1 in 4 children get enough physical exercise and only 1 in 4 adults meet physical activity guidelines.¹¹⁷ Healthy People 2030 aim to reduce the proportion of adults who engage in no leisure time physical activity from and increase the proportion of adults who meet current physical aerobic physical activity recommendations of exercising 30 minutes a day for 5 days a week.¹¹⁸

County Health Rankings measure physical inactivity as the percentage of adults aged 20 and over reporting no leisure-time physical activity. Robert Wood Johnson reports that “physical activity improves sleep, cognitive ability, and bone and musculoskeletal health, as well as reduces risks of dementia. Physical inactivity is not only associated with individual behavior but also community conditions such as

¹¹⁷ <https://www.cdc.gov/physicalactivity/data/index.html>

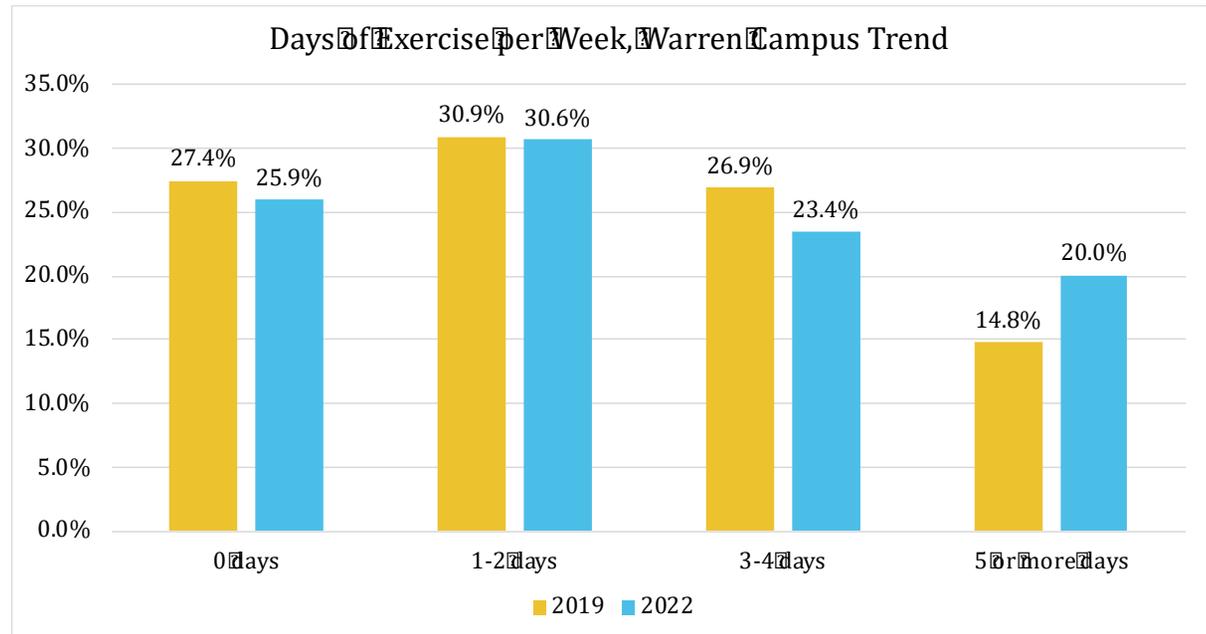
¹¹⁸ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/physical-activity/>

expenditures on recreational activities, access to infrastructure, and poverty.”¹¹⁹ In New Jersey, 27% of adults have no leisure-time physical activity along with 28% of adults in Warren county, the highest of all service area counties. One key informant attested to this saying:

 ***“Challenges are always getting people up and moving. I have that challenge myself. I say sitting is the new smoking and I feel like I am three pack a day sitter. That is probably an issue for most people, especially if you spend a long time commuting. When you get home, you just want to flop down. You are not going to get out and recreate. During the pandemic, any type of health club or league has curtailed.”***

Additionally, the Rankings measure access to exercise opportunities, which “measures the percentage of individuals in a county who live reasonably close to a location for physical activity. Locations for physical activity are defined as parks or recreational facilities. Individuals are considered to have access to exercise opportunities if they: reside in a census block that is within a half mile of a park; or reside in an urban census block that is within one mile of a recreational facility; or reside in a rural census block that is within three miles of a recreational facility.”¹²⁰ 95% of individuals in New Jersey have access to exercise opportunities along with 97% of individuals in Warren county, the highest access of all service area counties.

When asked how many days a CHNA survey respondent exercises 30 minutes, 25.9% of respondents from the Warren campus and Star Community Health service area indicated 0 days. However, 30.6% of respondents indicated exercising 1-2 days a week, 23.4% exercising 3-4 days a week, and 20% exercising 5 or more days a week- the Healthy People 2030 recommendation. The number of respondents who exercise 5 or more days per week has increased 5.2 percentage points since 2019.



¹¹⁹ <https://www.countyhealthrankings.org/>

¹²⁰ <https://www.countyhealthrankings.org/>

 **Figure 41**

..... Diet

Diet (i.e., fruit and vegetable consumption) plays a large role in overall health and reducing chronic disease. The CDC states that eating a diet filled with a variety of fruits and vegetables can reduce the risk of type 2 diabetes, certain cancers, and cardiovascular disease,¹²¹ all which play a role in the top leading causes of death nationally.

Released in February 2021, the CDC surveyed adults 20 years and older, finding that the majority of adults consumed a serving of fruit (67.3%) or vegetable (95%) on a given day, with more women reporting eating a serving of a fruit and vegetable on a given day.¹²² Compared to our survey results, 93.3% of network survey respondents and 94.3% of the Warren campus and Star Community Health service area respondents reported eating at least one serving of fruit or vegetables per day. Additionally, America’s Health Rankings surveyed adults across the country asking respondents to indicate consuming two or more servings of fruit and three or more servings of vegetables daily (five servings total).¹²³ In Pennsylvania, 7% of adults consume two or more servings of fruit and three or more servings of vegetables daily along with 8% of adults in the United States.

The sweet food consumption NHANES survey assessed sweet food consumption of snack or meal bars, sweet bakery products, candy, and other desserts, but excluded fruit and all types of beverages. Sweet foods are typically a major source of energy, added sugar, and saturated fats with limited essential ingredients.¹²⁴ It is recommended to limit this consumption and emphasize a diet with nutrient-dense foods. The surveyed was asked to adults 20 and older, finding that 61% of adults ate sweet foods on any given day, with the percentage increasing among adults 60 years or older.¹²⁵ Sweet food consumption was also highest among the middle and highest income groups compared to the lowest income group.

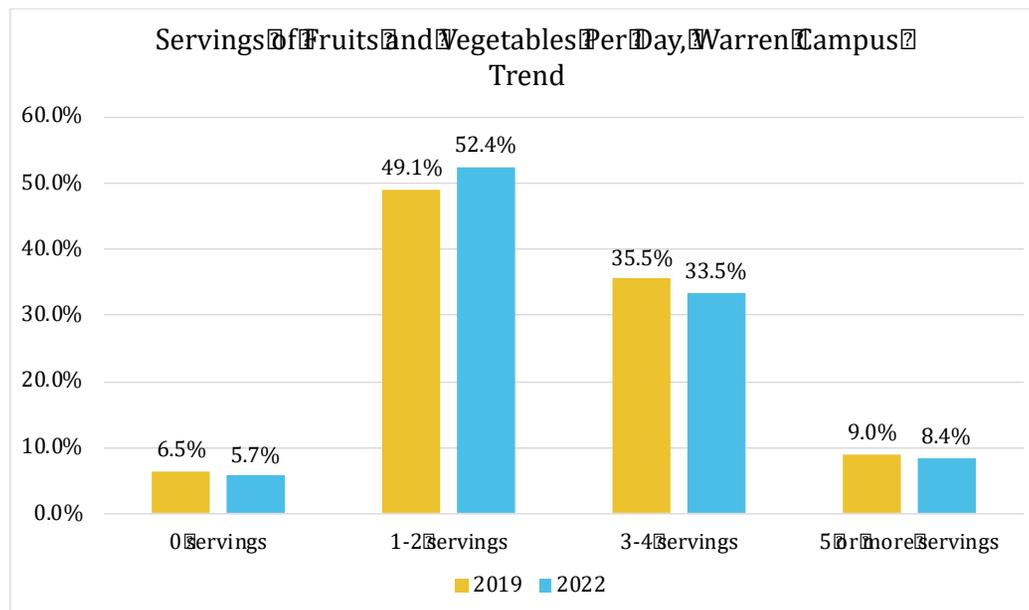


Figure 42

¹²¹ <https://www.cdc.gov/nccdphp/dnpao/division-information/media-tools/adults-fruits-vegetables.html>
¹²² <https://www.cdc.gov/nchs/data/databriefs/db397-H.pdf>
¹²³ <https://www.americashealthrankings.org/explore/annual/measure/fvcombo/state/U.S.>
¹²⁴ https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/34_Sweet_foods_children_1518.pdf
¹²⁵ https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/33_Sweet_foods_adults_1518.pdf

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The 2022 CHNA survey found that 8.4% of respondents from the Warren campus and Star Community Health service area eat 5 or more servings of fruits and vegetables per day. Most respondents (52.4%), eat 1-2 servings per day and 5.7% do not eat any servings. The number of respondents who eat 1-2 servings per day has increased since 2019, while all other categories decreased.

Furthermore, looking at fruit and vegetable consumption by income shows that serving size can change with income. Of CHNA respondents who make less than \$14,999, 9.5% do not consume any fruits and vegetables and only 2.4% eat 5 or more servings a day. The majority of respondents in each income bracket consume 1-2 servings of fruits and vegetables a day, followed by 3-4 servings per day. 10% of respondents who make \$60,000 or more eat 5 or more servings per day.

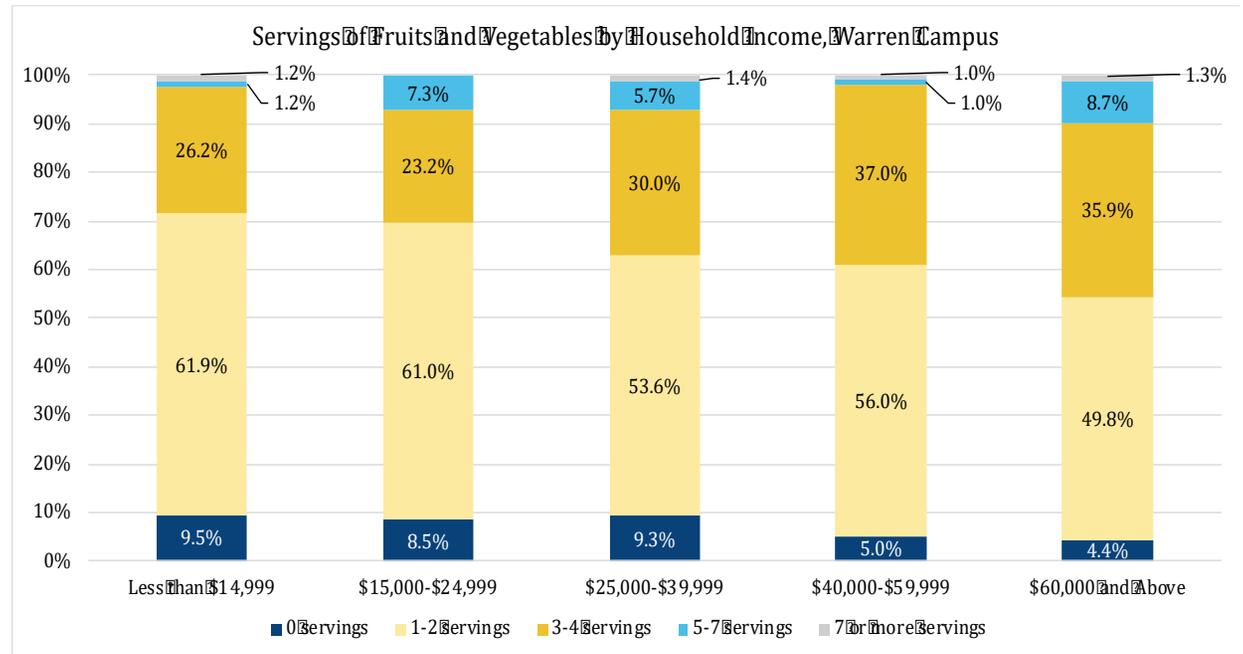


 Figure 43

..... **Free or Reduced Lunch**

During the 2019-2020 school year, 395,774 of students in New Jersey were eligible for free or reduced lunch.¹²⁶ Free or reduced lunch is a part of the National School Lunch Program (NSLP), a federally assisted meal program providing nutritionally balanced, low cost or free school lunches each day in public, private, and residential child care institutions.¹²⁷ To qualify for the NSLP, families must have an income at or below 130% of the poverty level. In 2016, the NSLP reached 30.4 million children nationwide. In Warren county, 3,339 students qualify

¹²⁶ <https://datacenter.kidscount.org/data/tables/2108-children-receiving-free-reduced-price-school-lunch#detailed/2/any/false/1769,1539/any/4420>

¹²⁷ <https://www.fns.usda.gov/nslp>

for free or reduced lunch. The number of students eligible in Warren county has slowly declined since 2014-2015, but has spiked for the 2019-2020 school year.¹²⁸

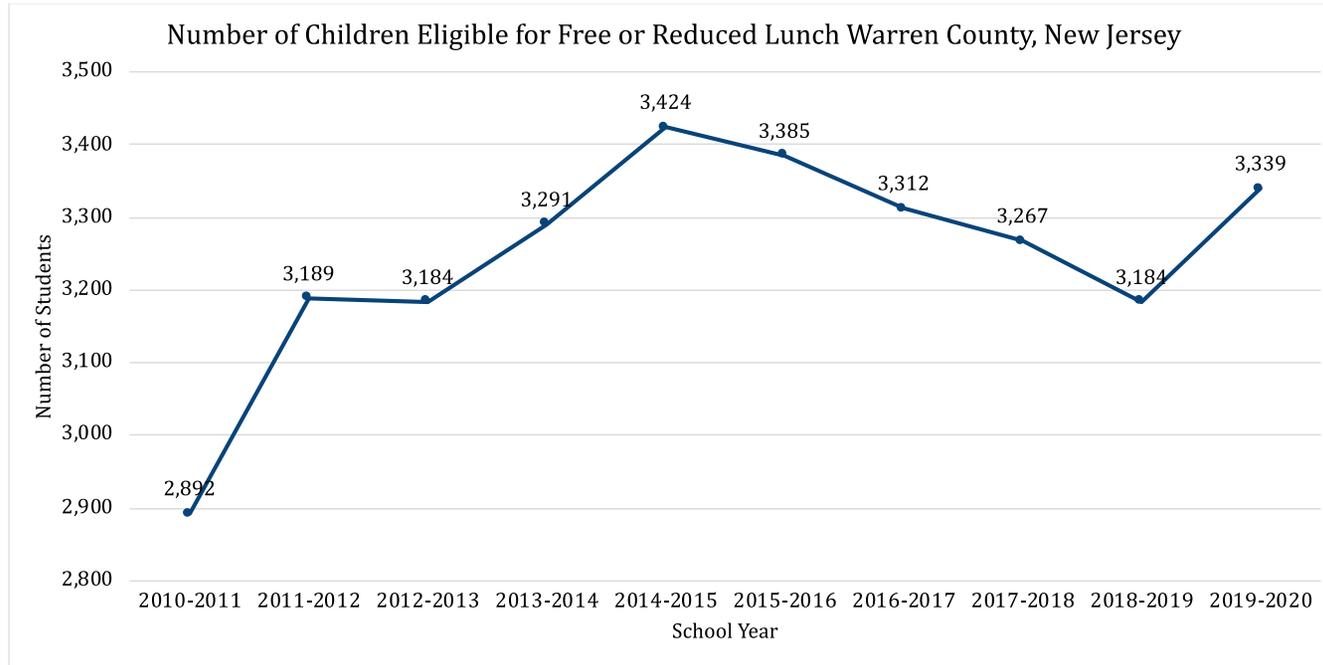


Figure 44

..... Sexual Activity

Healthy People 2030 reports that there are more than 20 million new cases of preventable sexually transmitted infections (STI) in the United States each year.¹²⁹ Healthy People 2030 objectives are to increase knowledge and education of sexual education across adolescents and adults, and to decrease the rate of STIs and sexually transmitted diseases (STDs). Adolescents may experience developmental changes that affect physical and mental health, potentially increasing risky behaviors. Risky behaviors increase the chances of STIs and teen

¹²⁸ <https://datacenter.kidscount.org/data/tables/2108-children-receiving-free-reduced-price-school-lunch#detailed/2/any/false/1769,1539/any/4420>

¹²⁹ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/sexually-transmitted-infections>

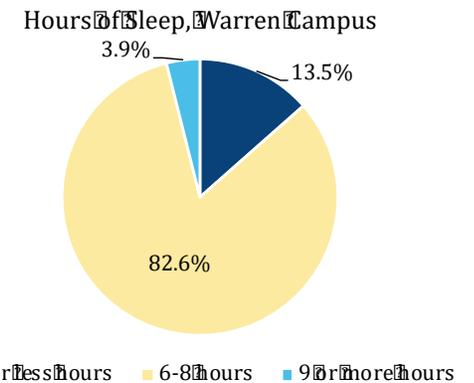
pregnancy. Healthy People 2030 objectives for teen pregnancy are to reduce pregnancies in adolescents, increase the percentage of adolescents using effective birth control, and to increase the number of adolescents who receive formal sexual education before age 18.¹³⁰

The Robert Wood Johnson Foundation’s County Health Rankings assess two sexual activity measures: STI and teen births. The 2021 rankings use STI data that reflects the number of new chlamydia cases per 100,000 population; results indicated a 21% increase in both chlamydia and gonorrhea. Chlamydia is important to assess because it is the “most common bacterial sexually transmitted infection (STI) in North America and is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease, and chronic pelvic pain.”¹³¹ Chlamydia also disproportionately impacts adolescent women with 1 in 20 sexually active women ages 14-24 diagnosed with chlamydia.¹³² In New Jersey, the rate is 405.5 per 100,000 population, while the rate in Warren county is 206.9.

There are also strong connections between teen birth, poor socioeconomic status, and/or mental health. Teenage mothers who give birth are less likely to achieve an education level beyond high school and are more likely to experience psychological distress.¹³³ The measure is represented by the number of births per 1,000 female population ages 15-19 years. In New Jersey, the rate is 12 teen births per 1,000 population and in Warren county the rate is 8. In addition to the impact of teen pregnancy on mothers, the prevalence of low birthweight in teen pregnancy is significant. Low birthweight is when a baby is born weighing less than 5 pounds, 8 ounces. Approximately 1 in 12 babies (8%) in the United States is born with low birthweight. A low birthweight may have significant complications, including birth defects, infections, trouble eating, and trouble gaining weight.¹³⁴ Teen mothers (and mothers over 40) are highly likely to have a low birthweight child. Between 2015-2019, 8.5% of births in Warren county was low birthweight.

..... Sleep

The Robert Wood Johnson Foundation indicated that sleep is an important part of a healthy lifestyle and a lack of sleep can have serious and negative health effects.¹³⁵ Healthy People 2030 also reports that approximately 1 in 3 adults do not get enough sleep.¹³⁶ Ongoing sleep deficiency has been linked to a number of health conditions such as heart disease, stroke, depression, and anxiety. Objectives for Healthy



¹³⁰ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents>
¹³¹ <https://www.countyhealthrankings.org/>
¹³² <https://www.cdc.gov/std/chlamydia/stdfact-chlamydia-detailed.htm>
¹³³ <https://www.countyhealthrankings.org/>
¹³⁴ <https://www.marchofdimes.org/complications/low-birthweight.aspx#>
¹³⁵ <https://www.countyhealthrankings.org/>
¹³⁶ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/sleep>

 **Figure 45**

People 2030 include the reduction of motor vehicle crashes due to exhaustion and to increase the number of children and adults who get enough sleep.

The 2021 Robert Wood Johnson County Health Rankings assessed the percent of adults who report less than 7 hours of sleep on average. In New Jersey, there are 38% of adults who get less than 7 hours of sleep and 38% in Warren county. To get an understanding of how many hours of sleep respondents get, we asked respondents to indicate, on average, the number of hours they sleep in a 24-hour period.

The majority of respondents in the Warren campus and Star Community Health service area (82.6%) get 6-8 hours of sleep per night, 3.9% of respondents get more than the recommended 8 hours per night, and 13.5% only get 5 hours or less per night.

..... Mental Health

Mental health has been an increasing issue during the last 10 years, even prior to COVID-19. Mental health disorders can affect people of all age and racial groups, but some populations have disproportionately higher rates of diagnosis.¹³⁷ Mental health disorders like anxiety and depression can affect a person's ability to take part in healthy behaviors and result in physical health problems making it harder for them to get treatment for mental disorders.¹³⁸ Goals related to mental health for Healthy People 2030 are to increase the proportion of people who get treatment for substance use and mental health disorders, increase the proportion of children and adolescents with symptoms of trauma who get treatment, increase quality of life for cancer survivors, reduce the suicide rate, and increase the proportion of public schools with a counselor, social worker, and psychologist. To help reach, educate, and connect people with mental health disorders to care, there is a local National Alliance on Mental Illness (NAMI) or related chapter in each service area. In Warren county, there is NAMI Warren county.¹³⁹

According to the State of Mental Health in America 2021 Report, 19% of adults prior to COVID-19 experienced a mental illness. Now, 10.8% of Americans suffering from a mental illness are uninsured and 24% of adults with a mental illness report an unmet need for treatment.¹⁴⁰ The report ranks states on their prevalence rates and access to care for adults and youth. States ranked 1-13 have lower prevalence and higher access to care, while 40-51 (including The District of Columbia) have higher prevalence rates and lower access to care.

¹³⁷ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/mental-health-and-mental-disorders>

¹³⁸ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/mental-health-and-mental-disorders>

¹³⁹ <http://www.namiwarren.org/>

¹⁴⁰ <https://www.mhanational.org/issues/state-mental-health-america>

For overall rankings, New Jersey ranks 3 for adults and 6 for youth, indicating a lower prevalence rate and higher access to care.¹⁴¹ The 2021 report indicated that 19% of Americans report experiencing any mental illness (AMI) which is characterized as having a diagnosable mental, behavioral, or emotional disorder other than a developmental or substance use disorder. New Jersey ranks 1 with a 16.1% prevalence rate. Additionally, 4.6% of adults experience a severe mental illness (Figure 46).

The 2021 Report also ranked states by youth measures. 13.8% of youth ages 12-17 report suffering from at least one major depressive episode in the past year. A major depressive episode is “a period of two weeks or longer in which a person experiences certain symptoms of major depression: feelings of sadness and hopelessness, fatigue, weight gain or weight loss, changes in sleeping habits, loss of interest in activities, or thoughts of suicide.”¹⁴² Additionally, 9.7% of youth cope with severe major depression (Figure 47).

State of Mental Health in America 2021 State Adult Rankings			
	NJ %	NJ rank	US
Adults with Any Mental Illness (AMI)	16.1%	1	19.0%
Adults with Substance Use Disorder in the past year	7.0%	10	7.7%
Adults with serious thoughts of suicide	3.5%	1	4.3%
Adults with AMI who are uninsured	8.8%	22	10.8%
Adults with AMI who did not receive treatment	60.0%	42	57.0%
Adults with AMI reporting an unmet need	24.4%	26	23.6%
Adults with disability who could not see a doctor due to costs	25.2%	17	28.7%

Figure 46

State of Mental Health in America 2021 State Youth Rankings			
	NJ %	NJ rank	US
Youth with at least on Major Depressive Episode (MDE) in the past year	12.0%	4	13.8%
Youth with Substance Use Disorder in the past year	8.1%	7	9.7%
Youth with severe MDE	3.4%	8	3.8%
Youth with MDE who did not receive mental health services	55.7%	24	59.6%
Youth with severe MDE who received some consistent treatment	32.5%	19	27.3%

Figure 47



“The severe isolation produced by the pandemic has elevated depression and anxiety among many people and without some intervention it will get worse.”

¹⁴¹ <https://mhanational.org/issues/2021/ranking-states>

¹⁴² <https://www.bridgestorecovery.com/major-depression/what-is-a-major-depressive-episode/>

During the COVID-19 pandemic, the National Center for Health Statistics (NCHS) partners with the U.S. Census Bureau to ask people about the frequency of anxiety and depression symptoms they have experienced in the Household Pulse Survey.¹⁴³ The survey has been ongoing, broken up into phases. Phase 1 ran April 23, 2020 to July 21, 2020. Phase 2 ran August 19, 2020 to October 26, 2020. Phase 3 ran October 28, 2020 to March 29, 2021. Phase 3.1 ran April 14 2021 to July 5, 2021. Phase 3.2 ran July 21 to October 11, 2021. All Phases had periods of break in between. Nationally, 27.3% of adults reported experiencing symptoms of an anxiety disorder within the past 7 days at mid-October 2021, with the highest percentage at 37.2% in November 2020 and the lowest at 25.5% at the beginning of July 2021. Additionally, 21.8% of adults report experiencing symptoms of a depressive disorder within the past 7 days at mid-October 2021, with the highest percentage at 30.2% in December 2020 and the lowest 20.9% at the beginning of July 2021. When anxiety and depression symptoms were surveyed together, 31.6% of adults report experiencing symptoms of either an anxiety disorder or depressive disorder in the past 7 days at mid-October 2021, with the highest 42.6% at the end of November 2020 and the lowest at 29% at the beginning of July 2021. However, in New Jersey at mid-October 2021, 22.2% of people report experiencing symptoms of an anxiety disorder in the past 7 days, which ranks 47 out of 51 states including Washington, DC. The higher the ranking, the higher the percentage. During this time in New Jersey, 20.6% of people experiencing a depressive disorder in the past 7 days, ranking 35 out of 51. Lastly, when asked together, 26.8% of people in New Jersey report experiencing an anxiety disorder or depressive disorder, ranked 41 out of 51.

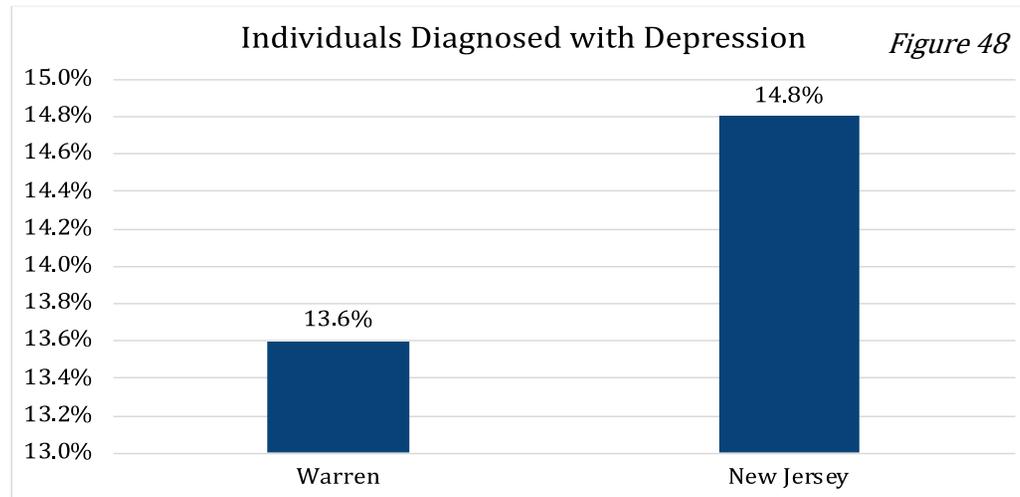
Starting in Phase 2, the Pulse survey began asking about mental health care. At mid-October 2021, 11% of people in the U.S. report needing counseling or therapy in the last 4 weeks but not receiving care. 8.1% of people in New Jersey report needing counseling and not receiving care, ranking 44 out of 51. Additionally, as of July 5, 2021, 18.6% of respondents across the U.S. delayed or did not get care in the last 4 weeks. This has been on a downward trend since June 30, 2020 when 45.7% of people delayed or did not get care. This question did not get asked again after the completion of Phase 3.1. As of July 5, 2021 in New Jersey, 20.5% of people delayed or did not get care in the last 4 weeks. Finally, in mid-October 2021, 10% of people in the U.S. at the time of the interview did not have health insurance. The uninsured rate at the time of the interview has consistently been between 10 and 14% since Phase 1. At this time in New Jersey, 7.4% of people were uninsured at the time of the interview, ranking 27 out of 51. To get an understanding of how people in the Warren community have been impacted by the pandemic, we asked respondents to indicate if their mental health has been impacted by COVID-19, and 21.9% of respondents in the network said their mental health has been impacted. When speaking about challenges in Warren county, a key informant touched on this issue of needing counseling and not receiving it:



“Part of the problem is funding for mental health. Partly that people do not want to admit they have mental health issues or families feel that they can deal with it. Funding is a big thing for sure. Not having enough counseling services and the ability to pay for those services. Someone who has money can pay for it, but there are a lot of people who can’t. There is also a waiting list of people who need services and only get help when it is a major issue.”

¹⁴³ <https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm>

Prior to COVID-19, depression was still an issue facing the U.S. and the residents of our service area. The National Institute of Mental Health (NIMH) defines depression as a mood disorder that causes “severe symptoms [that] affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. To be diagnosed with depression, the symptoms must be present for at least two weeks.”¹⁴⁴ Some signs of depression are, but not limited to: a persistent sad mood; feelings of hopelessness or pessimism; decreased energy or fatigue; difficulty concentrating, remembering or making decisions; and thoughts of death or suicide.



Depression can happen at any age but is more common in adulthood. In midlife or older adults, depression can co-occur with other serious medical illnesses like diabetes, cancer, heart disease, and Parkinson’s disease.¹⁴⁵ Risk factors include personal or family history of depression, major life changes, trauma, or stress, and certain physical illnesses and medications. Depression can be treated with medications, psychotherapy (e.g., counseling), or a combination of both. The New Jersey Department of Health reported in 2017 that 14.8% of people in the state were diagnosed with depression, with 13.6% of Warren county residents diagnosed.¹⁴⁶

Anxiety is another common mental disorder that affects people across the country. Anxiety is a normal part of life, but for a disorder, it is more than temporary worry or fear. The NIMH says “for a person with an anxiety disorder, the anxiety does not go away and can get worse over time. The symptoms can interfere with daily activities such as job performance, schoolwork, and relationships.”¹⁴⁷ Risk factors for anxiety disorders differ for each disorder, but generally include temperamental traits of shyness or behavioral inhibition in childhood, exposure to a stressful or negative life or environmental events in early childhood or adulthood, a history of anxiety in relatives, and some health conditions.¹⁴⁸ Anxiety disorders can be treated with psychotherapy, medication, or a combination. In 2020, the CDC released a report of symptoms of Generalized Anxiety Disorder (GAD) among adults in the United States. GAD displays excessive anxiety or worry, most days for at least 6 months, about numerous things, causing significant problems in areas of life like social interactions, school, and work.¹⁴⁹ The CDC survey found that 9.5% of adults experienced mild symptoms of anxiety, 3.4% experienced moderate symptoms of anxiety, and 2.7%

¹⁴⁴ <https://www.nimh.nih.gov/health/topics/depression/index.shtml>

¹⁴⁵ <https://www.nimh.nih.gov/health/topics/depression/index.shtml>

¹⁴⁶ https://www-doh.state.nj.us/doh-shad/query/result/njbrfs/DXDepress/DXDepressAA11_.html

¹⁴⁷ <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>

¹⁴⁸ <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>

¹⁴⁹ <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>

experienced severe symptoms of anxiety in the past 2 weeks, while 84.4% of people reported no or minimal symptoms.¹⁵⁰ The percentage of adults who experienced all types of symptoms was highest among those 18-29 years and decreased with age. One significant finding in the study was that women are more likely to experience all levels of anxiety symptoms than men.

In addition to anxiety and depression, substance use is another disorder that has continued to affect many Americans. A substance use and suicide study done by Substance Abuse and Mental Health Services Administration (SAMHSA) in 2016 found that nearly 1 in 12 adults in the United States had a substance use disorder.¹⁵¹ The NIMH describes substance use disorder as a mental disorder that affects a person’s brain and behavior with drug use and can interfere with a person’s ability to work, to go to school, and to have good relationships with family and friends.¹⁵² Substance use disorder vulnerability can largely be attributed with genetics, but physical and emotional trauma also puts people at a higher risk. The 2021 State of America report found that 7.7% of adults in America reported having a substance use disorder in the past year¹⁵³ and 7% of adults in New Jersey have a substance use disorder, which ranks 10 out of 51. In 2016, the SAMHSA study found that opiates, including heroin and prescription pain killers, were present in 20% of suicide deaths in the U.S. Additionally, 22% of all suicide deaths in 2016 involved alcohol intoxication. Alcohol is a commonly used substance, but its ability to increase aggressiveness and constrict cognition, which impairs coping strategies, may increase risk of suicidal behaviors.¹⁵⁴

2019 CDC Percent of Adults in US Experiencing Anxiety Symptoms

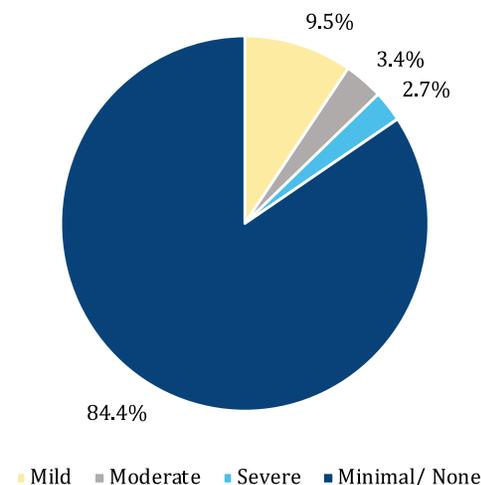


Figure 49

Suicide involves dynamic interactions between national issues, community issues, families and relationships, and individual health and or well-being.¹⁵⁵ It has become a growing concern as it is now the 10th leading cause of death among all ages in the United States, but second leading cause of death for 10-34 years and fourth for 35-54 years.¹⁵⁶ Suicide is likely to remain a significant issue during, and well beyond, the pandemic. The long-term effects on the general population, the economy, and vulnerable groups is unknown, but the impact on mental health and suicide risk may also be increased during the pandemic due to the stigma towards individuals with COVID-19 and their

¹⁵⁰ <https://www.cdc.gov/nchs/products/databriefs/db378.htm>

¹⁵¹ <https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4935.pdf>

¹⁵² <https://www.nimh.nih.gov/health/topics/substance-use-and-mental-health/index.shtml>

¹⁵³ <https://mhanational.org/issues/2021/ranking-states>

¹⁵⁴ <https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4935.pdf>

¹⁵⁵ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁵⁶ <https://www.cdc.gov/nchs/products/databriefs/db398.htm>

families.¹⁵⁷ Therefore, responses to suicide should target the whole population, focusing on particular risk factors like financial stressors, alcohol consumption, isolation, and access to care.¹⁵⁸

A CDC Suicide Mortality report in the United States from 1999-2019 was released February 2021, outlining the suicide rate over a 10-year period. The age-adjusted rate in 2019 was 13.9 per 100,000 people, which is slightly lower than the rate in 2018 (14.2).¹⁵⁹ The 2019 crude rate is 24.5 per 100,000 people.¹⁶⁰ In 2018, the National Hospital Ambulatory Medical Care Survey (NHAMCS) reported 312,000 emergency visits for self-injury.¹⁶¹ CDC WONDER data shows the 2019 crude rate of suicide by intentional self-harm from 1999-2019.¹⁶² Data for Warren county was unreliable. Unreliable shows when the rate is calculated with a numerator 20 or less. In New Jersey, suicide is the 13th leading cause of death, which annually, there are more than twice as many suicides as homicides in the state.¹⁶³

Released in September 2020, the National Vital Statistics Report and CDC published a report on suicide among adolescent and youth ages 10-24 years from 2000-2018. The average percent increase in suicide deaths among 10-24 years in the U.S. from 2007-2009 to 2016-2018 is 47.1% nationally and 39.0% for New Jersey.¹⁶⁴ After a period of stability from 2000-2007, the suicide rate among youth and adolescents increased 57.4%, which went from 6.8 deaths per 100,000 in 2007 to 10.7 per 100,000 in 2018. The northeast states had among the lowest suicide rates in the country from 2016-2018, including New Jersey with 5.7 per 100,000. However, New Jersey had a 39.0% increase from 2007-2009 to 2016-2018.¹⁶⁵

In response to growing suicide rates, New Jersey has made a suicide prevention plan. New Jersey's prevention plan was released for 2014-2017 with 10 specific goals, including to promote awareness that suicide is preventable; to improve and expand surveillance systems; to develop and implement strategies to reduce the stigma; strengthen and expand community-based suicide prevention and postvention programs; and implement education for recognition of at-risk behavior and delivery of effective treatment.¹⁶⁶

Some populations are more vulnerable than others to mental disorders, substance use and suicide. A SAMHSA study published in June 2020 found that Hispanic populations are more likely to lack high-quality evidence-based cultural grounded treatment options and have disparities in treatment outcomes.¹⁶⁷ Additionally, 1 in 20 Hispanic people do not receive services from a mental health specialist due to

¹⁵⁷ [https://doi.org/10.1016/S2215-0366\(20\)30171-1](https://doi.org/10.1016/S2215-0366(20)30171-1)

¹⁵⁸ [https://doi.org/10.1016/S2215-0366\(20\)30171-1](https://doi.org/10.1016/S2215-0366(20)30171-1)

¹⁵⁹ <https://www.cdc.gov/nchs/products/databriefs/db398.htm>

¹⁶⁰ <https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=BF94A69A2EA7B26A79CC60EBC4B1>

¹⁶¹ <https://www.cdc.gov/nchs/fastats/suicide.htm>

¹⁶² <https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=808281E7650E525FCF44896FE0B4>

¹⁶³ <https://www-doh.state.nj.us/doh-shad/indicator/view/Suicide.year.html>

¹⁶⁴ <https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr-69-11-508.pdf>

¹⁶⁵ <https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr-69-11-508.pdf>

¹⁶⁶ <https://sprc.org/sites/default/files/New%20Jersey%20Adult%20Suicide%20Prevention%20Plan%20Final%202014-17.pdf>

¹⁶⁷ https://mhttcnetwork.org/sites/default/files/2020-06/Mh_Disparities_Booklet.pdf

stigma, discrimination and lack of knowledge about services. This is a population that should be targeted by providing culturally appropriate counseling and specialized advertising to encourage care-seeking behaviors.

Another population particularly vulnerable to suicide is Veterans. A 2019 National Veteran Suicide Prevention Report by the U.S. Veterans Affairs found that in 2017, veterans accounted for 13.5% of all deaths by suicide in the U.S.¹⁶⁸ Additionally, an average of 16.8 veterans died by suicide each day in 2017. Suicide rates in veterans tend to be affected by economic disparities, homelessness, unemployment, disability status, community connection, and personal health and well-being. Veterans served by the Veterans Health Administration (VHA) who die by suicide are more likely to have sleep disorders, traumatic brain injuries, or a mental disorder diagnosis.¹⁶⁹ These suicide rates tend to be higher of individuals who live in rural areas and individuals who are isolated. Veterans ages 18-34 years old had the highest suicide rate in 2017, 44.5 per 100,000, which has increased 76% from 2005 to 2017.¹⁷⁰ Veterans are a group that require specialized services and care that addresses the needs of the population.

..... Substance Use

According to a 2019 U.S. Health CDC report, 11.7% of people in the United States have used an illicit drug in the past month.¹⁷¹ An illicit drug is one that is highly addictive and forbidden by law. Some of these include marijuana, opioids like fentanyl and heroin, and stimulants like cocaine and methamphetamine. The Substance Use and Mental Health Services Administration (SAMHSA) defines substance use disorders as occurring “when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home.”¹⁷² Substance use commonly co-occurs with mental health disorders. Please refer to the mental health section for more detailed information. Substance use is a growing concern in the United States and within our service areas, particularly related to the COVID-19 pandemic. To address the concerns with alcohol, drug and tobacco use, some of Healthy People 2030's objectives are to reduce the number of adults who used drugs in the past month, increase the rate of people with a substance use disorder who got treatment in the past year, increase the proportion of adolescents who think substance use is risky, and to reduce the rate of opioid related emergency department visits.¹⁷³ When speaking about substance use in Warren county, a key informant responded:



“We are experiencing a crisis. Substance abuse cases are so numerous, and across all communities in Warren County. The problems may be even worse after the impacts of the pandemic are truly observed.”

¹⁶⁸ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁶⁹ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁷⁰ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁷¹ <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf>

¹⁷² <https://www.samhsa.gov/find-help/disorders>

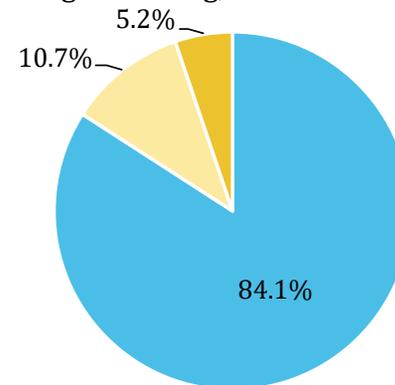
¹⁷³ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/drug-and-alcohol-use>

..... Alcohol

A 2019 CDC alcohol use report found that 25.1% of adults 18 and older have had at least one heavy drinking day (five or more drinks for men and four or more drinks for women) in the past year.¹⁷⁴ The percentage for binge drinking in women is 19.8% and for men, 30.9%.¹⁷⁵ Nationally, 1 in 4 adults heavily drank in the past year. In 2019, there were 24,110 alcoholic liver deaths in the U.S. and 39,043 alcohol-induced deaths, which do not include accidents and homicides. New Jersey’s crude rate for alcohol-induced deaths was 7.9 per 100,000. Unreliable indicates the numerator was less than 20 and is unreported for confidentiality. Warren county’s data was unreliable.¹⁷⁶

New Jersey performs a Behavioral Risk Factor Surveillance System (BRFSS) to assess their states risk factors. Binge drinking is “defined as a pattern of drinking that brings a person’s blood alcohol concentration (BAC) to 0.08 g/dl or above. This typically happens when men consume 5 or more drinks or women consume 4 or more drinks in about 2 hours.”¹⁷⁷ The CDC reports that binge drinking is the most common, costly, and deadly pattern of excessive alcohol use in the United States.¹⁷⁸ Binge drinking can be associated with unintentional car crashes, violence, sexually transmitted diseases, fetal alcohol spectrum disorders, cancer, and more. Chronic drinking is when someone drinks more than the recommended one (women) or two (men) drinks a day, and more than seven (women) and fourteen (men) drinks in a week.¹⁷⁹

Binge Drinking, Warren Campus



■ No episodes ■ 1-2 episodes ■ 3 or more episodes

 Figure 50

New Jersey’s 2017 BRFSS used the term episodic heavy drinking in place of binge drinking and 17.9% of New Jersey and 18.4% of Warren county had episodic heavy drinking¹⁸⁰ and 5.4% of New Jersey and 4.6% of Warren county had chronic drinking.¹⁸¹ When asked how many

¹⁷⁴ <https://www.cdc.gov/nchs/fastats/alcohol.htm>

¹⁷⁵ https://public.tableau.com/profile/tina.norris#!/vizhome/FIGURE9_1/Dashboard9_1

¹⁷⁶ <https://wonder.cdc.gov/controller/saved/D76/D99F021>

¹⁷⁷ <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>

¹⁷⁸ <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>

¹⁷⁹ <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking>

¹⁸⁰ https://www-doh.state.nj.us/doh-shad/query/result/njbrfs/AlcoholBinge/AlcoholBingeAA11_.html.html

¹⁸¹ https://www-doh.state.nj.us/doh-shad/query/result/njbrfs/AlcoholChrnHvy/AlcoholChrnHvyAA11_.html

binge drinking episodes a respondent has had in the past month, 84.1% of respondents in the Warren campus and Star Community Health service area indicated no episodes. However, 10.7% have had 1-2 episodes in the past month and 5.2% had 3 or more episodes.

In 2018, the Census Bureau released a County Business Patterns (CBP) report. One of the businesses assessed were liquor stores. Liquor store access reports on places primarily engaged in retailing liquor and packaged alcoholic beverages, like beer and wine. This excludes places preparing alcohol for consumption (e.g., bars, restaurants) or places that sell alcohol as a secondary retail product (e.g., gas stations, grocery stores). Research has found that liquor stores are disproportionately located in predominantly Black census tracts.¹⁸² This is an issue because increased access to liquor stores gives individuals easier access and poses a higher risk of developing alcohol use and/or a substance use disorder. The number of liquor stores is reported per 10,000 population.

The Warren campus and Star Community Health service area has 1.8 liquor stores per 10,000 population and Warren county has 2.3 per 10,000 population.¹⁸³ The Robert Wood Johnson Foundation put out 2021 County Health Rankings on excessive drinking and alcohol impaired driving deaths. Excessive drinking measures the percentage of the county's adult population that reports binge or heavy drinking in the past 30 days. New Jersey reported 16% of the state's population and 21% in Warren county. The alcohol impaired driving measure used data from 2015-2019 assessing the percentage of motor vehicle deaths with alcohol impairment. Alcohol reduces brain function and impairs thinking, which can hinder driving. Drivers 21-24 years old caused 27% of all alcohol impaired deaths in this time frame.¹⁸⁴ New Jersey reported 22% and Warren county reported 18% of all vehicle deaths with alcohol impairment, the lowest of all service area counties.

Vehicle Deaths with Alcohol Impairment

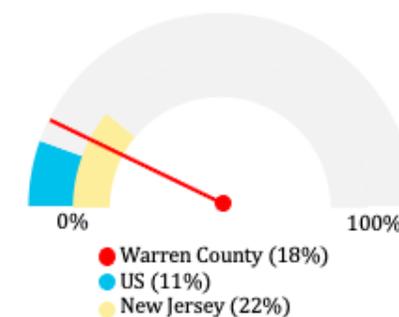


Figure 51

..... Stimulants

The drug overdose report for 1999-2019 by the CDC indicates that the age-adjusted rate of drug overdose deaths involving cocaine increased from 1.4 per 100,000 population in 1999 to 4.9 in 2019.¹⁸⁵ It is also reported that the age-adjusted rate of drug overdose deaths involving psychostimulants, which include drugs such as methamphetamine and methylphenidate, increased from 0.2 per 100,000 population in 1999 to 5.0 in 2019. Stimulants are dangerous and easily abused because they increase alertness, attention and energy. An

¹⁸² DOI: 10.1016/s0277-9536(00)00004-6

¹⁸³ <https://www.census.gov/programs-surveys/cbp.html>

¹⁸⁴ <https://www.countyhealthrankings.org/>

¹⁸⁵ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

overdose of stimulants can result in symptoms including rapid breathing, aggression, hallucinations, overactive reflexes, and more.¹⁸⁶ The 2019 Annual Surveillance Report of Drug-Related Risks and Outcomes from the CDC,¹⁸⁷ reported that in 2018, an estimated 5,529,000, or 2.0% of people 12 years and older, reported cocaine use in the past year. This is highest among people 26–29 years (6.0%) and people 18-25 years (5.8%). In 2018, an estimated 1,867,000, or 0.7% of people 12 years and older, reported methamphetamine use in the past year. This is highest among people 30–34 years (1.6%), and people 26-29 years (1.2%), and 35-39 years (1.1%). In 2018, an estimated 5,109,000, or 1.9% of people 12 years and older, reported misuse of prescription stimulants in the past year. This is highest among people 18-25 years (6.5%), followed by 26-29 years (4.4%) and 30-34 years (3.4%). Most recently according to the CDC health alert, overdose deaths involving cocaine increased by 26.5% from the 12-months ending in June 2019 to the 12-months ending in May 2020.¹⁸⁸

There are an average of about 510 new methamphetamine users a day 12 years and older, 70 new users a day 12 to 17 years old, 170 new users a day 18 to 25 years old, and 260 new users a day 26 years and older. Using data from 2018 and 2019, SAMHSA reports that 27,000 people 18 years and older in New Jersey used methamphetamines in the past year.¹⁸⁹

Figure 52

¹⁸⁶ <https://www.drugabuse.gov/publications/drugfacts/prescription-stimulants>

¹⁸⁷ <https://www.cdc.gov/drugoverdose/pubs/related-publications.html>

¹⁸⁸ <https://emergency.cdc.gov/han/2020/han00438.asp>

¹⁸⁹ <https://www.samhsa.gov/data/sites/default/files/reports/rpt32879/NSDUHsaeTotal2019/2019NSDUHsaeTotal.pdf>

..... Tobacco

The 2019 CDC Health Report indicated that in 2018, 21.5% of the population 12 years and older used any type of tobacco product.¹⁹⁰ The CDC and National Health Interview Survey of 2019 reported that 14.2% of adults 18 years and older currently smoke cigarettes¹⁹¹ and 8.1% of adolescents grades 9-12 smoked cigarettes in the past 30 days.¹⁹² The Robert Wood Johnson 2021 County Health Rankings report on adult smoking using data from 2018. Cigarette smoking is an important data point to capture because it has been an identified cause of various cancers, cardiovascular disease, and other adverse health outcomes.¹⁹³ Measuring tobacco use can help St. Luke’s and other health networks to identify needs for smoking cessation and other smoking reduction programs. Adult smoking is measured as the percent of the adult population that report currently smoking every day or most days and have smoked at least 100 cigarettes in their lifetime.¹⁹⁴ In New Jersey, 13% of adults and in Warren county 17% of adults smoke cigarettes. Additionally, the CDC National Center for Health Statistics (NCHS) released a secondhand smoke exposure report among nonsmoking adults in February 2021. Using data from 2015-2018, the report indicates that 20.8% of nonsmoking U.S. adults 18 and over were exposed to secondhand smoke, which was measured by cotinine in their blood, a metabolite of nicotine.¹⁹⁵ Some negative effects of secondhand smoke exposure include acute respiratory effects, coronary heart disease, stroke, lung cancer, and premature death.

¹⁹⁰ <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf>

¹⁹¹ <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf>

¹⁹² <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf#fig09>

¹⁹³ <https://www.countyhealthrankings.org/>

¹⁹⁴ <https://www.countyhealthrankings.org/>

¹⁹⁵ <https://www.cdc.gov/nchs/data/databriefs/db396-H.pdf>

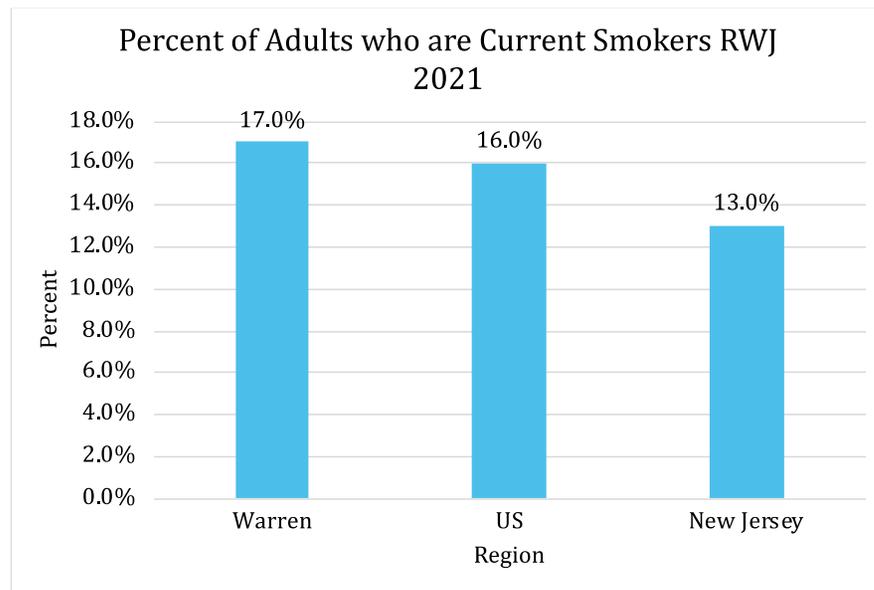


Figure 53

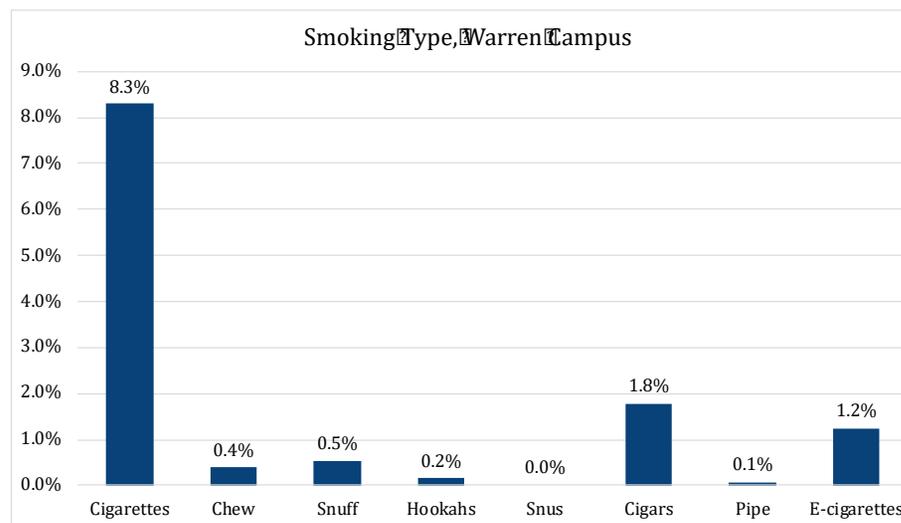


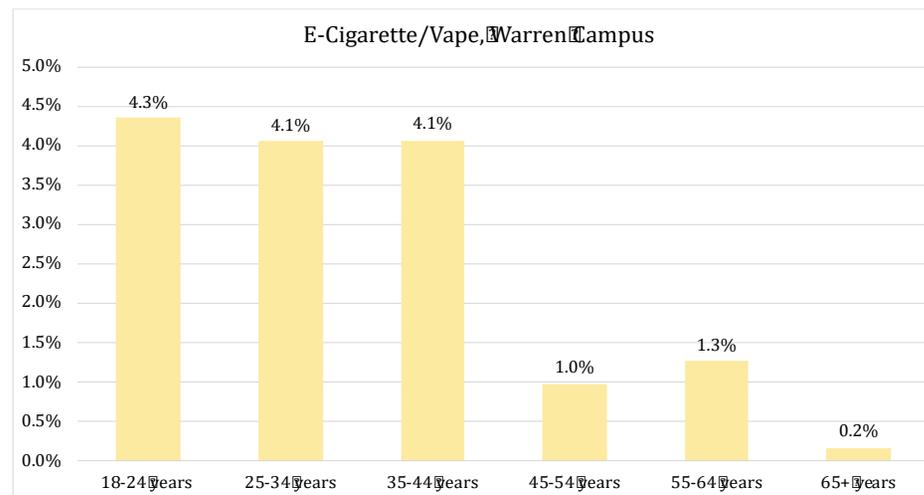
 Figure 54

The prevalence of secondhand exposure was highest for adults 18-39 (25.6%) than for adults 40-59 (19.1%) and adults 60 and over (17.6%). The highest secondhand exposure for adults by race and ethnicity were for non-Hispanic Black adults (39.7%) and lowest for Hispanic adults (17.2%). A promising finding from the report is that the prevalence of secondhand exposure declined from 27.7% in 2009 to 20.8% in 2018. When asked if respondents smoke, 9.3% of respondents from the Warren campus and Star Community Health service area indicated they do smoke. Of those who do smoke, cigarettes are the most common form of tobacco (8.3%), followed by cigars (1.8%), and e-cigarettes (1.2%). Additionally, 0.5% of respondents use snuff, 0.4% use chew, 0.2% use hookahs, 0.1% use pipes.

..... Vape

Vaping is another form of smoking nicotine, a highly addictive substance that is especially harmful to children and adolescents. Vapes, also known as e-cigarettes or electronic cigarettes, are “electronic devices that heat a liquid and produce an aerosol or mix of small particles in the air.”¹⁹⁶ The CDC and National Health Interview Survey in 2019 found that 4.4% of adults 18 years and older use e-cigarettes¹⁹⁷ and 20.8% of adolescents grades 9-12 have used e-cigarettes in the past 30 days.¹⁹⁸ Electronic cigarettes were introduced in the United States around 2007 and the highest percentage of use is seen in adolescents.¹⁹⁹ Nicotine is most harmful for children and adolescents because the substance hinders brain development, which occurs until around age 25.

Particularly, nicotine impacts attention, learning, mood, and impulse control, all of which are built and refined through childhood.²⁰⁰ An e-cigarette study among middle and high school students in the United States was performed in accordance with the CDC in 2020. Results from this study found that 19.6% of high school students and 4.7% of middle school students reported current e-cigarette use.²⁰¹ Of the current users, 82.9% used flavored e-cigarettes, including 84.7% of high school users and 73.9% of middle school users. The introduction of flavors such as fruit, candy and mint has increased youth initiation into the use of tobacco products.²⁰²



 **Figure 55**

¹⁹⁶ https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html

¹⁹⁷ <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf>

¹⁹⁸ <https://www.cdc.gov/nchs/data/hus/19-508.pdf#fig09>

¹⁹⁹ <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf>

²⁰⁰ https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html

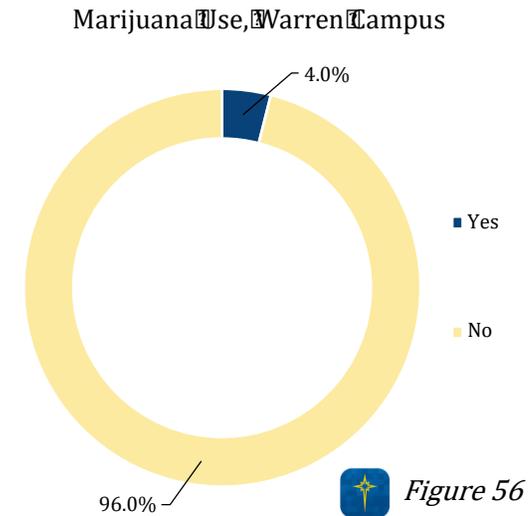
²⁰¹ https://www.cdc.gov/mmwr/volumes/69/wr/mm6937e1.htm?s_cid=mm6937e1_w%20

²⁰² <https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a1.htm>

Another CDC study found that 23.6% of high school students and 6.7% of middle school students reported 30-day use of any tobacco product.²⁰³ According to the Warren Youth Survey, 16.7% of students reported using e-cigarettes in the past 30 days.²⁰⁴ Similar to other findings, the community health survey showed the age group that uses e-cigarettes/vape most frequently are 18-24 years old (4.3%), 4.1% of respondents 25-34 years old use vapes, followed by 4.1% 35-44 years old, 1% 45-54 years old, 1.3% 55-64 years old, and 0.2% 65 years and older.

..... Marijuana

Marijuana is a psychotropic drug that is commonly used throughout the United States. In the short-term, marijuana can alter senses, change mood, impair memory, and impair body movement. In the long-term, marijuana can affect thinking, memory, and learning functions crucial to brain development.²⁰⁵ Marijuana can also have physical effects which result in breathing problems and increased heart rate. The CDC 2019 U.S. Health Report indicated that 10.1% of people 12 and older used marijuana in the past 12 months during 2018.²⁰⁶ However, the 2019 Annual Surveillance Report of Drug-Related Risks and Outcomes reported that 15.9% of people in the U.S. during 2018 who are 12 years and older used marijuana in the past 12 months.²⁰⁷ In the community health survey, usage was highest among people 18-25 (34.8%) and people 26-34 (29.6%), while 4% of respondents from the Warren campus and Star Community Health service area indicate use of marijuana.



²⁰³ <https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a1.htm>

²⁰⁴ <https://www.pridesurveys.com/>

²⁰⁵ <https://www.drugabuse.gov/publications/drugfacts/marijuana>

²⁰⁶ <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf>

²⁰⁷ <https://www.cdc.gov/drugoverdose/pubs/related-publications.html>

..... Opioids

The CDC reports that the opioid epidemic has occurred in three phases.²⁰⁸ First, prescription opioids increased in the 1990s with overdose deaths continually increasing since 1999. The second phase began around 2010 with increased overdoses involving heroin. Heroin is an alternative to prescription opioids due to its similar effect on the body. The third phase began in 2013 with the introduction of synthetic opioids, like illicitly manufactured fentanyl. The CDC provides descriptions on the most commonly used opioids: prescription opioids, fentanyl, and heroin. Prescription opioids can be used to treat pain and are often prescribed following surgery, an injury, or to manage a disease like cancer. However, there has been a dramatic increase in the prescription of opioids for chronic pain such as back pain or osteoarthritis, “despite serious risks and the lack of evidence about their long-term effectiveness.”²⁰⁹ Prescription opioids are highly addictive, and once addicted it is incredibly difficult to stop using. As many as one in four patients receiving long-term opioid therapy in a primary care setting struggle with an opioid addiction.²¹⁰ Common prescription opioids are Methadone, Oxycodone (OxyContin), Hydrocodone (Vicodin), and Benzodiazepines such as alprazolam (Xanax) and diazepam (Valium).

Fentanyl produced pharmaceutically is a synthetic opioid used to treat severe pain. It is 50 to 100 times more potent than morphine. However, the increase in overdose has been linked to illegally made fentanyl which has a heroin-like effect.²¹¹ The CDC reports that rates of overdose deaths involving synthetic opioids other than methadone, which includes fentanyl and fentanyl analogs, increased over 16% from 2018 to 2019. Overdose deaths involving synthetic opioids were nearly 12 times higher in 2019 than in 2013.”²¹² Heroin is an illegal and highly addictive drug that is typically injected, and heroin use increases the risk of serious infections like HIV, Hepatitis C, Hepatitis B, and bacterial infections. Heroin use has increased by 5 times from 2010 to 2018.²¹³ This is problematic because heroin is typically used with other substances, which can increase the risk of an overdose.

The CDC released a report (2020) on drug overdose in the United States from 1999-2019.²¹⁴ The age-adjusted rate of drug overdose deaths involving synthetic opioids increased from 1.0 per 100,000 population in 2013 to 11.4 in 2019. The average annual increase rate was lower from 2017-2019 (9% per year) than 2013-2017 (75% per year). The age-adjusted rate of drug overdose deaths involving natural and

²⁰⁸ <https://www.cdc.gov/drugoverdose/epidemic/index.html>

²⁰⁹ <https://www.cdc.gov/drugoverdose/opioids/prescribed.html>

²¹⁰ <https://www.cdc.gov/drugoverdose/opioids/prescribed.html>

²¹¹ <https://www.cdc.gov/drugoverdose/opioids/fentanyl.html>

²¹² <https://www.cdc.gov/drugoverdose/opioids/fentanyl.html>

²¹³ <https://www.cdc.gov/drugoverdose/opioids/heroin.html>

²¹⁴ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

semisynthetic opioids, like oxycodone and hydrocodone, increased from 1.0 per 100,000 population in 1999 to 2.7 in 2011, then increasing again to 4.4 in 2016 and 2017. The rates in 2018 (3.8) and 2019 (3.6) were lower than 2017.²¹⁵

Opioid use while pregnant can have severe negative outcomes for the child, potentially resulting in Neonatal Abstinence Syndrome (NAS). NAS births occur “in a newborn who was exposed to addictive substances while in the mother’s womb. The most common opiate drugs that are associated with NAS are heroin, codeine, oxycodone (oxycontin), methadone and buprenorphine.”²¹⁶ The effects of NAS usually occur within 48-72 hours of birth, suffering from withdrawal, low birth weight, tremors, vomiting, fever and more. In 2019 in New Jersey, there were 578 NAS cases, a rate of 6.3 per 1,000 births.²¹⁷ In Warren county, there were 8 NAS cases with the rate of 10.5 per 1,000 births. Since 2008, there have been 56 cases in Warren county at a rate of 6.5 per 1,000 births.

As a result of the COVID-19 pandemic, the CDC issued a health alert on December 17, 2020 indicating an increase in fatal drug overdoses across the United States driven by synthetic opioids before and during the pandemic. The purpose of the report was to alert public health departments, healthcare professionals, medical examiners, and coroners of substance use increase and drug overdoses across the U.S. with “a concerning acceleration of the increase in drug overdose deaths, with the largest increase recorded from March 2020 to May 2020, coinciding with the implementation of widespread mitigation measures for the COVID-19 pandemic.”²¹⁸ The alert indicated that overdose deaths increased 18.2% from the 12-month period between June 30, 2019 and May 31, 2020. Overdose deaths went from 74,185 in February 2020 to 75,696 deaths in March 2020 to 77,842 deaths in April 2020, which is the largest monthly increases documented since January 2015 when monthly provisional estimates began.²¹⁹ The report also claims that synthetic opioids are the primary driver of the increases in overdose deaths; “the 12-month count of synthetic opioid deaths increased 38.4% from the 12-months ending in June 2019 compared with the 12-months ending in May 2020.”²²⁰ Of the 38 jurisdictions in the U.S. with available synthetic opioid data, 37 jurisdictions reported increases in synthetic opioid overdose deaths, and 18 of the jurisdictions reported increases greater than 50%. Provisional state data is available based on records that meet certain data quality criteria. They should not be considered comparable with the final data and are subject to change. The 12 month-ending provisional counts of drug overdose deaths ending August 2020 for New Jersey is 2,919.²²¹ These numbers are underreported due to incomplete data and should not be assumed to be final. To prevent against the increase in overdose deaths, the CDC recommends states expand the use of naloxone with overdose prevention education; expand access to treatment for substance use disorders; intervene early with individuals at high risk for overdose; improve detection of overdose outbreaks.

²¹⁵ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

²¹⁶ https://nj.gov/health/populationhealth/opioid/opioid_nas.shtml

²¹⁷ https://nj.gov/health/populationhealth/opioid/opioid_nas.shtml

²¹⁸ <https://emergency.cdc.gov/han/2020/han00438.asp>

²¹⁹ <https://emergency.cdc.gov/han/2020/han00438.asp>

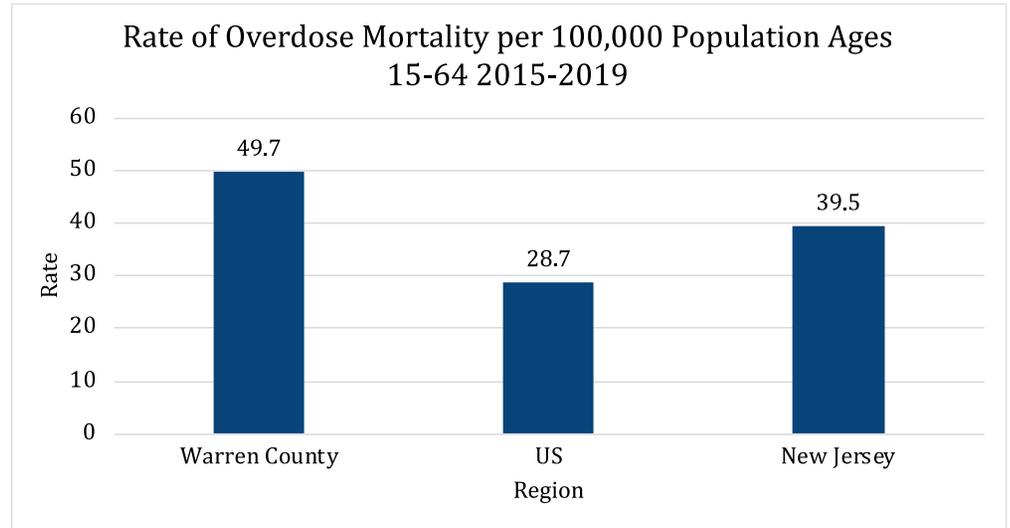
²²⁰ <https://emergency.cdc.gov/han/2020/han00438.asp>

²²¹ <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

..... **Overdose**

Overdose has been discussed previously, as it is a growing concern with prevalence rates increasing, especially during the pandemic.²²² Drug overdose deaths are the leading contributor to premature death and are largely preventable.²²³

Additionally, since 2000, the rate of drug overdose deaths has increased by 137% across the county, which can be largely attributed to opioids, as there has been a 200% increase in opioid overdose deaths since 2000.²²⁴ The NORC, National Opinion Research Center, reports on drug overdose deaths in the United States. From 2015-2019, there has been a rate of 28.7 drug overdose deaths per 100,000 people in the U.S. aged 15-64 years old.²²⁵ The rate in New Jersey is 39.5, with Warren county at 49.7 per 100,000 people.²²⁶



The CDC also published a drug overdose death report for 1999-2019 in December 2020. They report that the age adjusted rate of drug overdose deaths in 2019 was 21.6 per 100,000, which is higher than in 2018 (20.7 per 100,000).²²⁷ Adults 35-44 had the highest rate of drug overdose deaths of any age group in 2019 (40.5 per 100,000 population). Increasing from 2012, drug overdose deaths involving cocaine increased from 1.4 to 4.9 per 100,000 population in 2019 and those deaths involving psychostimulants with abuse potential, such as methamphetamine and amphetamine, increased from 0.8 to 5.0 per 100,000 population, more than 6-fold.²²⁸ As of 2018, New Jersey had 2,900 drug overdose deaths. Of the total drug overdose deaths in New Jersey, nearly 90% involved opioids, a total of 2,583 deaths.²²⁹

²²² <https://emergency.cdc.gov/han/2020/han00438.asp>

²²³ <https://www.countyhealthrankings.org/>

²²⁴ <https://www.countyhealthrankings.org/>

²²⁵ <https://opioidmisusetool.norc.org/>

²²⁶ <https://opioidmisusetool.norc.org/>

²²⁷ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

²²⁸ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

²²⁹ <https://www.cdc.gov/drugoverdose/data/statedeaths/drug-overdose-death-2018.html>

..... New Jersey Substance Use Overview

In 2019, New Jersey Drug and Alcohol Abuse Treatment did a Substance Abuse Overview of their counties. During 2019 in Warren county, there were 98,628 treatment admissions and 96,482 discharges reports to the New Jersey Department of Human Services, Division of Mental Health and Addiction services by substance abuse treatment providers.²³⁰ Additionally, there were a total of 793 unduplicated Warren county resident admissions to treatment centers and or hospitals. Of these people admitted, the drug of choice for 34% was alcohol, 42% heroin, 5% other opiates, 4% cocaine, 10% marijuana, and 5% other drugs. 61% of those admitted were male and 39% were female. 86% were non-Hispanic White, 7% non-Hispanic Black, 6% Hispanic, and 1% other. 5% were homeless, 17% were in dependent living situations, and 78% were in an independent living situation. Additionally, 64% of those admitted were on Medicaid and 24% had no insurance. Lastly, majority of people admitted within Warren county came from Phillipsburg, following close behind were Hackettstown and Belvidere.

..... Stigma

Stigma is another important component to substance use disorder regarding usage and receiving or accessing help. The Cambridge Dictionary defines stigma as “a strong feeling of disapproval that most people in a society have about something.”²³¹ Stigma may be a barrier to seeking help for someone suffering from substance use due to fear of disapproval toward the substance use from family or friends. St. Luke's has worked with our own staff and other community organizations to inform people about stigma and how it can be minimized to help the most amount of people.

In the Fall of 2019, a stigma reduction survey was sent to all the campuses whose employees are directly related to substance use disorders (SUD) as part of the Opioid Stewardship Program; 2,898 of 4,500 inpatient and outpatient network providers, nurses, and support staff received and completed the confidential stigma survey and education. Stigma campaigns are being piloted with phase two involving the entire network. Beginning in the Fall of 2020, St. Luke's Rural Community Opioid Response committee partnered to develop Community Stigma Presentations. With the presentations, we have been able to reach 286 people as of Spring 2021. The stigma education included partners such as child development organizations, business organizations, churches, first responders, and mental health service organizations.

²³⁰ <https://www.state.nj.us/humanservices/dmhas/publications/statistical/Substance%20Abuse%20Overview/2019/War.pdf>

²³¹ <https://dictionary.cambridge.org/us/dictionary/english/stigma>

..... Naloxone

Naloxone is a drug that can quickly reduce the effects of an opioid overdose. The National Institute of Drug Abuse defines naloxone as “an opioid antagonist—meaning that it binds to opioid receptors and can reverse and block the effects of other opioids. It can very quickly restore normal respiration to a person whose breathing has slowed or stopped as a result of overdosing with heroin or prescription opioid pain medications.”²³² Naloxone is safe and can be administered in three ways: injected, auto injected, or as a nasal spray. It is important for a variety of people to understand how to administer naloxone as it can quickly save someone’s life. In response to opioid use and substance use, St. Luke’s was awarded a Health Resource Service Administration (HRSA) Rural Community Opioid Response Planning (RCORP) grant in 2018 to work within a consortium to improve OUD prevention, treatment, and recovery response. With the grant, along with funding from Lehigh County Authority on Drugs and Alcohol to fund our Sacred Heart Initiative, St. Luke’s ran an urban (St. Luke’s Sacred Heart) and rural (St. Luke’s Miners Campus) pilot, which has educated and distributed naloxone to 730 and 255 people, respectively.

..... Warm Hand Off

A warm hand off is a process that has been implemented in St. Luke’s and defined as “a transfer of care between two members of the health care team, where the handoff occurs in front of the patient and family. This transparent handoff of care allows patients and families to hear what is said and engages patients and families in communication, giving them the opportunity to clarify or correct information or ask questions about their care.”²³³ Screening, Brief Intervention, and Referral to Treatment (SBIRT) is another approach adopted in St. Luke’s care. SBIRT is used for early intervention in substance use disorders to quickly assess the severity of substance use and identify the appropriate level of care.²³⁴ During CY 2021, a total of 2,637 patients have received full SBIRT at 11 of St. Luke’s campuses. Of those SBIRT patients, 56% have been referred with warm hand off and 32% have entered substance use treatment.

..... Opioid Encounters

While opioid use and overdoses have been increasing, especially in relation to the COVID-19 pandemic, St. Luke’s has been rising to meet the needs of the community with support services including: Stigma training, naloxone education and distribution, SBIRT, and warm hand offs. From July 2019 to January 2021, St. Luke’s has encountered 6,319 opioid use disorder cases and 2,097 overdose encounters. Encounters have fluctuated each month for both Opioid Use Disorder (OUD) and overdose, with no significant changes.

²³² <https://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-reversal-naloxone-narcan-evzio>

²³³ <https://www.ahrq.gov/patient-safety/reports/engage/interventions/warmhandoff.html>

²³⁴ <https://www.samhsa.gov/sbirt>

SUD Response at St. Luke's Monroe, St. Luke's Lehigh, St. Luke's Miners, and Geisinger St. Luke's is sponsored in part by the Pocono Mountains United Way and the All One Foundation as well as the Health Resource and Service Administration (HRSA)* Rural Community Opioid Response Program.

*This program was sponsored in part and supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$1,000,000 (implementation grant) with approximately 50% financed with nongovernmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.

Health Outcomes

In the 2021 Robert Wood Johnson County Health Rankings, Warren county ranks 11 overall in New Jersey for health outcomes. It is ranked among the higher middle range of healthy counties in New Jersey, falling in the 50-75th percentile. America's Health Ranking ranks New Jersey 6 out of 50 for health outcomes. For both organizations, a ranking closest to 1 indicates healthier outcomes.

..... Morbidity, Mortality, and Life Expectancy

Morbidity, mortality, and life expectancy are key health outcomes that help us to determine the overall health of the populations we serve. 2021 Robert Wood Johnson Foundation County Health Rankings data reports a premature death health outcome, which measures the age-adjusted years of potential life lost before age 75 per 100,000 population. Warren county has a premature death rate of 6,300 deaths per 100,000 which is worse than New Jersey overall (5,900) and worse than top U.S. performers (5,400). Since 1998, there has been no significant trend in premature deaths within the county.²³⁵

According to the CDC, the average life expectancy from birth in the U.S. is 78.8 years.²³⁶ The Robert Wood Johnson County Healthy Rankings measures life expectancy as an age-adjusted, average number of years a person can expect to live.²³⁷ In New Jersey, the life expectancy is 80.5 and the range of life expectancy in the counties of New Jersey is 75.3-83.5. Life expectancy in Warren county is 79.8.

Finally, low birthweight is another health outcome that can contribute to life expectancy. Low birthweight is measured by the percentage of live births who are under 2,500 grams (5 pounds, 8 ounces), which can be an indicator for future health problems such as growth problems,

²³⁵ <https://www.countyhealthrankings.org/>

²³⁶ <https://www.cdc.gov/nchs/fastats/life-expectancy.htm>

²³⁷ <https://www.countyhealthrankings.org/>

cardiovascular disease, respiratory conditions, and visual, auditory, and intellectual impairments.²³⁸ The overall low birthweight percentage is 8% in New Jersey and 6% for U.S. top performers. The low birthweight percentage is 8% in Warren county.

COVID-19 has also impacted mortality rates around the world. While we have yet to understand the impact the premature death rate due to pandemic, as of the end of December 2021 there were more than 57 million confirmed cases in the United States and more than 800,000 deaths, a mortality rate of 1.4%.²³⁹ In New Jersey, there were 1,474,871 cases reported (16,604.8 per 100,000), 26,204 deaths, a mortality rate of 1.8%.²⁴⁰ In Warren county, there were 16,439 cases (15,616.5 per 100,000), 253 deaths, and a mortality rate of 1.5%.

Perceptions of Health

It is important to assess a community's perceived sense of health status to interpret their overall well-being, as well as highlight areas where health education would benefit the community. According to the CHNA survey, most individuals in the service area reported excellent or very good health (49.5%), followed by good (44.3%), and poor or very poor (6.2%).

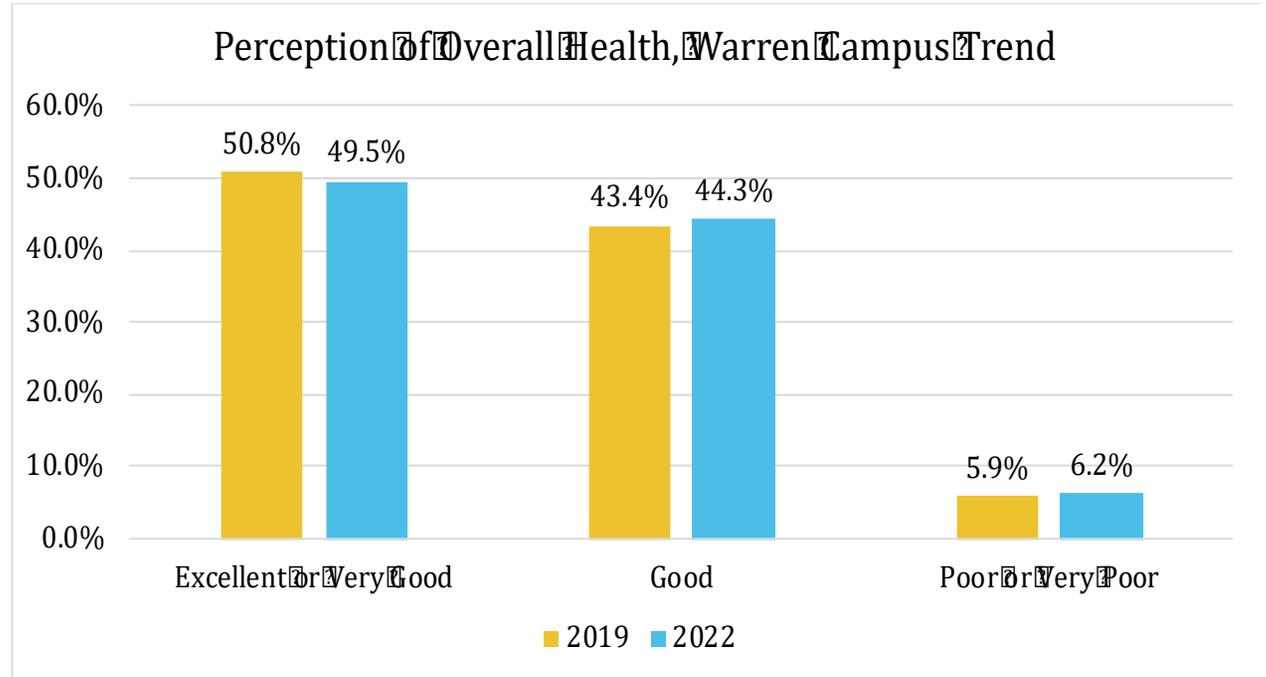


 Figure 58

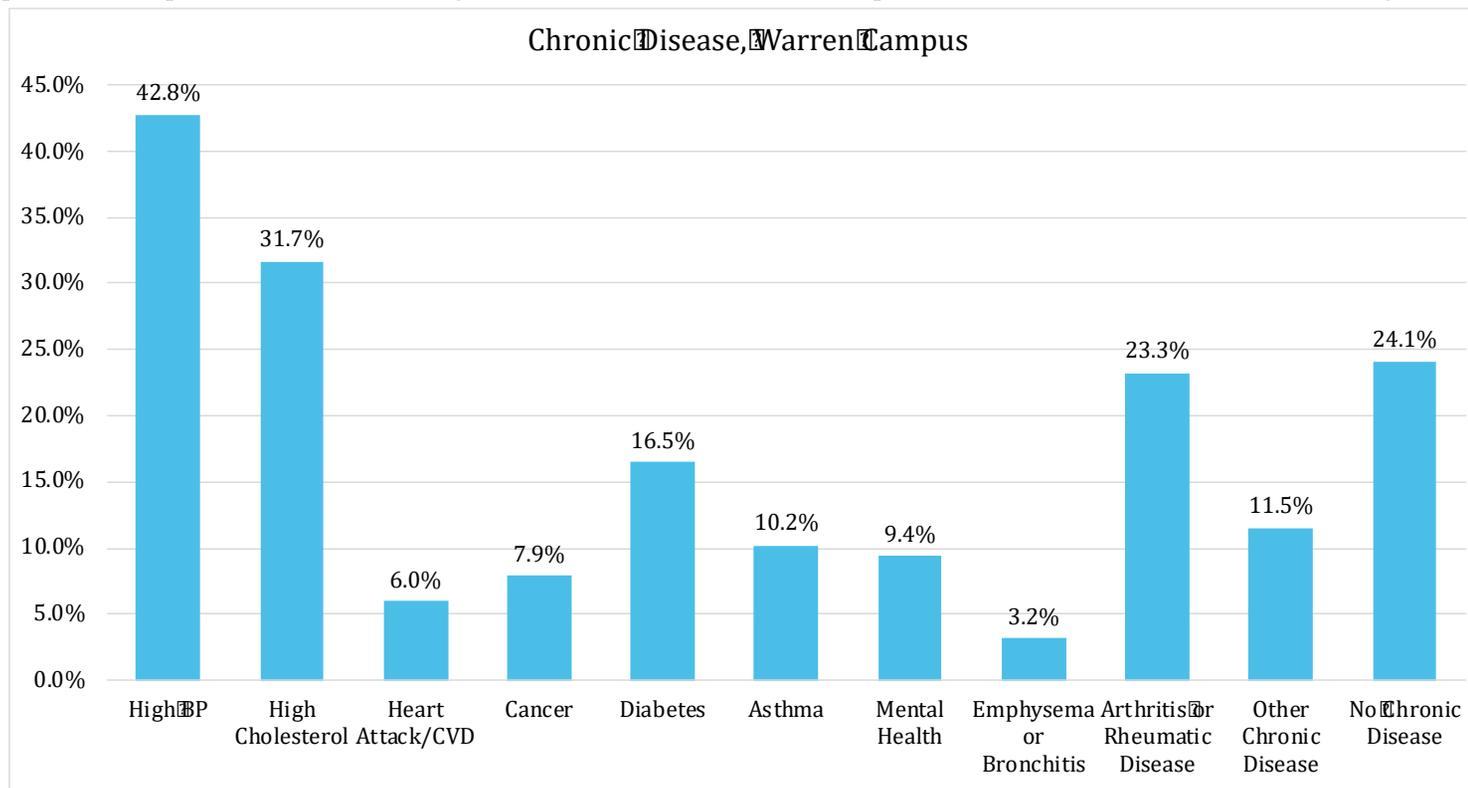
²³⁸ <https://www.countyhealthrankings.org/>

²³⁹ <https://coronavirus.jhu.edu/map.html>

²⁴⁰ https://www.nj.gov/health/cd/topics/covid2019_dashboard.shtml

..... Chronic Disease

A 2020 study analyzing data from the 2018 National Health Interview Survey (NHIS) concluded that more than half of all U.S. adults have at least one chronic disease, and more than 1 in 4 have multiple chronic conditions.²⁴¹ Among the most common chronic conditions, diabetes, hypertension and hyperlipidemia frequently plague U.S. adults leading to a myriad of health complications and a heavy cost to the healthcare system. Our 2022 survey results conveyed that the highest percentage of Warren campus and Star Community Health service area respondents have high blood pressure (42.8%), followed by high cholesterol (31.7%), and arthritis or a rheumatic disease (23.3%). While 24.1% of respondents reported to not have any chronic disease, 20.7% of respondents 45 and older do not have any chronic disease.



 *Figure 59*

²⁴¹ https://www.cdc.gov/pcd/issues/2020/20_0130.htm

When speaking about the prevalence of diabetes in Warren county, one key informant said:



“We have more diabetics than we have ever had. I don’t remember there being diabetics when I was in school. Now it is rare that school nurses are not doing a blood sugar check during the day. That is the biggest chronic disease that our kids face.”

Diabetes

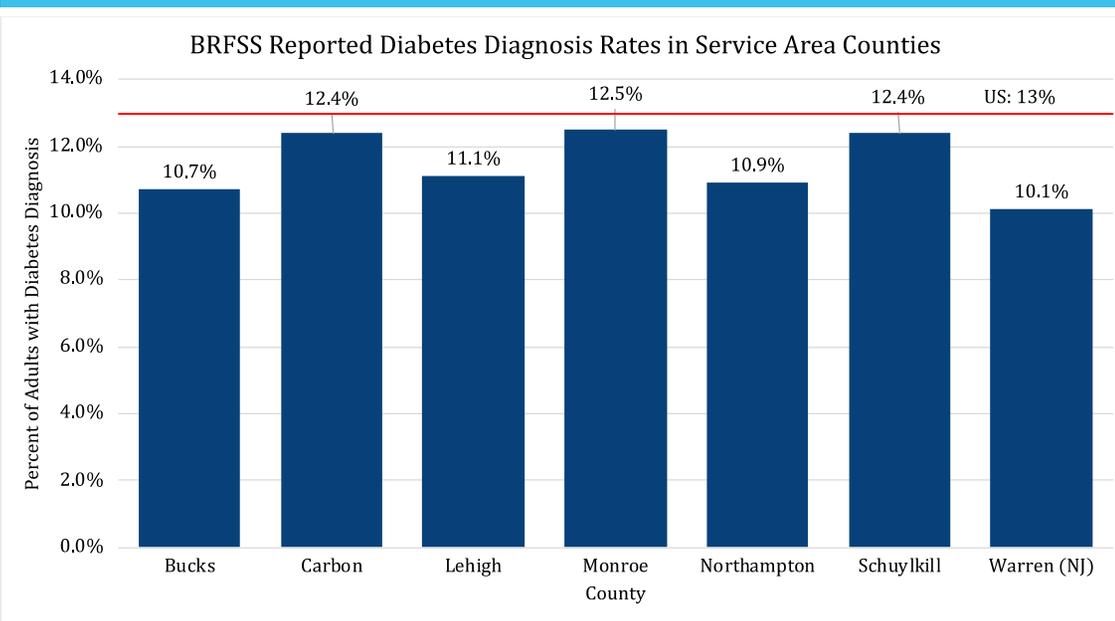


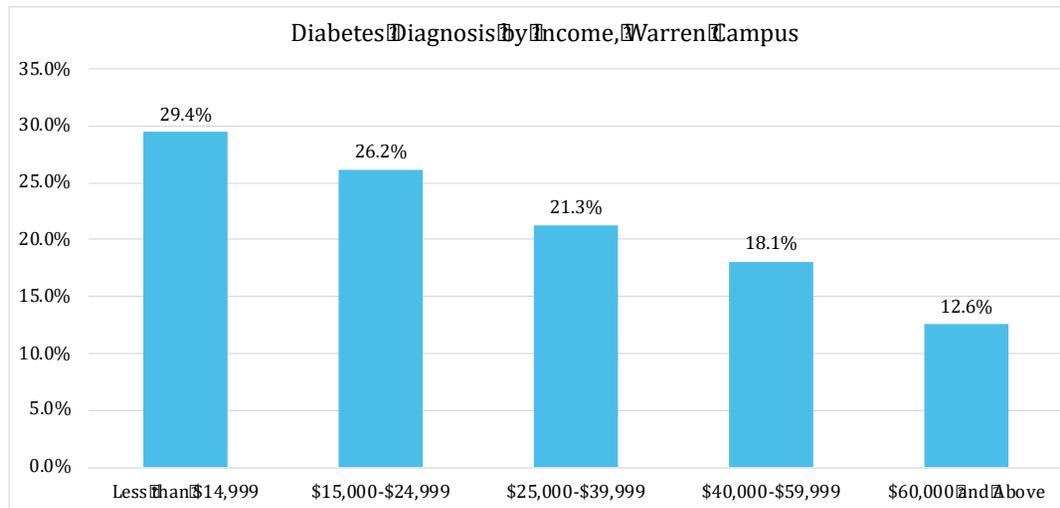
Figure 60

According to the 2020 CDC National Diabetes Statistics Report, an estimated 34.2 million Americans (13.0% of all U.S. adults) have diabetes. 90 to 95% of all diabetes is type 2. 21.4% of adults with diabetes were not aware they had diabetes and thus it went undiagnosed. According to the 2017 Behavioral Risk Factor Surveillance System (BRFSS), a national, health related survey, 10.1% of adults in Warren county aged 18 years and older have been diagnosed with diabetes.²⁴² Please see figure 60, which compares Warren county diabetes diagnosis rates to other service area counties and the U.S. overall.

In the Warren campus and Star Community Health service area, 16.5% of all respondents have diabetes. When broken down by income, respondents whose household income is less than \$14,999 have the highest rates of diabetes (29.4%) and respondents whose household income is \$60,000 and above have the lowest rates (12.6%). As income increases, the diabetes diagnosis rate decreases.

²⁴² <https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data>

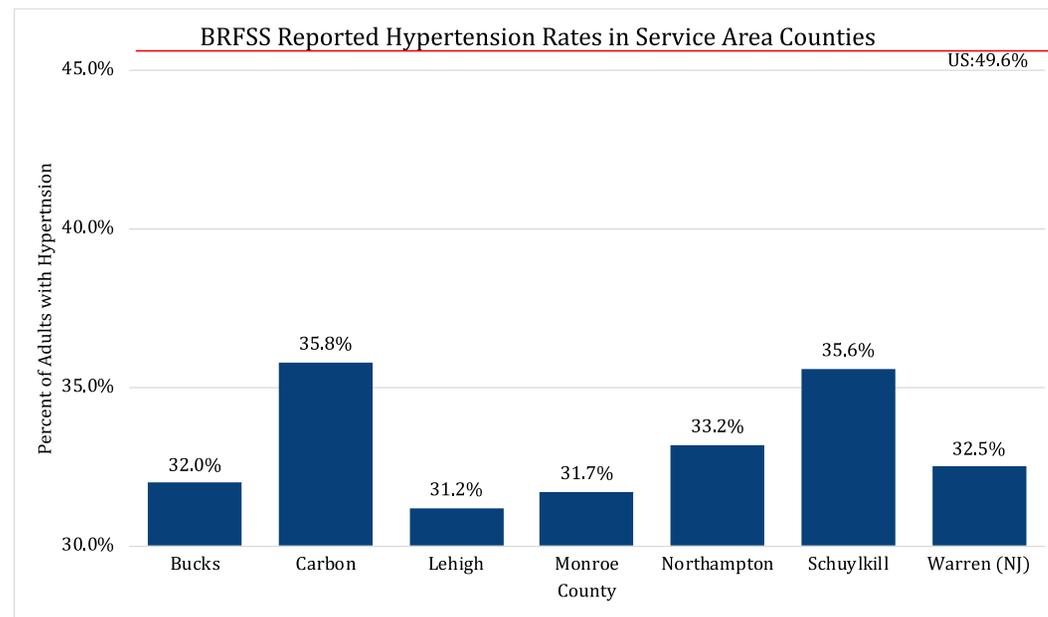
2022 St. Luke's University Health Network Warren Campus and Star Community Health Community Health Needs Assessment



 *Figure 61*

..... **Hypertension**

Hypertension is defined as having a blood pressure that is at or above a systolic value of 130 mm Hg, which measures the pressure in your arteries when your heart beats,²⁴³ and a diastolic value of 80 mm Hg, which measures the pressure in your arteries when your heart rests between beats. In comparison, a normal blood pressure is less than 120/80 mmHg. Data regarding hypertension also includes individuals who are taking medications for hypertension that would otherwise be uncontrolled. According to the CDC 2019 report, the crude prevalence of hypertension in U.S. adults aged 20 and over is 49.6%. According to the 2017 Behavioral Risk Factor Surveillance System (BRFSS),



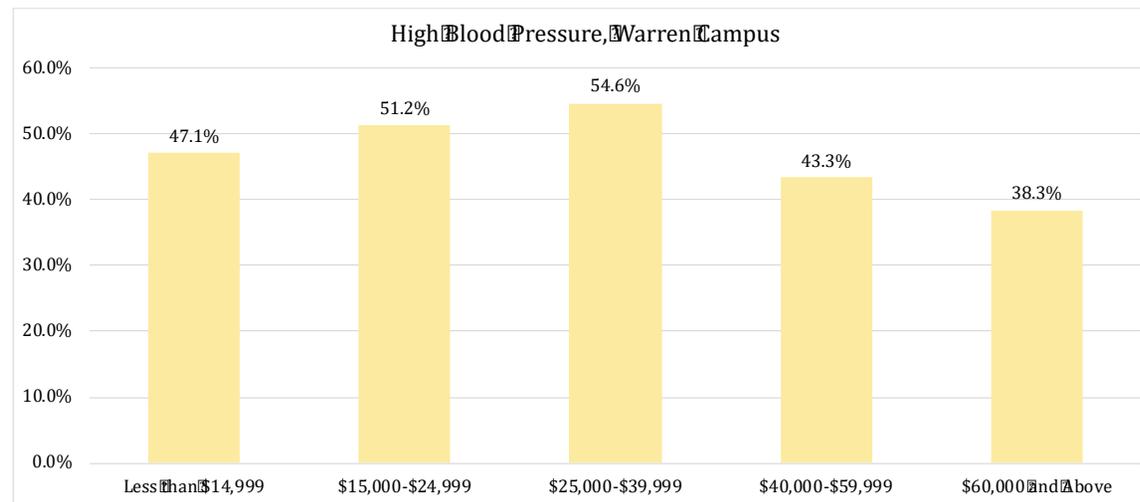
²⁴³ <https://www.cdc.gov/bloodpressure/about.htm>

Figure 62

a national, health related survey, 32.5% of adults in Warren county aged 18 years and older have been diagnosed with high blood pressure.²⁴⁴ See Figure 61, which compares Warren county hypertension diagnosis rates to other service area counties and the U.S. overall.

Of all Warren campus and Star Community Health service area CHNA respondents, 42.8% have high blood pressure. When broken down by income, respondents whose household income is \$25,000-\$29,999 have the highest rates of high blood pressure (54.6%) while respondents whose household income is \$60,000 and above have the lowest rates (38.3%). It is important to note that all of these rates are relatively high, regardless of income.

 **Figure 63**



..... **Hyperlipidemia**

Hyperlipidemia, or high cholesterol, is defined as a total serum cholesterol at or above 240 mg/dL, which stands for milligrams per deciliter and is a unit of measure that shows the concentration of a substance in a fluid. Data regarding hyperlipidemia also includes individuals who are taking medications to control their high cholesterol. According to the 2019 CDC report, 26.7% of U.S. adults aged 20 and over have been diagnosed with hyperlipidemia; that is more than 1 in 4 U.S. adults. According to the 2017 BRFSS, 36% of adults in Warren county aged 18 years and older, who have been screened in the past 5 years have been diagnosed with high

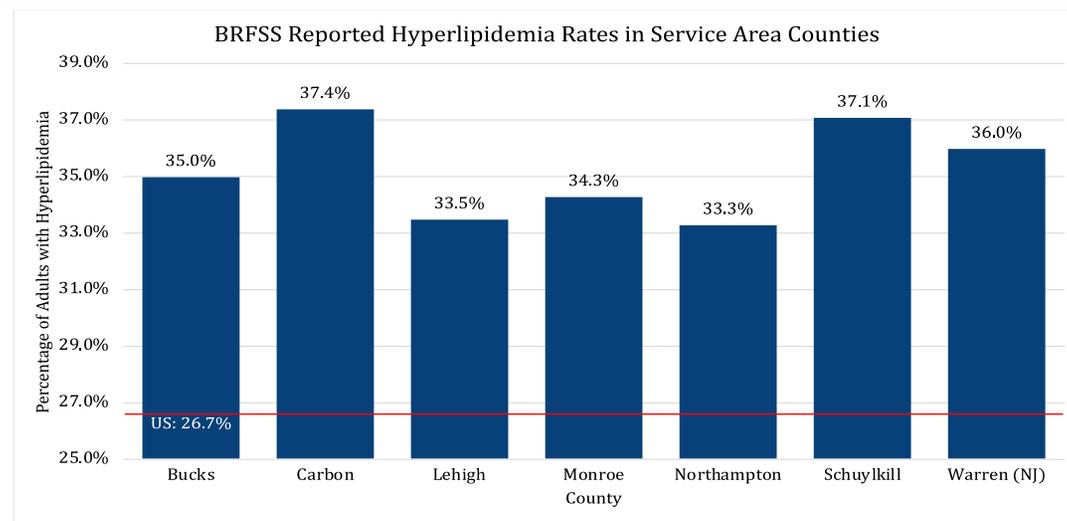


Figure 64

²⁴⁴ <https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data>

cholesterol.²⁴⁵ Figure 64 compares Warren county hyperlipidemia diagnosis rates to other service area counties and the U.S. overall.

Of all CHNA respondents from the Warren campus and Star Community Health service area, 31.7% have high cholesterol. When broken down by income, respondents whose household income is \$25,000-\$39,999 have the highest rates of high cholesterol (37.6%) and respondents whose household income less than \$14,999 have the lowest rates (28.2%).

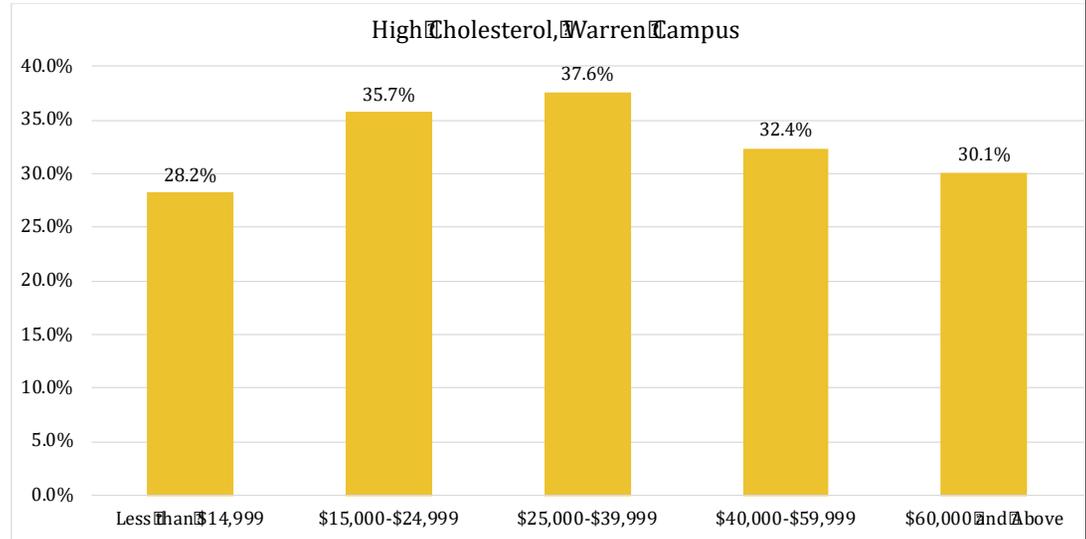


 Figure 65

..... **Cancer**

In the United States, 1.7 million people are diagnosed with cancer each year, which comes with an estimated healthcare cost of \$174 billion.²⁴⁶ Cancer is the 2nd leading cause of death nationally with over half a million deaths each year.²⁴⁷ According to the National Cancer Institute, cancer incidence in the U.S. is 448.7 per 100,000.²⁴⁸ New Jersey has a cancer incidence of 485.9 per 100,000, which falls higher than the U.S. overall. Warren county has a cancer incidence of 506.4 per 100,000 which is higher than the state's cancer incidence overall. There are certain risk factors that increase one's chance of getting cancer.

Colorectal Cancer Screening, Warren Campus

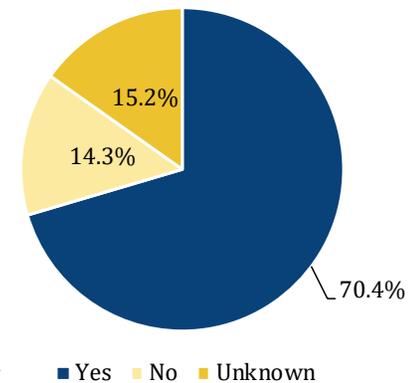


 Figure 66

²⁴⁵ <https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data>

²⁴⁶ <https://www.cdc.gov/chronicdisease/about/costs/index.htm>

²⁴⁷ <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/cancer.htm>

²⁴⁸ National Cancer Institute's State Cancer Profiles, 2013-2017

Among them, include being overweight or obese, smoking and secondhand smoke exposure, exposure to sun and tanning beds, excessive alcohol use and some infectious diseases. These health behaviors have been discussed in earlier sections of this document and are also discussed in detail, as they related to cancer, in the St. Luke’s Cancer Needs Assessment (CNA). The CNA helps set the strategy around cancer outreach and education in our communities.

Time Frame for Colorectal Screening based on Screening Type	
Colonoscopy	Within 10 years
Sigmoidoscopy	Within 5 years
Stool Blood Test (i.e.: FIT/FOBT)	Within 1 year

Figure 67

In order to be considered up to date with screenings for this analysis, respondents must have had a screening date fall in the recommended time frame for their screening type (Figure 67). If a respondent was missing an answer to one of the questions, their screening status was marked “Unknown.” Our survey asked respondents ages 50-74 to indicate their most recent colon cancer screening. Of all Warren campus and Star Community Health service area CHNA respondents, 70.4% have been screened, 14.3% have not been screened, and 15.2% are unknown. The CHNA survey also assesses colon cancer screening by insurance type to uncover any disparities and perhaps see if insurance is a barrier to cancer screenings. A large percentage (58%) of respondents ages 50-74 who do not have insurance have never been screened for colon cancer. Since colon cancer can be prevented or caught early with screenings, this is a large gap in care. Additionally, 27% of respondents who use Medicaid have never been screened. Network data is used due to small sample size by campus.

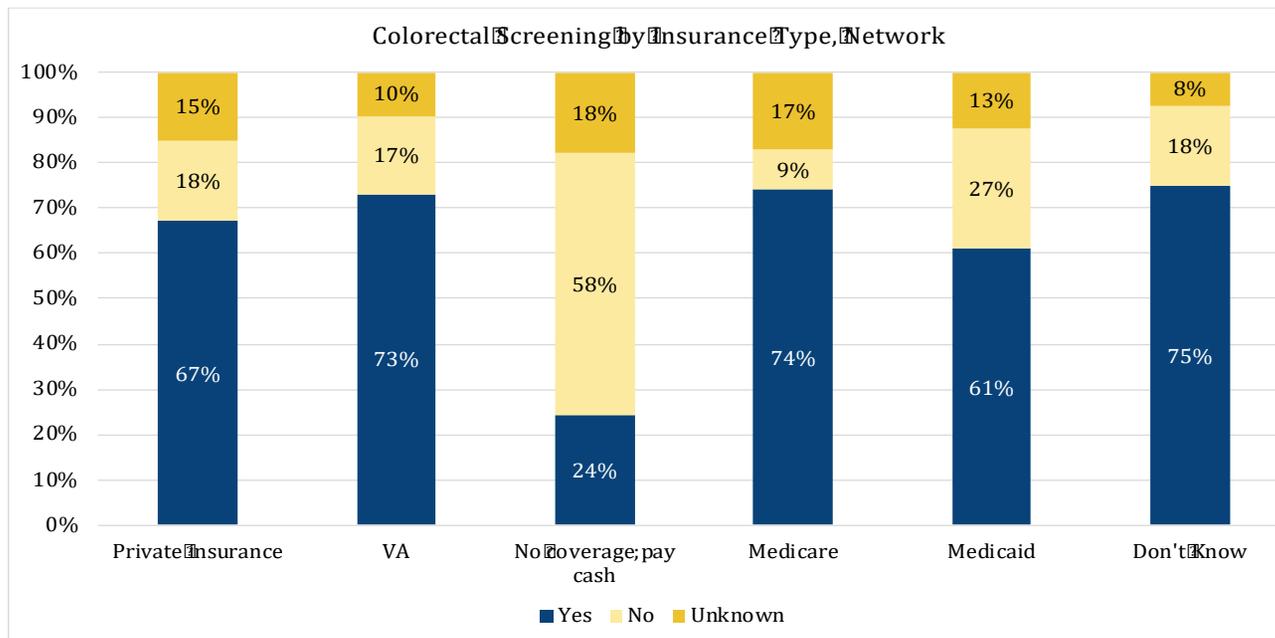


Figure 68

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Respondents were also asked about breast cancer screening and we compared breast cancer screening rates to insurance. Of all Warren campus and Star Community Health service area respondents ages 40-74 years old, 78.9% have gotten a mammogram, 20% have not, and 1.1% it is not applicable. When looking at breast cancer screening by insurance, only 26.4% of respondents who do not have insurance have gotten a mammogram, which is drastically lower than any other type of insurance. The network data is used for insurance due to small sample size.

Breast Cancer Screening, Warren Campus

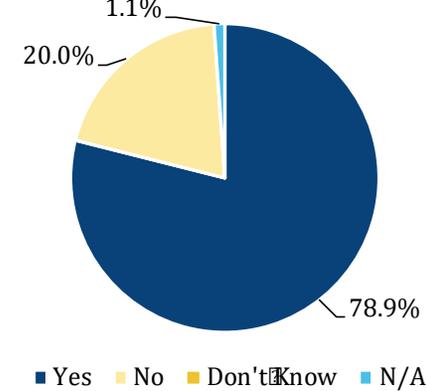


 Figure 69

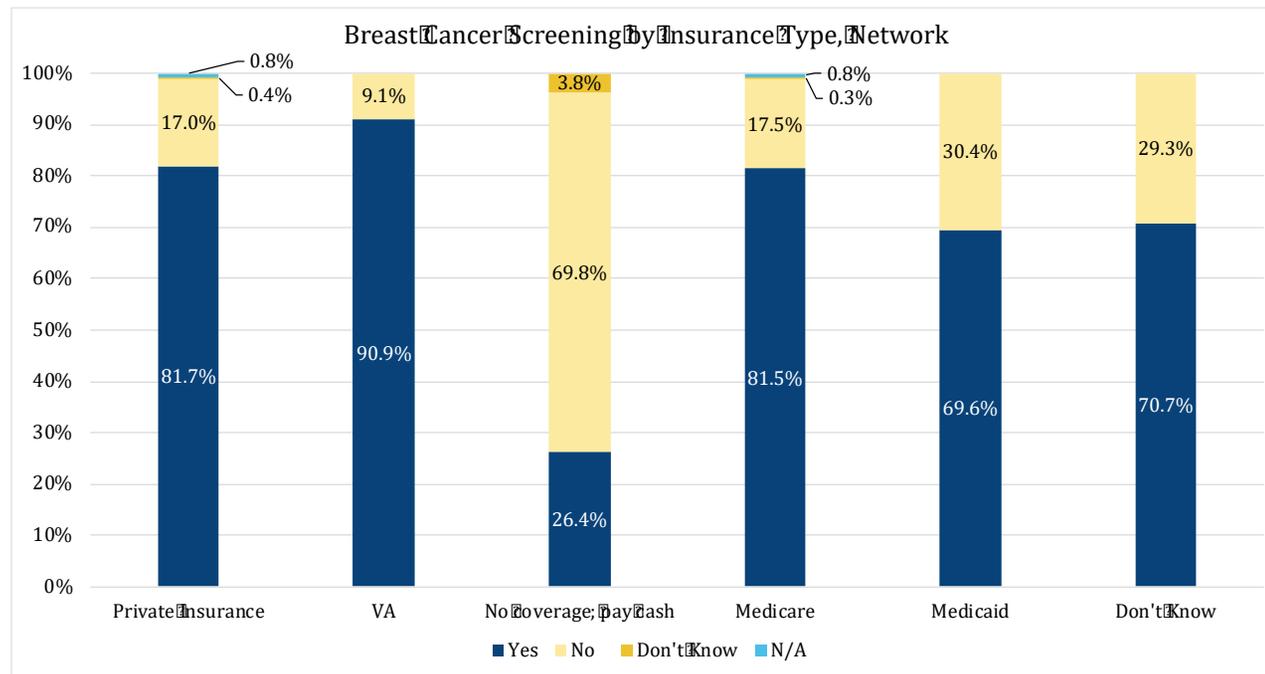


 Figure 70

..... Days of Poor Physical Health

According to Healthy People 2030, daily physical activity can prevent disease, disability, injury, and premature death.²⁴⁹ Robert Wood Johnson County Health Rankings assesses the number of poor physical health days people have because it can be a predictor for negative outcomes associated with health like unemployment, poverty, and mortality.

The poor physical health days question is measured by the average number of physical unhealthy days in the past 30 days. In New Jersey, the average is 3.7 unhealthy days and in Warren county the average is 3.9 unhealthy days.

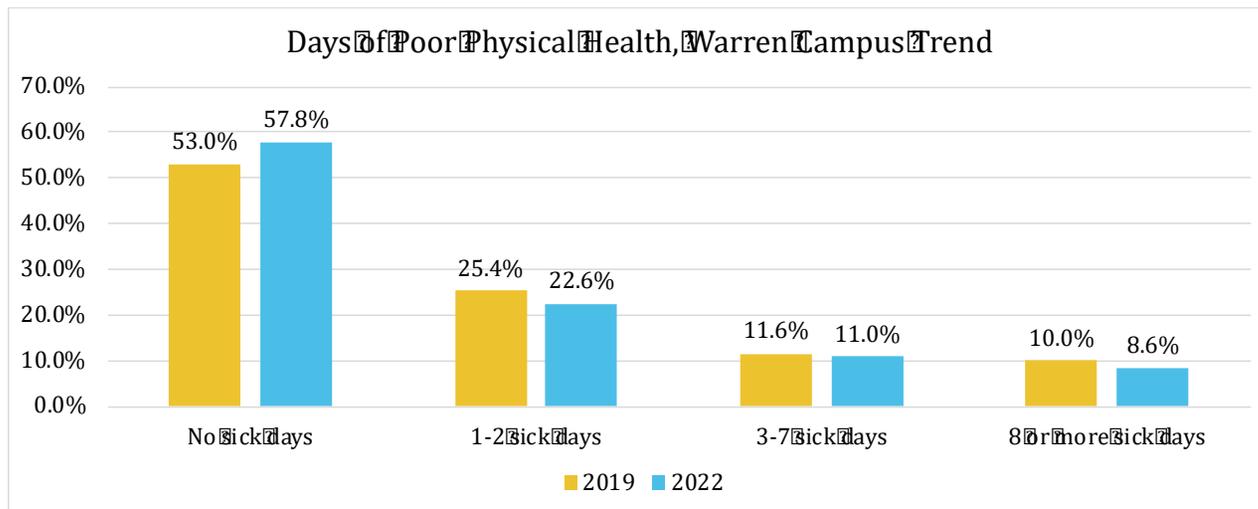


Figure 71

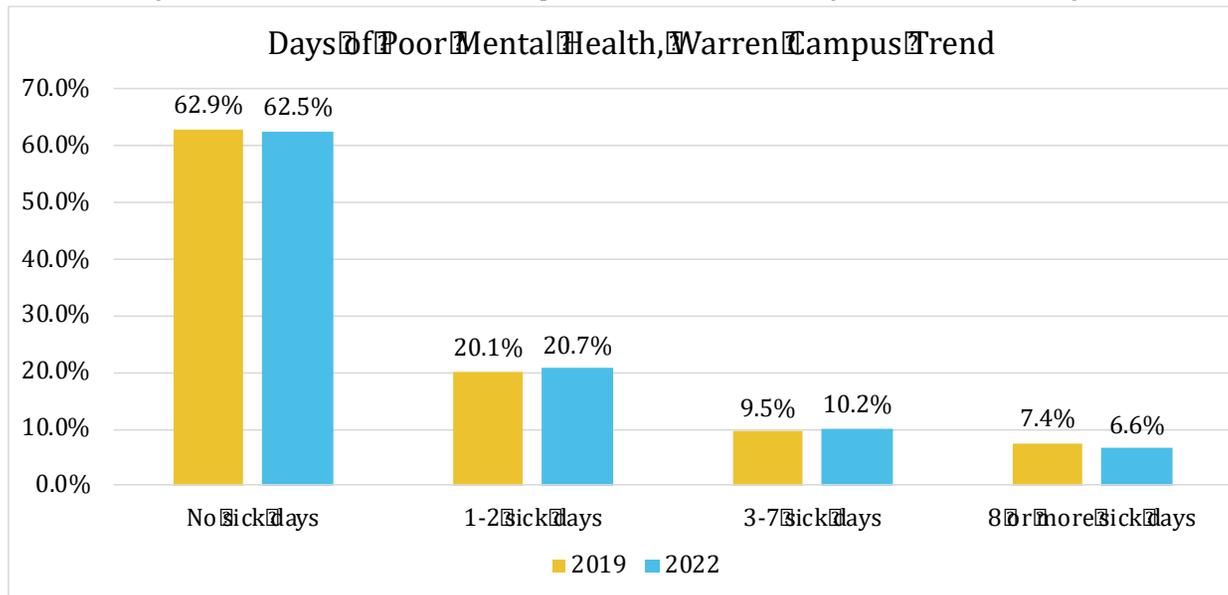
The majority of respondents indicated no physically unhealthy days in the past 30 days (57.8%), 22.6% of respondents indicated 1-2 sick days, 11% indicated 3-7 sick days, and 8.6% indicated 8 or more sick days in the past 30 days.

..... Days of Poor Mental Health

Poor mental health days is important to assess because it can be a good indicator for overall well-being. The Robert Wood Johnson County Health Rankings assess poor mental health days by the average number of mentally unhealthy days in the past 30 days.²⁵⁰ The poor mental health days question is measured by the average number of mentally unhealthy days in the past 30 days. The New Jersey overall average is 3.8 unhealthy days and Warren county's is 4.6 unhealthy days. The majority of respondents indicated no mentally unhealthy days in the past 30 days (62.5%), 20.7% of respondents indicated 1-2 sick days, 10.2% indicated 3-7 sick days, and 6.6% indicated 8 or more sick days in the past 30 days.

²⁴⁹ <https://health.gov/>

²⁵⁰ <https://www.countyhealthrankings.org/app/new-jersey/2021/measure/outcomes/42/description>



 *Figure 72*

..... Unintentional Injury

In 2019, the United States had 52.7 unintentional injury deaths per 100,000 population, which was the third ranked cause of death.²⁵¹ In 2018, there were 24.5 million visits to the emergency room for unintentional injuries and in 2016, there were 39.5 million visits to physician offices for unintentional injuries.²⁵² Unintentional injuries are unplanned and preventable when using proper safety precautions; they are also a substantial contributor to premature death. When broken down further for the United States, there were 12 per 100,000 population unintentional fall deaths, 11.5 per 100,000 population motor vehicle traffic deaths, and 20 per 100,000 population unintentional poisoning deaths.²⁵³ In New Jersey, the unintentional injury death rate was 52.4 and Warren county was 43.7 per 100,000 population.²⁵⁴ Healthy People 2030 has set objectives for injury deaths because unintentional injury deaths are so prominent. Some of which are to reduce unintentional injury deaths, reduce deaths involving opioids, and to reduce emergency department visits for nonfatal injuries and unintentional injuries.

²⁵¹ [Wonder.cdc.gov](https://www.cdc.gov/wonder)
²⁵² <https://www.cdc.gov/nchs/fastats/accidental-injury.htm>
²⁵³ [Wonder.cdc.gov](https://www.cdc.gov/wonder)
²⁵⁴ <https://www.cdc.gov/injury/wisqars/index.html>

COVID-19 Impact

..... COVID-19

In December 2019, the SARS-CoV-2 virus (i.e., COVID-19), was discovered in Wuhan, China and quickly spread across the world. COVID-19 spreads when an infected person breathes out droplets that contain the virus, which can then be breathed in by other people or land on their eyes, nose, and mouth, resulting in quick transmission from person to person. On March 11, 2020, the World Health Organization declared COVID-19 a pandemic, resulting in worldwide shutdowns of workplaces, schools, and stores. To stop the transmission of the virus, the CDC recommended wearing a mask indoors, social distancing at least 6 feet away from other people, and to get vaccinated.²⁵⁵ Many pharmaceutical companies worked on vaccines to fight the virus and multiple vaccines were approved by the Food and Drug Administration (FDA) across all age groups and were readily available to everyone in the U.S. On July 27, 2021, the CDC recommended stricter guidelines in response to the Delta variant, which showed to be more contagious and caused more severe illness compared to other COVID-19 variants. In late 2021, the Omicron variant emerged, proving to be more contagious than other COVID-19 variants, but not necessarily more deadly.²⁵⁶ The most common symptoms of COVID-19 include fever or chills, cough, shortness of breath, headache, and new loss of taste or smell.

Our Warren Campus and Star Community Health is the only campus located outside of Pennsylvania, located in Warren County, New Jersey. New Jersey overall experienced a much larger outbreak at the start of the COVID-19 pandemic due to its proximity to New York City. Pennsylvania, however, did catch up to New Jersey's total case count during the summer months of 2020 while New Jersey kept their new case rate very low. There were at most 49 new cases in a single day during the first wave in Warren County, and 43 new cases in a day during the second wave. By the beginning of 2022, with the new Omicron variant and high levels of transmission, the highest number of new cases in one day was 333 in Warren county.

²⁵⁵ <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>

²⁵⁶ <https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html>

2022 St. Luke's University Health Network Warren Campus and Star Community Health Community Health Needs Assessment

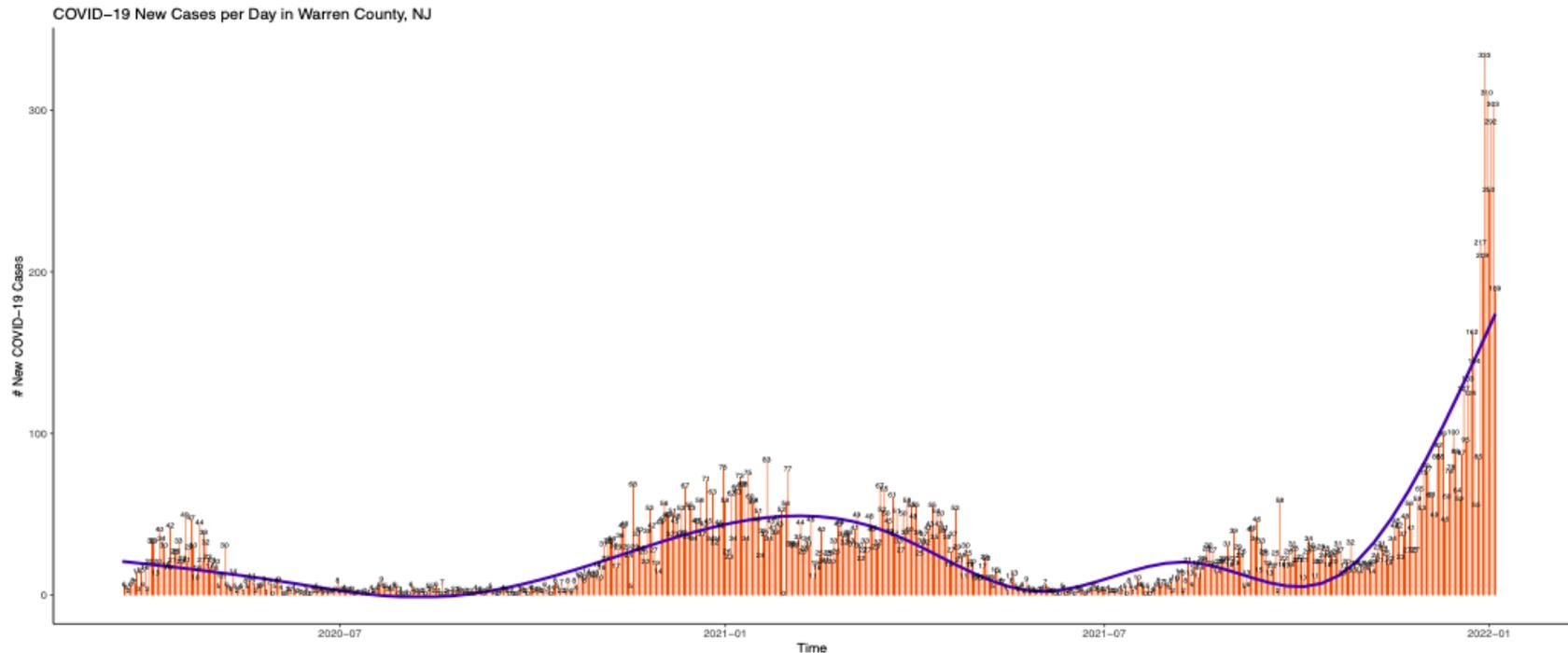
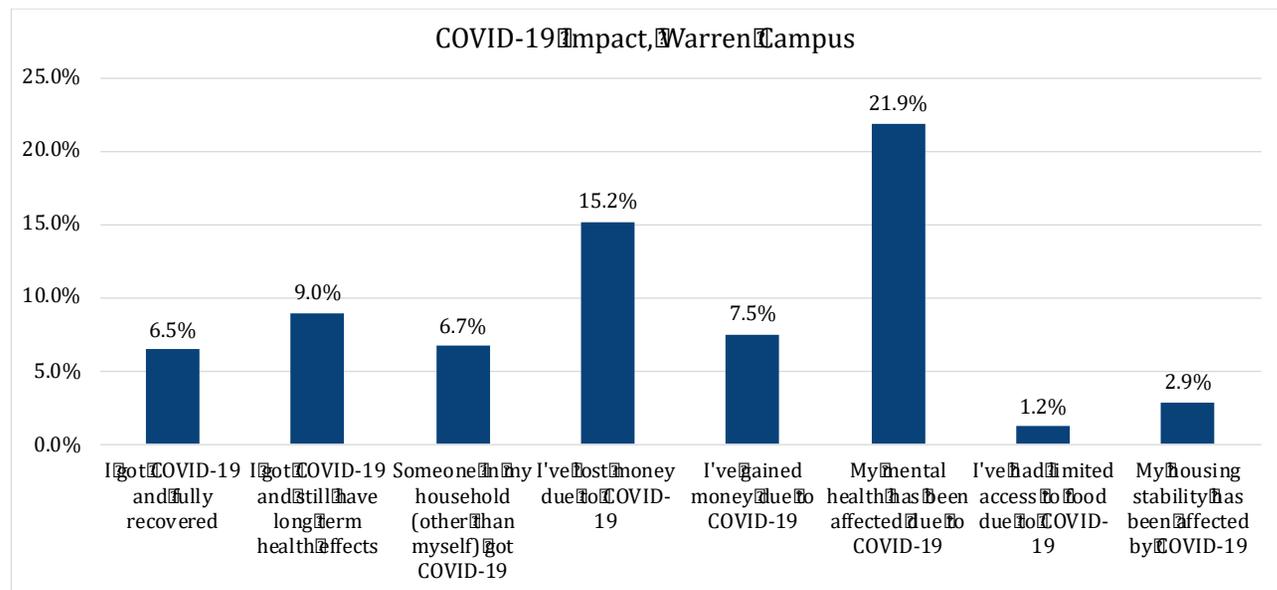


Figure 73

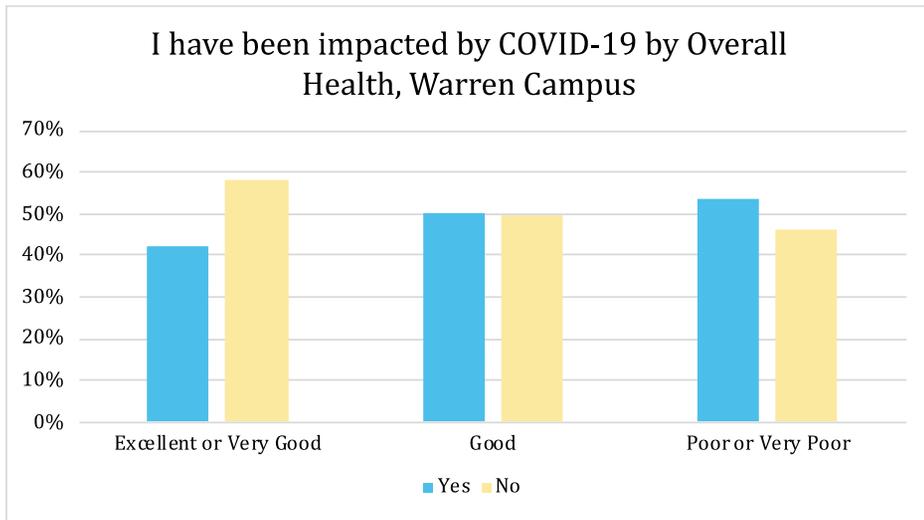
To get an understanding as to how COVID-19 impacted the Warren campus and Star Community Health service area we asked respondents to indicate if any of the categories in Figure 74 applied to them. Of those who indicated they had been impacted by COVID-19, the highest number of respondents said their mental health was affected (21.9%), 15.2% of respondents said they lost money due COVID-19, 6.5% said they had COVID-19 and fully recovered, while 6.7% said someone else in their household got COVID-19.



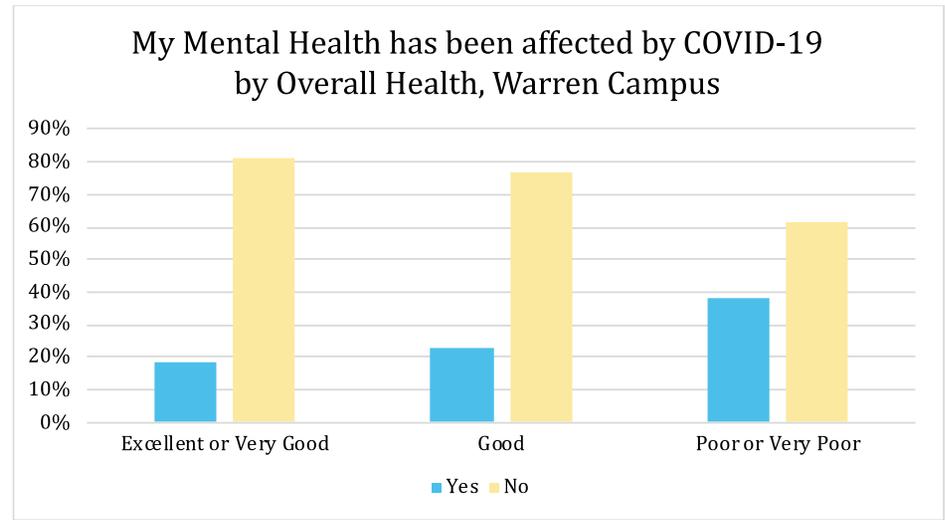
Additionally, 9% said they got COVID-19 and still have long term effects, 1.2% had limited food access, 2.9% had housing instability due to the pandemic, and 7.5% gained money due to the pandemic.

..... Overall Health and COVID-19

Overall health status can be an indicator of the ways COVID-19 affects individuals. Poor health, including cancer, illness, and chronic conditions, can make some individuals more susceptible to complications, hospitalization, and death compared to those in overall good health.²⁵⁷ Survey respondents in the Warren campus and Star Community Health service area that reported excellent/very good health were less likely (42%) to report being impacted by COVID-19 compared to respondents reporting good health (50%) or poor/very poor health (53%). This is also the case when reporting the impacts of COVID-19 on mental health, with 19% of respondents in excellent/very good health, 23% in good health, and 38% in poor/very poor health reporting mental health issues due to the pandemic. The relationship between overall perceived health and the impacts of COVID-19 must be considered when analyzing the impact of the pandemic on the health of our already vulnerable populations.



 *Figure 75*



 *Figure 76*

²⁵⁷ <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>

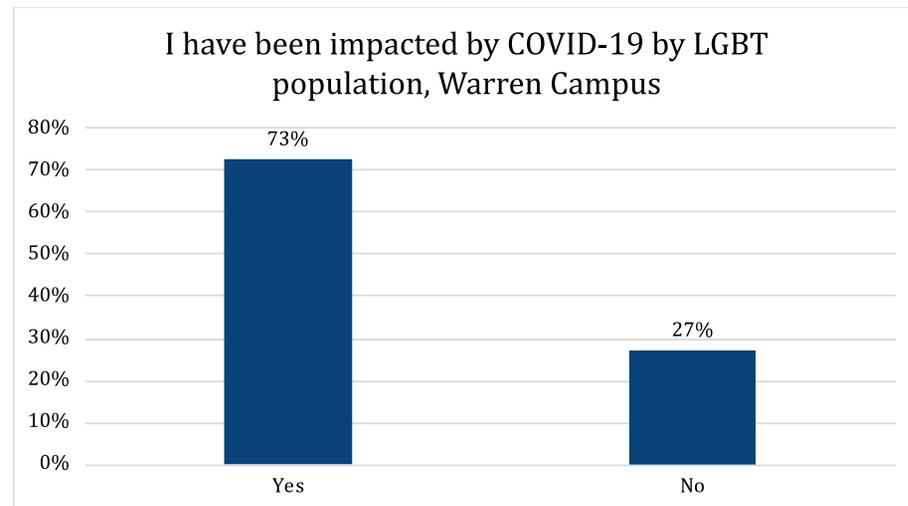
..... Gender and COVID-19

When assessing the impact of COVID-19 based on gender (i.e., sex assigned at birth), national findings indicate that women are more likely than men to worry about COVID-19 (e.g., if someone will get sick, financial burdens, children schooling). Almost 4 in 10 women (compared to 3 in 10 men) reported anxiety and other mental health concerns because of the pandemic.²⁵⁸ Findings from the CHNA survey in the Warren campus and Star Community Health service area showed similar discrepancies between gender, with female respondents more likely to be impacted by COVID-19 (52%) than males (38%). These findings are further supported when looking at the impact of COVID-19 on mental health, with female respondents having their mental health impacted by COVID-19 at higher rates (27%) than males (14%).

..... LGBT and COVID-19

The LGBT population also faces significant challenges related to the COVID-19 pandemic, and nationally the LGBT population faces more economic hardships and mental health issues than their peers.²⁵⁹

CHNA survey results from the Warren Campus and Star Community Health service area also reflect these differences, with more than 73% responding that they had been impacted by the pandemic, compared to 45.5% of non-LGBT respondents in the Warren campus and Star Community Health service area. In addition, 59% of the LGBT respondents said their mental health had been affected by the COVID-19 pandemic, compared to 21.9% of total respondents in the service area.

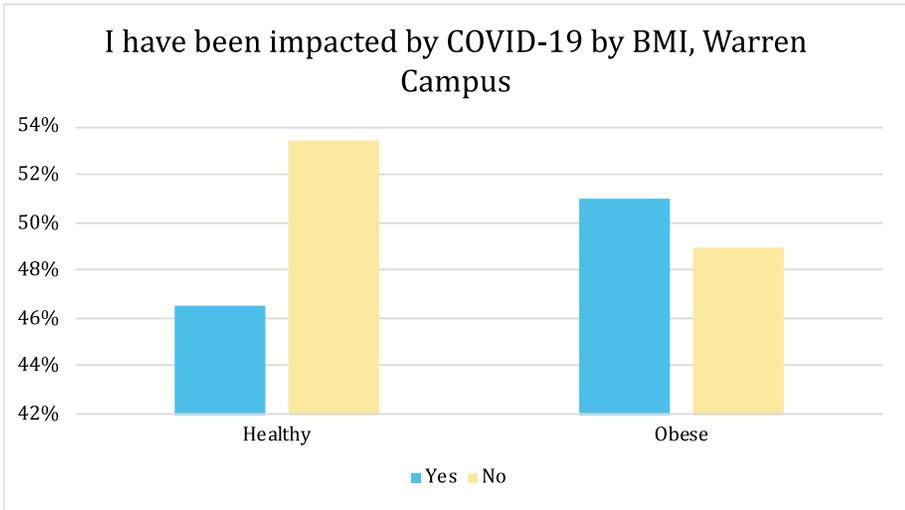


 *Figure 77*

²⁵⁸ <https://www.kff.org/coronavirus-covid-19/issue-brief/coronavirus-a-look-at-gender-differences-in-awareness-and-actions>

²⁵⁹ <https://www.kff.org/coronavirus-covid-19/poll-finding/the-impact-of-the-covid-19-pandemic-on-lgbt-people/>

..... **Obesity and COVID-19**



Obesity puts people at risk for having serious complications and illness from COVID-19 and triples the risk of hospitalization when infected.²⁶⁰ Obesity is shown to have negative impacts on COVID-19 recovery and outcomes. With a large population of the Warren campus and Star Community Health service area struggling with obesity (50.1%), the CHNA survey results reflect the correlation between obesity and COVID-19, with 47% of respondents with a healthy weight being impacted compared to 51% of people living with obesity.

 *Figure 78*

..... **Ethnicity and COVID-19**

The COVID-19 pandemic highlights the systemic issues of inequity in the public health sector, and the rates of illness and death are significantly higher for minority populations. While social determinants of health and health equity historically illustrate the marginalization of minority populations, issues such as discrimination, employment, education, and housing all contribute to the discrepancies in rates of illness and access to care during the pandemic.²⁶¹ When asked if the COVID-19 pandemic had impacted their lives, 58% of Hispanic respondents in the Warren campus and Star Community Health service area said yes, compared to 45% of non-Hispanic respondents.

²⁶⁰ <https://www.cdc.gov/obesity/data/obesity-and-covid-19.html>

²⁶¹ <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>

..... Income and COVID-19

Income is often seen as one of the most significant social determinants of health, as financial status either provides or denies access and opportunity to everything from housing to education to healthcare. Income also correlates with the impact of COVID-19 on individuals, and a recent study in the Journal of the American Medical Association found that income and COVID-19 illness and mortality rates are correlated with income.²⁶² These findings were also seen in the CHNA survey in the Warren campus and Star Community Health service area, with 56% of respondents earning \$14,999 or less responding that they were impacted by COVID-19, compared to 46% of respondents making \$60,000 and above.

..... Social Vulnerability

Figure 80 displays the CDC Social Vulnerability Index map, which considers factors such as socioeconomic, housing/transportation, language barriers, etc. in determining how vulnerable a population is to an unforeseen disaster, like COVID-19. Social vulnerability is defined by the CDC as “the resilience of communities (the ability to survive and thrive) when confronted by external stresses on human health, stresses such as natural or human-caused disasters, or disease outbreaks.”²⁶³ Reducing social vulnerability can minimize the impacts of stressors and or disasters, decreasing human suffering and economic loss. The index is scored from 0 (lowest vulnerability) to 1 (highest vulnerability). Census tracts 308 and 309 experience a high level of social vulnerability as indicated in the map on the next page. These tracts are outliers when compared to most of Warren county, which has mostly low social vulnerability of 0.22. Several of these factors are associated with higher rates of COVID-19 infection.²⁶⁴ Some of the most vulnerable populations during the pandemic crisis included the homeless population, who faced challenges being exposed to COVID-19 and not having private shelter to quarantine; school-aged children and their parents who had to undertake the momentous task of virtual learning, most for the very first time; those experiencing mental/behavioral health problems or substance use disorder, as challenging times not only exacerbated these issues but exhausted the number of resources available to deal with them.

Warren Social Vulnerability	
Overall	0.22
Socioeconomic	0.21
Household Composition and Disability	0.06
Minority Status and Language	0.72
Housing Type and Transportation	0.34

Figure 79

²⁶² <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2779417>

²⁶³ https://www.atsdr.cdc.gov/placeandhealth/svi/at-a-glance_svi.html

²⁶⁴ <https://www.sciencedirect.com/science/article/pii/S0749379720302592>

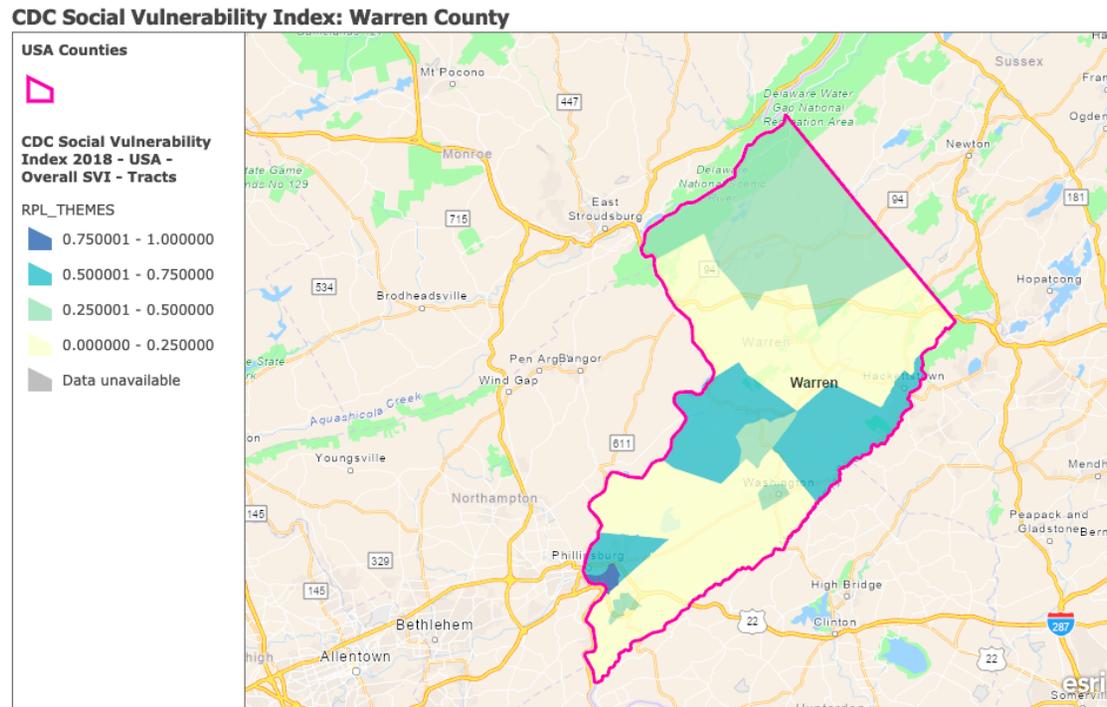


Figure 80

data.pa.gov, New Jersey Office of GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



"I have not been able to focus on issues that are in tandem with COVID, like increased depression or substance use. They are happening, but the pressure is to keep on top of COVID."



"There are segments of the population that have limited internet capacity or knowledge, and that undermines the possibility that they find services that are available to them."



"We have school based youth services program that works with students that need counseling. We have social workers and counselors in all levels. They all did a great job with checking in with teachers, addressing kids not logging on and those who did not do as well online. They tried to address the mental health issues on a weekly basis."



"As a county, we really pulled together during COVID and made the resources available to the public that we could."

Conclusion

Through this extensive review of the primary and secondary data, it is evident that there are significant needs to address within our communities. For the upcoming three-year (2022-2025) cycle, St. Luke's University Health Network will continue to work toward addressing the health priorities identified network-wide to improve the community's overall health and well-being. The three main priorities identified include: reducing health disparities; preventing chronic disease; and improving mental and behavioral health.

To analyze our findings in these areas, SLUHN has adopted the categorization system from the Robert Wood Johnson Foundation (Figure 81). The social determinants of health shape the status of a person's health and provide guidance for community health priorities. When addressing the priority health needs, it is crucial to consider the social determinants of health and lifestyle behaviors to effectively tackle the service area's health disparities. Some significant survey findings, which are consistent with trends seen widely, are related to health outcomes and income, access to care for minority and marginalized populations, healthy eating (i.e., fruit and vegetable consumption), diabetes and other chronic illnesses, the opioid epidemic, and other substance use.

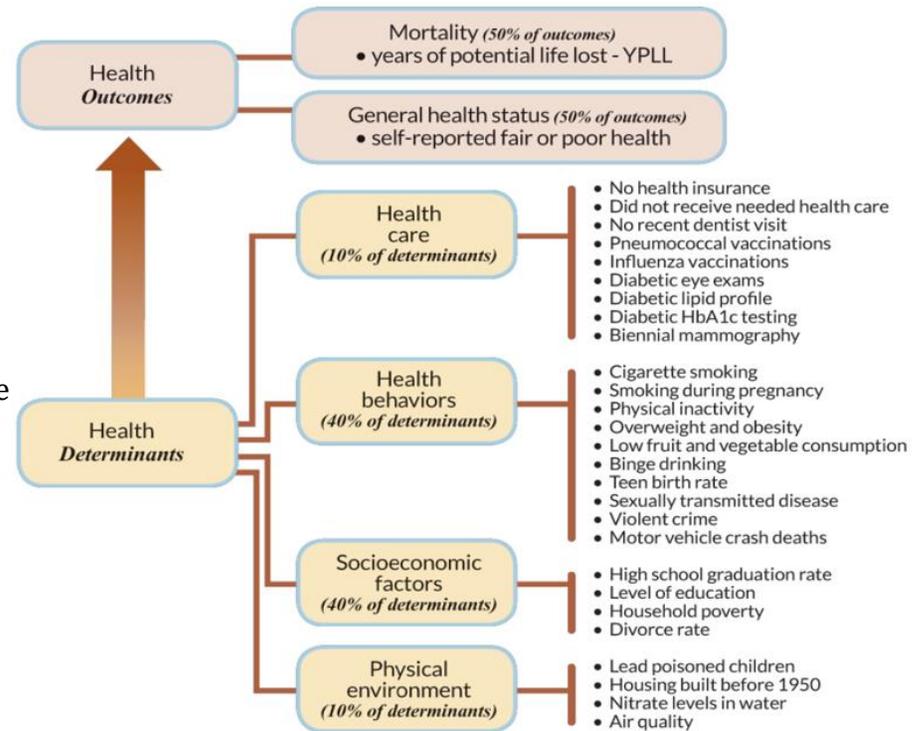


Figure 81

From our analysis of primary and secondary data, as well as the key CHNA informant interviews and work with our community members, we see significant issues facing our communities that impede healthy lifestyles. Our efforts in prevention, care transformation, research, and partnerships help support our work to promote sustainable programs and opportunities for our reach to focus on a wide range of health promotion and quality of life initiatives.

While there are many that need to be addressed, the results from the 2022 CHNA found the most pressing needs to be specifically in areas related to:

- o COVID-19
- o Access to Care
- o Food Insecurity
- o Obesity Reduction
- o Physical Activity Promotion
- o Opioids and other Substance Use
- o Mental Health
- o Housing
- o Transportation

The needs discussed within the health categories outlined in this document will serve as our guide in creating a detailed campus-specific implementation plan to best address the specific needs of the St. Luke's Network service area using the three pillars of: Wellness and Prevention; Care Transformation; and Research and Partnerships. We will work collaboratively in partnership with our community and network partners to create a more equitable society with better health outcomes, especially among our most vulnerable populations such as our Hispanic communities, seniors, women, and children.

Appendix A

2022 CHNA Key Informant Interview

St. Luke's University Health Network (SLUHN) is a nationally recognized non-profit health network that has facilities serving counties in both Pennsylvania (Lehigh, Northampton, Carbon, Schuylkill, Bucks, Monroe) and New Jersey (Warren). As part of the Patient Protection and Affordable Care Act, all non-profit hospitals are required to conduct a Community Health Needs Assessment (CHNA) every three years. In order to accomplish our goals, St. Luke's is conducting key informant interviews to identify health needs within the community. Since you are a vital member of our community, you are being asked for your feedback to assist us in data collection. Your answers will be compiled by St. Luke's to determine health needs in the community.

Please note that your name will not be associated with your responses. Additionally, please complete your responses in a word document and email responses to the Community Health Needs Assessment Liaison for facilitated follow up during the interview.

1. Name:
2. Title:
3. Organization:

Please answer the following by including pre-covid and current covid impacts

4. How long have you been a part of this community and in what capacities?
5. When thinking about others you interact with here, do you feel a sense of community?
6. How would you describe your community?
7. What are the major needs/challenges within this community?
8. What are some of the challenges specific to your organization?
9. How do you feel this community has been successful in meeting its needs?
10. What improvements in policy and community infrastructure would assist you in meeting community needs?
11. Who are some of the key players in your community and what organization do they belong to?

12. What are some of the strengths and resources of your community?
13. Do you feel these strengths are shared and evenly distributed throughout the community? Please explain.
14. What are some concrete examples of strengths and challenges across the lifespan related to the following topics in your community?
 - a. Health disparities/Access to care
(example: access to medical, mental, dental and vision care)
 - b. Healthy Living (example: diet and physical activity)
 - c. Chronic Disease (example: diabetes, heart disease and cancer)
 - d. Mental/Behavioral Health (example: substance misuse/use disorder, depression and anxiety)
15. What are the **top three issues** that need to be addressed in your community?
16. Any additional comments?

Appendix B

2022 CHNA Community Forum Invited Organizations- Warren Campus and Star Community Health

- Abilities of Northwest Jersey
- Bridgeway PACT
- Domestic Abuse and Sexual Assault Crisis Center
- Family Guidance Center of Warren County
- Food Bank, NORWESCAP
- Head Start, NORWESCAP
- North Jersey Health Care Collaborative
- Phillipsburg Area School District
- Phillipsburg School District
- SLUHN Warren Emergency Department
- Warren County Health Department
- YMCA
- Zufall Health Center