



**Warren Campus
Community Health Needs Assessment
June 2019**

Department of Community Health & Preventive Medicine

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Introduction

Background

As part of the Patient Protection and Affordable Care Act, all nonprofit hospitals are required to conduct a Community Health Needs Assessment (CHNA) every three years to remain a tax-exempt organization under section 501(c)(3) of the Internal Revenue Code. The goal of the assessment is to identify critical health disparities faced by residents within St. Luke's University Health Network (SLUHN) service areas. It is required to state every health priority addressed by community stakeholders, hospital professionals or 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:

<http://www.slnh.org/Conditions-Services/Community-Health/Community-Health-Needs-Assessment/>

If you have any questions regarding any of these reports, please contact the Department of Community Health & Preventive Medicine at (484) 526-2100.

Methodology

This CHNA is comprised of both primary and secondary data. The primary data were collected through three methods. First, key informant interviews were with stakeholders were conducted within each campus community. A list of interview questions can be found in Appendix A. Second, SLUHN convened community forums at each campus community. Dr. Christopher Borick of the Muhlenberg College Institute of Public Opinion moderated all the sessions. A list of organizations represented at each campus forum can be viewed in Appendix B. Third, approximately 10,234 voluntary community health surveys were administered in our eleven campus geographic regions, where the main priority health needs were identified for each entity. We used snowball sampling to reach respondents, especially those represented in our vulnerable populations. Surveys were completed in either paper or digital format. The survey data document, also posted online, lists questions and responses recorded from CHNA surveys conducted in 2012, 2016 and 2019. Additionally, St. Luke's Warren works in partnership for assessment and CHNA implementation with the North Jersey Health Collaborative (NJHC) <http://www.njhealthmatters.org/>. A Community Voice Survey was conducted through NJHC in the five-county service region served by the partners in this collaborative. There were 604 responses captured for Warren, and results will be presented through this assessment. Secondary data included the use of hospital network data, as well as county, state and national level data obtained via the 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 Appendix C. The needs identified in the interviews and community forums were supplemented by the survey data and secondary data to provide a more comprehensive picture of the needs in the community and the factors impacting those needs.

The Warren Campus Community

Community profile

The St. Luke’s Warren Campus is SLUHN’s first campus located outside of Pennsylvania. Based out of Phillipsburg, New Jersey, the campus is situated less than ten minutes from the border of PA and NJ, midway between Philadelphia and New York City. St. Luke’s Warren Campus offers a myriad of medical and non-medical services, including diabetes management, cancer care, speech pathology, and radiology services (including silent MRI and 3-D mammography). The campus also boasts a complete vascular center, catheterization lab, and ambulatory surgery, amongst other facets. In describing Phillipsburg, one key informant disclosed, “It was one of the strongest towns in Warren County. With ties to the railroad at the turn of the 20th century, it was a town of immigrants, rich in industry and manufacturing ... before the 1990s, Phillipsburg was known as a hard-working, primarily blue-collar community; and the schools were strong in academics, athletics and tradition. The town was rich in industrial history. Ingersoll-Rand was a major employer. The town had its Italian, Irish, Hungarian, Polish and German sections filled with immigrants’ families that had held high regard for the family structure and European traditions.” One participant emphasized the small-town feel: “communities here are generally centralized around churches and schools, and there are many places where you have a small, hometown feel.” Another remarked, “The Phillipsburg community tries to hire their own, meaning if students leave the area and come back, organizations and companies in Phillipsburg hire them.” The region’s abundance of “natural resources, particularly for recreation” also opens opportunities for community members to socialize.

Population

For the purposes of the CHNA, we defined the top zip codes as those which make up at least 80% of the population served by St. Luke’s Warren (Figure 1). In discussing the health needs of the St. Luke’s Warren community, the term “service area” will be used to refer to patients in the top 80% of zip codes served. 65% of the patients served at the St. Luke’s Warren campus come from 08865 (Phillipsburg), 07882 (Washington) and 07823 (Belvidere).

FY17 SLW - Zip Codes Comprising Top 80% of Facility Encounters

Zip Code	Zip Encounter Count	% SLW Total (n = 102,008)	% Network Total
08865	48,064	47%	4.2%
07882	9,430	9%	0.8%
07823	8,704	9%	0.8%
08886	5,867	6%	0.5%
18042	3,496	3%	0.3%
07863	2,941	3%	0.3%
18040	2,272	2%	0.2%
18045	1,965	2%	0.2%
Total	82,739	81%	7.2%

Figure 1

A total of 147,796 people live in the 195.44 square mile report area defined for this assessment as per five-year estimates from the U.S. Census Bureau's American Community Survey (ACS)¹. The population density for this area, estimated at 756.23 persons per square mile, falls closer to the state population density of 1,212.07 persons than the national population density of 89.61 persons per square mile (Figure 2).

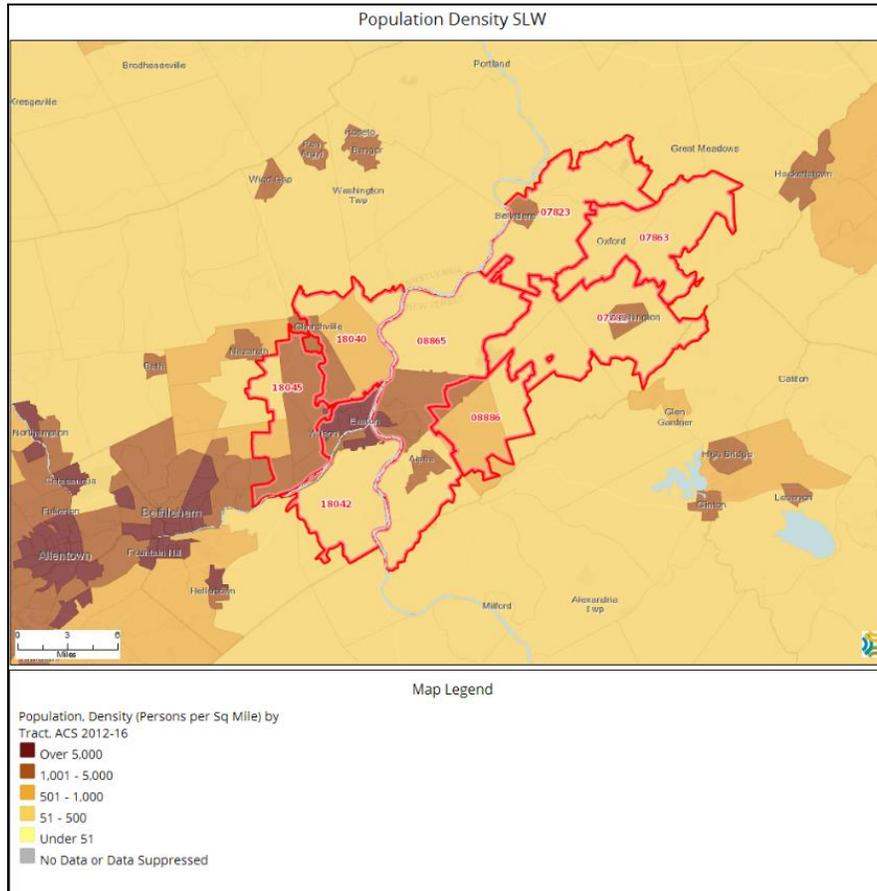


Figure 2

Analyzing the environment of the service area can indicate livability. The urban/rural population indicator reports the percentage of population living in urban and rural areas. According to the U.S. Census Bureau Decennial Census, 85.74% of the St. Luke's Warren service area patients reside in urban areas, and the remaining 14.26% in rural locations (2010). These percentages fall between those seen in the state and the country. The United States is 80.89% urban and 19.11% rural, and New Jersey is 94.68% urban and 5.32% rural².

Demographics

The following sections give a brief overview of the populations which St. Luke's Warren serves. Understanding the demographics of the service area is essential to address and improve upon the region's health needs.

¹ <https://factfinder.census.gov>

² <https://factfinder.census.gov>

Age:

The ACS reports 21.41% of the service area's population falls under the age of 18, and 16.5% are 65 or older (Figure 3). This leaves 62.08% between the ages of 18 and 64³. When comparing this data to survey data, 60.5% of Warren respondents were between the ages of 18 and 64 and 39.5% were over the age of 65 (Figure 4).

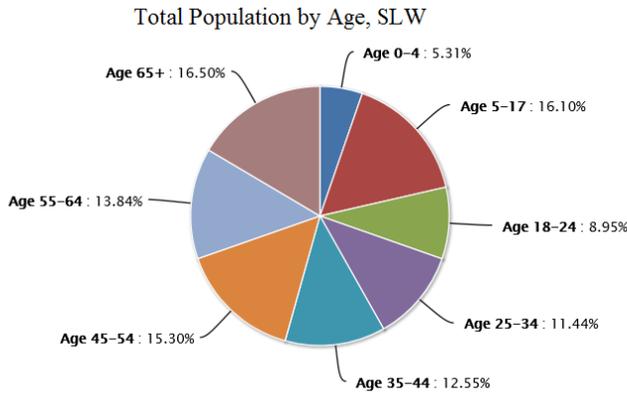


Figure 3

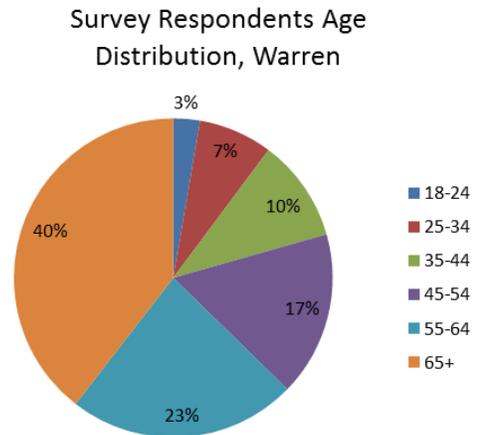


Figure 4

Sex:

According to the five-year estimates by the ACS, the percentage of females in the St. Luke's Warren service area is roughly 51.8%, and 48.2% are male (Figure 5). This is close to national trends, where 49.2% of the population is male, and 50.8% is female⁴. The majority of respondents to our 2019 community health survey were female. In the St. Luke's Warren service area for the year 2017, 60.9% of respondents were female, and 38.6% were male (Figure 6).

Total Population by Sex, SLW

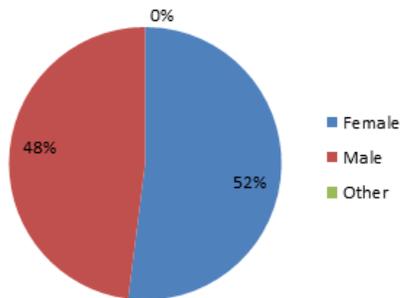


Figure 5

Survey Respondents Sex Distribution, Warren

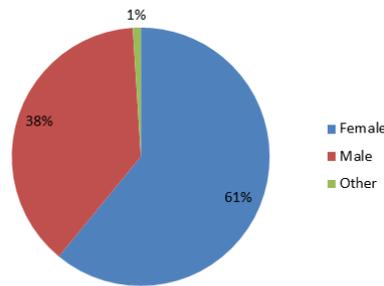


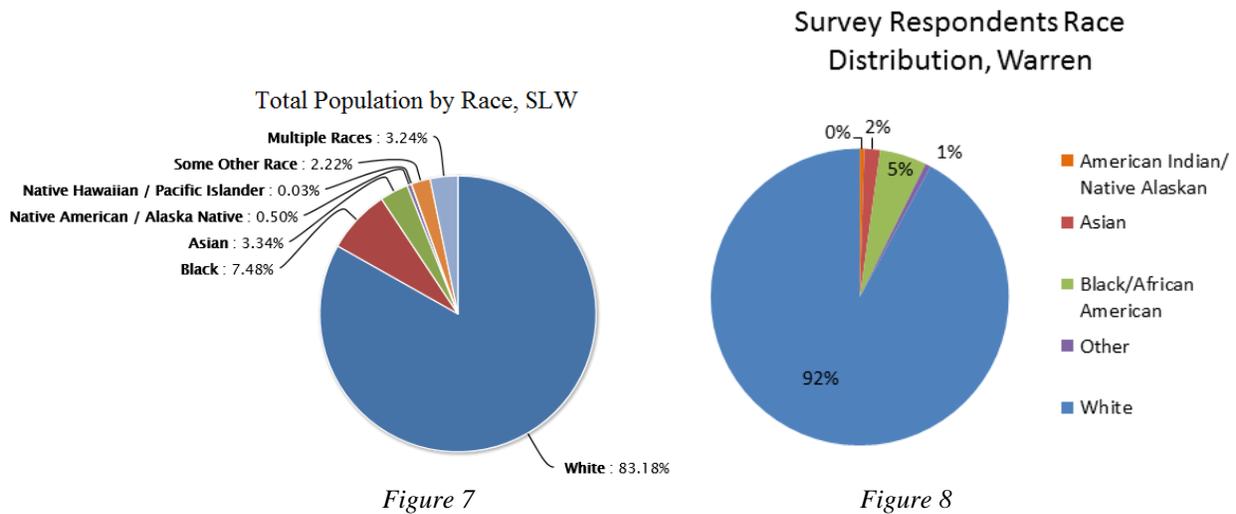
Figure 6

³ <https://factfinder.census.gov>

⁴ <https://factfinder.census.gov>

Race:

In breaking down the St. Luke's Warren service area by race, we can see that most individuals identify as White, constituting 83.18% of the service area (Figure 7). The second largest population identify as Black, representing 7.48% of the population. About 3.34% identify as Asian, 0.5% as Native American or Alaskan Native, 0.03% as Native Hawaiian or Pacific Islander, 2.22% as some other race, and 3.24% as multiple races⁵. Our 2019 community health survey found a similar pattern in its respondents when broken down by race. As seen in Figure 8, 92.2% of respondents identified as White and 5.1% identified as Black. According to the same figure, 2.8% of respondents identified their race as Other.

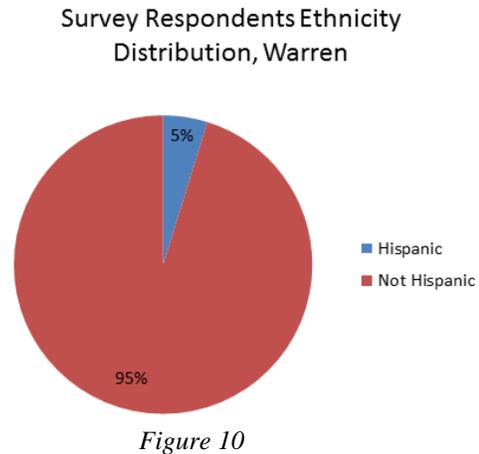
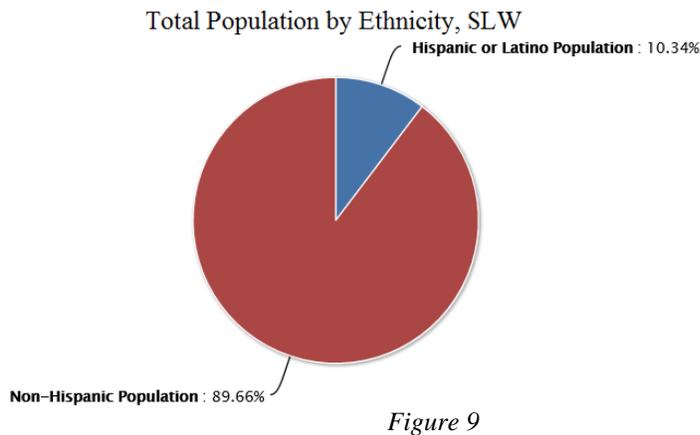


Ethnicity:

Recent data indicate 89.66% of the St. Luke's Warren service area identifies their ethnicity as non-Hispanic, with the remaining 10.34% identifying as Hispanic/Latino (Figure 9). The Warren service area has a smaller Hispanic/Latino population, compared to the 17.13% of individuals in the nation and 19.22% of the state⁶. As it has in years prior, our survey data illustrated in Figure 10 captures this population in our data. There was a smaller proportion of Hispanic/Latino respondents – 4.8% – compared to the region.

⁵ <https://factfinder.census.gov>

⁶ <https://factfinder.census.gov>



Vulnerable Populations

In addition to the populations, there are other groups within our service area with specific needs that must be considered.

Marmot’s longitudinal Whitehall Study identified a relationship between income and health outcomes, where higher income is linked with better health outcomes. Similarly, 2019 CHNA survey response data indicate that there is a clear relationship between income and insurance status, where 42.4% of respondents in the \$14,999 or less annual income category reported that their primary insurance was Medicaid, or that they were uninsured, compared to 0.7% of respondents in the \$60,000 or above income category (Figure 11). One population facing many disparities in our community is our Hispanic population, with high levels of inequity in access to social determinants of health (i.e.: income, insurance, employment, education, and housing). This population is frequently identified as a disparate population in the community. Similarly, survey data showed a clear relationship between ethnicity and insurance status, where 31.8% of Hispanic respondents reported that their primary insurance was Medicaid, or were uninsured, compared to 6.1% of non-Hispanic respondents (Figure 12).

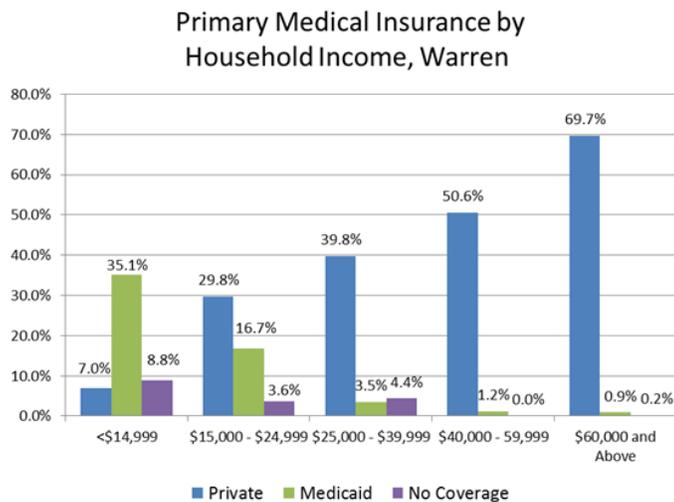


Figure 11

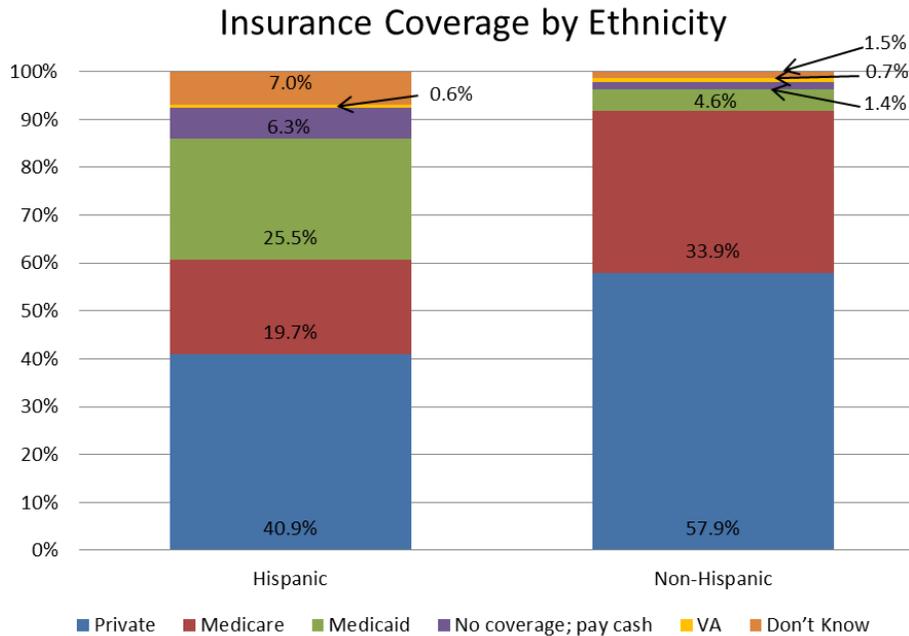


Figure 12

Another population that requires additional consideration in our community is the senior (age 65+) population. According to Data USA, the median age in the United States is 37.9, where the median age in Pennsylvania and New Jersey is 40.6 and 39.5, respectively. Furthermore, according to the Lehigh Valley Planning Commission, the senior population in Lehigh and Northampton Counties is projected to grow by approximately 100% in the 70-74 and 75+ age groups, and by approximately 60% in the 65-69 age group⁷.

Similarly, there are growing Middle Eastern, Asian, and refugee populations within our Network service area, with diverse cultural backgrounds and needs.

The ACS five-year estimates indicate that 7.59% of residents in Warren County are veterans, compared to 8.4% of residents in the SLUHN service area, 5.72% in New Jersey, and 8.32% in the United States⁸. 0.7% of survey respondents identified that their primary source of medical insurance was Veteran’s Administration.

According to the Williams Institute at UCLA School of Law data, approximately 3.3% of Pennsylvania residents and 3.8% of New Jersey residents identify as Lesbian, Gay, Bisexual, or Transgender (LGBT)⁹. In 2018, the Pennsylvania Department of Health partnered with Bradbury-Sullivan LGBT Community Center to conduct a statewide Community Health Needs Assessment focused specifically on LGBT health needs¹⁰. New Jersey did not participate in this survey, and therefore there is no applicable data.

⁷ <http://lvpc.org/>

⁸ <https://factfinder.census.gov>

⁹ <https://williamsinstitute.law.ucla.edu/visualization/lgbt-stats/#density>

¹⁰ <https://www.livehealthpa.com/docs/default-source/toolkits/lgbt/pennsylvania-2018.pdf?sfvrsn=0>

According to the Pennsylvania 2018 LGBT Health Needs Assessment, 26.2% of respondents had not advised any provider that they are LGBT; furthermore, 56.8% of all respondents indicated that they sometimes, often, or always feared a negative reaction from a provider upon coming out as LGBT. This fear was especially prominent among the transgender and gender non-conforming respondents, where 75.1% of transgender and gender non-conforming respondents reported fear of a negative provider response. Additionally, 32.5% of all survey respondents reported that their providers are, on average, slightly or not at all competent in LGBT issues¹¹. This lack of LGBT-competent care was also reflected in our SLUHN 2019 CHNA survey. Lack of LGBT-competent care was cited as a reason for missed medical appointments in the 2019 CHNA community survey, and that respondents travel to Philadelphia to access LGBT-competent care.

In addition to access to LGBT-competent care, overall health, mental health and substance use were identified as areas of need in the Pennsylvania 2018 LGBT Health Needs Assessment. 35.6% of all survey respondents reported their overall health status as fair, poor, or very poor. Additionally, when looking at overall life satisfaction, 27.4% of Pennsylvania LGBT survey respondents reported being dissatisfied or very dissatisfied, and 16.2% reported rarely or never getting the help that they need. Reported smoking rates were incredibly high among the LGBT survey respondents, with 30.2% of all survey respondents and 36.9% of transgender and gender non-conforming respondents reporting smoking. Both of these reported smoking rates are significantly higher than the Pennsylvania average of 18.0%. However, in the LGBT survey, about 24.3% of smokers reported that they were looking to quit within the next 6 months¹².

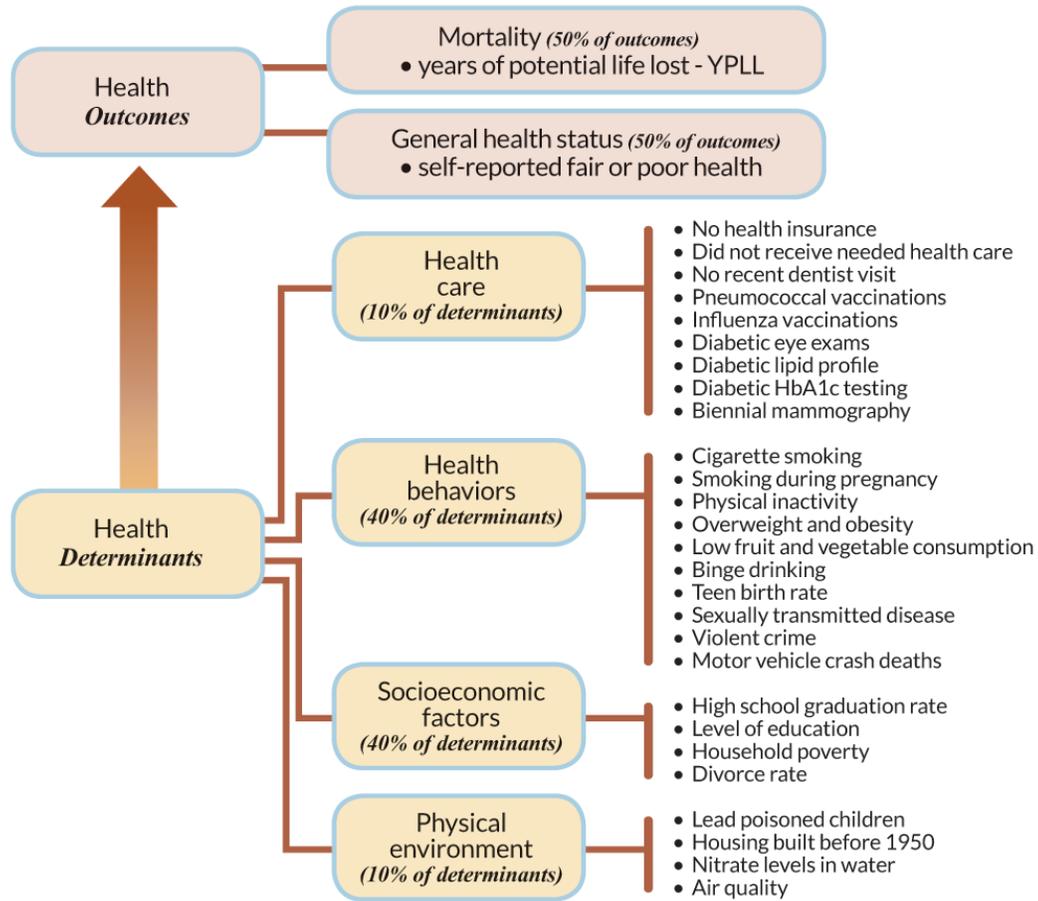
Findings

The findings suggest a focus on the social determinants of health and lifestyle medicine interventions in order to address the three priority areas related to improving access to care, preventing chronic disease and improving mental and behavioral health. This will be achieved using a network-wide framework of wellness and prevention, care transformation and research and partnerships to systemically approach the issues and trigger sustainable changes that influence health outcomes.

To analyze our findings in these areas, SLUHN has adopted the categorization system from the Robert Wood Johnson Foundation. The social determinants of health shape the status of a person's health. 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. In instances where data are unavailable for the service area, we have chosen to default the measure to Warren County, where the majority of St. Luke's Warren service area patients reside.

¹¹ <http://www.phmcresearch.org/work/data-and-publications>

¹² <http://www.phmcresearch.org/work/data-and-publications>



Source: <http://www.whatcountsforamerica.org/portfolio/chapter-4-the-county-health-rankings-a-treasure-trove-of-data/>

Every year, the Robert Wood Johnson Foundation releases data that compare counties to state averages, as well as U.S. top performers. The table on the following page depicts select health indicators for 2018 for each of the counties in SLUHN's service area. The indicators are color-coded using a stoplight approach, in which green indicates that the value is better than both state and national levels, yellow indicates that the value is in between state and national levels, and red indicates that the value is worse than both state and national levels. In looking at the 2018 data table, only 9% of the values are green, and 49% are red. Additionally, Carbon and Schuylkill counties have no green values, indicating that there are opportunities for improvement across all counties, but especially our rural counties. When looking at overall health rankings, with 1 being the best and 50 being the worst, America's Health Rankings ranked New Jersey 12th and Pennsylvania 28th out of 50 in 2017.

2018	U.S. Top Performers*	Pennsylvania (PA)	Bucks (BU) County, PA	Carbon (CR) County, PA	Lehigh (LH) County, PA	Monroe (MO) County, PA	Northampton (NO) County, PA	Schuylkill (SC) County, PA	New Jersey (NJ)	Warren (WA) County, NJ
Unemployment	3.2%	5.4%	4.6%	6.0%	5.4%	6.3%	5.2%	6.2%	5.0%	4.6%
Uninsured	6%	8%	6%	7%	9%	9%	7%	8%	10%	8%
Primary care physicians	1,030:1	1,230:1	1,120:1	2,000:1	1,040:1	2,190:1	1,170:1	1,740:1	1,180:1	1,620:1
Dentists	1,280:1	1,480:1	1,210:1	2,360:1	1,180:1	2,600:1	1,850:1	2,280:1	1,190:1	1,420:1
Poor physical health days	3	3.9	3.2	3.5	3.5	4	3.3	3.6	3.5	3.7
Food environment index	8.6	8.2	8.8	8.5	8.6	8	8.6	8.3	9.2	8.5
Physical inactivity	20%	24%	21%	26%	25%	28%	26%	27%	23%	24%
Access to exercise opportunities	91%	68%	84%	59%	70%	43%	74%	50%	95%	98%
Adult obesity	26%	30%	27%	34%	31%	31%	29%	33%	26%	28%
Excessive drinking	13%	21%	21%	20%	20%	19%	20%	20%	17%	19%
Adult smoking	14%	18%	12%	17%	15%	17%	15%	18%	14%	16%
Poor mental health days	3.1	4.3	3.7	4	3.9	4	3.6	4.1	3.4	3.7
Mental health providers	330:1	560:1	450:1	2,190:1	600:1	1,070:1	530:1	1,480:1	530:1	610:1
Low birthweight	6%	8%	8%	8%	8%	9%	8%	7%	8%	7%
Teen births	15	21	9	23	26	13	16	26	15	11
Sexually transmitted infections	145.1	418.1	199.8	195.5	455.5	182.2	322.6	148.8	350.6	218.9
High school graduation	95%	85%	92%	81%	84%	89%	73%	89%	90%	92%
Children in poverty	12%	18%	8%	21%	20%	18%	14%	18%	15%	11%
Severe housing problems	9%	15%	15%	15%	17%	22%	16%	11%	23%	17%
Social associations	22.1	12.1	7.7	15	10.5	7.6	10.7	13.5	8.3	9
Key	Better than both state and national levels			Between state and national levels			Worse than both state and national levels			

Social and Economic Environment

Employment

While health insurance is a tangible barrier to accessing healthcare, there are many “invisible” barriers patients also face. Income, poverty and unemployment factor heavily into an individual’s ability to access care. In examining these demographics, we can see a correlation between income level and accessing or affording care. An unemployed person likely has limited income, which may potentially lead to being unable to pay for insurance, not to mention out-of-pocket fees for health care services. The unemployment rate for civilian, non-institutionalized adults in the St. Luke’s Warren service area is 5.3, and 4.6 for Warren County. The rate is 4.8 statewide and 4.4 nationwide, making the St. Luke’s Warren service area’s unemployment rate higher than average¹³. Only 50% of respondents agreed that “*there are enough jobs and most people who want a job can get one*” in the Community Voice Survey for Warren County.

To take a deeper dive into this issue, we can observe the data pulled from our 2019 community survey. An estimated 8.2% of respondents were unemployed, higher than the state and country. Compared to other service areas (Figure 13), Warren has a lower percentage of unemployment.

¹³ <https://www.bls.gov/eag/eag.nj>

While nearly half of respondents were employed or self-employed (46.1%), it is still imperative to remain cognizant of the high unemployment rate given by respondents, especially among our vulnerable populations.

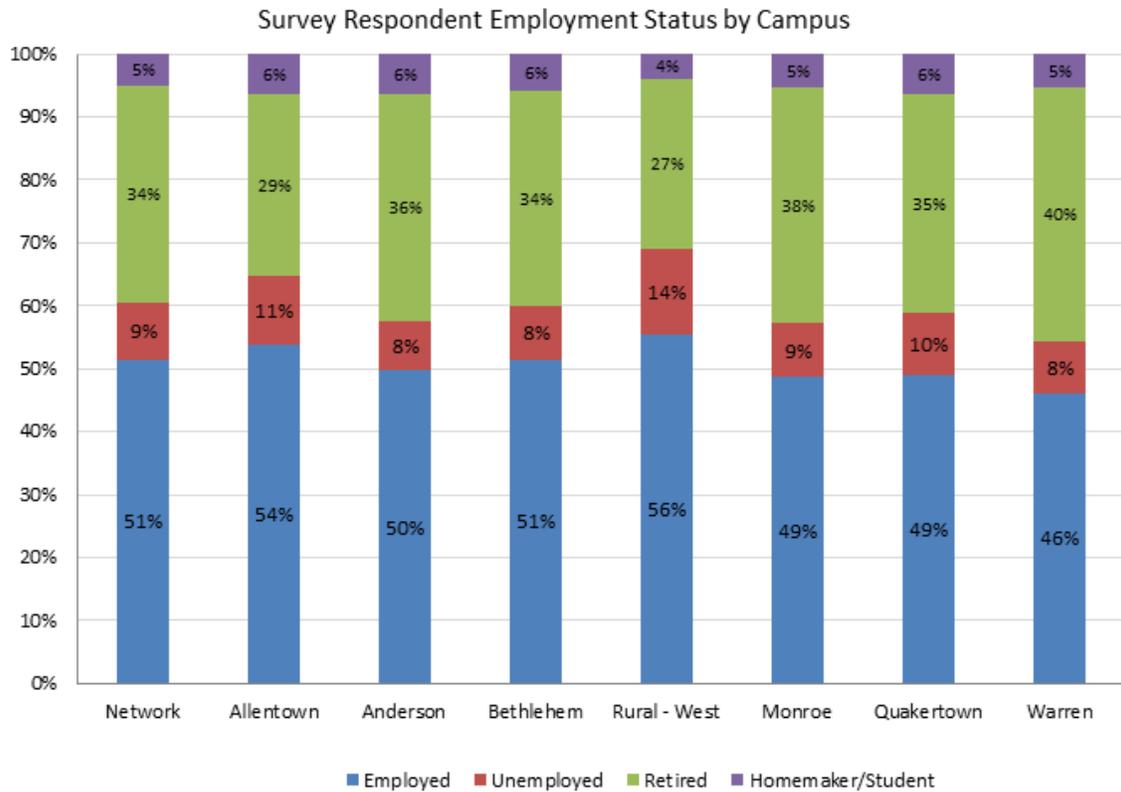


Figure 13

Household Income and Poverty

The Warren service area has seen much socioeconomic change in the past 30 years. According to one key informant, “The community started changing dramatically in the 1990s.” Another respondent added that “people are moving to Phillipsburg because it is less expensive to buy a home than other places in New Jersey.” Approximately 53% of students in Phillipsburg participate in the federal Free and Reduced Lunch program.

Key informants specified that “areas like Phillipsburg feel much more physically segregated in terms of socioeconomic status, with clear areas of high poverty. Elsewhere in the county, poverty is hiding, whether that’s low-income seniors who live alone or families that are on the brink of homelessness due to the cost of housing or job insecurity. 29% of households in [Warren] County are ALICE (asset-limited, income-constrained, employed) households.”

Poverty is inherently linked to unemployment, as those without jobs likely have limited incomes, and therefore may be unable to pay for healthcare services. Not only do unemployment and poverty levels affect one’s ability to access care, but they influence mental health as well. Job instability, combined with the stress of providing for oneself and one’s family, are risk factors

for poor mental health. The Federal Poverty Level (FPL) is \$24,600 for a family of four¹⁴. Roughly 23% of the St. Luke's Warren service area residents have incomes that fall at or below 200% of the FPL (Figure 15). This statistic is lower than the 24.51% of the state and 34.26% of the nation that fall at or below 200% of the FPL¹⁵.

Childhood and adolescence are formative and vulnerable years for growing children, where they must be cared for and nurtured. For a family in poverty, there is a significant strain on being able to provide youths with necessities. In the St. Luke's Warren service area, 28.78% of children live in poverty, compared to 31.84% statewide and 43.29% nationwide¹⁶.

We can also examine household income to better understand what poverty looks like in our service area, since those with lower incomes may be less likely to be able to pay for the costs of healthcare. Pulling from our 2019 community survey, we compared the income distribution for the service area to that of the network as a whole. About 13.9% of survey respondents had an income below the FPL (\$25,000), 28.4% between \$25,000 and \$59,999, and 57.6% with an income of \$60,000 or more. For the entire network, 18.7% had an income below the FPL (\$25,000), 30.2% between \$25,000 and \$59,999, and 51.0% with an income of \$60,000 or more. This potentially indicates that those in the St. Luke's Warren service area are more able to pay for healthcare than those in the network.

Education

The Healthy People 2020 initiative sets benchmark for health behaviors, health outcomes, and social and economic factors to reach by the year 2020. The organization suggests 87% of a region's high school cohort should graduate each year. Warren County has a high school graduation rate of 92.9%. This measure is above the state (89%) and national (86%) rates. Phillipsburg High School had a 2017 graduate rate of 92%¹⁷.

Research suggests there are correlations between education and earning capacity. Reports such as the renowned Whitehall Study have directly correlated socio-economic status with health outcomes. Our 2019 community survey revealed that the highest percentage of respondents in the service area reported education beyond high school (76.9%), followed by those with only a high school diploma or GED (20.3%), and those who did not complete high school (2.7%). These numbers demonstrate similar variation in educational attainment within the St. Luke's Warren service area as in other regions (Figure 14).

¹⁴ <https://aspe.hhs.gov/poverty-guidelines>

¹⁵ <https://factfinder.census.gov>

¹⁶ <http://www.countyhealthrankings.org/app/NewJersey/2018/rankings/>

¹⁷ <https://www.state.nj.us/education/data/grate/2017/>

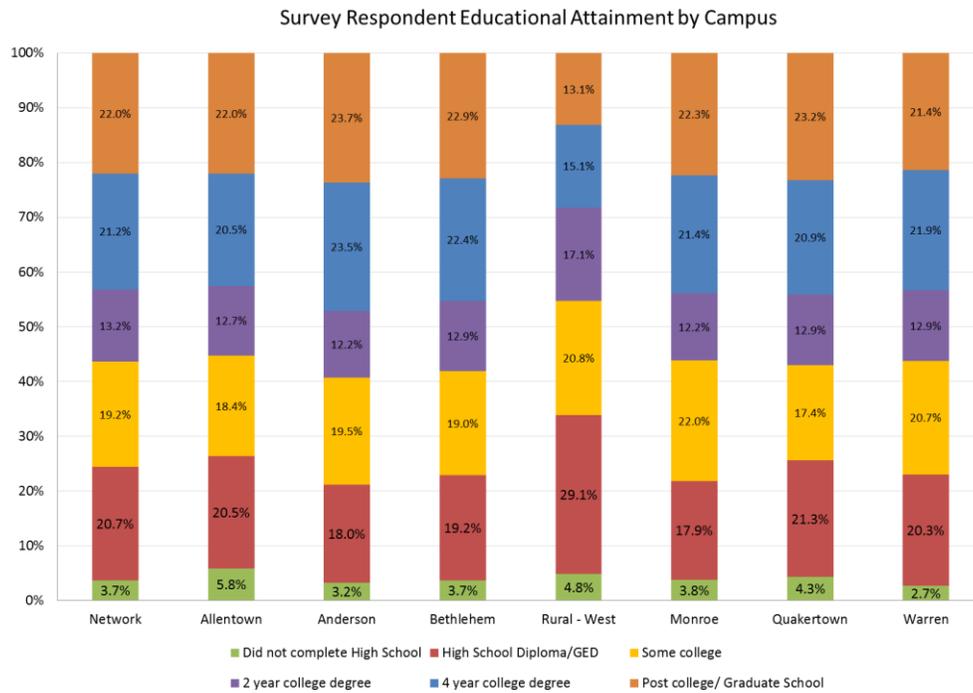


Figure 14

Students’ academic performances are hindered by mental illness or language deprivation. There has also been an increase in students eligible for special education. Because children with special needs require more services, it is putting financial stress on the entire district. The entire budget going into 2018-19 is primarily going to support an increase in special education. Unfortunately, all the other comprehensive programs have to suffer because of the extraordinary costs.”

Language

In our 2016 CHNA cycle, focus group members identified language barriers as another prevalent source of health disparities. Without effective communication, access to health services and efforts to educate patients on health issues are significantly impaired. The population over the age of five with Limited English Proficiency (LEP) was roughly 4.6%, lower than both the 8.57% nationwide and 12.18% statewide¹⁸. This percentage of individuals with limited English proficiency, combined with the 10.34% of the service area population identifying as Hispanic/Latino, indicates a need for doctors and nurses in the St. Luke’s Warren service area who are proficient in Spanish.

Safety

An individual’s perception of safety in a community can affect one’s physical health for better or worse. Individuals and families who perceive their neighborhood to be unsafe are less likely to pursue outdoor activities or engage in their communities, which may lead to becoming less physically active or isolated. The top-performing counties in the nation have a violent crime rate

¹⁸ <https://factfinder.census.gov>

of 62 per 100,000 persons, compared to 280 in the state of New Jersey and 75 in Warren County¹⁹. According to our 2019 community survey, 87.9% of survey respondents in the St. Luke's Warren service area either agreed or strongly agreed that their community is a safe place to live. The majority of respondents network-wide conveyed they agree (54.2%) or strongly agree (32.4%) that their community is a safe place to live in (Figure 15).

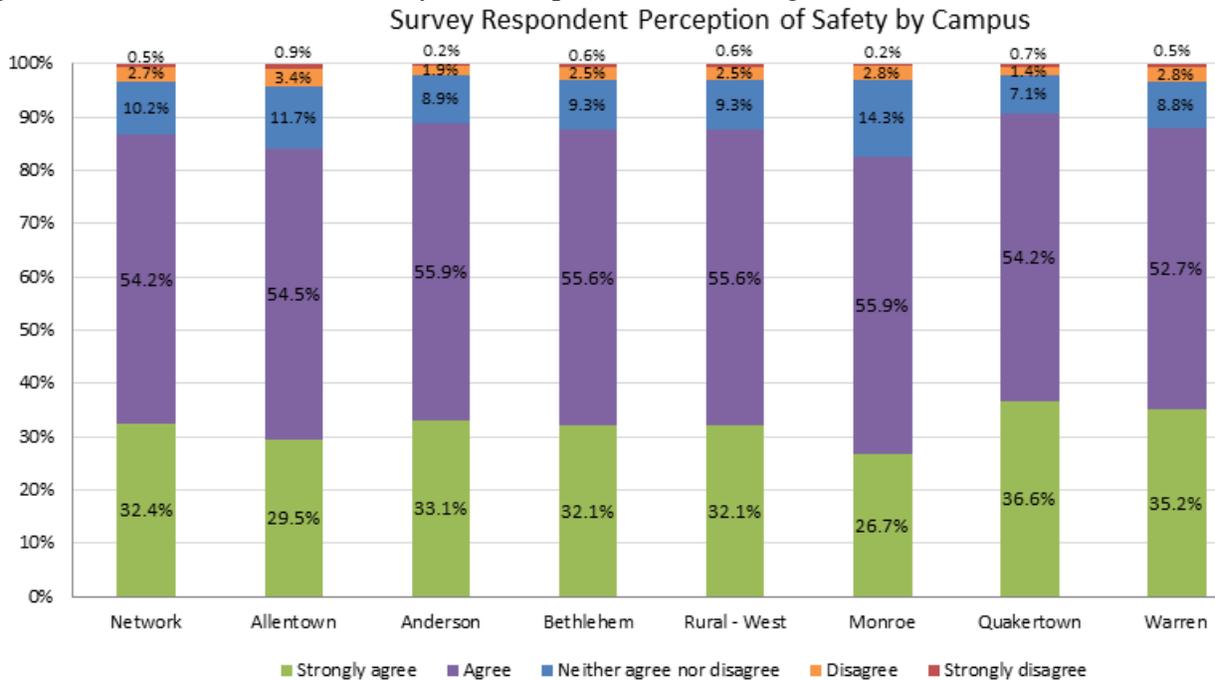


Figure 15

Social Associations

Social and emotional support is vital to maintaining positive mental health and general confidence in getting through everyday barriers. If we are able to indicate whether certain counties are lacking in social associations, we can address these shortcomings by increasing mental health programming and care. The “social associations” indicator looks at a lack of social or emotional support in adults over the age of 18. We can look at the County Health Rankings “social associations” indicator, which measures the number of membership associations per 10,000 population. Warren County’s ranking averages out around 9, higher than the state average of 8.3 associations but lower than the top performers’ measure of 22.1²⁰. A sense of community still exists today, key informants say, but it is being met with conflict. One respondent noted “there is a divide between ‘old-timers’ in the community who like tradition, and the new community members moving to the area who do not have traditional values.” Another clarified that despite the small-town feel, “if you are not engaged in [an] organization, you may feel isolated from your fellow community members, which may be particularly difficult for seniors and the disabled.”

¹⁹ <http://www.countyhealthrankings.org/app/NewJersey/2018/rankings/>

²⁰ <http://www.countyhealthrankings.org/app/NewJersey/2018/rankings>

Physical Environment

Housing and Blight

There is a well understood link between housing quality and public health. Poor living situations are connected to a number of different health conditions including, but not limited to, respiratory infection, lead poisoning, asthma, and poor mental health²¹. For well over a century public health officials have focused on factors like overcrowding, sanitation, and ventilation in the home to combat infectious diseases. Housing conditions are still a major point of focus for many health agencies due to their impact on the overall health status of the community.

In 2014, the LVPC published a report on housing in the Lehigh Valley, which did not include New Jersey. Data from this report can be used as a proxy, since it includes Easton, which is part of the Warren campus service area. With over 1,000 surveys distributed over the phone, online and on paper, a few major trends were found. Neighborhood quality, safety, and convenience to work, leisure, or family were most cited as influencing housing choice. The most frequent reason for not owning a home was financial instability, from not being able to afford a down payment or qualify for a mortgage. Few reported issues with their current homes, and those that did cited concerns with bug infestation and broken doors or windows. Results imply those with disabilities are not able to easily access their current dwellings. In addition, most employed respondents traveled 16 to 30 minutes to work by car. Travel costs and traffic congestion were noted as transportation issues influencing job choice²².

Housing instability can have detrimental effects on the health of individuals, families, and communities²³. Only 61% of respondents reported that “*there is enough affordable housing, and it is safe and well kept*” in the Community Voice Survey for Warren County. Eviction, or the legal process of a landlord removing a tenant from their property, is one form of housing instability that can seriously impact the wellbeing of the person or family being removed. Formal eviction, and even the threat or process of removal, has statistically significant negative consequences on both mental and physical health²⁴. It is also intimately tied to other determinants of health like job security, schooling, and safety. Once a family has undergone eviction, the health side-effects can last for years²⁵. As such, eviction rate, or the number of formal evictions as a factor of total occupied housing units, is an important metric of public health. We used the Eviction Lab’s nation-wide database out of Princeton University to determine the eviction rate for each of the ten lowest income census tracts that our Warren campus services. While none of these ten tracts have higher eviction rates than the national average, seven have a higher rate than the New Jersey state average, which has overseen drastic reductions in evictions over the past five years (Figure 16). Unofficial, and often extra-legal, methods of eviction are common place in low income neighborhoods²⁶, and thus these eviction rates might not fully encapsulate the actual housing instability of the census tracts reported.

²¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1447157/>

²² <http://www.lvpc.org/comprehensive-plan.html>

²³ http://www.npc.umich.edu/publications/policy_briefs/brief29/NPC%20Policy%20Brief%20-%202029.pdf

²⁴ <https://www.ncbi.nlm.nih.gov/pubmed/28107704>

²⁵ https://scholar.harvard.edu/files/mdesmond/files/desmondkimbro.evictions.fallout.sf2015_2.pdf

²⁶ https://www.jstor.org/stable/10.1086/666082?seq=1#page_scan_tab_contents

SLUHN Campus	Lowest Income Census Tracts (lowest first)	Median Family Income	Eviction Rate (2016)
Warren	NC 143; Center City Easton	\$33,929	0.65%
	NC 146; South Side Easton	\$41,797	1.16%
	WC 308; West Phillipsburg	\$49,531	0.23%
	NC 142; Center City Easton	\$50,417	1.41%
	WC 307; East Phillipsburg	\$51,058	0.00%
	WC 309; East Phillipsburg	\$52,917	0.00%
	NC 172; Wilson	\$54,493	1.12%
	NC 173; West Easton	\$54,728	0.65%
	WC 306; West Phillipsburg	\$58,681	0.00%
	NC 145; South Side Easton	\$62,125	1.98%
	AVG of 10 Lowest Income Tract	\$50,968	0.72%
National		\$55,322	2.34%
NJ		\$73,702	0.17%

Figure 16

Another metric we examined was the percentage of monthly income that goes towards housing costs. US Department of Housing and Urban Development (HUD) considers any household paying more than 30% of their monthly income towards housing as “cost burdened”. Being cost burdened means that these households “may have difficulty affording necessities such as food, clothing, transportation and medical care”²⁷. Although little research exists linking the status of “cost burdened” to health outcomes, there is robust literature connecting lower incomes with worse health²⁸. It would then follow that households that are struggling to afford housing would have limited disposable income to spend on healthier food, physical activities like a gym membership, and out of pocket health expenses. High housing cost burden is a problem across the nation and state, but it is particularly acute in the communities we serve. Eight of the ten lowest income census tracts in the Warren campus area have a cost burdened rate higher than the national average, and four of the ten tracts are higher than the New Jersey average. Northampton County tract 146 has a rate nearly 15% higher than the national average with nearly half of all households in the tract being cost-burdened (Figure 17).

²⁷ https://www.hud.gov/program_offices/comm_planning/affordablehousing/

²⁸ <https://www.bls.gov/opub/mlr/2017/beyond-bls/income-and-health-outcomes.htm>

SLUHN Campus	Lowest Income Census Tracts (lowest first)	Median Family Income	Cost Burdened Households (30% or more of household income goes towards housing costs) 2012-2016
Warren	NC 143; Center City Easton	\$33,929	52.30%
	NC 146; South Side Easton	\$41,797	48.96%
	WC 308; West Phillipsburg	\$49,531	38.66%
	NC 142; Center City Easton	\$50,417	45.14%
	WC 307; East Phillipsburg	\$51,058	40.23%
	WC 309; East Phillipsburg	\$52,917	35.45%
	NC 172; Wilson	\$54,493	43.07%
	NC 173; West Easton	\$54,728	28.92%
	WC 306; West Phillipsburg	\$58,681	35.12%
	NC 145; South Side Easton	\$62,125	31.99%
	AVG of 10 Lowest Income Tract	\$50,968	40.0%
National		\$55,322	34.20%
NJ		\$73,702	42.0%

Figure 17

Cost Burdened Households SLW

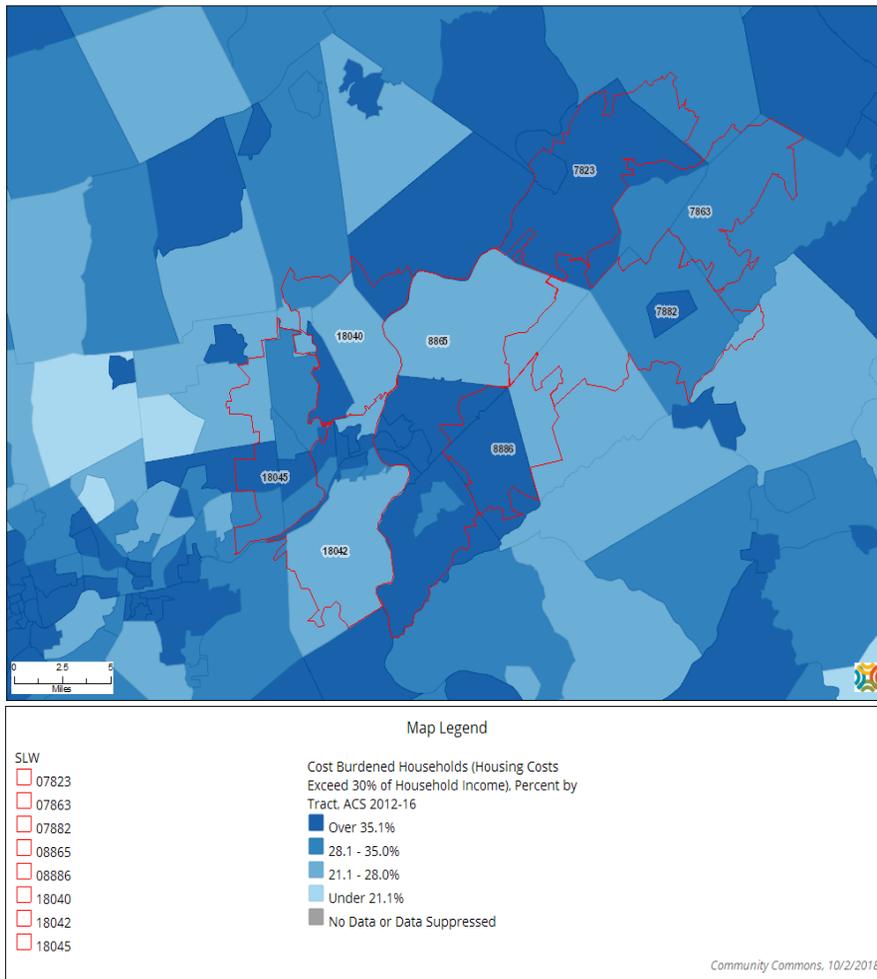


Figure 18

A final metric we looked at was units lacking complete kitchen facilities. Without complete kitchen facilities, families have less of an ability to cook nutritious meals and thus rely more heavily on processed and packaged foods or eating outside of the home. Households that cook more frequently are shown to consume lower amounts of calories, fat, and sugar²⁹. Our Warren campus services at least eight census tracts that have rates of housing units lacking complete kitchen facilities that are higher than the national average, and nine of ten are higher than national state. In Northampton County Tract 142 nearly one in every seven households lacks a complete kitchen facility. This would be an ideal neighborhood to provide targeted interventions around increasing the nutritional quality of processed and packaged food that is offered in local corner store (Figure 19).

SLUHN Campus	Lowest Income Census Tracts (lowest first)	Median Family Income	Housing Units Lacking Complete Kitchen Facilities,% by Tract, ACS 2012-16
Warren	NC 143; Center City Easton	\$33,929	6.74%
	NC 146; South Side Easton	\$41,797	3.60%
	WC 308; West Phillipsburg	\$49,531	4.89%
	NC 142; Center City Easton	\$50,417	13.93%
	WC 307; East Phillipsburg	\$51,058	2.66%
	WC 309; East Phillipsburg	\$52,917	10.70%
	NC 172; Wilson	\$54,493	2.98%
	NC 173; West Easton	\$54,728	3.25%
	WC 306; West Phillipsburg	\$58,681	1.21%
	NC 145; South Side Easton	\$62,125	5.39%
	AVG of 10 Lowest Income Tract	\$50,968	5.5%
National		\$55,322	2.84%
NJ		\$73,702	2.16%

Figure 19

Key informant interviews revealed that housing is in the forefront of most respondents’ minds. One respondent mentioned that “areas like Phillipsburg feel much more physically segregated in terms of socioeconomic status, with clear areas of high poverty. Elsewhere in the county, poverty is hiding, whether that’s low-income seniors who live alone or families that are on the brink of homelessness due to the cost of housing or job insecurity. 29% of households in the county are ALICE (asset-limited, income-constrained, employed) households.” Key informants also noted generational poverty to be an issue in the region.

According to HUD’s Point-In-Time Count, which due to methodology is almost certainly an underrepresentation of the true number, there were 57 homeless individuals in Warren County in 2017. This count is limited because it only considers individuals in shelters, transitional housing,

²⁹ <https://www.cambridge.org/core/journals/public-health-nutrition/article/is-cooking-at-home-associated-with-better-diet-quality-or-weightloss-intention/B2C8C168FFA377DD2880A217DB6AF26F>

or sleeping in spaces defined as uninhabitable for humans like a park or bus station. Someone who was doubled up in an overcrowded house temporarily, for example, would not be counted.

Another source to quantify the need for housing affordability comes from the Coordinated Entry System, a platform through which residents can be connected with social service providers. Between April and June of 2018, 1,263 residents of Lehigh County used the CES to inquire about housing assistance. The top zip code, 18102, which is center city Allentown, comprised over half of the total calls into the system over that duration.

The Robert Wood Johnson Foundation produces County Health Rankings on a number of important social determinants of health. One that we looked at, percentage of population with severe housing problems is defined by having one of the following four housing conditions: over-crowding, high housing costs, lack of complete kitchen facilities, or lack of complete plumbing facilities. Warren County has 17% of all households have at least one of the four severe housing conditions. This is less than New Jersey's state rate of 23%.

Air and Water Quality

Air quality, especially in urban and industrial areas, is a significant public health concern. Poor air quality is associated with increased breathing stress for people with asthma and COPD, and increased risk of stroke or heart attacks for people dealing with heart disease³⁰. One measurement of importance is the amount of ozone (O₃) in the air. High levels of ozone can damage and inflame people's airways, make lungs more susceptible to infection, increase the frequency of asthma attacks, damage the lungs, and cause COPD³¹. According to the American Lung Association, Warren County received a "C" grade for ozone last year with at least 4 days surpassing air quality thresholds for moderate air, meaning the ambient air was "unhealthy for sensitive populations". Warren County also received an "A" grade for particulate matter with 0 days exceeding the moderate air threshold and becoming unhealthy for sensitive populations. Particulate matter is microscopic pollution in the air, typically caused by exhaust from combustion, which can lacerate the lungs caused pulmonary developmental consequences, lung cancer, and heart disease³².

Asthma rates are a related indicator when examining physical environment and air quality. 8.3% of survey respondents in the Warren service area and 9.8% of survey respondents in the SLUHN service area indicated having an asthma diagnosis. However, among all SLUHN survey respondents; there are notable differences in reported asthma rates based on reported income levels. 18.6% of SLUHN respondents in the \$14,999 or less income category reported having an asthma diagnosis, as compared to 7.7% of respondents in the \$60,000 or greater income category (Figure 20). As previously discussed, there are identified issues in our region with access to adequate housing, and the increased asthma rates among lower income populations illustrate a direct health outcome of those housing issues.

³⁰ https://www.cdc.gov/air/air_health.htm

³¹ <https://www.epa.gov/ozone-pollution/health-effects-ozone-pollution>

³² <https://www.lung.org/our-initiatives/healthy-air/outdoor/air-pollution/particle-pollution.html>

Survey Respondent Reported Asthma Diagnosis by Household Income

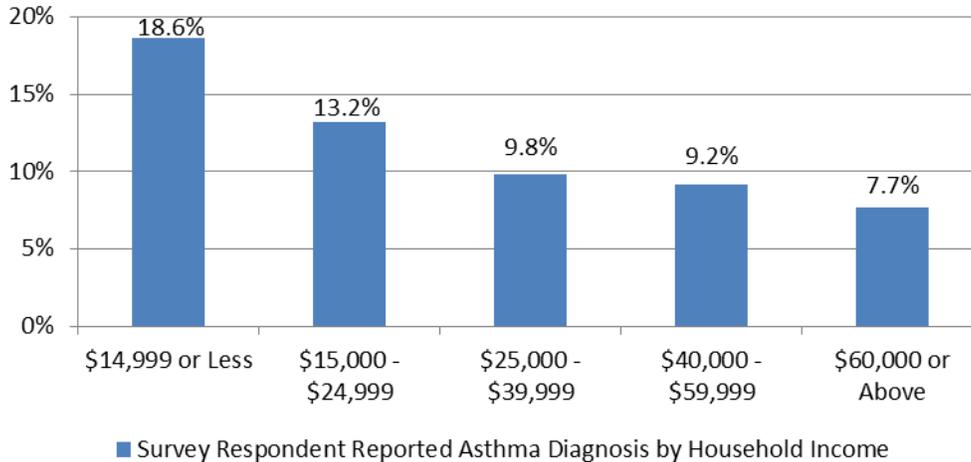


Figure 20

Phillipsburg Township has its water serviced by Aqua NJ. Over 34,000 residents rely on the municipal water supply daily. For two quarters between 2014 and 2017, the water was above federal and state limits on hexavalent chromium, a known carcinogen. While under the legal limit, Phillipsburg Township also had lead levels above the health guidelines. Lead is a neurotoxin that is specifically harmful in children. It can impair brain and nervous system development and harm fully developed systems. The CDC’s position is that there is no safe level of lead in children³³.

Clinical Care

Primary Care Providers

When medical issues arise, primary care providers (PCPs) are generally the first point of contact before a patient begins to move through a health network. PCPs are often the ones who initially identify major health problems, such as chronic disease or mental illness. When individuals lack a consistent primary care doctor, they may face disadvantages in terms of their present and future health, from delaying potential diagnoses to lacking proper health education. To assess PCP accessibility, we can look at the “access to primary care” indicator, which denotes the ratio of primary care physicians per 100,000 individuals in the population. The lower the ratio is, the more manageable a PCP’s caseload becomes. Top performers in the country who fall in the 90th percentile have a ratio of 1,030:1, and the state’s ratio is 1,180:1. For Warren County, the ratio of population to PCPs is 1,620:1, indicating difficulties for individuals to access a primary care physician in the Warren service area than in other regions. Social determinants of health such as

³³ <https://www.ewg.org/tapwater/what-about-lead.php?pws=NJ2119001>

poverty, education, and unemployment may all factor into an individual's ability to acquire care, even if it is available³⁴.

Across the St. Luke's network, we observed trends between the type of insurance used by a respondent and their last PCP visit. From our 2019 community survey, we found that most respondents in the St. Luke's Warren service area had visited their PCP within the past year (83.0%) (Figure 21). Another 9.5% saw their PCP within the past two years, 3.1% within the last five years, and 2.0% more than five years ago. Some did not know or did not have a PCP (2.5%).

Last PCP Visit, Warren

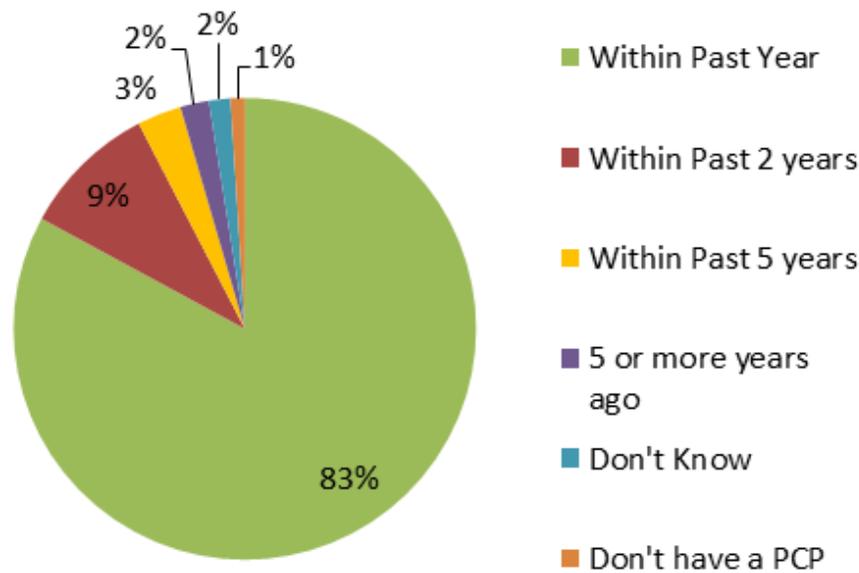


Figure 21

We then cross-referenced this information with SLUHN respondents' insurance type. About 77.5% of all Network respondents with private insurance saw their PCP within the last year, compared to 50.0% of respondents with no coverage. About 79.6% of those with Medicaid and 92.3% with Medicare saw their PCP in the last year (Figure 22).

³⁴ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings/>

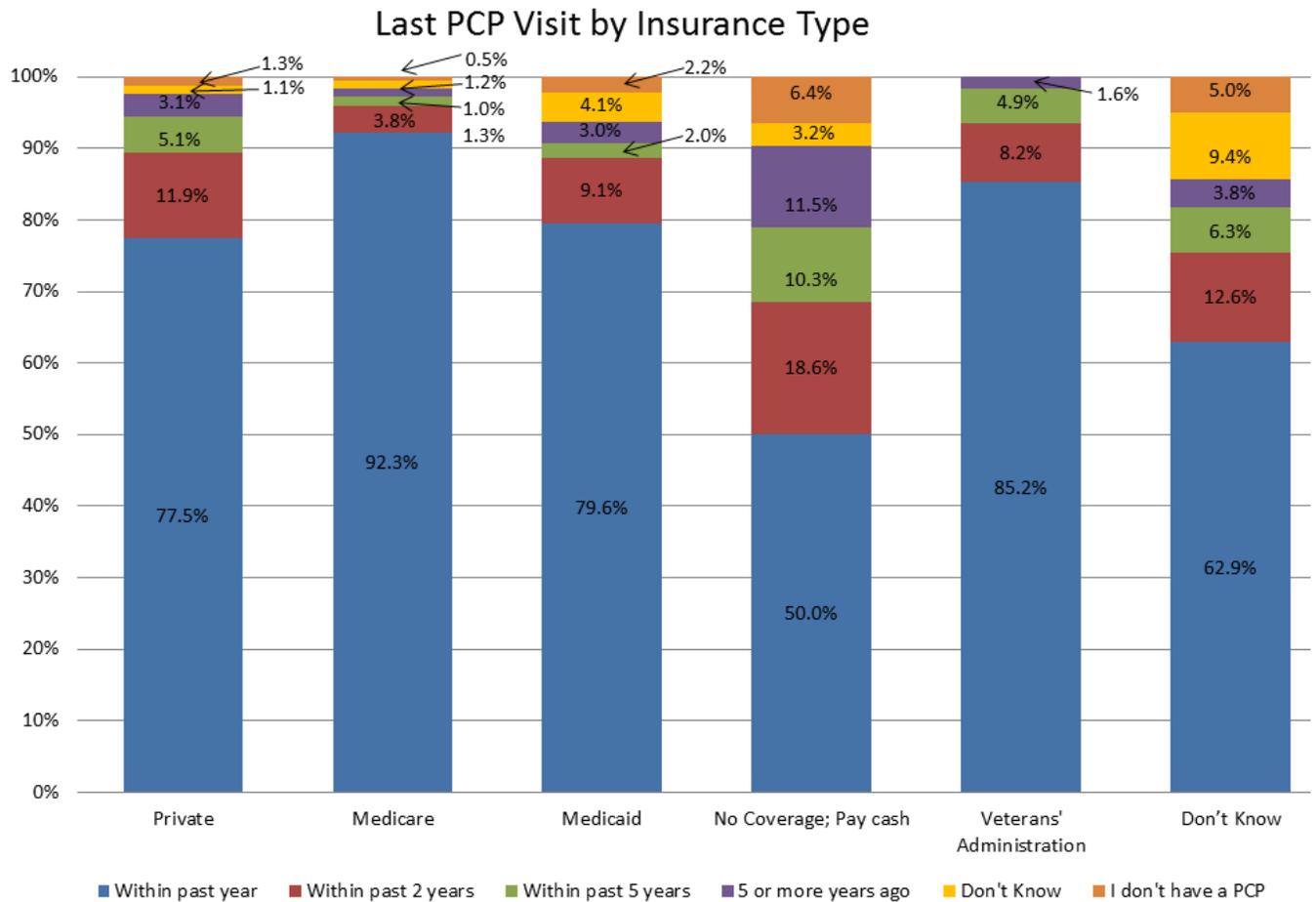


Figure 22

Emergency room (ER) utilization can also be used as an indicator to gauge lack of PCP coverage. According to community survey data, 67.6% of all SLUHN service area respondents had not visited the ER in the past year, and only 1.4% had visited 5 or more times. Similarly, among St. Luke's Warren service area respondents, 67.3% had not visited the ER in the past year, and 1.0% had visited 5 or more times. It is important to note that many of our surveys were completed at clinics or sites where people are more likely to be connected to care, thereby underestimating the true number of people who are not accessing care at all. However, survey data also indicate that there are differences in ER utilization based on income. Figure 23 depicts ER utilization by income category among all Network respondents, and clearly indicates that as income decreases, ER utilization increases. This inverse relationship between income and ER utilization suggests that there may be disparities in access to PCP among lower income populations in our service area community.

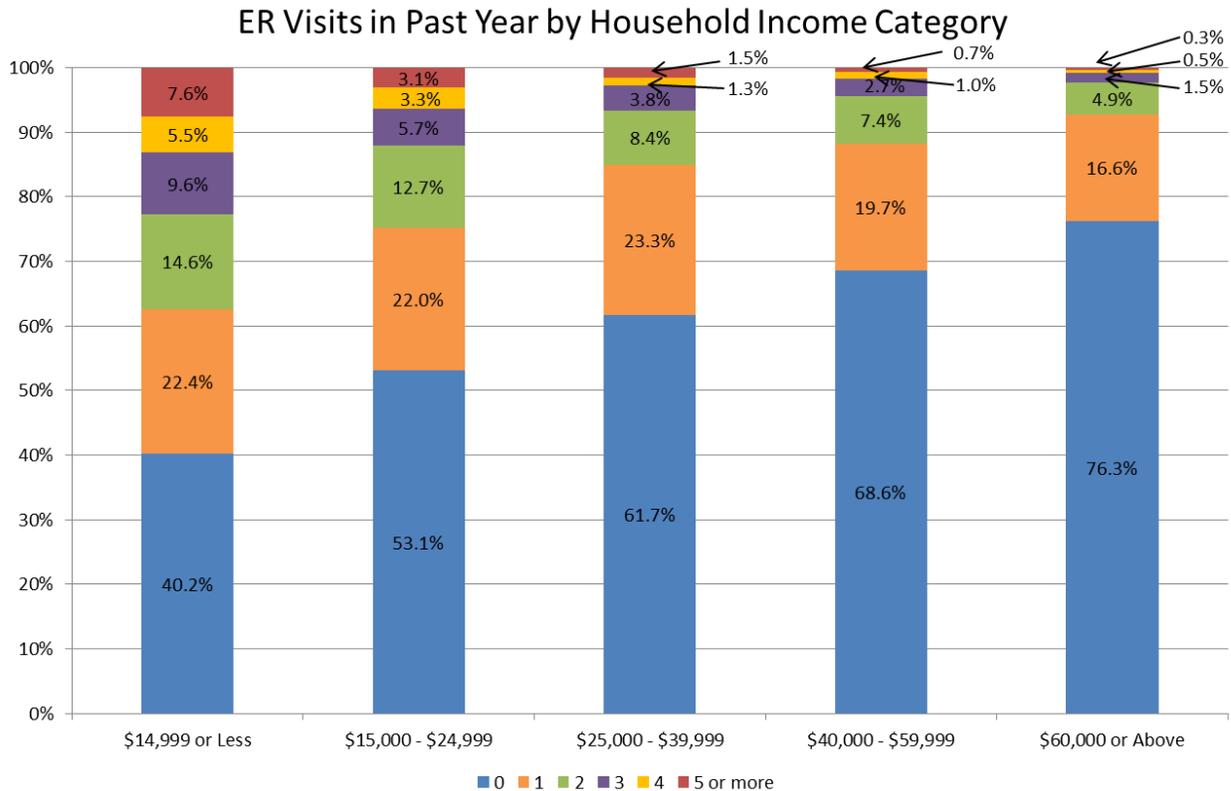


Figure 23

According to key informants, many services for children and youth are also relatively inaccessible. Most respondents noted a lack of local prenatal care. “Women in Warren County have to travel to Easton Hospital or Hunterdon Medical Center for prenatal care. Family Success Center assists to provide transportation to these hospitals, but the need is much greater than what they can provide.” There is also a shortage of medical resources in the region: “children are required to have flu shots to attend [educational] programs. Families reported that doctors ran out of flu shots and were unable to obtain them for their child in a timely manner, resulting in attendance issues. There is also parent procrastination to consider as well.”

Dentists

Not only does oral healthcare affect dental health, but directly impacts an individual’s overall health, from cardiovascular disease to one’s ability to eat nutritious food. A lack of preventive and restorative dental services can result in higher risk for tooth decay, gum disease, heart disease or stroke, diabetes and some types of cancers. Measuring a community’s access to dentists is one way to examine the ability for an area to receive quality dental care. Akin to the methodology for primary care providers, the “access to dentists” indicator denotes the ratio of dentists per 100,000 individuals in the population. The ratio of people to dentists is 1,420:1 in Warren County. This number falls above the state average of 1,190:1 and the U.S. top performers’ ratio of 1,280:1, indicating a lesser accessibility to dental care in the St. Luke’s

Warren service area³⁵. 63% of respondents agreed that “people have access to good quality dental care at a reasonable price” in the Community Voice Survey for Warren County.

In our 2019 community survey, we assessed the last time respondents visited the dentist, as well as the type of dental insurance that they used, to gauge the limits of dentist availability and insurance coverage. As evidenced by Figure 24, most respondents in the St. Luke's Warren service area – as well as throughout the network – had seen their dentist within the past year.

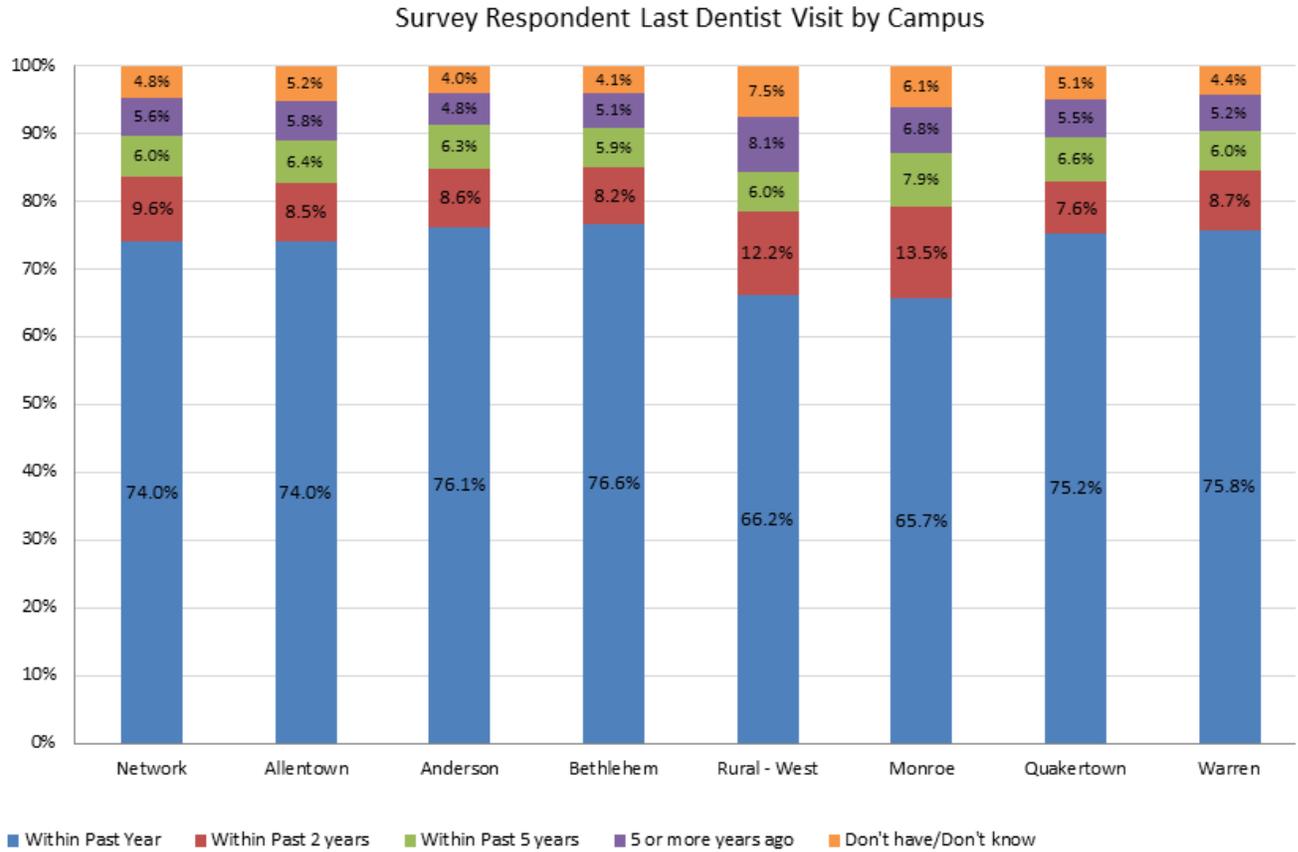


Figure 24

To further explore this topic, we examined the type of dental insurance used by respondents network-wide, comparing data gathered from our previous surveys conducted in 2012 and 2016. The percentage of respondents using private insurance for dental care was recorded at 51.0% in 2012, increased to 62.4% in 2016, and decreased to 59.6% in 2019. Those using Medicaid moved from 6.3% in 2012, to 14% in 2016, to 8.4% in 2019. The percentage of those who had no coverage or paid cash greatly decreased, from 39.9% in 2012, to 19.3% in 2016, then increased to 31.5% in 2019 (Figure 25). It is evident that less people are uninsured or having to pay with cash, which ultimately should help boost access to dental care. In the same vein of primary care providers, key informants noted a lack of pediatric dental services in the region.

³⁵ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings/>

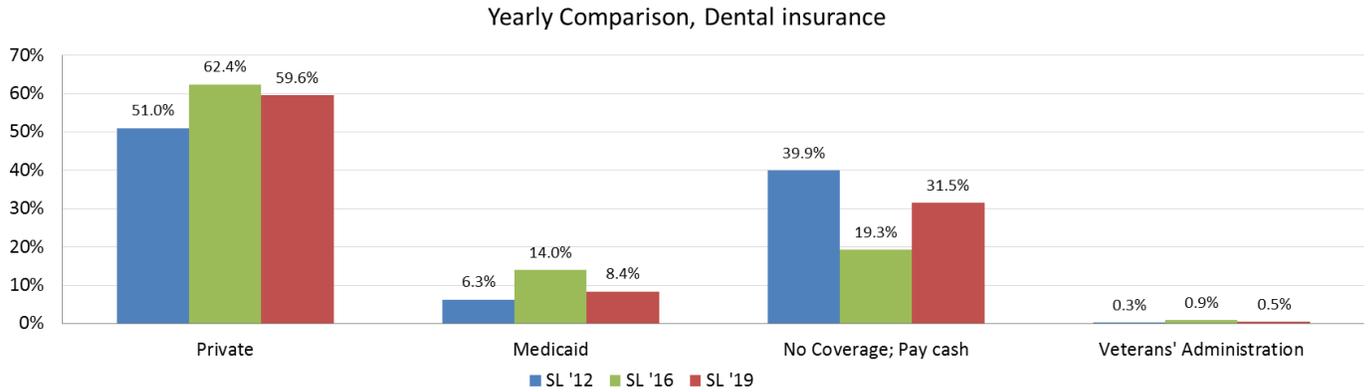


Figure 25

Mental Health Providers

Limited access to mental health professionals is a huge barrier to improving mental health. In the same way PCP and dentist availability impacts access to care, so too does a region’s accessibility to mental health providers. To assess this accessibility, we can utilize the “mental health providers” indicator, which analyzes the ratio of the county population to the number of mental health professionals. In Warren County, the ratio of residents to mental health providers is 610:1. This is higher than both the state ratio of 530:1 and the national top performer ratio of 330:1, indicating less access to mental health providers in the St. Luke’s Warren service area³⁶. Only 54% of respondents agreed that “*people have access to good quality mental health care*” in the Community Voice Survey for Warren County. Additionally, key informants’ indicated that many seeking care heavily rely on out-of-county facilities for treatment that can be significant distances from the hospital. Also, patients using New Jersey Medicaid cannot be treated across the border in Pennsylvania facilities.

Health Insurance

A major barrier to receiving health care is a lack of insurance – without it, services are costly and difficult to attain. Even if an individual has Medical Assistance, it can be hard to find primary care providers and dentists who accept their coverage. Additionally, key informants noted that people with New Jersey specific insurances such as Medicaid, cannot access care in Pennsylvania. According to the ACS, 8.68% of the service area’s population is without health insurance, falling below both the state percentage of 12.23 and the nation’s 13.21%. Statistics show Hispanic and Latino populations are roughly twice as likely to be uninsured than non-Hispanic populations³⁷.

The cost of medical services in the United States is high, making it difficult to pay out-of-pocket for care. If children are not covered by insurance, they are especially likely to have restricted access to healthcare services. According to the U.S. Census Bureau Small Area Health Insurance Estimates, roughly 3.8% of the St. Luke’s Warren service area population without medical insurance is under the age of 19. This rate is lower than the percentage statewide (3.91%) and the

³⁶ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings/>

³⁷ <https://www.census.gov/quickfacts/>

same measure nationwide (5.05%)³⁸. Only 53% of respondents agreed that “people can get health insurance that is affordable and covers what they need”, while 78% agreed that “people have access to good quality emergency care” in the Community Voice Survey for Warren County.

Our patients utilize a variety of methods of payment to cover their healthcare needs. According to our internal reviews, the highest percentages of our patients use medical assistance plans or Medicare to cover their healthcare costs. This distribution of insurance plans mirrors the pattern seen throughout the network considering all types of care, with Medicare, Commercial (Private) and Medicaid as the three most popular forms of insurance used. Additionally, charity care is included in the self-pay category, which represents 2.9% of the coverage methods our patients utilize, which is lower than the 5.45% seen in the 2016 CHNA. An additional 16.7% of patients utilized Medicaid, which is lower than the 19.25% seen in the 2016 CHNA. Figure 26 looks at the primary insurance types used by Warren respondents.

Survey Respondent Primary Medical Insurance by Campus

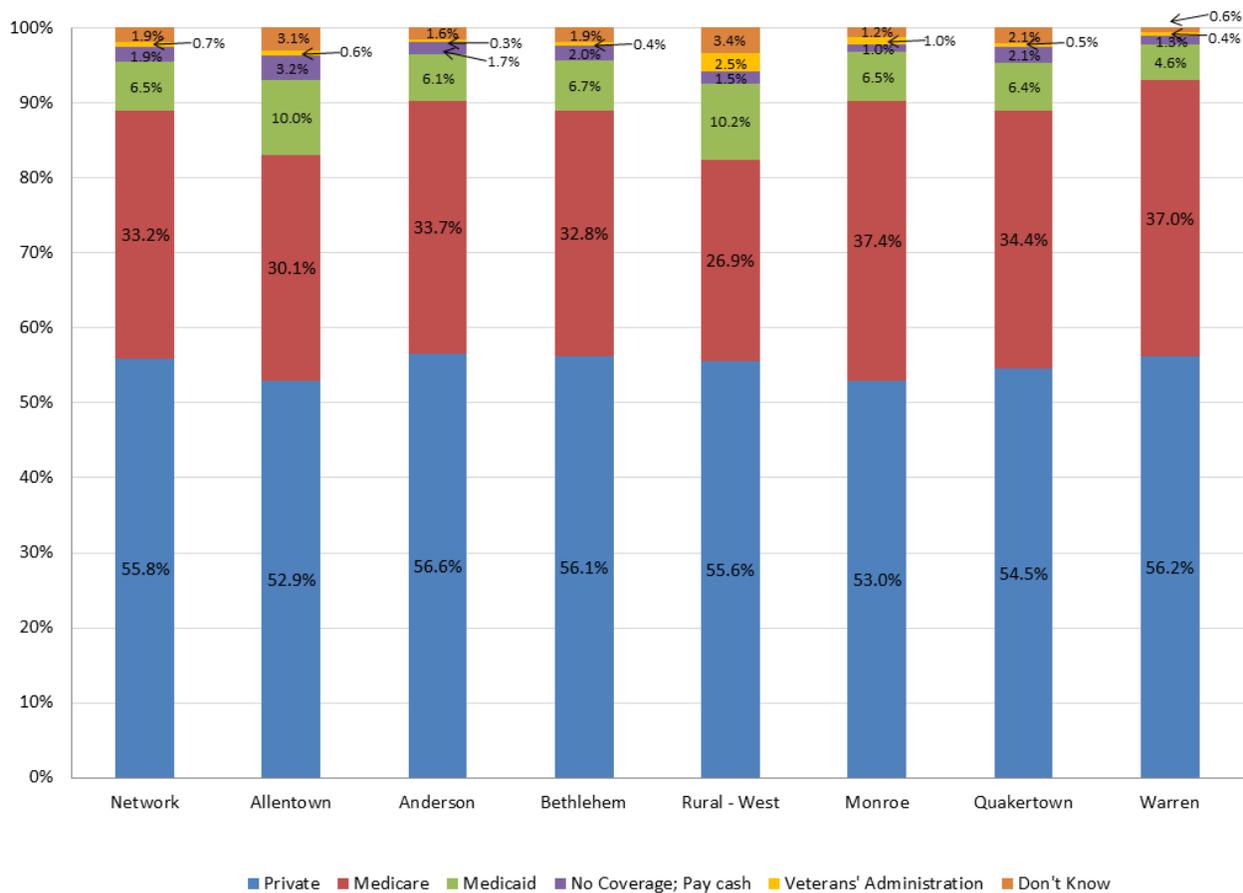


Figure 26

Roughly 56.2% of respondents from the St. Luke's Warren service area used private insurance, whereas 1.3% were uninsured and paid out-of-pocket for their medical expenses.

³⁸ <https://www.census.gov/quickfacts/>

A lack of insurance or comprehensive coverage affects a patient’s willingness to pursue getting medical treatment for their ailments. Our 2019 community survey clearly illustrated this: the top reason that Warren respondents cited for postponing care was that their share of the cost was too high (12.3%), they didn’t think the problem was serious (8.7%) as the second top reason, and insurance didn’t cover what they needed (6.9%) and couldn’t get time off from work (6.9%) as the third (Figure 27). These findings echo what was shown in the 2016 survey, where the top three reasons for missed medical appointments among survey respondents were: their share of the cost was too high, they didn’t think the problem was serious, and they didn’t have health insurance. Access to quality health insurance is a social determinant that alters one’s ability to receive care in a timely and efficient manner.

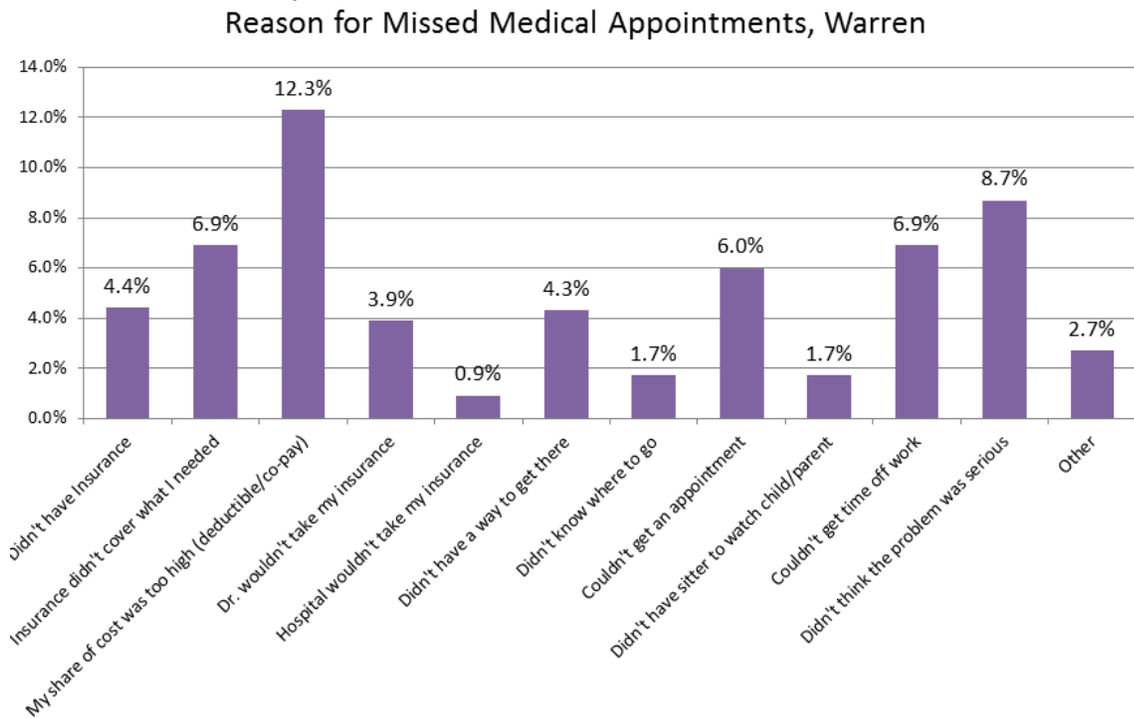


Figure 27

Health Behaviors

Access to Healthy Food and Transit

Access to nutritious food directly impacts one’s ability to maintain a healthy lifestyle and prevent chronic disease. Nutritious foods are often less available at convenience stores than they are at full-service groceries and supermarkets³⁹. By examining a community’s access to supermarkets, both in terms of proximity and ease of commute, we can map out the availability of healthy foods in a service area. To explore some of the most under-resourced neighborhoods we serve, we examined the availability of supermarkets in the ten lowest income census-tracts that send patients to our Warren campus. We found that the average rate of residents in these areas living more than half a mile from a supermarket *and* without a vehicle is 10.6% across the ten tracts.

³⁹ http://thefoodtrust.org/uploads/media_items/grocerygap.original.pdf

This means that they are left to either shop at corner-stores - which tend to provide less healthy options⁴⁰ -, navigate the public transit system, or walk over a mile round-trip with their purchases in-tow. While this 10.6% represents an average across the ten lowest income census tracts, there are neighborhoods in which up to 27.6% of residents live more than half a mile and do not have a vehicle. This is considerably higher than both the New Jersey (4.1%) and US (4.2%) averages (Figure 28).

These ten lowest income census tracts also rely heavily on the Supplemental Nutrition Assistance Program (SNAP). Administered by the USDA, SNAP is meant to bolster families' resources by providing additional funding for food purchases each month. Eligible households national fall below 130% the federal poverty level, but New Jersey's rate is higher at 185%. For a family of four in New Jersey this means a maximum gross monthly income of \$3,793 – or \$45,516 pre-tax annually⁴¹. The average monthly benefit a resident of New Jersey receives is \$115.82⁴². For lower income families this benefit is the difference between eating and going without food. The ten tracts together average 21.17% usage, with our lowest income tract having 38.30% of residents on SNAP. This is much higher than the 8.90% usage rate in New Jersey and 13.2% nationally (Figure 28).

SLUHN Campus	Lowest Income Census Tracts (lowest first)	Median Family Income	Share of tract housing units that are without vehicle and beyond 1/2 mile from supermarket (FARA 2015)	Percentage of Tract Households Using SNAP (2012-2016 ACS)
Warren	NC 143; Center City Easton	\$33,929	27.60%	38.30%
	NC 146; South Side Easton	\$41,797	10.20%	24.10%
	WC 308; West Phillipsburg	\$49,531	6.80%	20.70%
	NC 142; Center City Easton	\$50,417	21.00%	20.20%
	WC 307; East Phillipsburg	\$51,058	7.30%	20.50%
	WC 309; East Phillipsburg	\$52,917	22.60%	24.70%
	NC 172; Wilson	\$54,493	1.30%	13.80%
	NC 173; West Easton	\$54,728	3.50%	12.10%
	WC 306; West Phillipsburg	\$58,681	2.40%	16.80%
	NC 145; South Side Easton	\$62,125	2.80%	20.50%
	AVG of 10 Lowest Income Tract	\$50,968	10.6%	21.17%
National		\$55,322	4.2%	13.20%
NJ		\$73,702	4.1%	8.90%

Figure 28

We found that, in general, the census tracts with the highest SNAP usage rates are the same ones that have high rates of residents living over half a mile from a grocery store and lacking a vehicle. For example, Northampton County Census 143, located just west of downtown Easton, has 27.6% of residents living beyond half a mile from a grocery store without a vehicle, and a

⁴⁰ <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/pdf/Healthier-Food-Retail-guide-chapter-3.pdf>

⁴¹ <https://www.nj.gov/humanservices/dfd/programs/njsnap/>

⁴² <https://www.kff.org/other/state-indicator/avg-monthly-snap-benefits/>

38.3% SNAP utilization rate. This area would be ideal for targeted interventions. SNAP enrollment interventions in this census tract could help families who are entitled to this benefit actually receive it. Another intervention would be expanding the healthy options available at corner stores located in the census tract. This area is far removed from grocery stores, and thus many residents without a car rely on these types of stores to purchase their food. Partnering with these stores through interventions like the Healthy Corner Store Initiative, which works to ensure corner stores are stocking and selling healthy foods, could have a demonstrable impact on the quality of food to which residents in this area have access⁴³. A third intervention, most effectively implemented in conjunction with the former two, would be to enlist stores in this census tract to offer the Food Insecurity Nutrition Incentive (FINI), a program that incentivizes the purchase of healthy produce by giving a dollar-for-dollar match on produce purchased using SNAP. All three of these interventions would increase the access to healthy food in this census tract that is currently lacking it.

Furthermore, Figure 29 maps the regions of the St. Luke's service area and designates regions considered to be "food deserts." Areas shaded in red denote low-income census tracts where a large portion of the residents live one mile away (for urban areas) or 10 miles away (for rural areas) from a grocery store (U.S. Department of Agriculture, 2015). These food deserts are another ideal place to implement strategic interventions to increase the availability of healthy food. Six tracts in the entire region are located in a food desert as defined by 1 mile from a grocery store. When that is narrowed to half a mile from a grocery store – another metric used by the USDA to show lack of access – thirteen census tracts become food deserts.

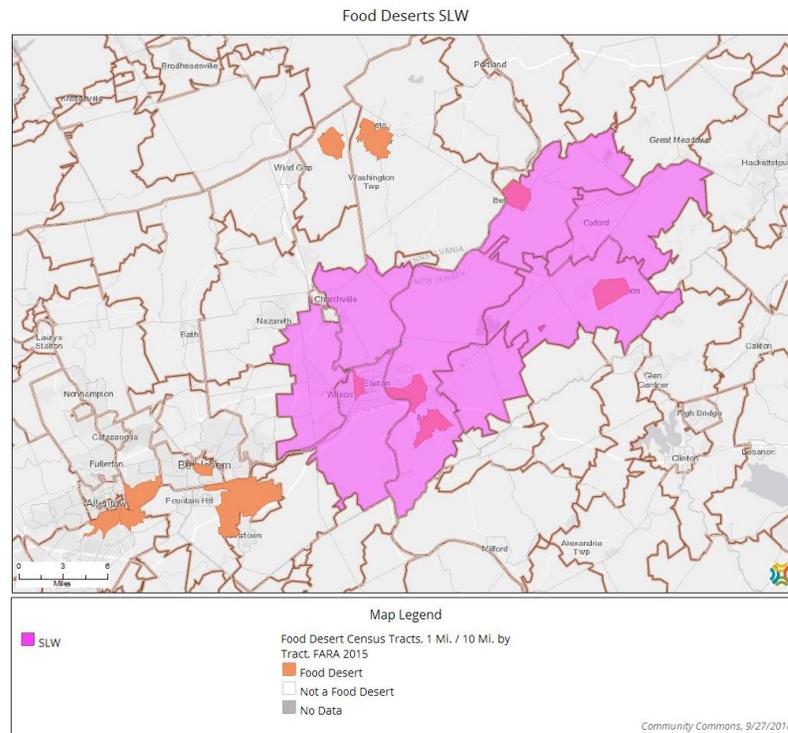


Figure 29

⁴³ http://thefoodtrust.org/uploads/media_items/healthy-corner-store-overview.original.pdf

If a region is “food insecure,” its residents have limited or inconsistent access to healthy food options. Identifying food insecure populations highlights an area’s inability to provide all necessities for their families; therefore, individuals may have to resort to buying fast food instead of healthy options, such as fruits and vegetables. According to Feeding America, 13% of the nation’s population is food insecure. In Warren County 9.0% are food insecure, and 10.3% are food insecure in the state (Feeding America, 2016)⁴⁴.

Figure 30 depicts the neighborhoods of SLUHN’s Warren area that have limited food access. The darker shading of brown represents a higher percentage of low-income residents living beyond the USDA’s distance thresholds for food accessibility. As evident by the figure, many neighborhoods in the area have over 50% of residents with limited access.

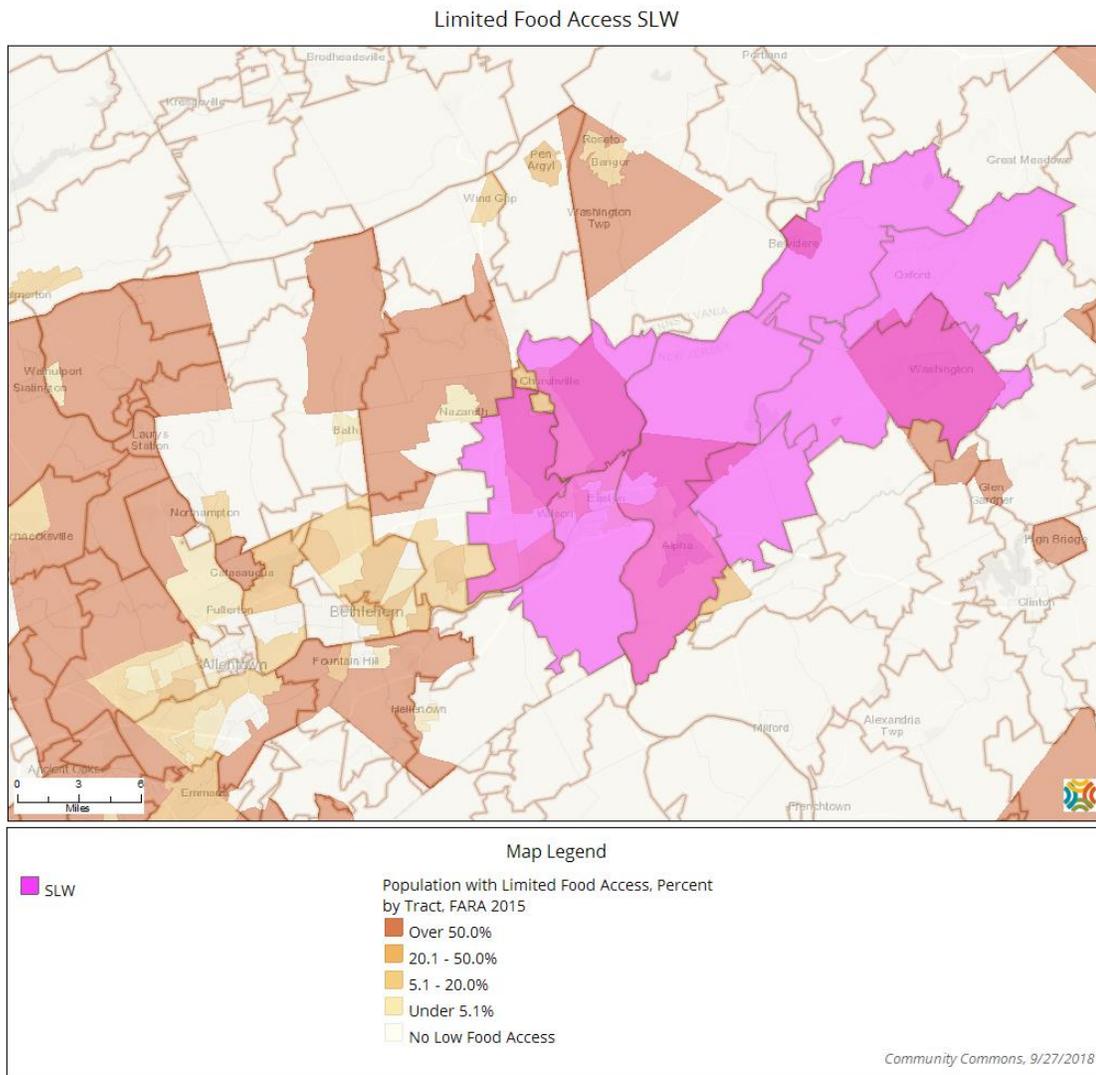


Figure 30

⁴⁴ <http://www.feedingamerica.org/research/map-the-meal-gap/2016/2016-map-the-meal-gap-all-modules.pdf>

Key informants reiterated these findings, describing how few healthy food options exist, and noting the irony of struggling to find healthy food in an area surrounded by farms. This was echoed in a recent community forum. Participants at the forum expressed an array of food insecurity concerns and challenges. A representative from a local non-profit organization said, “Despite Warren County being a rural county with many farms, access to fruits and vegetables remains a major problem.” She continued, “There is no funding for a farmers market in Warren County that would accept SNAP and the farmer’s market over in Easton won’t take New Jersey SNAPS. In addition, we can’t get farmers to accept SNAP dollars because of the USDA restrictions and hoops to jump through so farmers don’t feel the need to go through the effort.” Another participant from a health care organization expressed concern about the presence of a food desert in the Phillipsburg area that has been caused by the closure of a super market “that has left those without cars only the Wawa in walking distance.” Finally, a representative of a Warren County non-profit organization said, “Food banks have fresh food, but people don’t know what to do with the produce or don’t have the means to store it. There is also a lack of education and encouragement to use these produce items.”

In the St. Luke’s Warren region, only 9.0% of respondents were consuming the recommended five or more servings of fruits and vegetables a day (Figure 31). The largest number of respondents reported consuming one or two servings in a day (49.1%), followed by 35.5% consuming three to four servings. In the SLUHN service area as a whole 9.6% of respondents reported meeting the recommendation. Despite indicating issues of food insecurity across the Warren service area, key informants assured efforts within and between organizations have improved healthy living and access to care. The healthy living/eating program offered by St. Luke’s, as well as a new community garden project, have increased the amount of fruits and vegetables consumed regularly by students in grades 3 and 4.

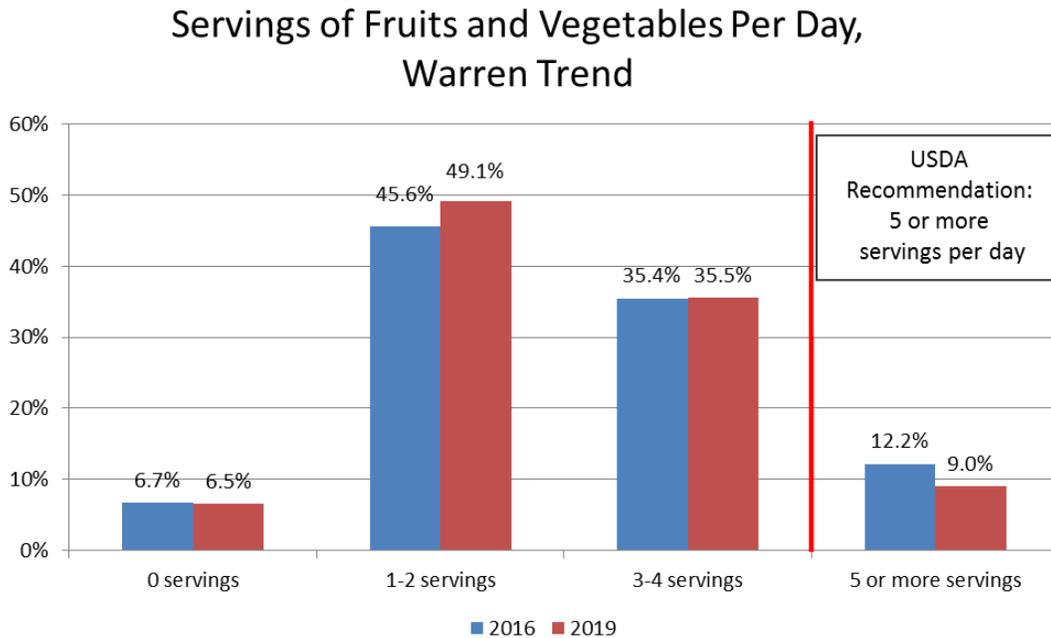


Figure 31

Furthermore, when looking at fruit and vegetable consumption by income category, 2019 community survey data show that fruit and vegetable consumption increases with income. According to SLUHN service area survey respondents, approximately 15% of respondents in the \$14,999 or less category and 13% of those in the \$15,000 to \$24,999 category reported consuming no servings of fruits and vegetables, compared to 5% of respondents in the \$60,000 or greater category (Figure 32).

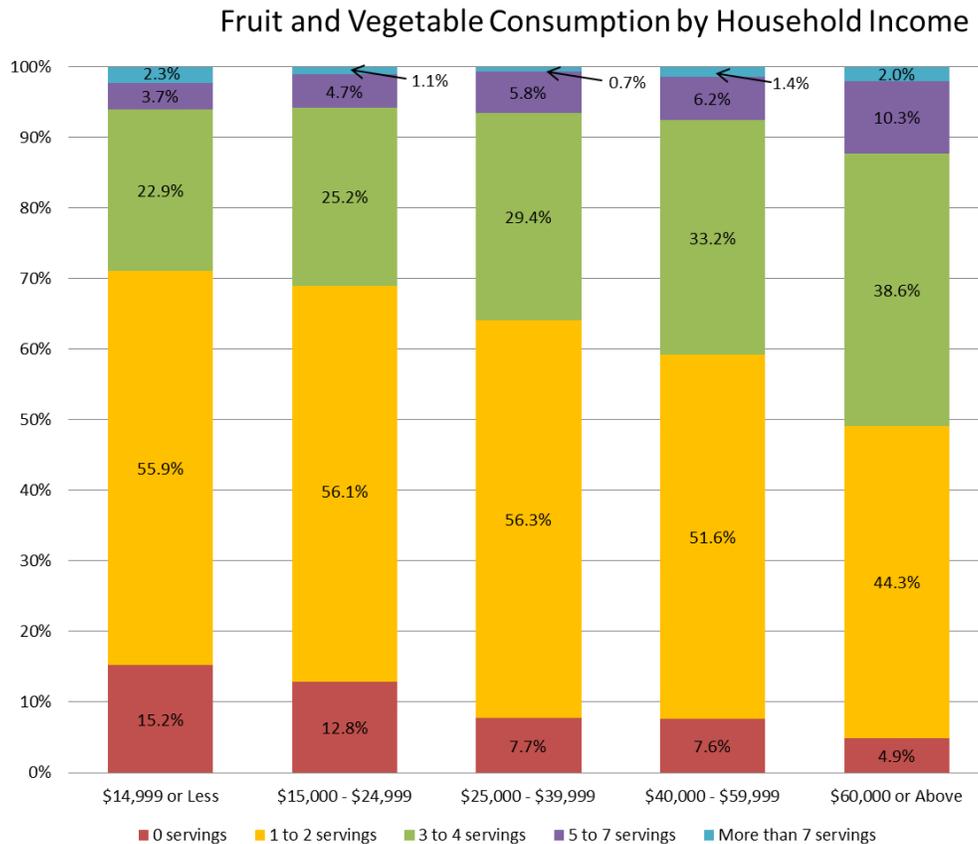


Figure 32

In regard to transportation within Warren County participants identified a series of challenges that are present. A number of forum attendees cited limitations of public transportation as a concern for many residents of Warren County. A representative from a non-profit organization said, “We have been talking about transportation for decades. About 98% of people dependent upon public services use public transportation and while there has been some expansion of services a great deal of transportation needs go unmet.” A participant from a public health organization added, “For years there have been requests to expand public transportation hours and routes but basically due to funding and staffing issues it hasn’t really happened.” She added that for the preschool population from lower income families’ physicals and check-ups are hard because there’s no way for parents to get their children to clinics where services are available.” Finally, a participant from a social services organization noted that, “It takes two hours to get from Phillipsburg to Hackettstown using public transportation so if you need services in one of the two key county centers it’s a real struggle.” Only 47% of respondents said that “there is good

access to transportation; people can get to work, school, businesses, healthcare facilities, and place of worship easily” in the Community Voice survey for Warren County.

Public transit like LANTA and NJ Transit is crucial for many of our low-income neighborhoods. Of the ten lowest income census tracts that we service with the Warren campus, 14.5% of all households do not have a car, according to the USDA's FARA. Over one in six households in these neighborhoods need to rely on the public transportation system, ridesharing, or walking to meet daily needs like food.

Furthermore, for those who do have access to a car, 55% of workers in Warren County report commuting solo more than 30 mins to work each day. This is much higher than the state's average of 42%. These numbers, from the Robert Wood Johnson Foundation's County Health Rankings, are important because prolonged commutes are associated with higher blood pressure, BMI, and physical inactivity⁴⁵. Almost all key informants urged the need to improve the existing transportation system. Public transportation affects all aspects of day-to-day life, from being able to access grocery stores and exercise opportunities, to making it to work or medical appointments on time. Warren “suffer[s] from a lot of ‘rural problems,’” according to key informants. “For example, people live far apart from each other and there are not many walkable communities. Community members often have long commutes.” Key informants also mentioned an inability to access exercise opportunities, as well as the few primary care providers in the region; the combination of which creates an increased probability of residents developing health disparities and chronic disease.

Free or Reduced Lunch

A consistent diet high in nutrients is pivotal to personal health, especially during childhood. For children living at or below the poverty level, access to healthy foods is more difficult. The National School Lunch Program (NSLP) operates in public and private schools to provide free or reduced-price lunches to children in poverty. Looking at populations eligible for this program may indicate children who are vulnerable to poor nutrition and other health-related issues. About 34.51% of children in the St. Luke's Warren service area are eligible for free or reduced-price lunch. This number is lower than both the national average (52.61%) and the state (37.58%)⁴⁶. These numbers reveal a high percentage of children who may not be able to receive the nutritional meals they need at home and may also indicate children who are vulnerable to health issues stemming from malnutrition.

Days of Exercise per Week

Lack of physical activity among community members is a major barrier in promoting healthy lifestyles and preventing chronic disease. Consistent exercise has been shown to improve both physical and mental health and is vital to decreasing rates of obesity and cardiovascular problems. Healthy People 2020 advocates for 150 minutes of exercise per week for adults – an average of 30 minutes per day for five days a week. County Health Rankings reports 24% of Warren County residents have no leisure time physical activity. State and national rates fall at

⁴⁵ <https://www.ajpmonline.org/article/S0749-3797%2812%2900167-5/abstract>

⁴⁶ <https://nces.ed.gov/pubs2018/2018466.pdf>

23% and 20% respectively, making Warren County less active on average⁴⁷. From our 2019 community survey data, we found 27.4% of respondents reported no days of exercise per week in the St. Luke's Warren service area. Nearly half (41.7%) of these survey respondents reported exercising more than three days per week (including three to four days and five or more days) (Figure 33). These data show that since there are few people who are exercising consistently, a higher percentage are not living an active lifestyle or participating in enough physical activity to stay healthy. Our survey data also indicate only 14.7% of respondents network-wide are exercising at least five times per week and meet the Healthy People 2020 recommendation.

Days of Exercise Per Week, Warren Trend

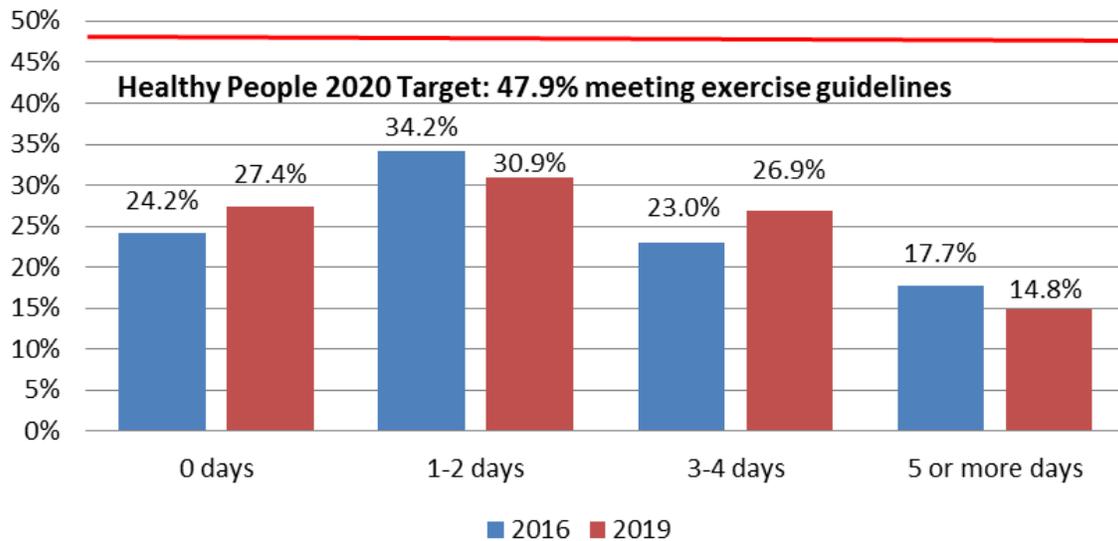


Figure 33

Access to Exercise Opportunities

In order to maintain an active lifestyle, a region must provide ample access to exercise opportunities within the built environment. One of the indicators from County Health Rankings extracts the percentage of individuals in a county who live reasonably close to a location which can be used for physical activity, such as outdoor parks or recreational facilities. According to 2017 data, 98% of Warren County has access to exercise opportunities, compared to the state (95%) and the nation (91%)⁴⁸. Key informants relayed how local government “is trying to focus on revitalizing the community and put new playscapes in the playgrounds to refurbish them. They are hoping that students have a place to safely play, outside their homes where they are living in bad environments due to drugs and mental illness. Phillipsburg used to pride itself on having successful sports programs, but over the years this has diminished. The community is hoping the playgrounds and the renovation of the Firth Youth Center (FYC) sparks an interest in

⁴⁷ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings/>

⁴⁸ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings>

sports once again and brings about a healthier lifestyle for the youth.” It seems to have done so: the FYC has increased its activity offerings, and improvements to local playgrounds have increased the amount of safe exercise opportunities for youth. “Recently, there was an ‘adopt-a-member’ campaign for kids to join the FYC. The cost for a child to have a membership is only \$15, so a lot of teachers have been sponsoring students. Many employees of the Phillipsburg School District supported this campaign and ‘adopted a student,’ giving them access to the FYC all year.”

Obesity

Obesity is a prevalent health issue in our community in particular. High poverty levels, physical inactivity and limited access to healthy foods result in increased levels of obesity. If an individual is obese, they are at a higher risk of developing diabetes, high blood pressure, heart disease, stroke, some cancers, and breathing problems. Rates of adult obesity in Pennsylvania are on the rise. With 51 being the least obese state and one being the most obese, the state is ranked at 36⁴⁹. Recent data show 26% of the state and nation are obese, compared to 28% in the county⁵⁰. In calculating survey respondents’ BMI using their weight and height, we found 41.5% of Warren service area respondents were obese (Figure 34), and an additional 33.0% were overweight. This is higher than state and national levels.

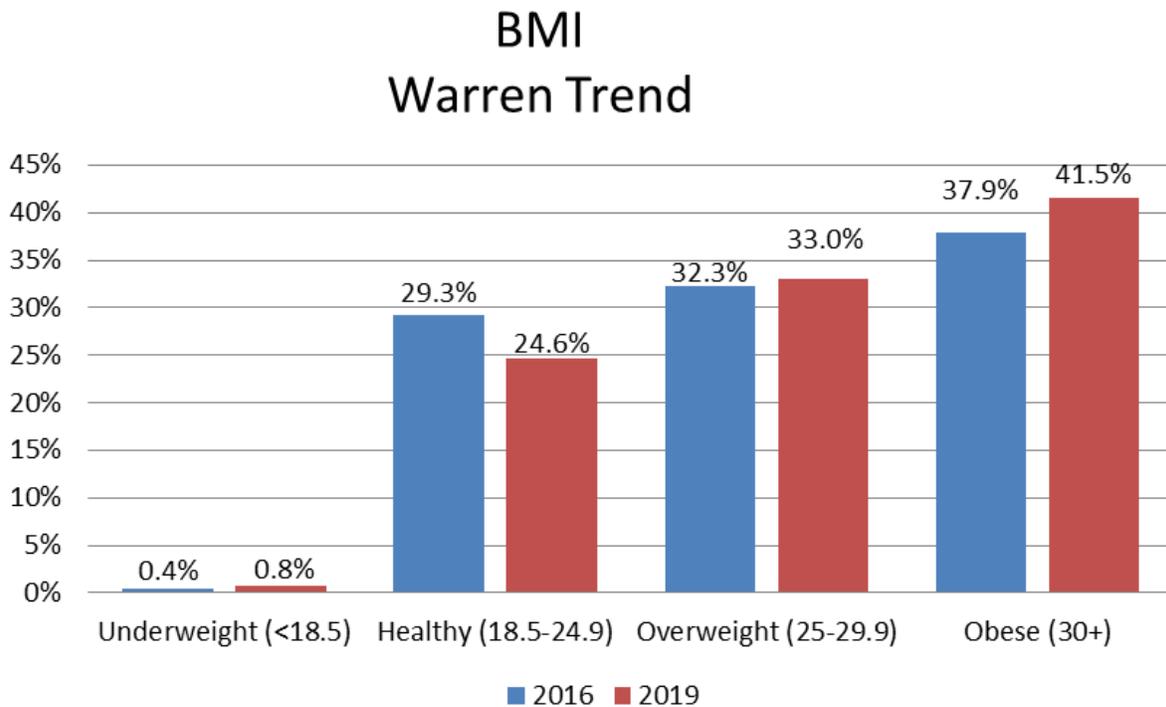


Figure 34

⁴⁹ <https://www.tfah.org/reports/stateofobesity2016>

⁵⁰ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings/>

Results from our 2019 community survey identified several demographic characteristics network-wide that were correlated with a respondent's BMI. When looking at the relationship between income and BMI among all survey respondents, the income category with the highest percentage of respondents who were morbidly obese (having a BMI over 40) earned \$15,000 to \$24,999 per year (13.0%). Conversely, 6.9% respondents who reported having an annual income of \$60,000 or greater were morbidly obese. The income range with the highest percentage of obesity was those earning less than \$25,000 at 47.8%, while the lowest percentage of obesity was 37.9% for those making \$60,000 or more annually (Figure 35). These trends suggest a link between BMI and income level, giving example to how social determinants of health directly affect health outcomes. This connection emphasizes the importance of taking social determinants of health into consideration when making action plans to improve community health. Making connections between social determinants of health and obesity is necessary when developing initiatives to reduce rates of obesity in the region.

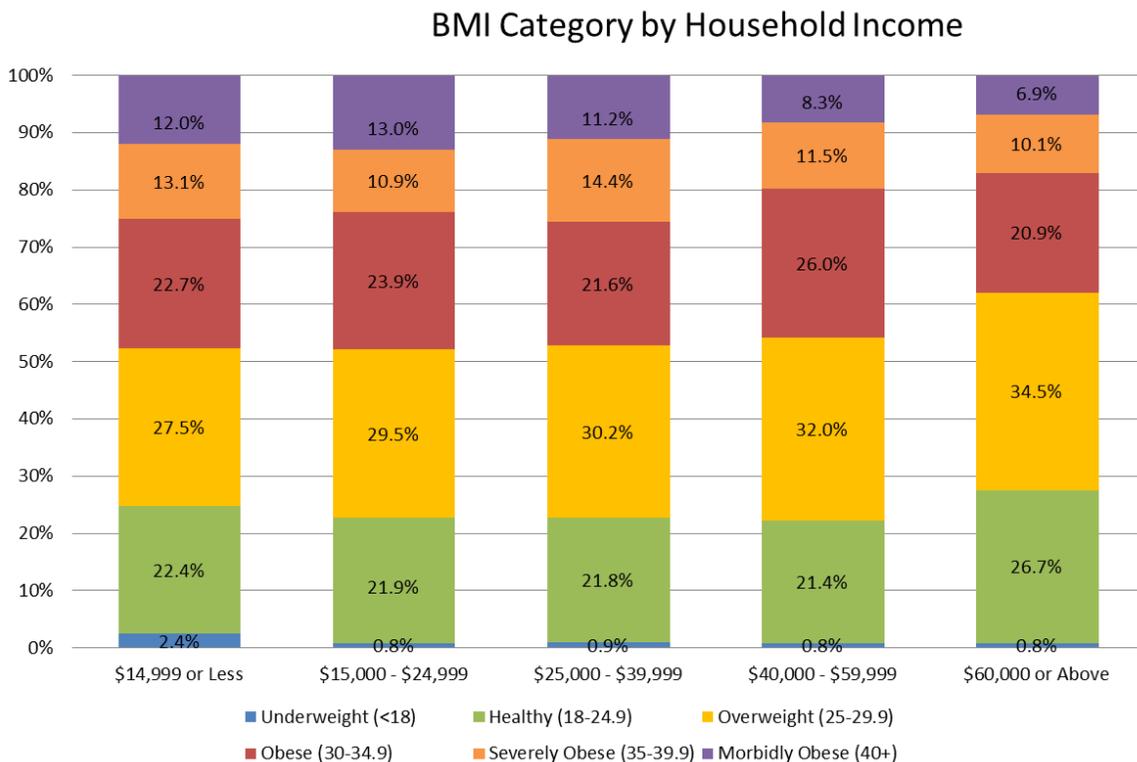


Figure 35

Diabetes

Diabetes lies tantamount to obesity and has become a prevalent health concern in our community. While it has its own set of detriments, having diabetes can also contribute to health issues such as blindness, kidney disease, foot problems, and heart disease. While there are treatments for type II diabetes – such as medications, better diet, and exercise – some individuals with type II diabetes have it permanently. As per the National Diabetes Statistics Report (2017), an estimated 30.3 million people in the United States have diabetes, with 23.8% of those individuals being undiagnosed. What's more, a staggering 33.9% of the adult U.S. population has prediabetes.

In examining rates of obesity, Trust for America’s Health discovered rates of diabetes in the nation almost doubled since the beginning of its studies, moving from 6.1% in 1990 to 11.3% in 2016. At its current pace, however, there may be a projected 1,731,248 cases of diabetes nationwide by 2030 – an increase of 34%⁵¹. New Jersey ranked 38 out of 51 states, with 1 being the most obese and 51 being the least⁵².

Additionally, 2019 survey results indicated that there is an inverse relationship between diabetes prevalence and annual income, as evidenced by the fact that SLUHN service area respondents in the \$14,999 or less (19.3%) and \$15,000 to \$24,999 (21.0%) income categories had higher reported diabetes diagnosis rates than those in the \$60,000 or above income category (12.2%) (Figure 36). Similarly, to BMI, it is important to keep this relationship between social determinants of health and disease status in mind when planning interventions to target diabetes in the community.

Survey Respondent Reported Diabetes Diagnosis by Household Income

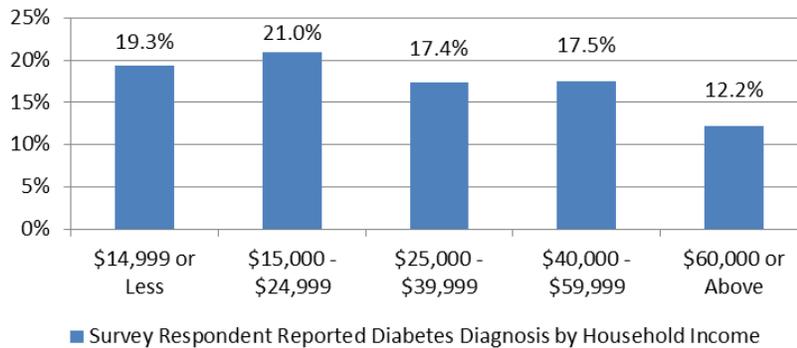


Figure 36

Tobacco Usage

Smoking contributes to illnesses such as cardiovascular disease, cancers, and breathing conditions. In order to promote healthy living, cutting down on tobacco usage within the community is a necessity. According to County Health Rankings, 14% of New Jersey and the nation smoke, but 16% are smokers in Warren County⁵³. For the St. Luke’s Warren service area specifically, 9.8% of adults over the age of 18 reported to our community survey that they currently smoke (Figure 37). This is lower than the Healthy People 2020 goal of having only 12% of adults smoking by 2020; however, efforts at improvement should continue to be made, especially among our vulnerable populations. Survey responses for SLUHN service area indicated that smoking rates are inversely related to annual income level. 26.8% of all respondents reporting incomes of \$14,999 or less reported smoking, compared to 6.5% of those reporting incomes of \$60,000 or above (Figure 38).

⁵¹ <https://www.tfah.org/reports/stateofobesity2016>

⁵² <https://www.tfah.org/reports/stateofobesity2016>

⁵³ <http://www.countyhealthrankings.org/app/newjersey/2018/rankings/>

Survey Respondent Smokers by Campus

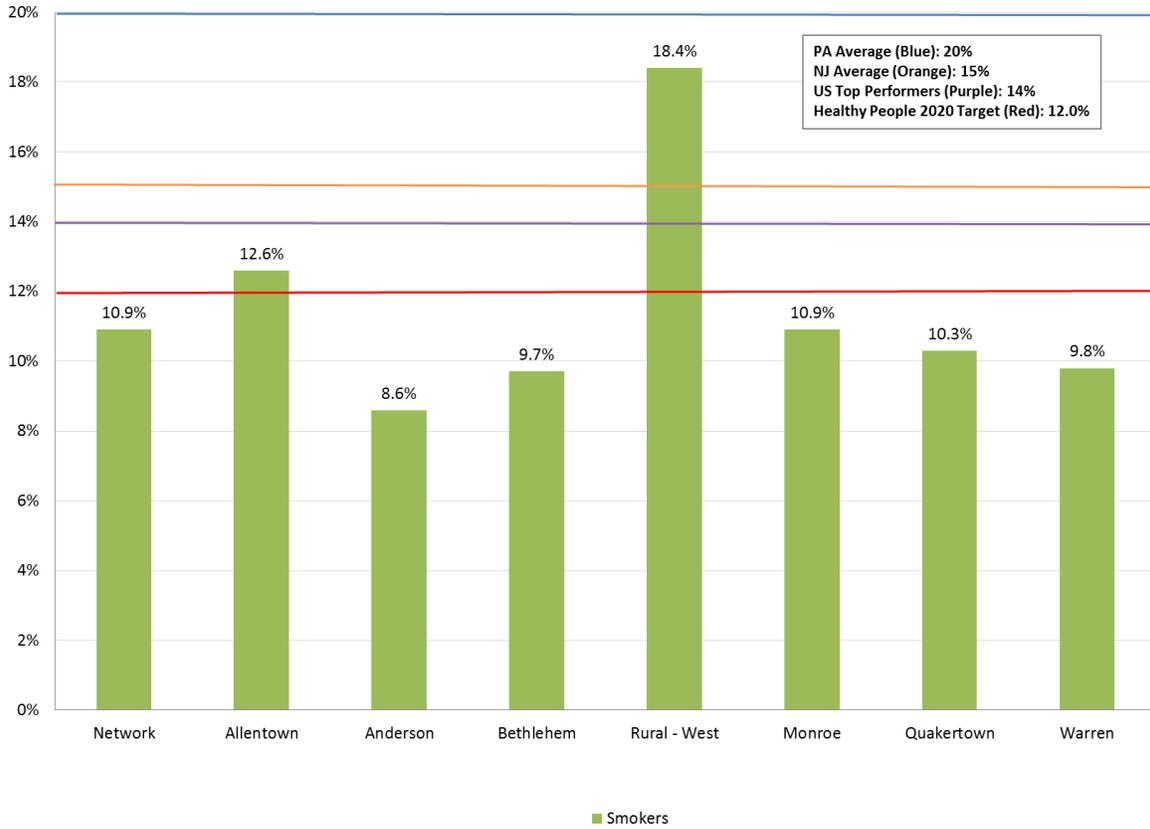


Figure 37

NETWORK
Smokers by Household Income

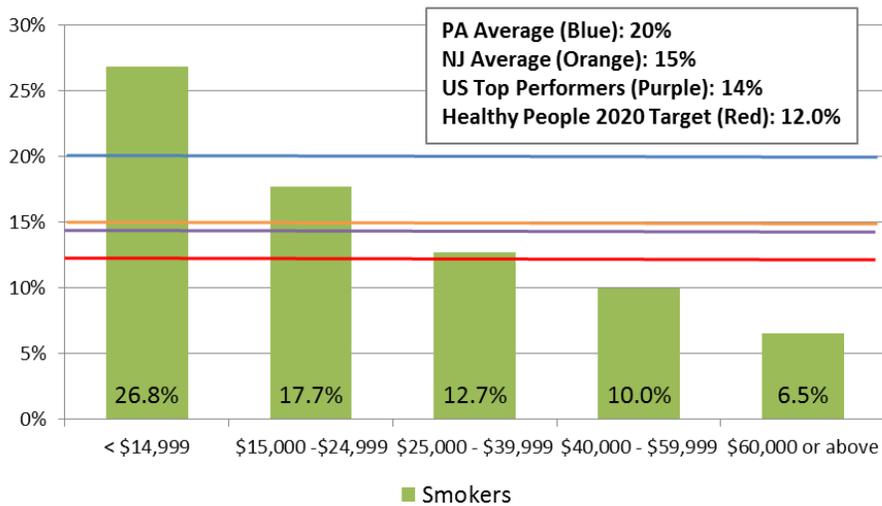


Figure 38

In 2018, Pennsylvania conducted a LGBT Health Needs Assessment, in order to identify the top health needs among LGBT Pennsylvanians. Although New Jersey does not have a similar document, the findings from the PA LGBT Health Needs Assessment may still be applied to New Jersey residents. According to the Pennsylvania LGBT Health Needs Assessment, 30.6% of survey respondents reported being current smokers, which is significantly higher than the 18% average in Pennsylvania, and 10.9% smoking rate reported in our CHNA survey. Additionally, Figure 39 compares the reported use of different tobacco products among LGBT survey respondents and SLUHN CHNA survey respondents.

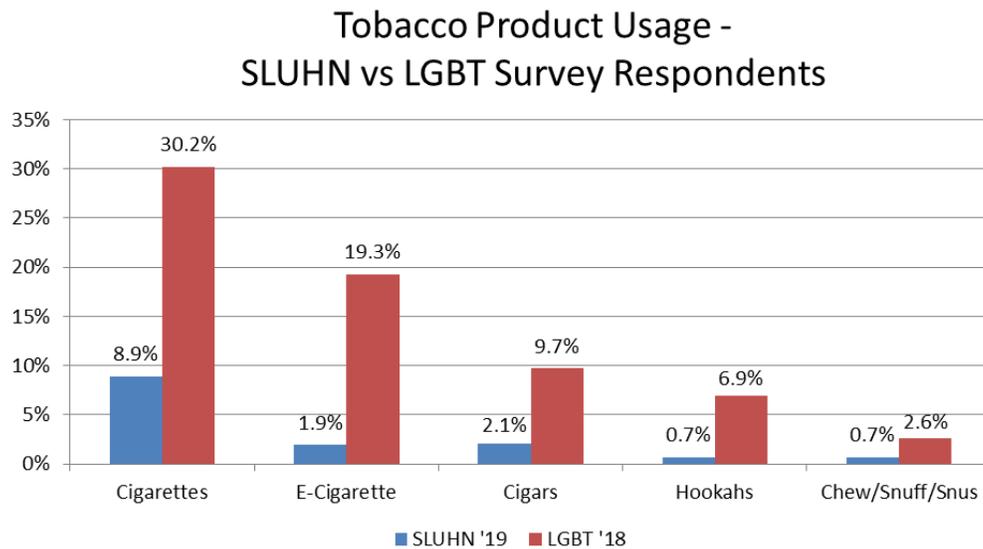


Figure 39

Substance Abuse

It is imperative to discuss excessive drinking and substance abuse disorders, since they are recognized as comorbidities with mental health issues. In many cases, mental health issues go undetected because alcoholism and substance abuse can overshadow mental illness. According to County Health Rankings, 19% of the population in Warren County report excessive drinking compared to 17% in the state and 13% nationally (2018). As shown in our 2019 community survey, 81.0% of St. Luke's Warren service area respondents reported no episodes of binge drinking in the past month. However, 19.4% reported having one or more episodes of binge drinking, and 6.5% had three or more episodes (Figure). Warren respondents reported similar amounts of episodes of binge drinking compared to all Network respondents (Figure 40). When looking at binge drinking by sex among all SLUHN respondents, 83.3% of female respondents reported no episodes of binge drinking, compared to 76.5% of male respondents.

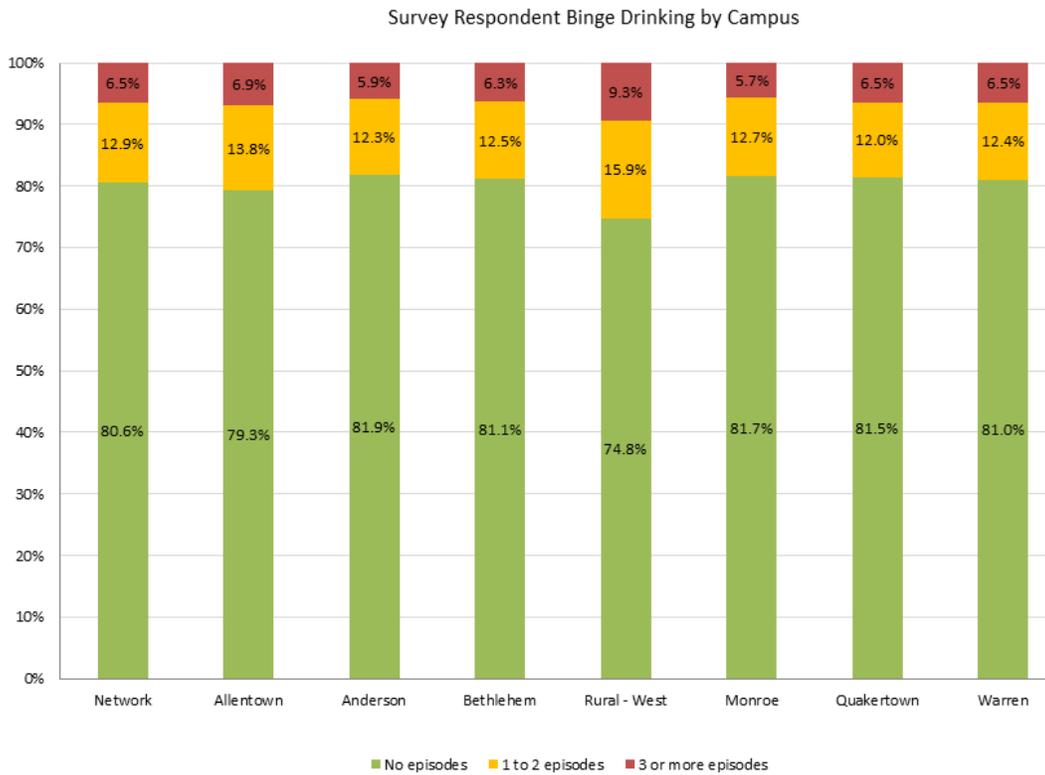


Figure 40

Key informants emphasized the Warren community is facing an influx of mental and behavioral health issues. More and more students are removed from school by their physicians and placed on home instruction because of anxiety and depression. These deficits in mental health may stem from parents who are not dedicating their time to their children, they are dealing with their own mental health issues, and this lack of care leads children to develop their own mental illnesses. Parents and other adults in the community are also seeing a rise in substance abuse disorders, particularly with opiates, and there is an inadequate amount of mental and behavioral health services for all ages. One respondent noted an increase of severe behavioral problems in children aged three to five, including “spitting, throwing chairs, [and] knocking over desks. The parents are not always engaging in the behavior plans for these children because of their mistrust for community organizations, either because [the families] are undocumented or are afraid they will lose their child to Children and Youth. Sometimes these behaviors are bad, but they do not qualify the child for other supportive services, so parents, schools and organizations are hard-pressed to help the child and family.” Only 57% of respondents agreed that “people have access to good quality care for substance use disorders” in the Community Voice Survey for Warren County.

*Please see the Substance Abuse Addendum included at the end of this assessment.

Child and Adolescent Health

According to the County Health Rankings produced by the Robert Wood Johnson Foundation, Warren County has 11% of children living below the poverty line. This is lower than the state

average of 15%. Childhood poverty is not distributed evenly throughout the county, with much of it existing in and around Phillipsburg (Figure 41). In fact, the median household income in the highest income census tract we serve, Warren County 321.02 in Greenwich Township, is over three times greater than the median income in the lowest income census tract, Warren County 309 in southern Phillipsburg. The range of median income in all census tracts we serve is bookended by these two tracts, stretching from \$109,674 a year to \$35,481 a year. This disparity means that public health interventions need to be targeted to prioritize our lower income neighborhoods.

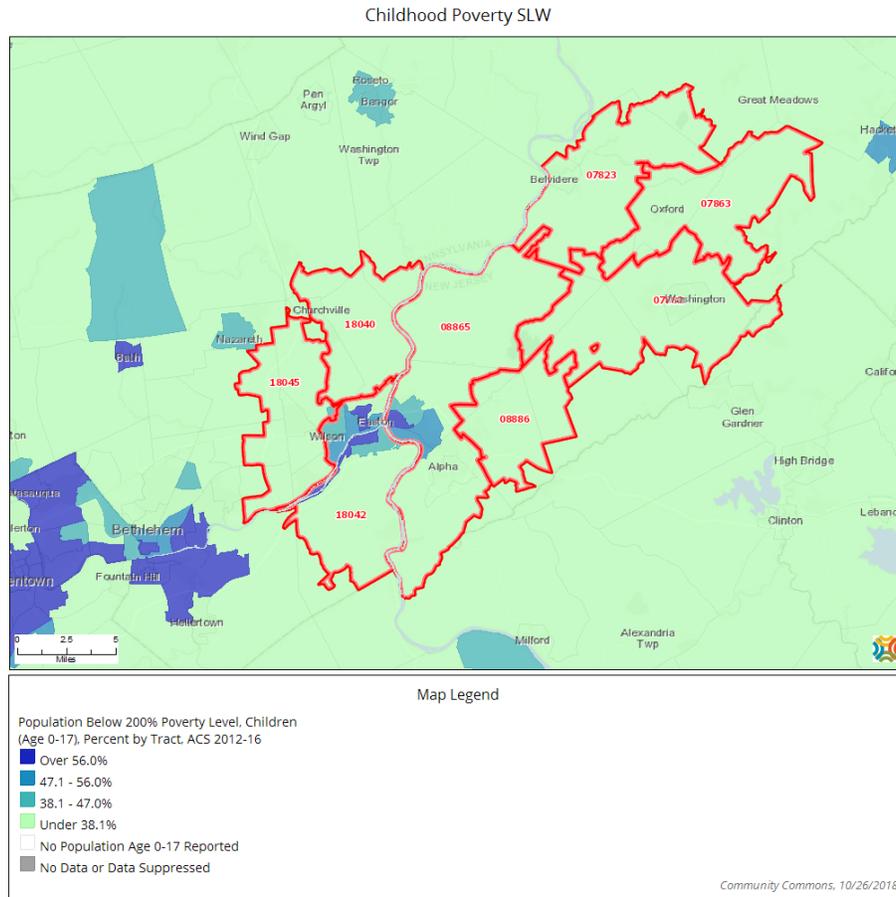


Figure 41

3.7% of children are uninsured in Warren County. This is lower than the state average of 4.5% but lower than the national average of 5.9%⁵⁴. Warren County has a teen birth rate of 14.8 teenage mothers per every 1,000 teenage women⁵⁵. This is much lower than the state and national averages of 21.6 and 36.6 respectively. There is an infant mortality rate of 5 per every 1,000 births. This is less than the state average of 5.2% and the national average of 6.5 per every 1,000. 7.9% of all babies are born considered low birth weight, according to the CDC. This is less than the state average of 8.4% and the national average of 8.2%. Low birth weight infants are most often caused by being born prematurely. While not necessarily indicative of an

⁵⁴ <https://factfinder.census.gov/>

⁵⁵ <https://wonder.cdc.gov/>

unhealthy infant, being born low weight can be accompanied by many serious health problems including infection, nervous system problems, trouble feeding, immature lungs, developmental delay, and even death⁵⁶. As such, low birth weight rates are an important metric of childhood community health.

According to Child Abuse and Neglect in NJ Statistical Report, Warren County ranked in New Jersey's top seven counties for highest rates of child abuse and neglect. 6.4% of these cases were of a sexual nature – higher than the state average of 5.6%.

According to the 2017 New Jersey Suicide Report⁵⁷, suicide rates per 100,000 in New Jersey for 10-24 year olds are at 5.5 in comparison to the national rate of 9.2. An alarming national trend is that suicide rates among 10-18 year old is increasing from 1.9 in 2007 to 3.3 in 2015 per 100,000. In New Jersey rates are highest among Asian/Pacific Islanders (6.1), White Non-Hispanic (5.7) and Black Non-Hispanic (5.6) populations. Rates in these sub populations are higher than that for New Jersey overall. Additionally the five counties in the North West region of the state (Morris, Somerset, Sussex, Hunterdon and Warren) have the highest rates of suicide averaging 7.5 per 100,000 among 10-24 year olds between 2013 and 2015.

There are four Head Start Programs throughout Warren County. 4.93 out of every 10,000 children under the age of five are enrolled in a program throughout the county. This is higher than the state rate of 3.18 per 10,000 but lower than the national rate of 7.18. 48.33% of Warren County's 4th graders scored "not proficient" or worse on New Jersey's standardize testing for language arts. This is roughly equal to the state's average and 3% higher than the national average. This is an important metric because an inability to read English proficiently is well linked to higher rates of poverty, unemployment, and barriers to healthcare access.

The Phillipsburg School District reports having 32 students have experienced homelessness this year. Students experiencing homelessness have complex needs and additional challenges that the district isn't always equipped to deal with. Homelessness can impact mental and physical health, school performance, behavior, and attendance.

Women, Infants, and Children (WIC), a program through the USDA's Food and Nutrition Services (FNS) offers supplemental food, healthcare referrals, and nutrition education to pregnant women through when their children turn five years of age. State-level data show that in 2016 New Jersey had a participation rate of 35,540 infants. 4,315 of them were fully breastfeeding and an additional 11,033 were partially breastfeeding. This amounts to 43.2% of all infants being breastfed. 31.7% of all infants are breastfed nationally. Unless there are medical reasons to abstain, FNS strongly encourages all mothers participating in WIC to breastfeed their children. Breastfeeding is shown to provide essential nutrients to infants and lower their risk for some common childhood infections and diseases⁵⁸.

⁵⁶ <https://www.urmc.rochester.edu/encyclopedia/content.aspx?contenttypeid=90&contentid=p02382>

⁵⁷ <https://www.nj.gov/dcf/news/reportsnewsletters/dcfreportsnewsletters/New%20Jersey%20Youth%20Suicide%20Report%202017.pdf>

⁵⁸ <https://www.nichd.nih.gov/health/topics/breastfeeding/conditioninfo/benefits>

Health behaviors in childhood and adolescent years tend to carry over into adulthood. If we can identify what risky health behaviors are prevalent among youths, we can target these behaviors and determine how to reduce their frequency. Early exposure to alcohol is one of the strongest known links to alcohol abuse later in life⁵⁹. While there still remains debate over the physiological effects of alcohol on adolescent development, there is some theoretical and empirical evidence that suggests that alcohol usage can have detrimental impacts on neurologic and endocrine development⁶⁰. There is, however, stronger evidence to conclude that alcohol usage at younger ages is associated with poorer performance in school and riskier sexual behavior⁶¹. CHNA survey data indicate that the young adult (18-24 year old) age group reported the highest amounts of binge drinking, with nearly 18% of all respondents reporting 3 or more episodes of binge drinking in the past 30 days (Figure 42).

Binge Drinking by Age Category - 3 or more episodes

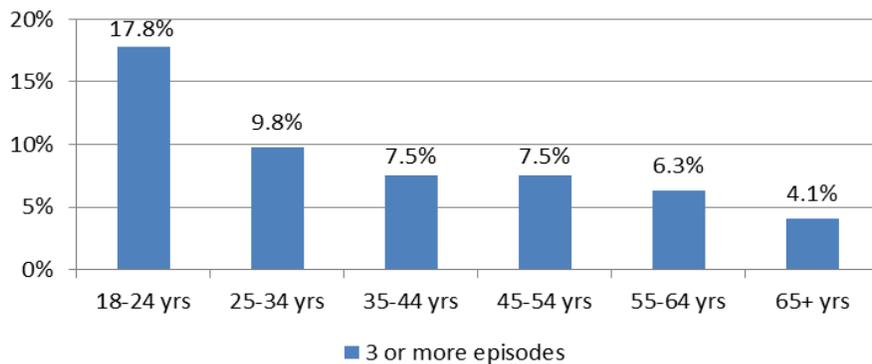


Figure 42

Another established risky behavior in adulthood and adolescence is cigarette smoking. Cigarette smoking causes nearly half a million deaths every year in the United States in the form of its influence on cases of lung cancer, COPD, stroke, and heart disease⁶². It is important to reduce the rates of young people smoking because, according to the World Health Organization, “most young people who smoke regularly will continue to smoke through adulthood”, compounding and exacerbating the short-term effects of cigarette smoking into even more fatal long-term consequences. Similar to binge drinking, CHNA survey data indicate that reported smoking rates decrease with age, with the 18-24 age group having the highest rate and the 65+ age group having the lowest rate (Figure 43).

⁵⁹ <https://pubs.niaaa.nih.gov/publications/arh26-4/287-291.htm>

⁶⁰ <https://pubs.niaaa.nih.gov/publications/arh26-4/287-291.htm>

⁶¹ <https://pubs.niaaa.nih.gov/publications/AA67/AA67.htm>

⁶² https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm

Smoking by Age Category

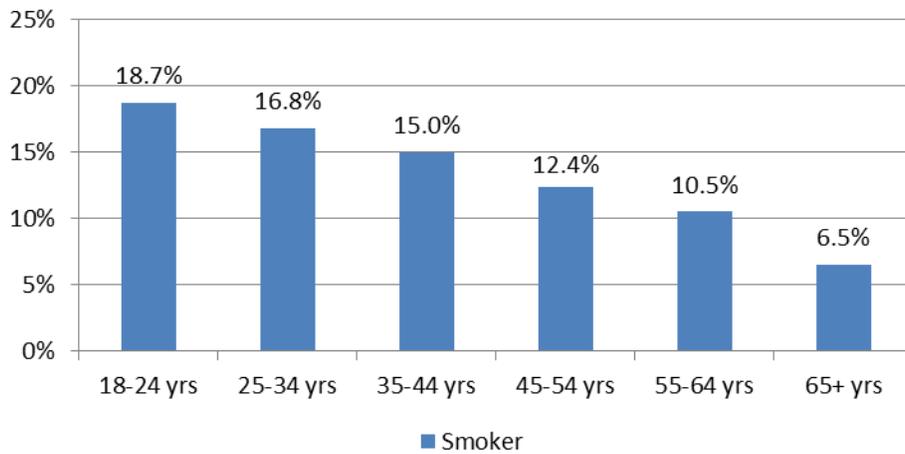


Figure 43

An emerging trend is youth substituting traditional cigarettes for electronic-vapor products including e-cigarettes, e-cigars, vape pipes, vape pens, e-hookah, and hookah-pens. From 2011 to 2015 there was 900% increase in the usage of e-cigarettes among high school students nationally⁶³. In 2016 the Surgeon General declared youth usage of vapor products to be a significant public health concern. While the exact chemicals in the vapor vary greatly between products and brand, many have nicotine, known to impact brain development, and other detectable toxic and cancer-causing chemicals⁶⁴. This reported utilization of electronic vapor products among young adults is also seen in the CHNA survey responses. Figure 44 depicts reported tobacco product usage by age group, and it is evident that the highest rates of electronic vapor products are among the younger age groups.

E-Cigarette/Vape by Age Category

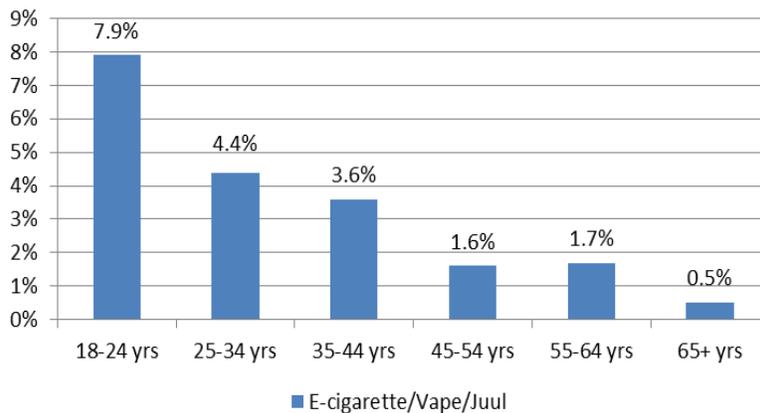


Figure 44

⁶³ U.S. Department of Health and Human Services. E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General. 2016
⁶⁴ <https://www.lung.org/stop-smoking/smoking-facts/e-cigarettes-and-lung-health.html#sources>

Senior Health

As of the 2017, Warren County had 17,563 seniors (65+) living in its municipalities. This is 16.6% of the total population. Senior healthcare is an important aspect of the services we offer.

Currently there are 19,774 people in Warren County insured through Medicare, 17,296 of whom are 65 years of age or older. Only 1.5% of the senior population isn't insured through Medicare. Because of the considerable overlap between our senior population and our Medicare population, we'll use Center for Medicare and Medicaid Services data as a proxy for senior data.

In Warren County, 16.1% of our Medicare population reports being depressed. This is higher than the state average of 14.3%, but lower than the national average of 16.7%. 34.47% of our Medicare population has heart disease. This is higher than the state average of 32.79% and the national average of 26.46% (Figure 45).

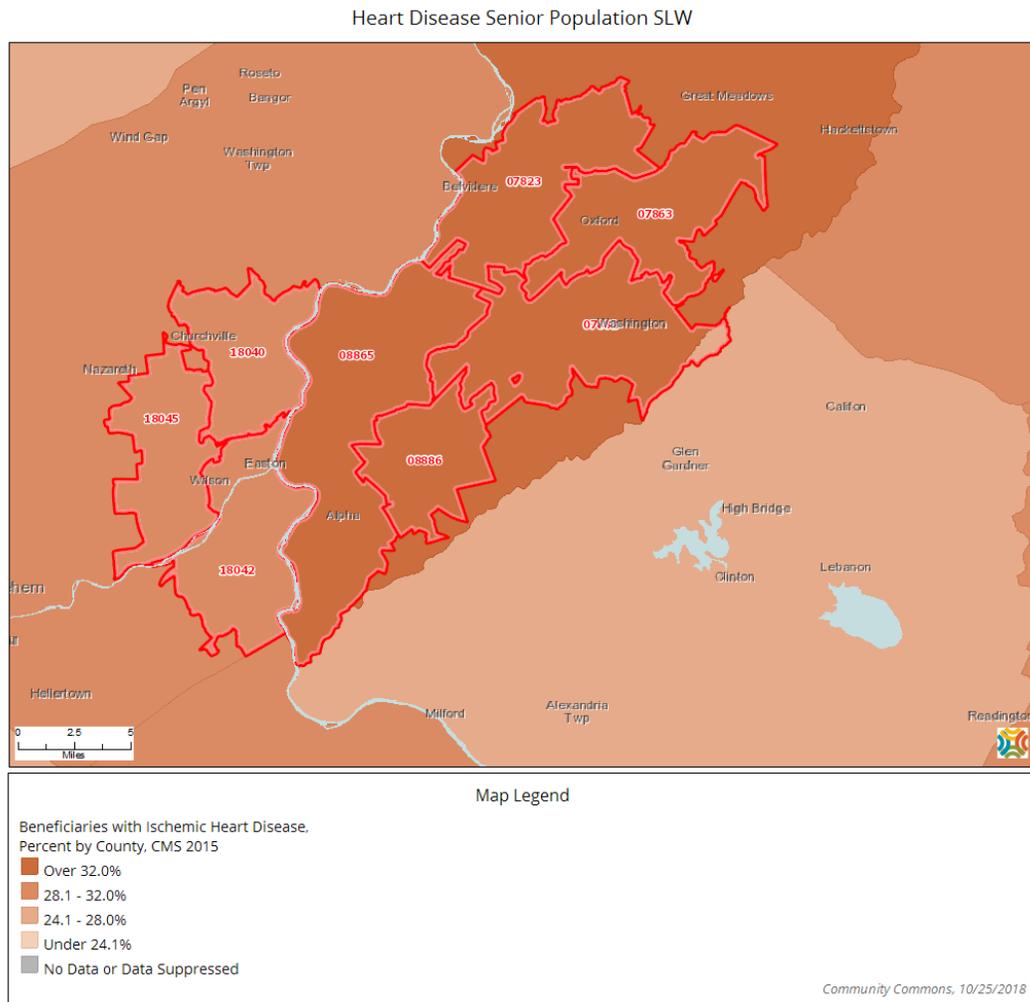


Figure 45

Another health outcome of concern is diabetes. 29.7% of the Medicare population in Warren County has diabetes. This is lower than the 31.89% state average and 26.55% national average. Type II Diabetes, the most common form, is caused by a combination of genetics and lifestyle

factors like physical activity levels and body weight⁶⁵. As risk factors to contracting diabetes, and important components in managing it, physical activity and diet are vital public health concerns. According to the USDA’s Food Access Resource Atlas, multiple census tracts that send patients to our Warren Campus have rates of limited food access for seniors over 50%. In Warren County tract 324, 88.71% of the seniors are considered to have low access to food. This means a higher reliance on less healthy processed foods. High blood pressure, Alzheimer’s, high blood cholesterol, and cancer are also found at high rates in Warren County (Figure 46).

	Warren County	NJ	US
High Blood Pressure	60.96%	61.37%	54.99%
Alzheimer’s	10.70%	12.30%	11.3%
High Cholesterol	52.01%	54.05%	44.61%
Cancer	10.4%	10.30%	8.9%

Figure 46

According to America’s Health Rankings 2018 Senior Report, through the United Health Foundation, New Jersey ranks 23rd out of the nation’s 50 states in overall senior health. The states are assessed according to senior “behaviors”, “community and environment”, “policy”, “clinical care”, and “health outcomes”. New Jersey scored best, 12th overall, in the policy section. It scored worst, 35th overall, in clinical care. Policy factors include things like the number of geriatricians in the state, prescription drug coverage (Figure 47), and percentage of the state’s senior population on SNAP. Clinical care looks at things like diabetes management, flu vaccination, and home health care.

Prescription Drug Coverage by State

Percentage of Medicare enrollees aged 65 and older who have a creditable prescription drug plan

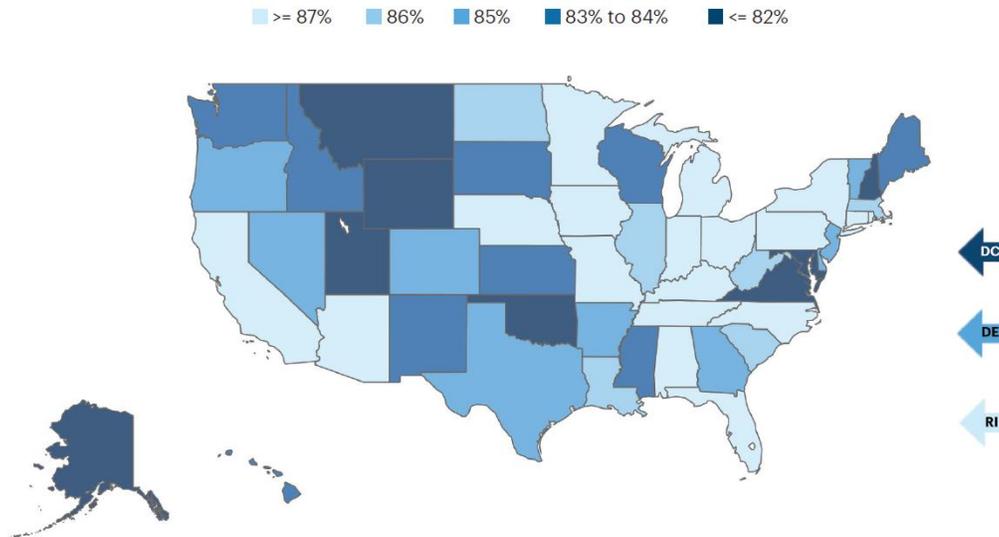


Figure 47

⁶⁵ <https://www.niddk.nih.gov/health-information/diabetes/overview/symptoms-causes>

According to CDC data, New Jersey ranked 2nd out of the states for deaths related to senior falls. Falling is a major concern for senior populations. Over 25% of seniors nationally report falling each year leading to approximately 3 million emergency room visits⁶⁶. In 2016 nearly 30,000 seniors died from falling, a number that steadily increased by 3% annually during the preceding decade⁶⁷. The Mayo Clinic advises senior populations to remove hazards from common walkways, maintain physical activity levels, and consult with their doctors to reduce the risk of fall-related injuries and death. According to 2019 CHNA survey data, 19.5% of Warren respondents age 45 years or older reported at falling at least one time in the past 12 months. The average number of falls among Warren respondents age 45 years or older was 2.21, with an average of 1.70 resulting in injury. These are slightly better than the Network respondent numbers, where 22.0% of respondents age 45 years or older reported falling at least one time in the past 12 months, with an average of 2.63 falls, and an average of 1.51 resulting in injury.

Another health issue particularly salient for senior populations is polypharmacy. While there is no exact definition, it has been categorized by the use of five or more drugs simultaneously, or the unnecessary prescription of drugs⁶⁸. Senior populations, particularly in nursing home facilities, are vulnerable to this type of over prescription. Multiple studies have found that it is common for up to half the population of nursing homes to be on nine drugs simultaneously⁶⁹. This has become increasingly prevalent lately due, in part, to more available drugs and patients having multiple diseases at once. Economic considerations aside, there are serious clinical consequences to polypharmacy. Due to the interplay between different drugs, increased prescription is shown to lead to drastic increases in adverse drug events. Non-adherence is another concern due to the complicated scheduling that can result from taking multiple drugs daily⁷⁰.

The AARP promotes some core principles for age-friendly communities. Some of their recommendations include: ensuring access to the built environment by making public spaces and homes accommodating for seniors, ensuring access to community based long term supports and services (LTSS) through CMS, and keeping older residents active through volunteer and community based arts programs. Keeping seniors active and socially engaged has long-term benefits to their health and the community in general⁷¹.

Health Outcomes

Mortality and Morbidity

When thinking about Health Outcomes it is important to examine mortality and morbidity rates. According to the 2018 National Vital Statistics Report, across the nation a total of 2,744,248 resident deaths were registered in the United States, yielding an age-adjusted death rate of 728.8

⁶⁶ https://www.cdc.gov/mmwr/volumes/67/wr/mm6718a1.htm#F2_down

⁶⁷ https://www.cdc.gov/mmwr/volumes/67/wr/mm6718a1.htm#F2_down

⁶⁸ [https://www.jamda.com/article/S1525-8610\(15\)00477-6/abstract](https://www.jamda.com/article/S1525-8610(15)00477-6/abstract)

⁶⁹ [https://www.jamda.com/article/S1525-8610\(15\)00477-6/abstract](https://www.jamda.com/article/S1525-8610(15)00477-6/abstract)

⁷⁰ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3864987/>

⁷¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4889622/>

deaths per 100,000 U.S. standard population, accounting for the aging of the population. When broken down further we see that the age-adjusted rate was 155.8 per 100,000 for malignant neoplasms, 165.5 per 100,000 for diseases of the heart and 47.4 per 100,000 for accidents/unintentional injuries.

Additionally, life expectancy at birth was 78.6 years. And the 10 leading causes of death in 2016 were:

1. Diseases of heart (heart disease)
2. Malignant neoplasms (cancer)
3. Accidents (unintentional injuries)
4. Chronic lower respiratory diseases
5. Cerebrovascular diseases (stroke)
6. Alzheimer's disease
7. Diabetes mellitus (diabetes)
8. Influenza and pneumonia
9. Nephritis, nephrotic syndrome and nephrosis (kidney disease)
10. Intentional self-harm (suicide)

In Pennsylvania, a total of 133,040 resident deaths were registered, yielding an age-adjusted death rate of 770.1 deaths per 100,000. When delving further into the Pennsylvania data, we see that the age-adjusted rate was 164.7 per 100,000 for malignant neoplasms, 176.2 per 100,000 for diseases of the heart and 61.8 per 100,000 for accidents/unintentional injuries. Death rates overall, as well as for the top three leading causes of death, are significantly higher in Pennsylvania when compared to the national rates.

In New Jersey, a total of 73,155 resident deaths were registered, yielding an age-adjusted death rate of 668.5 deaths per 100,000. When delving further into the New Jersey data, we see that the age-adjusted rate was 149.7 per 100,000 for malignant neoplasms, 164.7 per 100,000 for diseases of the heart and 40.8 per 100,000 for accidents/unintentional injuries. Death rates overall, as well as for the top three leading causes of death, are significantly lower in New Jersey when compared to Pennsylvania and national rates.

Overall America's Health Rankings, places Pennsylvania at 28th in the nation for 35 different health measures in 2017, citing high levels of air pollution, high drug death rates and low per capita public health funding as being primary challenges. Highlights include:

- In the past year, air pollution decreased 8% from 11.0 to 10.1 micrograms of fine particles per cubic meter
- In the past two years, excessive drinking increased 16% from 17.7% to 20.5% of adults
- In the past five years, diabetes increased 19% from 9.5% to 11.3% of adults
- In the past seven years, infant mortality decreased 20% from 7.5 to 6.0 deaths per 1,000 live births
- In the past 10 years, drug deaths increased 80% from 12.3 to 22.2 deaths per 100,000 population

Whereas America's Health Rankings, places New Jersey at 12th in the nation for 35 different health measures in 2017, citing a high prevalence of physical inactivity, large disparity in health status by educational attainment and low per capita public health funding as challenges.

Highlights include:

- In the past two years, chlamydia increased 10% from 319.6 to 350.6 cases per 100,000 population
- In the past five years, physical inactivity increased 13% from 26.4% to 29.8% of adults
- In the past seven years, premature death decreased 5% from 6,152 to 5,875 years lost before age 75 per 100,000 population
- In the past 10 years, drug deaths increased 83% from 8.1 to 14.8 deaths per 100,000 population
- In the past 15 years, violent crime decreased 36% from 384 to 245 offenses per 100,000 population

Perceptions of Health

It is important to assess a community's perceived sense of health status to interpret their overall wellbeing, as well as highlight areas where health education would benefit the community. According to our 2019 community survey, most individuals in the St. Luke's Warren service area reported very good or excellent health, followed by good health, and then by poor or very poor health. This pattern is similar network-wide, with 93.0% of respondents rating their health as good or better (Figure 48).

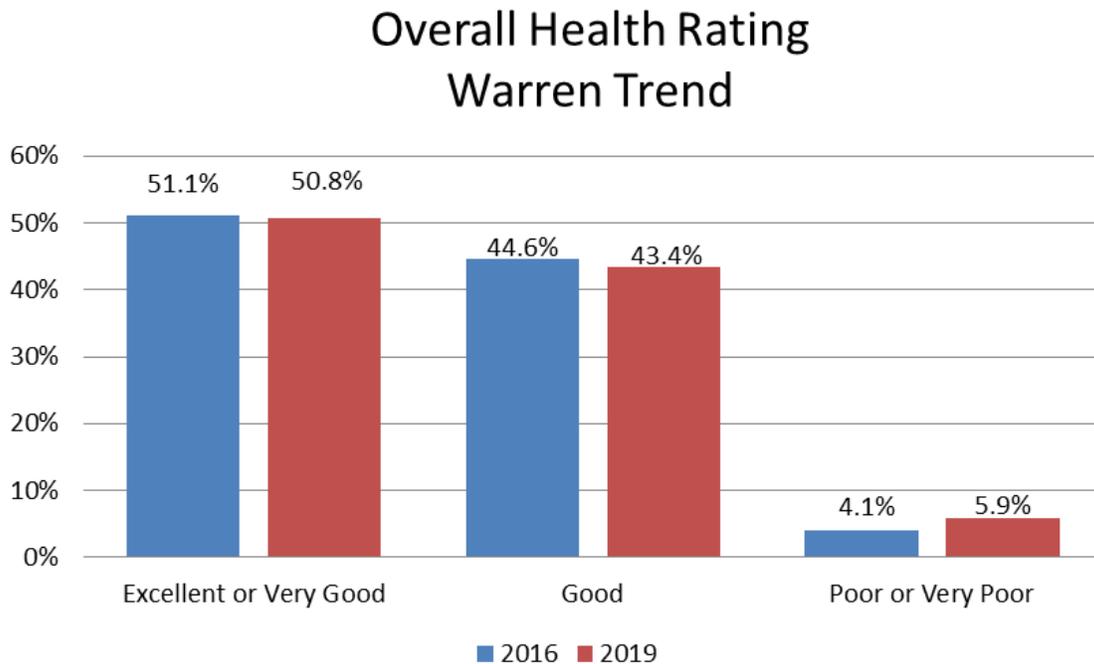


Figure 48

Chronic Health Problems

Upon examining self-perceptions of health, it is important to look at the prevalence of specific health conditions to assess the health status and needs of the community. Our 2019 survey results conveyed that the highest percentage of patients in the St. Luke's Warren service area reported having high blood pressure at 43.2%, followed by 30.9% with high cholesterol and 22.6% with arthritis or rheumatic disease (Figure 49). According to the ACS, 12.43% of individuals in the Warren service area have a disability, compared to 12.52% nationally and 10.41% statewide.

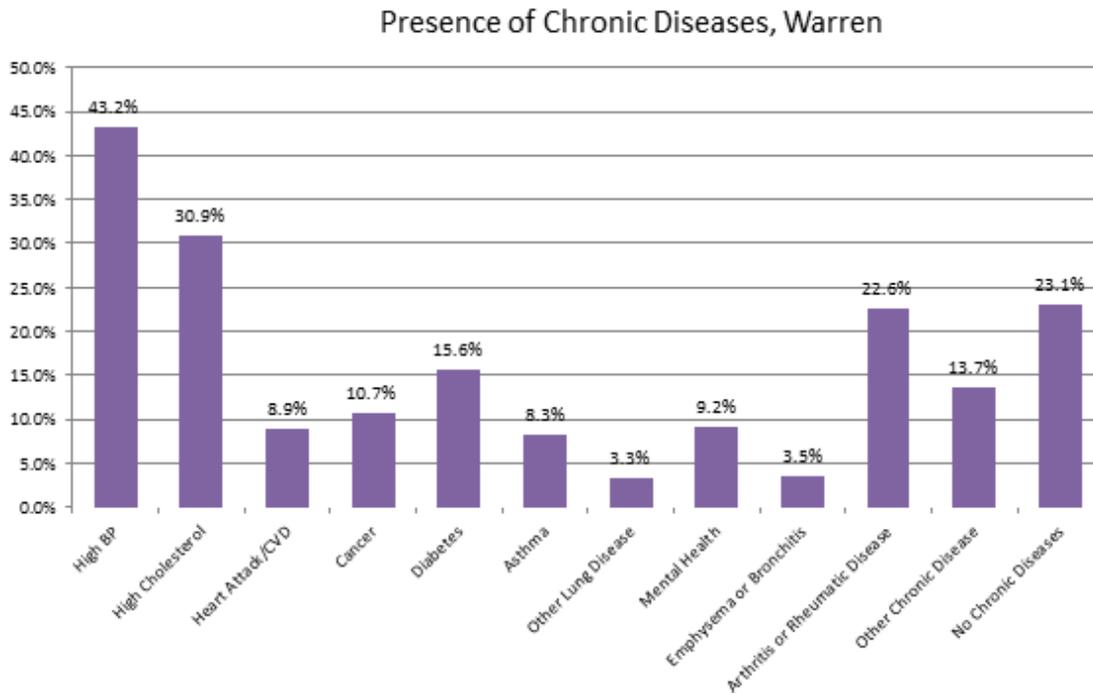


Figure 49

Cancer

When looking at cancer statistics for the SLUHN service area, it is evident that cancer is a significant health concern across all populations. However, there are specific groups within our service area that are of particular concern.

Figure 50 examines cancer incidence rates by age and indicates that all counties, as well as both states, and the U.S. as a whole followed the trend that increasing age was associated with much higher cancer incidence rates. When looking specifically at counties in our service area, 27 (96%) of the 28 counties and age groups were worse than the national incidence rate, and 21 of those 27 (78%) were worse than both the U.S. and their respective state⁷². Warren County was worse than state and national levels across all age groups, with the exception of the <65 age group, which was between state and national levels.

⁷² <https://www.statecancerprofiles.cancer.gov/incidencerates/>

Cancer Incidence Rate by Age and County (Per 100,000 population) National Cancer Institute State Cancer Profiles, 2011-2015					
Location	All Ages	Age <50	Age 50+	Age <65	Age 65+
United States	441.2	102.8	1331.3	222.8	1951.0
New Jersey	477.5	109.4	1441.4	235.8	2148.5
Warren	497.8	110.9	1511.1	235.1	2313.5
Pennsylvania	481.7	116.7	1441.9	247.4	2101.4
Bucks	488.2	118.1	1461.1	247.7	2150.6
Carbon	477.0	107.0	1451.0	233.1	2162.8
Lehigh	492.2	118.5	1474.3	248.4	2177.8
Monroe	472.7	99.6	1453.5	227.0	2171.2
Northampton	516.4	121.7	1555.0	256.1	2316.1
Schuylkill	489.2	115.1	1474.0	246.9	2164.5
Key					
Better than both state and national levels		Between state and national levels		Worse than both state and national levels	

Source: National Cancer Institute, State Cancer Profiles 2011-2015

Figure 50

Similarly, when comparing cancer incidence between males and females, it is evident that males have a much higher incidence rate than females in both Pennsylvania and New Jersey, as well as in the U.S. in general, as seen in Figure 51. Both sexes in Warren County had cancer incidence rates that were above both state and national rates⁷³.

Cancer Incidence Rate by Sex and County (Per 100,000 population) National Cancer Institute State Cancer Profiles, 2011-2015			
Location	All Sexes	Females	Males
United States	481.7	412.5	483.8
New Jersey	477.5	447.6	525.2
Warren	497.8	475.1	532.9
Pennsylvania	418.7	455.2	524.3
Bucks	488.2	457.7	532.4
Carbon	477.0	458.3	508.9
Lehigh	492.2	458.6	544.5
Monroe	472.7	437.4	515.6
Northampton	516.4	472.0	583.2
Schuylkill	489.2	459.4	538.9
Key			
Better than both state and national levels		Between state and national levels	Worse than both state and national levels

Source: National Cancer Institute, State Cancer Profiles 2011-2015

Figure 51

When looking at cancer incidence rates by race, it is apparent that cancer rates in our region are higher than state and national levels among all races; however, this is especially true among the White population, which has higher rates of cancer incidence than the White population in the

⁷³ <https://www.statecancerprofiles.cancer.gov/incidencerates/>

United States as a whole (475.9 and 488.0 versus 442.8, respectively) (Figure 52). Furthermore, the White population in Warren County had higher rates of cancer incidence than both state and national rates⁷⁴.

The cancer incidence rate in Warren County among all racial groups were above state and national levels, with the exception of the Black population, whose incidence rate was below state and national levels⁷⁵.

Cancer Incidence Rate by Race/Ethnicity and County (Per 100,000 population) National Cancer Institute State Cancer Profiles, 2011-2015						
Location	All Races	White (Includes Hispanic)	Black (Includes Hispanic)	American Indian/Native Alaskan	Asian/Pacific Islander	Hispanic (Any Race)
United States	441.2	442.8	447.9	283.0	285.4	340.9
New Jersey	477.5	488.0	441.5	**	263.4	385.6
Warren	497.8	495.6	408.9	**	303.7	498.3
Pennsylvania	481.7	475.9	492.7	159.4	270.8	353.5
Bucks	488.2	482.2	427.4	**	242.4	278.6
Carbon	477.0	470.8	366.1	**	**	**
Lehigh	492.2	481.9	484.5	**	292.7	398.5
Monroe	472.7	477.5	370.9	**	165.4	323.5
Northampton	516.4	511.7	473.2	**	292.4	446.1
Schuylkill	489.2	485.6	432.2	**	387.6	245.3
Key	** Data suppressed due to small sample size					
	Better than both state and national levels		Between state and national levels		Worse than both state and national levels	

Figure 52

Figure 53 shows cancer incidence and mortality rates in our counties and compares them to state and national levels. The table indicates that lung and colorectal cancers are significant issues in the SLUHN service area, since no counties had incidence rates that were lower than both state and national levels. Warren County’s lung and colorectal cancer incidence rates were worse than state and national levels⁷⁶. Furthermore, breast cancer is also a significant issue in our service area, since only two counties have rates that are better than state and national levels. Warren County’s breast cancer incidence rate was between state and national levels⁷⁷.

According to the U.S. Department of Health and Human Services, Healthy People provides science-based, 10 year national objectives for improving the health of all Americans. In addition to county, state and national comparisons, cervical cancer incidence and colorectal cancer screening both have a Healthy People 2020 comparison. Warren County’s cervical cancer incidence rate (6.6 per 100,000) was well below state (7.9 per 100,000) and national (7.62) levels, as well as the Healthy People 2020 target (7.1 per 100,000)⁷⁸.

⁷⁴ <https://www.statecancerprofiles.cancer.gov/incidencerates>

⁷⁵ <https://www.statecancerprofiles.cancer.gov/incidencerates/>

⁷⁶ <https://www.statecancerprofiles.cancer.gov/incidencerates>

⁷⁷ <https://www.statecancerprofiles.cancer.gov/incidencerates>

⁷⁸ <https://www.statecancerprofiles.cancer.gov/incidencerates/>

2018	United States	Pennsylvania (PA)	Bucks (BU) County, PA	Carbon (CR) County, PA	Lehigh (LH) County, PA	Monroe (MO) County, PA	Northampton (NO) County, PA	Schuylkill (SC) County, PA	New Jersey (NJ)	Warren (WA) County, NJ	
Breast Cancer Incidence ¹	123.5	129.8	137.3	125.1	124.2	123.5	137.3	114.2	132	129.7	
Cervical Cancer Incidence ²	7.62	7.6	5.3	No Data	8.5	9.3	6.5	10.8	7.9	6.6	
Colorectal Cancer Incidence ¹	39.8	43.1	39.6	41.7	42.7	40.4	41.1	51.2	42.3	43.3	
Lung Cancer Incidence ¹	61.2	65.4	61.9	67.4	63.1	73.0	64.5	68.0	57.8	64.9	
Prostate Cancer Incidence ¹	114.8	117.5	120.8	111.6	124.3	109.2	141.6	94.2	139.4	135.4	
Cancer Mortality ³	160.9	169.48	157.3	189.9	159.6	178.4	164.5	190.9	154.54	169.8	
Sources											
1. State Cancer Profiles, 2010-14											
2. State Cancer Profiles, 2009-13											
3. Centers for Disease Control and Prevention, National Vital Statistics Program, Accessed via CDC WONDER, 2012-16											
Key	Better than both state and national levels			Between state and national levels				Worse than both state and national levels			

Figure 53

In looking at cancer mortality rates, Warren County (169.8 per 100,000) has a cancer mortality rate that is above than state (154.54 per 100,000) and national (160.9 per 100,000) levels⁷⁹.

Figure 54 illustrates cancer screening rates for colorectal, cervical, and breast cancer. The data indicate that screening rates are relatively low in the SLUHN service area, especially in Schuylkill, Warren, Monroe, and Carbon counties. Warren County's colorectal cancer screening rate (57.6%) was below state (60.1%) and national (61.3%) levels, as well as below the Healthy People 2020 target of 70.5%, and American Cancer Society target of 80% by 2018⁸⁰. Screening rates for cervical cancer in Warren County was between state and national levels, but screening rates for breast cancer were below both state and national levels.

Cancer Screenings in SLUHN Service Area

2018	United States	Pennsylvania (PA)	Bucks (BU) County, PA	Carbon (CR) County, PA	Lehigh (LH) County, PA	Monroe (MO) County, PA	Northampton (NO) County, PA	Schuylkill (SC) County, PA	New Jersey (NJ)	Warren (WA) County, NJ	
Sigmoidoscopy or Colonoscopy	61.3%	62.1%	71.1%	43.0%	70.3%	66.1%	63.9%	52.3%	60.1%	57.6%	
Pap Test	78.5%	78.8%	72.6%	78.0%	82.6%	74.5%	80.1%	76.8%	81.5%	79.8%	
Mammogram	63.1%	64.8%	66.4%	58.3%	65.9%	62.4%	65.4%	59.9%	61.5%	59.3%	
Sources											
1. Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Accessed via the Health Indicators Warehouse. US Department of Health & Human Services. Health Indicators Warehouse, 2006-12											
2. Dartmouth College Institute for Health Policy & Clinical Practice. Dartmouth Atlas of Health Care. 2014											
Key	Better than both state and national levels			Between state and national levels				Worse than both state and national levels			

Figure 54

⁷⁹ Centers for Disease Control and Prevention, [National Vital Statistics System](#). Accessed via [CDC WONDER](#). 2012-16.

⁸⁰ Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System. Accessed via the Health Indicators Warehouse. US Department of Health & Human Services, Health Indicators Warehouse. 2006-12.

In addition to CDC data, we looked at breast cancer screening rates among 2019 community survey respondents. Figure 55 shows that 82.2% of Network survey respondents and 81.7% of Warren service area respondents indicated that they had been screened for breast cancer within the past 2 years, which are higher than the national rate (71.6%), as well as the Healthy People 2020 target of 81.1%. Internal data indicate that our SLUHN screening rate is approximately 67.47%, which is lower than survey respondent reported rates.

Figure 55 also depicts survey respondents’ reported screening rates by campus area. Based off these findings, there is room for improvement in screening rates among all campus areas; however, there are especially low rates among our rural populations. Similarly, internal data show vast differences in breast cancer screening rates between differing practice types. The SLUHN average colorectal cancer screening rate (67.47%) is higher than our internal medicine and family medicine clinic rates.

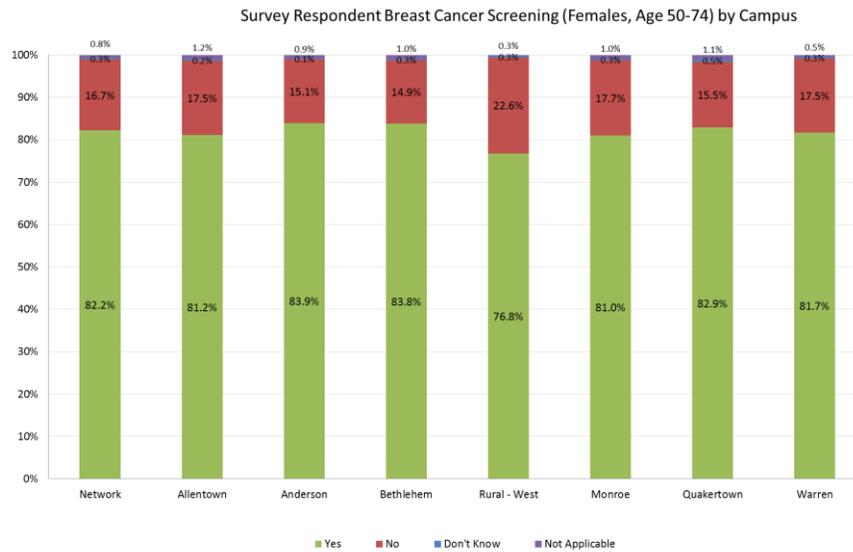


Figure 55

Additionally, our 2019 community survey asked about colorectal cancer screening. Two questions were included to determine if respondents were up to date on colorectal cancer screening. The first question asked respondents age 50-74 to indicate which of the following ways they had been screened for colorectal cancer: colonoscopy, sigmoidoscopy, stool blood test (i.e. FIT/FOBT), don’t know, never been screened, or Not Applicable. Respondents were then asked the approximate date of their last screening. 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 56). If a respondent was missing an answer to one of the questions, their screening status was marked “Unknown”.

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 56

Figure 57 illustrates colorectal cancer screening rates among survey respondents age 50 to 74. Approximately 65% of Network respondents indicated that they were up to date with colorectal cancer screening, which is (lower than the national rate (66.4%) and the Healthy People 2020 goal of (70.5%), and American Cancer Society goal of 80% by 2018. Similarly, 65.4% of Warren service area respondents reported being up to date with colorectal cancer screening, which is also lower than state and national rates, as well as Healthy People 2020 and American Cancer Society goals. Internal data indicate that our SLUHN screening rate is approximately 55.17%, which is lower than survey respondent reported rates⁸¹.

Figure 57 also depicts survey respondents’ reported screening rates by campus area. Based off these findings, there is room for improvement in screening rates among all campus areas; however, there are especially low rates among our rural populations. Similarly, internal data show vast differences in colorectal cancer screening rates between differing practice types. The SLUHN average colorectal cancer screening rate (55.17%) is higher than our internal medicine and family medicine clinic rates. What is especially striking is that within our clinics, our rural population has the lowest screening rates, which mirrors the findings from our survey responses.

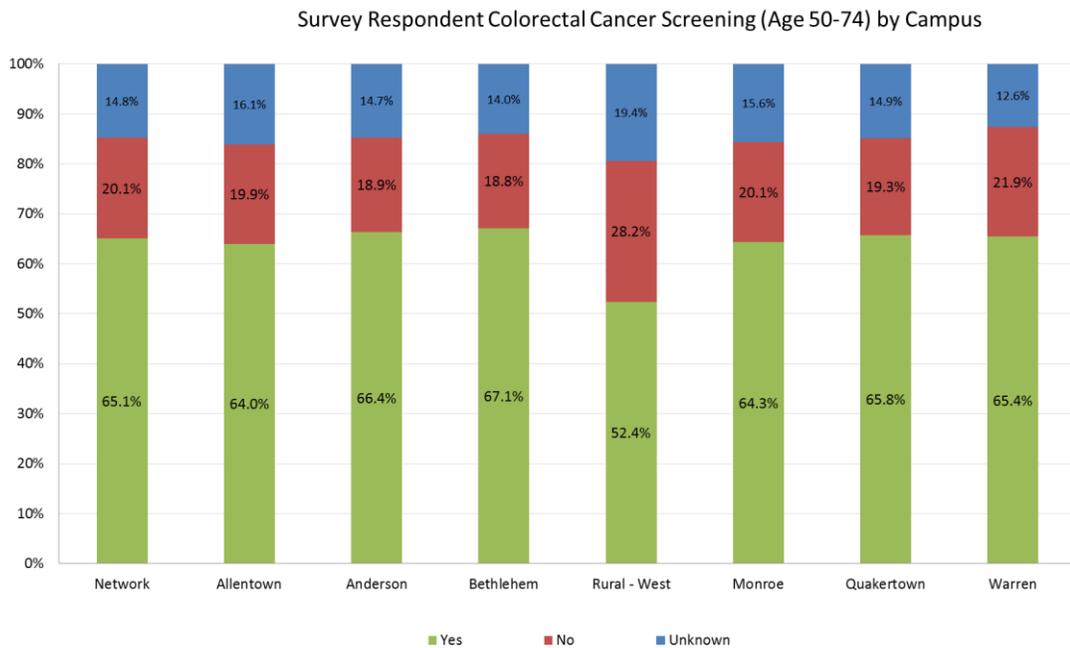


Figure 57

When looking at how insurance coverage influences breast screening rates among 2019 community survey respondents, it is evident that there are vast differences in screening rates based on insurance type. Figure 58 shows that women with private insurance (84.1%) and Medicare (82.4%) have much higher reported screening rates than women who are insured through Medicaid (67.0%) or who are uninsured (48.8%).

⁸¹ <http://www.healthypeople.gov/>

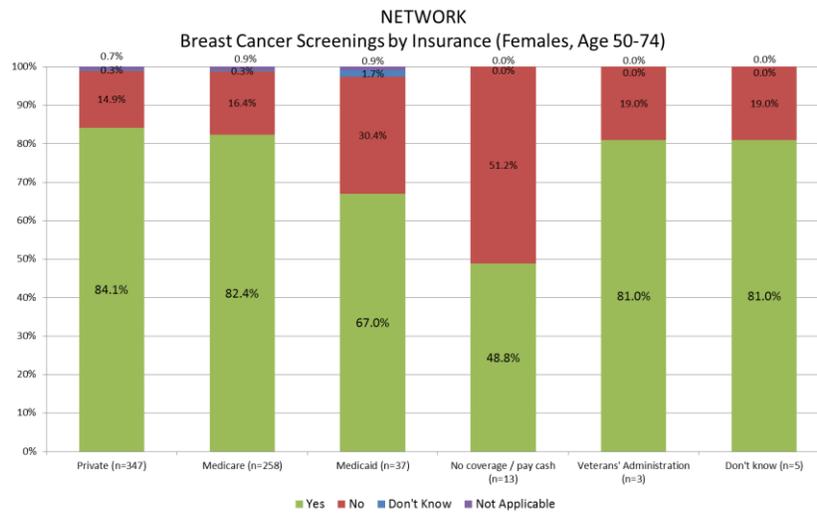


Figure 58

A similar pattern can be seen within colorectal cancer screening rates. According to survey results, respondents with private insurance (68.0%) or Medicare (65.6%) had much higher screening rates compared to those who were uninsured (45.5%) or who were insured through Medicaid (28.3%). However, as previously mentioned, this indicator shows if respondents were up to date on colorectal cancer screening, based off their reported screening type and approximate date of last screening. Many respondents did not respond to one of the questions, therefore their status could not be calculated. Thus, there are a high number of respondents whose screening status is “Don’t Know”.

As shown in Figure 59, the state and national levels for colon cancer screening fell around 66.4%, so this shows that our patients with private insurance or Medicare were better or the same as the state and national screening averages, but that the uninsured and Medicaid populations were lower than the state and national screening levels. These cancer breakdowns, especially among screened cancers is highly important to note because it makes it evident that there are some barriers with our uninsured and Medicaid populations being screened, most notably for colorectal and breast cancer.

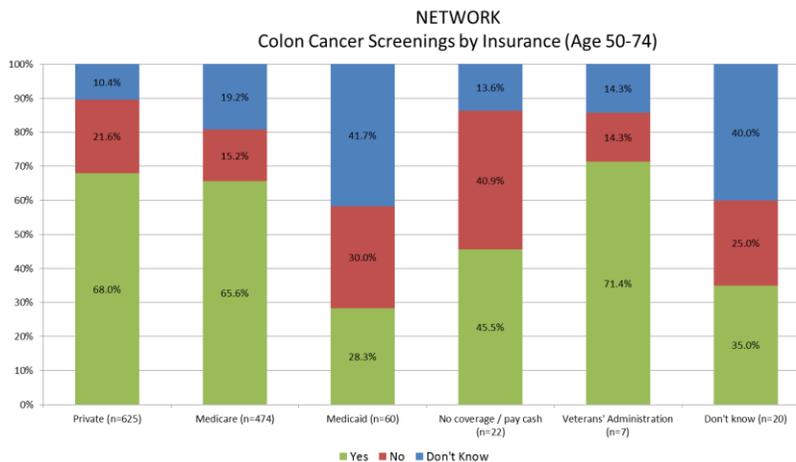


Figure 59

Days of Poor Physical Health

If an individual has not visited their primary care physician for a routine checkup within the past year, their physical health could be compromised by unknown medical conditions being left untreated. To better illustrate the service area's health status, we can examine the number of days respondents of our 2019 survey could not perform daily functions due to physical health issues. As shown in Figure 60, about 47.0% of respondents reported missing one or more days of normal activity in the past month due to poor physical health.

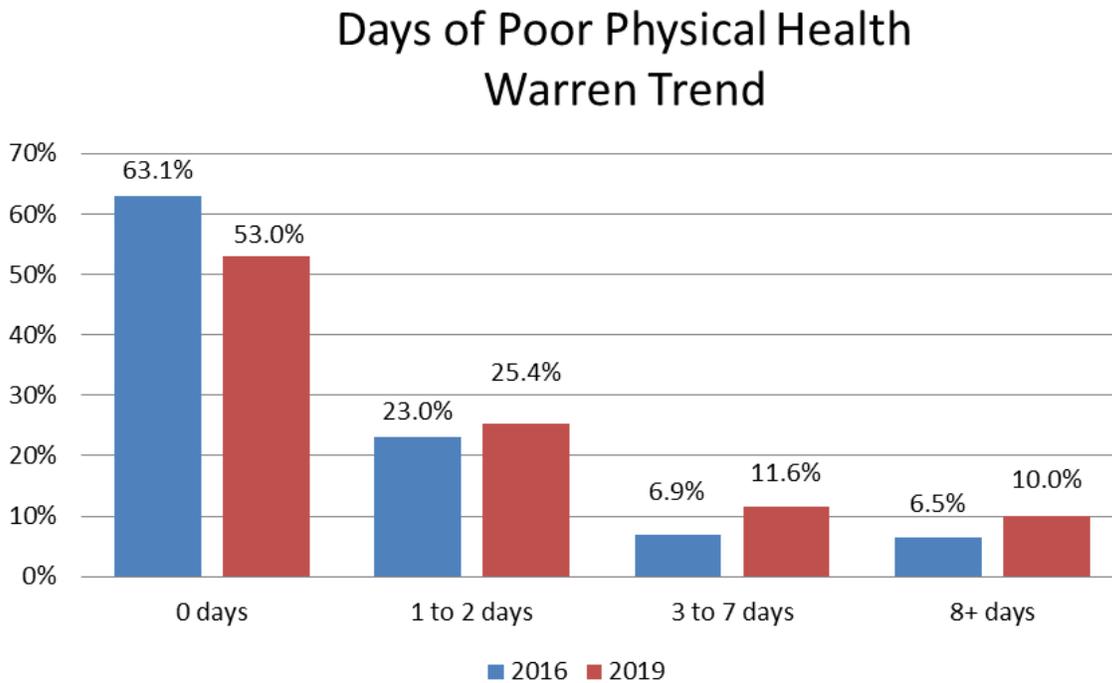


Figure 60

Days of Poor Mental Health

In an effort to assess the overall well-being of the service area, we can look to the average number of days of poor mental health. According to our 2019 survey data, 37.0% of respondents reported having missed one or more days of normal activity due to poor mental health within the past month of their being surveyed (Figure 61). Those who are missing days of normal activity due to poor mental health may not be receiving any type of medical attention, leaving their condition untreated. This is important to take into consideration when reading the rest of this section, as inconsistent care can worsen mental illness.

Days of Poor Mental Health Warren Trend

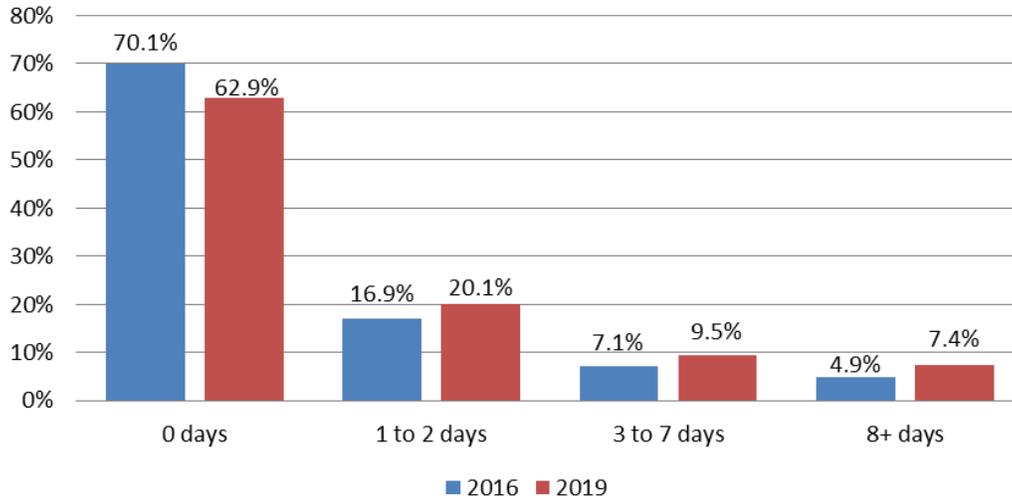


Figure 61

Top Reasons for Hospitalization

Examining the most frequent reasons for hospital admissions can indicate common health disparities, thereby allowing us to develop programming to treat or prevent these disparities before inpatient hospitalization is required. Figure 62 delineates the top 10 reasons for inpatient hospitalization at St. Luke's Warren campus in 2017. The top three causes were sepsis, acute kidney failure, and hypertensive heart and chronic kidney disease with heart failure. These health outcomes directly influence the priority health categories discussed in the next section of this report.

FY17 SLW - Top 10 Principal Diagnoses for Inpatient Encounters (From Zip Codes Comprising Top 80% of Facility Encounters)

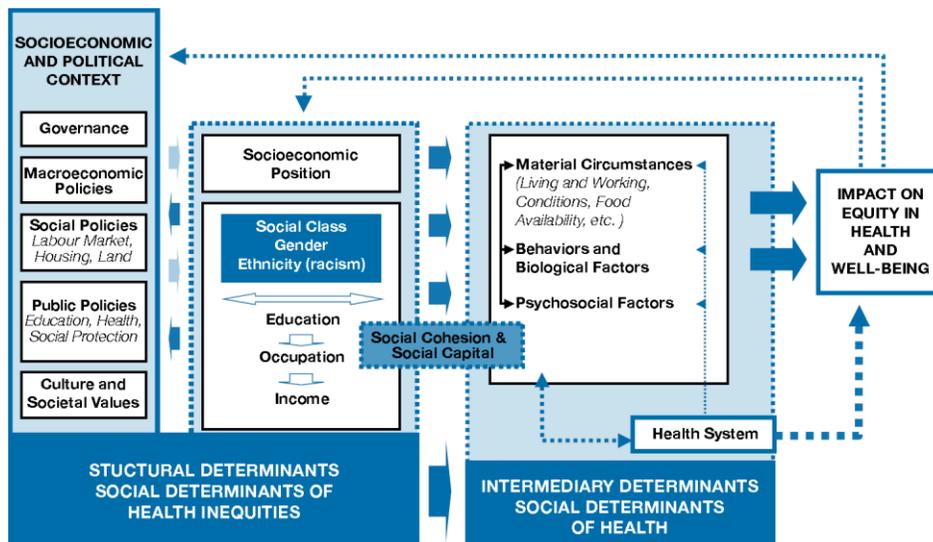
Principal Diagnosis	Ranking
A41.9 - Sepsis, unspecified organism	1
N17.9 - Acute kidney failure, unspecified	2
I13.0 - Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	3
J44.1 - Chronic obstructive pulmonary disease with (acute) exacerbation	4
J44.0 - Chronic obstructive pulmonary disease with acute lower respiratory infection	5
I11.0 - Hypertensive heart disease with heart failure	6
J18.9 - Pneumonia, unspecified organism	7
I63.9 - Cerebral infarction, unspecified	8
A41.51 - Sepsis due to Escherichia coli [E. coli]	9
A41.89 - Other specified sepsis	10

Figure 62

According to internal data, the majority of trauma-related incidents in 2017 resulted in falls at 55.7%, followed by motor vehicle accidents at 19.3%. The fewest instances of trauma resulted from gunshot wounds, at 1.1%.

Conclusion and Key Findings

In reviewing the extensive primary and secondary data, it is evident that there are significant needs to address within our communities. For the upcoming three-year (2019-2022) cycle, St. Luke's University Health Network will continue to work toward addressing the health priorities identified network-wide, in order to improve the community's health. The three main priorities identified include: improving access to care; preventing chronic disease; and improving mental and behavioral health. The upstream factors related to the social determinants of health and individual lifestyle behaviors contribute to the poor health status of our communities. These three health priorities will be addressed using the social determinants of health framework in conjunction with Lifestyle Medicine interventions in order to influence the overall health of our communities. Lifestyle Medicine interventions are related to behaviors such as – not smoking, eating sufficient amounts of fruits and vegetables, exercising regularly and maintaining a healthy weight. The following is the social determinants of health framework developed by the World Health Organization (WHO) which outlines the structural components (social determinants) that need to be considered in relationship to the intermediary determinants (lifestyle based behavior modification interventions) in order to achieve desirable health outcomes.



The social determinants of health and lifestyle behaviors are the barriers that impact a wide range of health, function and quality of life. While there are many that need to be addressed, overall this CHNA found the most pressing needs to be specifically in areas related to:

- Housing
- Transportation
- Food insecurity
- Obesity reduction
- Physical activity promotion
- Opioids and other substance use
- Child/Adolescent mental health

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 service area using the three buckets of: Wellness and Prevention; Care Transformation; and Research and Partnerships. We will work collaboratively in partnership with our community and network partners in order 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.

Addendum

Substance Abuse

Over the past two decades an estimated 700,000 people died of drug overdoses in the United States⁸². In October of 2017, the federal government declared a national Public Health Emergency in response to the astronomical rise in overdose deaths⁸³. The precipitous increase in overdose deaths is primarily driven by the over 600% increase in synthetic opioid deaths, predominately fentanyl, since 2013 (Figure 1)⁸⁴. The Centers for Disease Control's (CDC)

Annual Surveillance

Report of Drug-

Related Risks and

Outcomes breaks the

opioid crisis into

three phases. The first

phase, starting in the

1990's, was defined

by rising overdose

deaths from a sharp

increase in prescribed

opioids for chronic

pain⁸⁵. The second

wave of the crisis is

thought to have

started in 2010 with

an increase in

overdose deaths from

heroin. People

struggling with opioid addiction can transition to heroin due to its similar effects

on the body and cheaper price. 80% of Americans using heroin report having misused

prescription opioids first⁸⁶. The third, and deadliest, phase of the opioid crisis started in 2013

when synthetic opioids like fentanyl dramatically increased overdose deaths and

hospitalizations⁸⁷. With the most recent data showing the highest number of overdose deaths to

date in New Jersey, as well as nationally, we are very much still in the midst of the third phase⁸⁸.

In 2016, New Jersey had an opioid-related overdose death rate of 16 deaths per 100,000

residents, which is higher than the national average of 13.3 per 100,000. The rate was up from

9.8 per 100,000 in 2015, a steep increase that far outpaced the national rise⁸⁹. The two primary

drivers of this increase were deaths related to heroin and synthetic opioids like fentanyl. In 2010

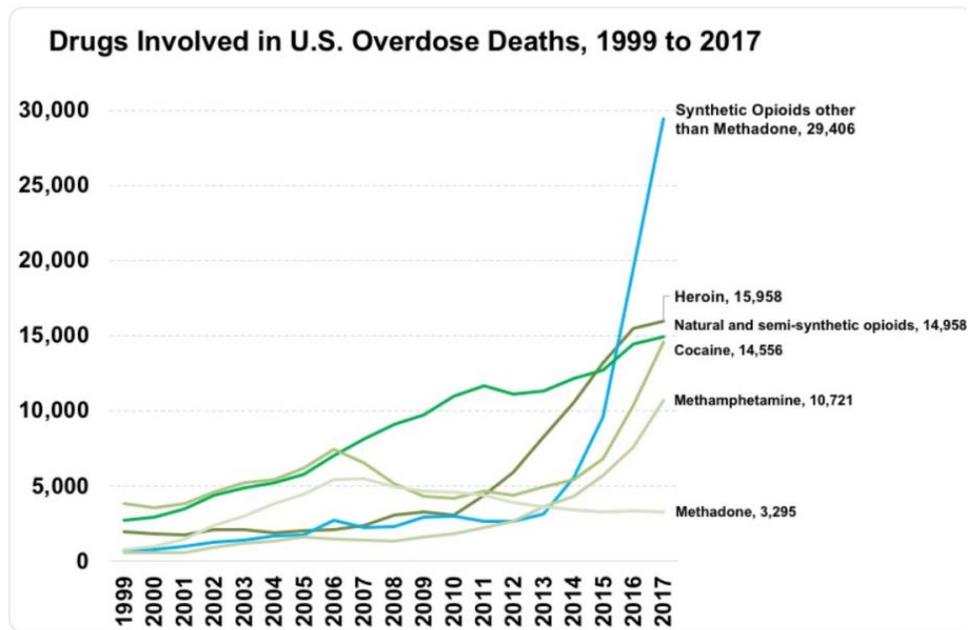


Figure 1

⁸² <https://www.cdc.gov/nchs/products/databriefs/db329.htm>

⁸³ <https://www.whitehouse.gov/opioids/>

⁸⁴ <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

⁸⁵ <https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf>

⁸⁶ <https://www.drugabuse.gov/publications/drugfacts/heroin#ref>

⁸⁷ <https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf>

⁸⁸ <https://www.cdc.gov/drugoverdose/data/statedeaths.html>

⁸⁹ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/new-jersey-opioid-summary>

there were a combined 132 deaths attributable to heroin or synthetic opioids, by 2016 that number had reached 1,539⁹⁰.

According to preliminary data out of the New Jersey Department of Health, roughly 80% of all overdose deaths were attributable to opioids like fentanyl, heroin, oxycodone, and morphine⁹¹. The primary other drug responsible for overdose deaths was cocaine, which constituted roughly 17% of all overdose deaths⁹². The counties hit hardest were mostly located in the southern portion of the state (Figure 2). Warren County had 36 drug-related overdose deaths in 2017 and a suspected 30 in 2018⁹³.

All of the counties with a St. Luke's hospital saw increases in the number of opioid overdose deaths since 2007. The largest two increases were in Schuylkill (PA) and Warren (NJ) counties (Figure 3). These two counties have the highest rates of opioid overdose deaths by a considerable margin. Warren County had 7.0 opioid overdose deaths per 100,000 residents between 2007 and 2011. That rate increased to 26.7 opioid overdose deaths per 100,000 residents between 2012 and 2016.

Drug Death Rate by County of Death

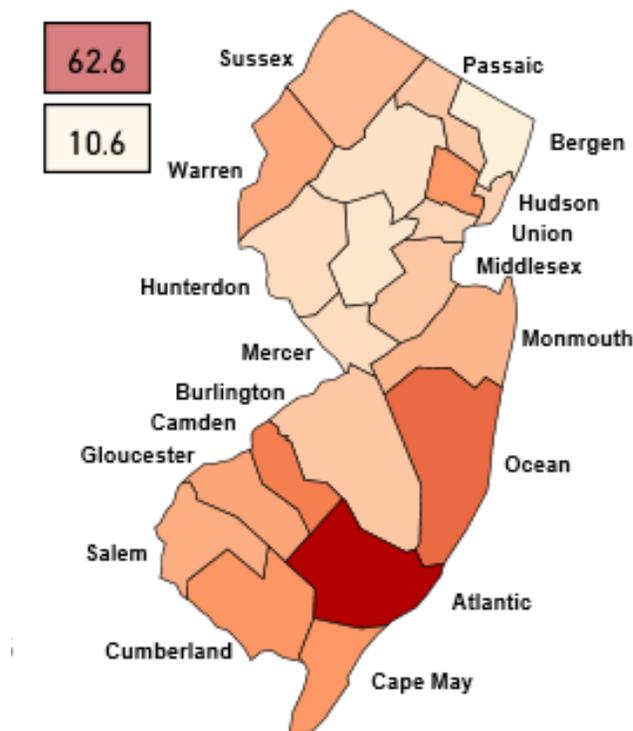


Figure 2

⁹⁰ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/new-jersey-opioid-summary>

⁹¹ https://www.state.nj.us/health/populationhealth/opioid/opioid_deaths.shtml

⁹² https://www.state.nj.us/health/populationhealth/opioid/opioid_deaths.shtml

⁹³ https://www.state.nj.us/health/populationhealth/opioid/opioid_deaths.shtml

Opioid Overdose Deaths per 100,000 population ages 15-64

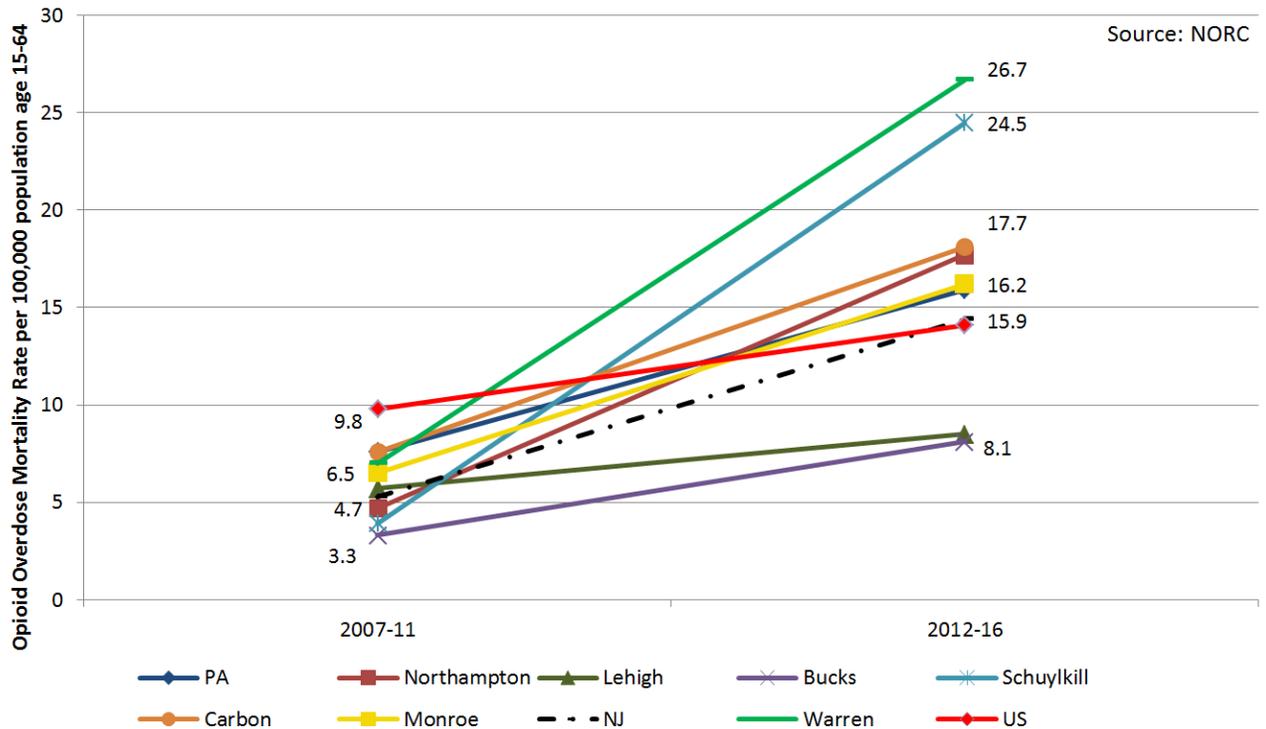


Figure 3

Between 2008 and 2017, Warren County had 142 hospitalizations related to drug-use. 70% of the hospitalizations were related to opioid abuse, and the remainder predominately due to benzodiazepines and cocaine⁹⁴. 90% of those hospitalized in Warren County for drug use were White, 59% were male, and only 40% were employed, with the remainder being unemployed, disabled, retired, or students⁹⁵. Naloxone is opioid-antagonist medication that can rapidly reverse an opioid overdose by binding to opioid neurological receptors to prevent further uptake and restoring normal respiration⁹⁶. In 2018 New Jersey had 15,676 incidents where Naloxone was administered. Warren County had 179 of those cases⁹⁷. Statewide, nearly 60% of Naloxone doses were administered to White residents, 21% to Black residents, and 12% to Hispanic residents⁹⁸. 70% of all Naloxone doses administered went to men, and the average age of someone receiving Naloxone was 40⁹⁹.

Neonatal Abstinence Syndrome (NAS) is a group of medical conditions resulting from withdrawal a newborn experiences when exposed to certain drugs in the womb, predominantly opioids¹⁰⁰. In New Jersey, cases of NAS increased from 3.3 per 1,000 births in 1999 to 5.2 per

⁹⁴ https://www.state.nj.us/health/populationhealth/opioid/opioid_hospital.shtml

⁹⁵ https://www.state.nj.us/health/populationhealth/opioid/opioid_hospital.shtml

⁹⁶ <https://www.drugabuse.gov/related-topics/opioid-overdose-reversal-naloxone-narcan-evzio>

⁹⁷ https://www.state.nj.us/health/populationhealth/opioid/opioid_naloxone.shtml

⁹⁸ https://www.state.nj.us/health/populationhealth/opioid/opioid_naloxone.shtml

⁹⁹ https://www.state.nj.us/health/populationhealth/opioid/opioid_naloxone.shtml

¹⁰⁰ <https://www.stanfordchildrens.org/en/topic/default?id=neonatal-abstinence-syndrome-90-P02387>

1,000 births in 2013¹⁰¹. This is slightly below the average of 6.0 per 1,000 births across 28 states analyzed by the Centers for Disease Control during that same time¹⁰².

Disparities exist between the data reported by different governmental agencies and nonprofits. In this report we've opted to use the most localized data available for each section. It would be beneficial for local, state, and national agencies, as well as nonprofit organizations, to better collaborate in the sharing of opioid-related mortality and morbidity data such that the crisis can be more clearly understood and more effectively addressed. This in turn would depict a more comprehensive picture of the needs within communities and will allow for greater collaborations and partnerships when implementing and measuring the effectiveness of strategies undertaken to tackle the needs. There have been some effective interventions reducing the fatalities experienced across New Jersey communities. In 2017 New Jersey signed PL c. 28 into law imposing certain restrictions on how medical opioids are prescribed¹⁰³. New Jersey has also issued a standing order for Naloxone, making it available for all licensed pharmacists in the state¹⁰⁴. While all of these treatment methods are crucial for individuals and families struggling with addiction, it is important to address the community supports/resources that can prevent addiction in the first place. Healthy communities must offer social cohesion, meaningful employment, recreational activities, and a sense of hope in order to interdict residents who might otherwise become addicted to opioids or other harmful drugs.

¹⁰¹ <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/new-jersey-opioid-summary>

¹⁰² <https://www.cdc.gov/mmwr/volumes/65/wr/mm6531a2.htm>

¹⁰³ <https://www.njconsumeraffairs.gov/prescribing-for-pain/Pages/default.aspx>

¹⁰⁴ <https://nj.gov/health/integratedhealth/services-treatment/naloxone.shtml>

Appendix A

2019 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:
4. How long have you been a part of this community?
5. When thinking about others you interact with here, do you feel a sense of community?
6. Do you work and live in this community? Please explain.
7. How would you describe your community?
8. What are the major needs/challenges within this community?
9. What are some of the challenges specific to your organization?
10. How do you feel this community has been successful in meeting its needs?
11. What improvements in policy and community infrastructure would assist you in meeting community needs?

12. Who are some of the key players in your community and what organization do they belong to?
13. What are some of the strengths and resources of your community?
14. Do you feel these strengths are shared and evenly distributed throughout the community? Please explain.
15. What are some concrete examples of strengths and challenges 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 abuse, depression and anxiety)
 - e. Child/Adolescent Health (example: physical and mental wellness)
 - f. Elder Health (example: falls, medications and isolation)
16. What are the top three issues that need to be addressed in our community?
17. Any additional Comments

Appendix B

2019 CHNA Community Forum Invited Organizations – Warren Campus

- Abilities of Northwest Jersey
- Alternatives Inc.
- Bridgeway PACT
- Centenary College
- Child and Family Resource Services, NORWESCAP
- Community Prevention Resources of Warren County
- Department of Human Services – Easton Coach
- Domestic Abuse and Sexual Assault Crisis Center
- Easton/Phillipsburg Branch of the Greater Valley YMCA
- Family Guidance Center of Warren County
- Florio Perucci Steinhardt & Cappelli Law Firm
- Food Bank, NORWESCAP
- Head Start, NORWESCAP
- Legal Services of Northwest Jersey – Warren County
- Mental Health Recovery Services of Warren and Clinton Counties
- North Jersey Health Care Collaborative
- Office of the Prosecutor Warren County
- Opioids in Warren County
- Phillipsburg Area School District
- Phillipsburg Housing Authority
- SLUHN New Jersey Physicians Group
- SLUHN Warren Coventry Family Practice
- SLUHN Warren Emergency Department

- Swick Law Office
- TransOptions
- United Way of Northern New Jersey
- Visiting Homemaker Service of Warren County
- Warren County Community College
- Warren County Division of Aging and Disability
- Warren County Department of Human Services
- Warren County Health Department
- Zufall Health Center