



**Monroe Campus
Community Health Needs Assessment**

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**Department of
Community Health & Preventive Medicine**

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I. St. Luke's Monroe CHNA

A. Community Health Needs Assessment (CHNA) Background

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 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 amongst residents within the community. The needs assessment must state every health priority addressed by community stakeholders, hospital professionals, or public health experts. Additionally, campus specific implementation plans will be crafted for each of the St. Luke's University Health Network (SLUHN) campuses in order to determine how resources will be allocated to address the specified health needs.

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

B. Summary of the Needs Assessment Methodology

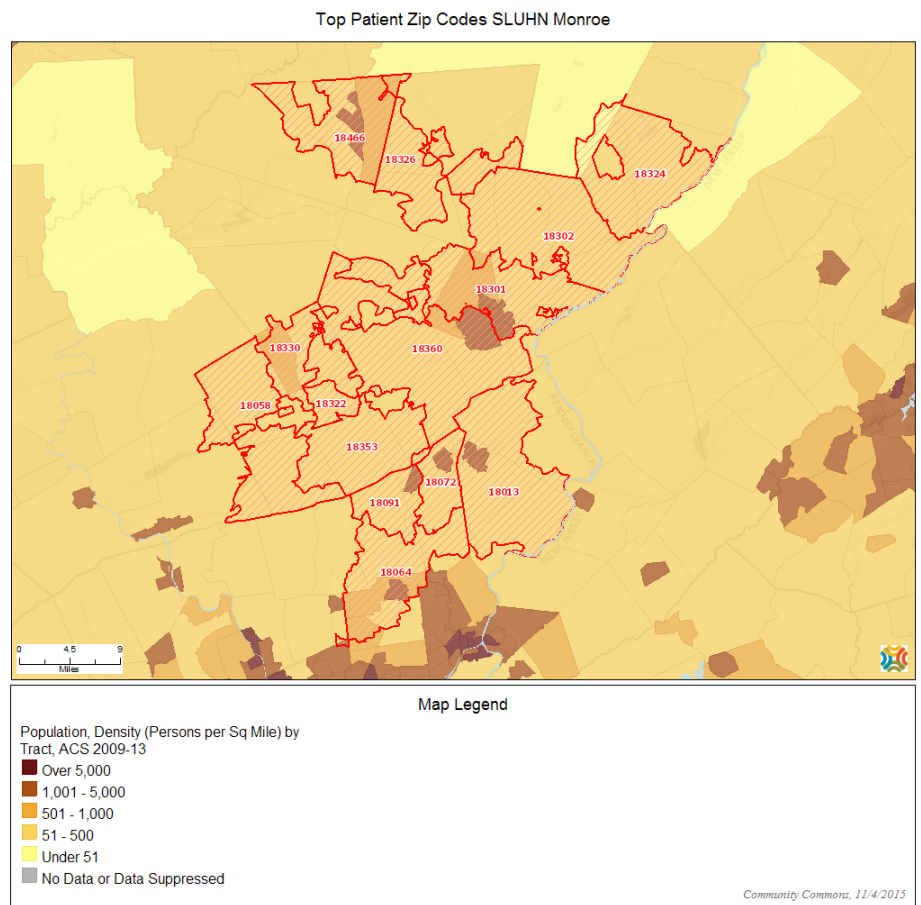
Our CHNA is comprised of both primary and secondary data. The primary data was collected through our community health surveys, where approximately 3,000 surveys were conducted in our seven campus geographic region. Primary data was also collected through campus specific key stakeholder focus groups, where the main priority health needs were identified for each entity (besides this campus). Although we did not conduct a focus group with community stakeholders and public health professionals, Pocono Alliance, East Stroudsburg University (ESU) and Northampton Community College in Monroe (NCC) served as three important key informants who helped us understand the service area better. They helped us conduct the surveys in the Monroe service area, which might mean that the demographic breakdown from survey respondents in this area was slightly different than what was seen for the other campuses. Secondary data included the use of hospital network, 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, U.S. Department of Labor, the Behavioral Risk Factor Surveillance System as well as other data sources, which can be found at the end of this report. The needs identified in the focus groups were supplemented by the survey data and secondary data to provide us with a more comprehensive picture of the needs in the community and what factors are affecting these health issues.

C. About St. Luke's University Health Network Monroe Campus

St. Luke's University Health Network's (SLUHN's) Monroe Campus will be the newest campus addition to St. Luke's University Health Network. The groundbreaking for the new hospital campus took place on April 29, 2015, and the hospital is expected to open in the fall of 2016. There has not been a hospital erected in Monroe County for nearly 100 years, and St. Luke's Monroe will be the first. St. Luke's is investing \$80 million to establish the 180,000-square foot hospital that is located very close to major transportation routes, I-80, Route 33 and Route 611. The four story hospital will contain special beds for people who need critical care, over 100 private patient beds, a helipad, operating rooms, a fully operational emergency room, and a cardiac catheterization lab. This hospital will be sure to have the most contemporary diagnostic tools to serve its patients. St. Luke's Monroe campus plans on working with the community to determine what additional services are needed in order to provide the most comprehensive care to their patients.

D. Geographic Description of Medical Service Area and Community Served

A total of 198,542 people live in the 496.53 square mile report area defined for this assessment according to the U.S. Census Bureau American Community Survey (2009-13) 5-year estimates. The population density for this area, estimated at 399.86 persons per square mile, is greater than the national average population density of 88.23 persons per square mile. According to the U.S. Census Bureau Decennial Census, between 2000 and 2010 the population in the report area grew by 30,898 persons, a change of 18.48%. This change in population is much greater than the percent change seen in Pennsylvania (3.43%) and in the U.S. as a whole (9.74).



We defined our service area by determining the top patient zip codes of our residents who receive any services from St. Luke's Monroe. Since the St. Luke's Monroe hospital campus is not yet open, we defined the top zip codes as the top 80% of patient encounters at St. Luke's Physician Group (SLPG) locations. In the Monroe service area, these include Medical Associates of Monroe County, St. Luke's Brodheadsville Family Practice, St. Luke's Bushkill Family Practice, St. Luke's Family Practice - Wind Gap, St. Luke's Internal Medicine – Bartonsville, St. Luke's Monroe Family Practice Associates, St. Luke's Pocono Pediatric Associates, and St. Luke's Stroudsburg Internal Medicine. This report will refer to this area as the "St. Luke's Monroe service area". The top counties served by the SLPG practices are Monroe County, Carbon County, Northampton County, and Pike County. According to St. Luke's Business Analytics, there are a total of 16 zip codes included that constitute 80% of the population served at St. Luke's Monroe. The map on the previous page displays the top zip codes where the patients are from. The chart below lists the zip codes.

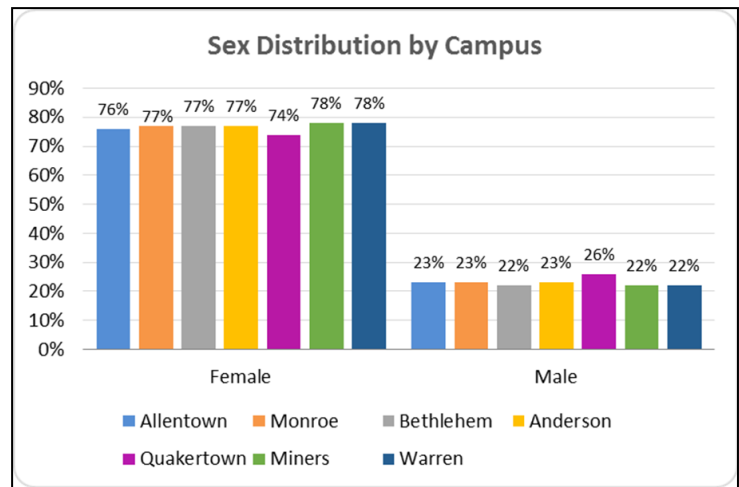
Top 80% of Patient Zip Codes for SLPG Monroe Area CY14
ZIP Code
18360
18301
18302
18353
18324
18091
18330
18013
18072
18064
18058
18322
18326
18466
18372
18321

E. Demographic Profile of Community Served

The following sections give a brief overview of the population we serve. Having a sense of what the community looks like will be helpful when reviewing the five priority health categories later in the report.

i. Gender

According to the American Community Survey (ACS, 2009-13) females represent 51.13% of the population and males represent 48.88% of the population in the St. Luke's Monroe service area. This breakdown is similar to that seen in the United States, where 50.81% of the population is female and 49.19% of the population is male. In our 2016 community survey, the majority of our respondents from all of the SLUHN campuses were female. In the St. Luke's Monroe service area, 77% of respondents were female and 23% were male.

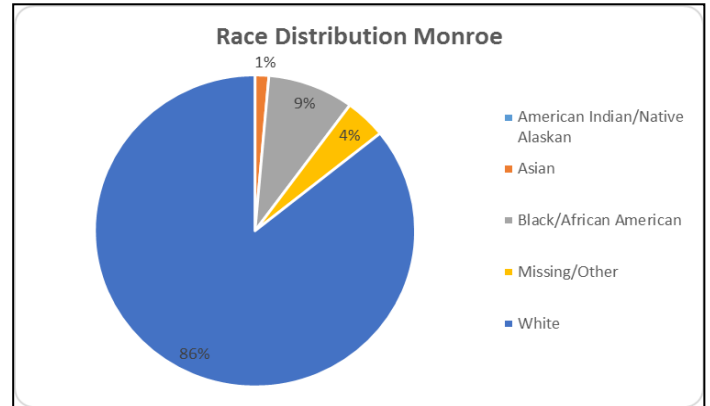
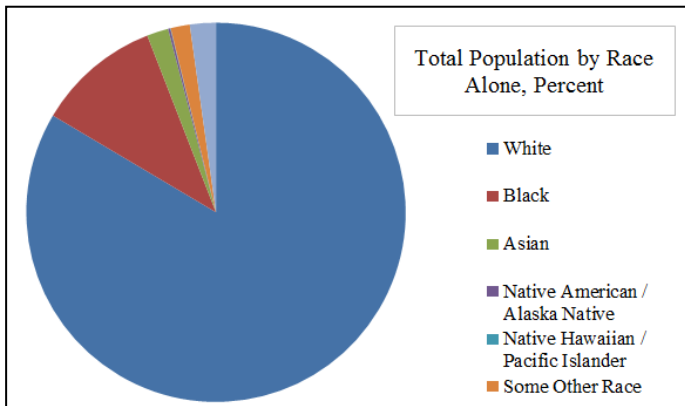


ii. Age

In the St. Luke's Monroe service area, 22.26% of the population is under the age of 18 and 14.31% of the population is over the age of 65 (ACS, 2009-13). This leaves 63.43% of the population between the ages of 18-64. According to the report by SLUHN Business Analytics, the average age of the patients seen from the top 80% of zip codes in the Monroe area ranges from 50-67. From our 2016 community survey, we found that in the St. Luke's Monroe service area, 38.8% of respondents were ages 25-44, 39.1% were ages 45-64, and 7% were older than 65.

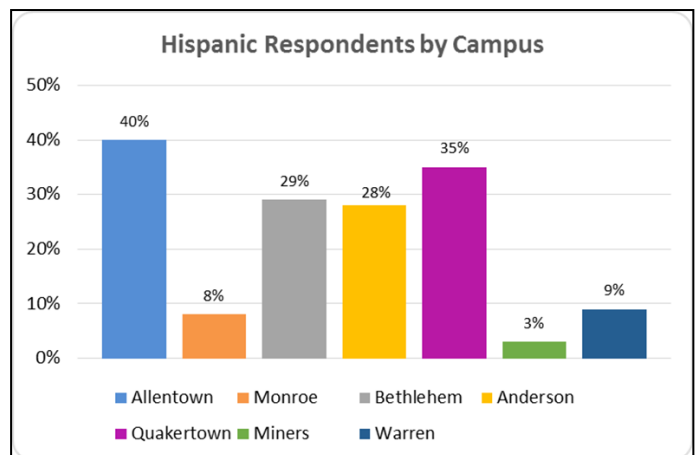
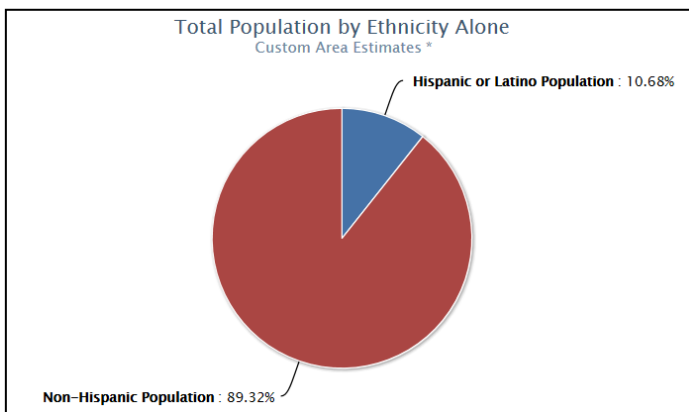
iii. Race

In terms of the breakdown by race in the St. Luke's Monroe service area, the majority of the population identifies as white (83.52%) (ACS, 2009-13). The second most common race group in the service area identified as black (10.58%), and the third most common race group identified as having multiple races (2.21%) (ACS, 2009-13). From our 2016 community survey, we can see in the pie chart on the following page (on the right hand side) that the distribution of the reported races by the respondents in the St. Luke's Monroe service area was very similar to the race distribution seen in the service area as a whole (on the following page on the left hand side). 86% of respondents reported being white, 9% reported being black, and 4% reported being some other race.



iv. Ethnicity

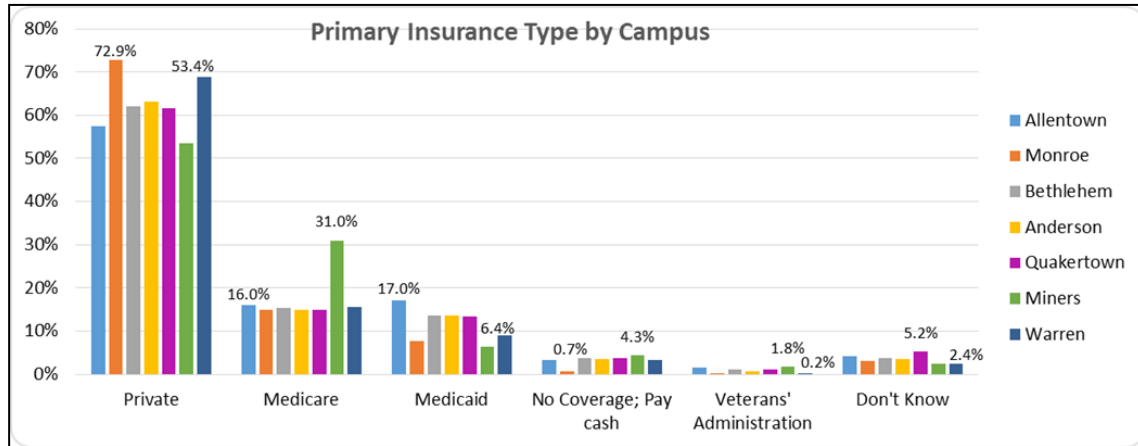
By examining the ethnicity of the St. Luke's Monroe service area we can gain a better idea of what the community looks like. According to the ACS (2009-13), 89.32% of the population is non-Hispanic and 10.68% of the population is Hispanic or Latino (seen in the pie chart below). The percentage of the population that is Hispanic or Latino is similar to the percentage seen in the St. Luke's Anderson service area (12.78%). According to our 2016 community survey, we can see in the bar graph below that the percentage of respondents that were Hispanic (8%) is similar to the percent of the population in the total service area that is Hispanic/Latino (10.68%). This is interesting because in the majority of the other SLUHN campuses the percentage of Hispanic respondents were overrepresented (in comparison to their percentage of the total population) within the survey responses.



v. Health Insurance Plans

According to our 2016 community survey, the St. Luke's Monroe service area had the highest percentage of privately insured respondents out of all the campuses (72.9%). Additionally, only 0.70% of respondents were uninsured, which was the lowest percentage of all other SLUHN

service areas. This primary insurance distribution below shows that the respondents in the St. Luke's Monroe area seem to be well covered by insurance, which likely improves their ability to access care when they need it.

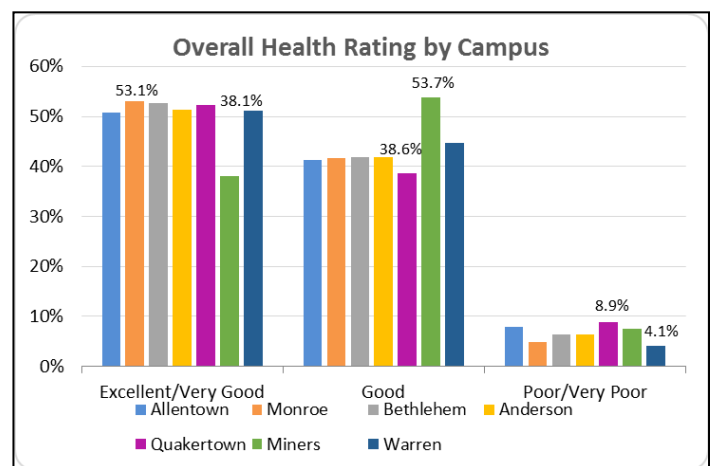


vi. Poverty

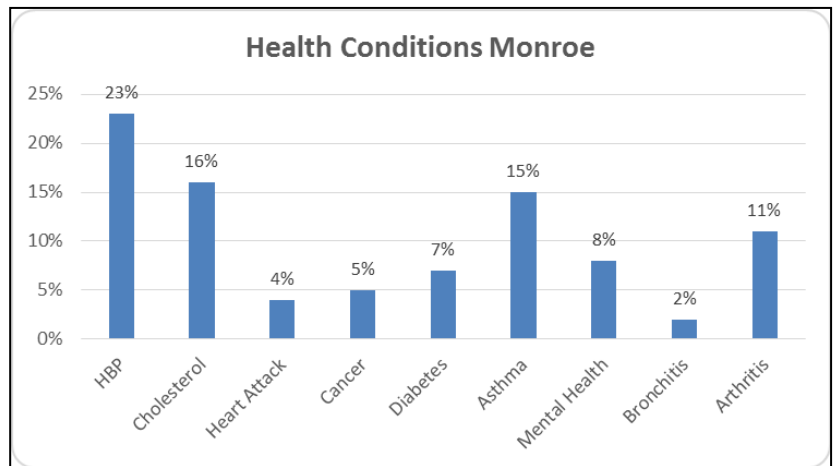
According to the ACS (2009-13), 10.67% of the St. Luke's Monroe service area population are living at or below 100% of the Federal Poverty Level (FPL). This is better than the 13.3% of the population that is living at or below 100% of the FPL in Pennsylvania and 15.37% living at this level in the U.S. as a whole. 27.82% of the population is living at or below 200% of the FPL, which is also better than the percentages seen in Pennsylvania (30.51%) and in the U.S. (34.23%) (ACS, 2009-13).

vii. Overall Health and Health Conditions

According to our 2016 community survey data, most people in the St. Luke's Monroe service area reported excellent or very good health, followed by good health and then poor or very poor health, which is similar to the pattern seen in other campuses. Respondents from the St. Luke's Monroe area had the highest percentage of respondents who reported excellent or very good health (53.1%) across all of the SLUHN campuses. For the network as a whole, 93.4% of respondents rated their health as good or better.

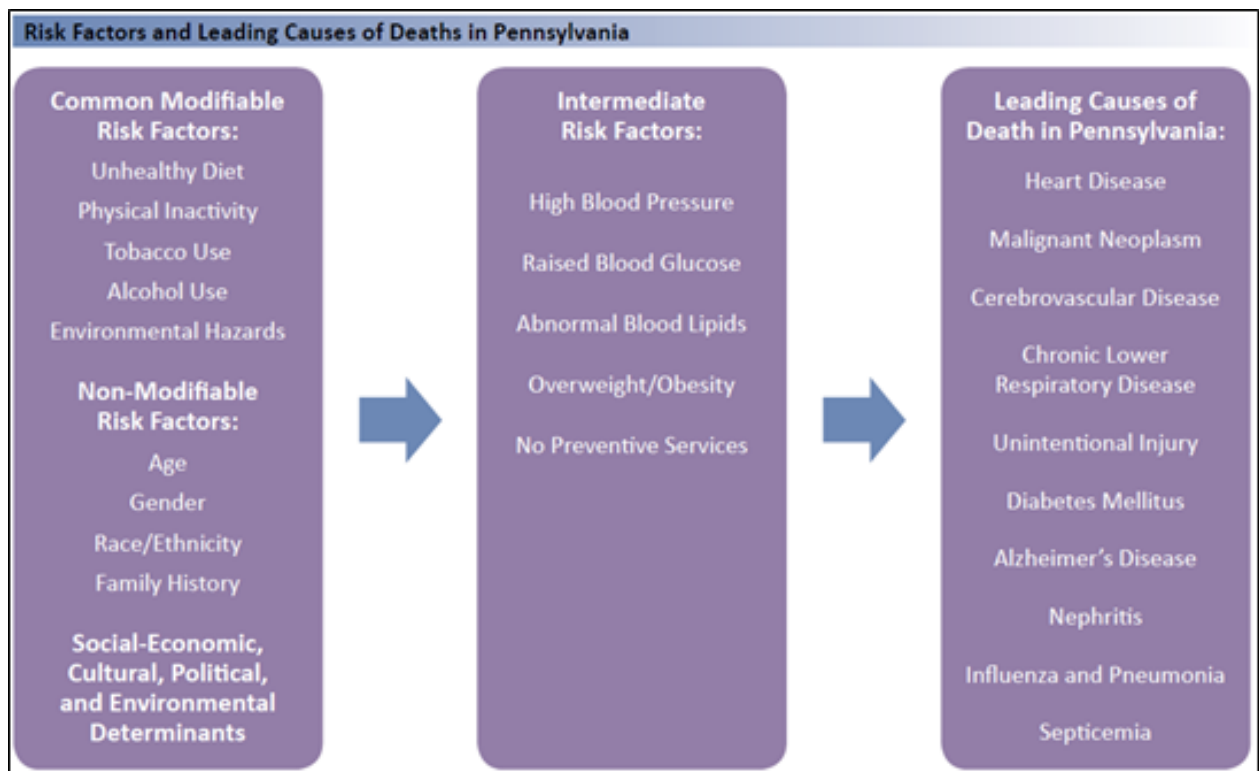


After examining people's perceptions of their own health, it is important to look at the prevalence of specific health conditions reported by the respondents in order to assess the health status and needs of the community. According to our 2016 survey results, the highest percentage of patients in the St. Luke's Monroe service area reported having high blood pressure (23%), high cholesterol (16%), and asthma (15%).



viii. Leading Causes of Death

This flow chart below shows the risk factors that contribute to the leading causes of death in Pennsylvania. The top three leading causes of death in Pennsylvania are heart disease, cancer, and cerebrovascular disease. These modifiable and intermediate risk factors as well as the leading causes of death will be interesting to keep in mind when reviewing the health categories below (Pennsylvania Department of Health- Bureau of Health Promotion and Risk Reduction, 2011).



Looking at Monroe County specifically, we can see that for people ages 5-44 the first leading cause of death is accidents. For people ages 45 and older in Monroe County, the leading causes of death in 2012 were cancer followed by some type of heart disease. These leading causes of death for the two older groups follow what is seen in Pennsylvania, where cancer and heart disease are the top two leading causes of death. The other leading causes of death for each age bracket in Monroe County are listed in the chart below (Pennsylvania Department of Health-Division of Health Informatics, 2014).

Selected Leading Causes of Death, Number by Age Group (2012)									
<u>Under 5 Years of Age</u>		<u>5-24 Years of Age</u>		<u>25-44 Years of Age</u>		<u>45-64 Years of Age</u>		<u>65 Years and Older</u>	
Perinatal Conditions	10	Accidents	14	Accidents	15	Cancer	101	Cancer	224
		Suicide	4	Cancer	7	Diseases of Heart	52	Diseases of Heart	222
				Diseases of Heart	7	Diabetes Mellitus	14	C.L.R.D.**	80
				Suicide	7	Accidents	13	Diabetes Mellitus	54
				Diabetes Mellitus	4			Stroke	33
TOTAL	15	TOTAL	20	TOTAL	49	TOTAL	276	TOTAL	940

*In situ, benign, and uncertain neoplasms Note: Total includes all other causes.

ix. Prioritized Health Categories

There are various socioeconomic, cultural, and environmental factors that constitute the social determinants of health, and they undoubtedly influence the health and well-being of our population, as can be seen from the previous discussion of the demographics of the St. Luke's Monroe service area. Through reviewing our primary data, including input from community stakeholders and public health professionals and our community wide survey, as well as our secondary data analyses; we were able to categorize the identified health needs into five major categories for the 2016-2019 CHNA cycle. These priority health categories include improving access to care and reducing health disparities, promoting healthy living and preventing chronic disease, improving mental/behavioral health, improving child and adolescent health, and improving elder health. Since St. Luke's Monroe campus has not yet opened, we did not conduct a focus group to receive community input, in this report we use the priority health categories identified for the other campuses, in addition to the information provided from our survey data to explore what the health needs of this community may be. We will expand upon the health needs within each priority health category individually.

II. Health Category Profiles

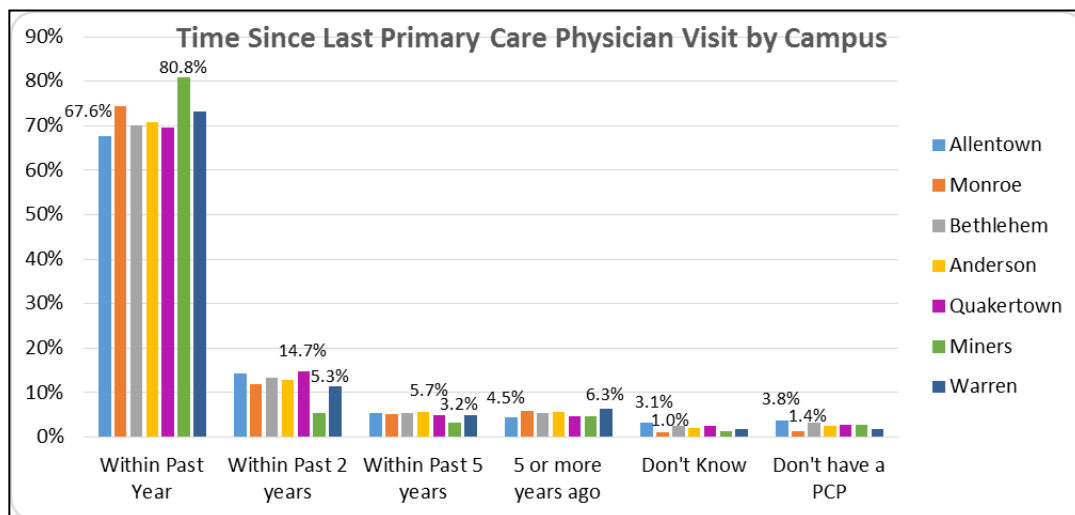
1. Improving Access to Care and Reducing Health Disparities

This section will discuss issues related to improving access to care and reducing health disparities in our



service area. While this category title is specific, we are actually examining the broader category of the social determinants of health, which include the economic, environmental, and social conditions in which people live that influence their access to basic needs, healthcare services, education, and health behaviors, amongst other factors that shape a person's health status (Healthy People 2020, 2014). When reading this section, please take into consideration this more comprehensive idea of addressing the social determinants of health, which have an enormous influence on issues related to accessing healthcare and disparities seen in health outcomes.

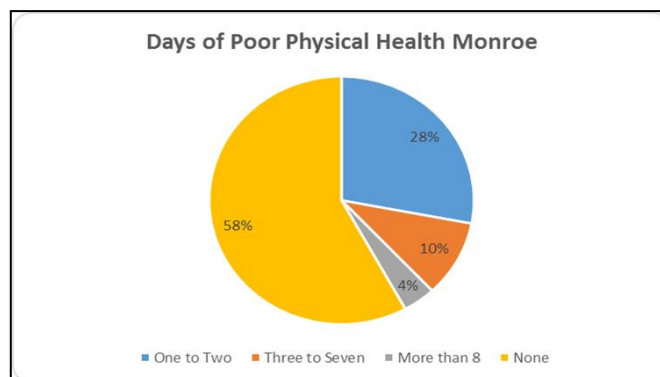
Access to primary care physicians is an important determinant of access to healthcare. It is especially important to examine access to primary care because many times primary care physicians (PCP's) are the first to detect a chronic disease or mental disorder, as well as being the ones who provide preventive services. This indicator looks at the rate of PCP's per 100,000 population. PCP's as defined by the AMA include General Family Medicine MDs and DOs, General Practice MDs and DOs, General Internal Medicine MDs and General Pediatrics MDs. In the St. Luke's Monroe service area, the rate is 53.93, which is worse than the rates seen in Pennsylvania (80) and in the U.S. (74.5) (Area Health Resource File, 2012). This low rate of PCP's per 100,000 population represents a barrier to accessing care because this means there are fewer physicians to attend to the health needs of the community.



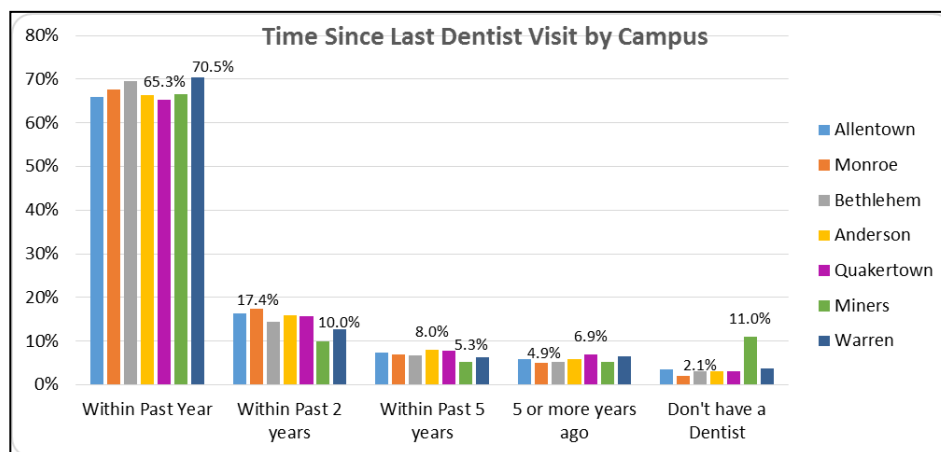
The social determinants of health such as poverty, education, and unemployment may all be reasons why people are not accessing even available care. From our 2016 community survey we found that most respondents in the St. Luke's Monroe service area had visited their PCP within the past year (74.3%).

For SLUHN as a whole we found interesting relationships between the type of insurance the respondent had and the last time they visited their PCP. 69.2% of respondents with private insurance saw their PCP within the last year compared to 41.1% with no insurance coverage.

If an individual has not visited their primary care physician for a routine checkup within the past year, this could be impacting their overall health status due to conditions not being treated or conditions progressing. We can examine a piece of health status by examining the number of days the respondent could not perform daily functions due to physical health issues. From our 2016 community survey, we found that 42% of respondents in the St. Luke's Monroe service area reported missing one or more days of normal activity in the past month due to poor physical health.



Since it seems that access to dentists may be limited due to availability and insurance coverage, we examined when was the last time respondents visited the dentist, as well as the type of dental insurance that they used, as a part of our 2016 community survey. As evidenced by the graph below, the majority of respondents throughout the network had seen their dentist within the past year.

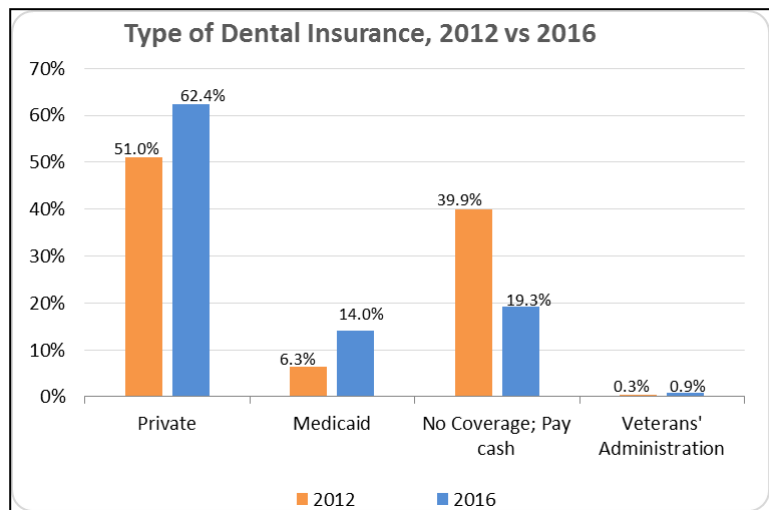


For SLUHN as a whole, we found a pattern between income and time since last dentist visit. Our 2016 survey results showed us that 51.3% of respondents who reported making less than \$24,999 saw a dentist in the past year as compared to 82.3% of respondents who reported

making over \$60,000. Additionally, 8.0% of those making less than \$24,999 do not have a dentist compared to 1.0% of those making more than \$60,000.

We also examined type of dental insurance respondents used in the network as a whole, comparing data from our community survey in 2012 to our survey from 2016. The percentage of respondents throughout the network using private insurance to cover their dental care increased to 62.4%, the percentage using Medicaid more than doubled (from 6.3% to 14%), and the percentage of those who had no coverage or paid cash greatly decreased. This is a great improvement because the data show us that more people have become insured and less people are uninsured or having to pay with cash, which ultimately should help boost access to dental care. Although these results are promising, we found interesting disparities when examining type of dental insurance used in relation to income for the network as a whole.

22.9% of respondents who reported making less than \$24,999 used private insurance to pay for dental care as compared to 86.8% of respondents who reported making more than \$60,000. Additionally, 30.7% of respondents who reported making less than \$24,999 did not have a dentist as compared to 10.5% respondents who reported making more than \$60,000.



Lack of insurance is one of the largest barriers to accessing healthcare. If people are not covered by health insurance they may either have to pay out of pocket or forgo receiving care because it is too expensive. Either way, individuals who are not covered by insurance suffer financial and physical burdens. In the St. Luke's Monroe service area, 11.37% of the total population is uninsured, as compared to 9.81% uninsured in Pennsylvania and 14.87% uninsured in the U.S. (ACS, 2009-13). Looking more specifically at the percentage of the population with insurance who are enrolled in Medicaid or other types of public health insurance is important because Medicaid enrollees are a vulnerable population of individuals since they are likely to have lower incomes and may have more barriers to receiving care. The percent of the insured population receiving Medicaid in the St. Luke's Monroe service area is 16.11%, which is lower than the percentages seen in Pennsylvania (18.24%) and in the U.S. (20.21%) (ACS, 2009-13).

Our survey also showed that when asked to choose the reasons why they missed a medical appointment, many respondents chose responses that revolved around insurance coverage. In terms of the St. Luke's Monroe service area, out of the top five reasons for postponing care, 13.2% of the responses were that their share of the cost was too high, 10.1% said they didn't

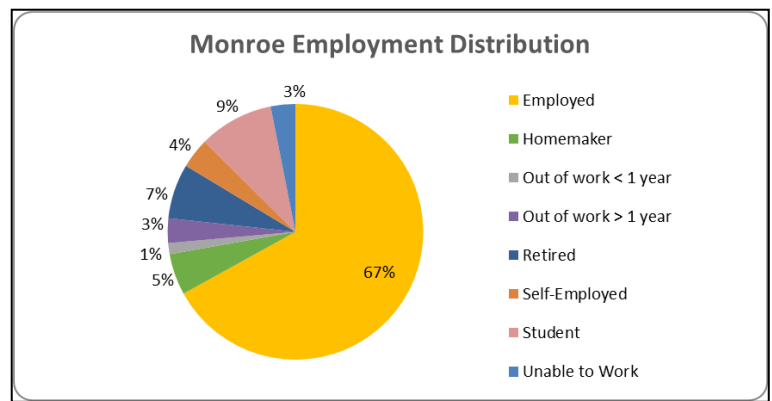
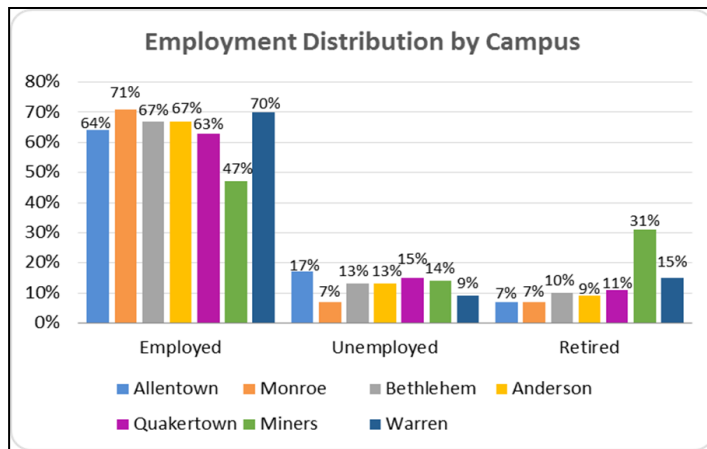
have health insurance, and 9.4% said insurance didn't cover what they needed. This shows that lack of insurance or coverage for certain services poses a significant challenge to receiving care.

Top Five reasons for Postponement of Care in St. Luke's Monroe Service Area

Reason for Postponement of Medical Care at Monroe	Percentage of Responses
My share of the cost was too high (deductible/copay)	13.2%
Didn't have health insurance	10.1%
Insurance didn't cover what I needed	9.4%
Couldn't get time off from work	9.4%
Didn't think problem was serious	8.3%

Besides some of the more visible barriers to care such as lack of PCP's or health insurance, unemployment and poverty are two additional important indicators of access to care, because if one does not have a job they are less likely to have insurance, and if they are in poverty it may be more difficult to pay for healthcare services out of pocket. According to the Bureau of Labor Statistics (August 2015), 7.1% of the population over the age of 16 in the St. Luke's Monroe service area are unemployed. This percentage is higher than the percentage of the population unemployed in Pennsylvania (6.1%) and in the U.S. as a whole (6.3%).

Our 2016 community survey revealed that 7% of respondents in the St. Luke's Monroe service area are unemployed, which is nearly the same as the 7.1% of respondents that are unemployed in the service area as a whole (Bureau of Labor Statistics- August 2015). The employment distribution shows the breakdown of employment status for our service area, where we can see that more than half of respondents were employed/ self-employed (71%). The percentage of those who are unable to work (pictured in the pie chart) is much lower than the percentages for the other SLUHN hospital campuses.

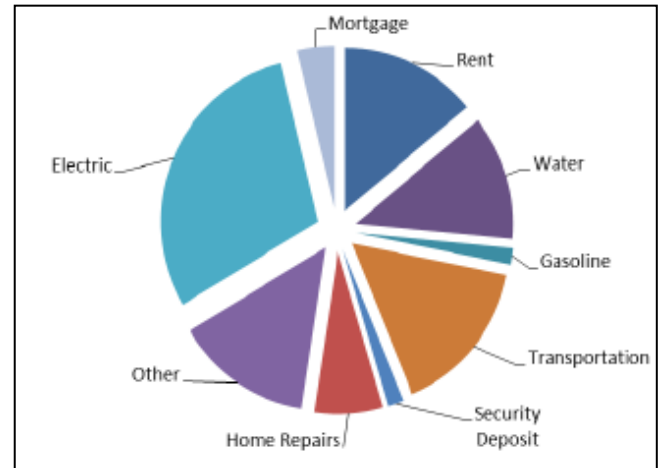


Unemployment and poverty may also cause other financial strains on a family. According to the Pocono Alliance, a community organization that focuses on improving healthy living in the Monroe area, 42% of their clients were in need of financial help within the categories listed below. Both charts below from the Pocono Alliance July 2015 report show that poverty not only impacts health, but has far reaching implications for the community member's ability to pay for other necessary services.

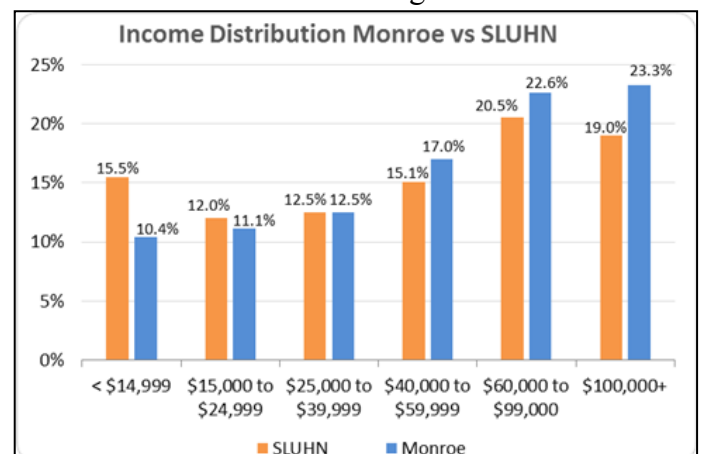
Temporary Financial Assistance Needs

42% of Clients Needed Financial Assistance:

Rent	26	Transportation	29	Electric	55
Gas	0	Security Deposit	3	Health Related	0
Oil	0	Home Repairs	13	Mortgage	7
Water	33	Prescription	0	Phone	0
Gasoline	3	Other	26		



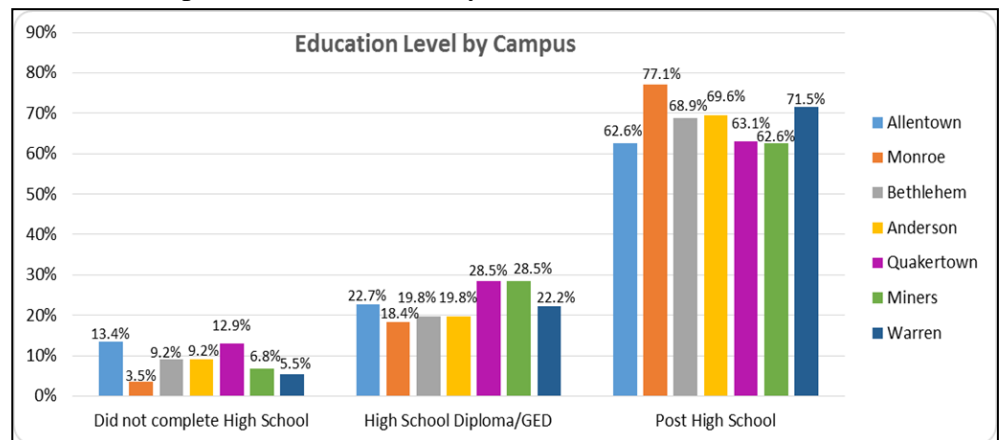
As mentioned previously, 10.67% of the St. Luke's Monroe service area population are living at or below 100% of the Federal Poverty Level (FPL) and 27.82% of the population are living at or below 200% of the FPL (ACS 2009-13). Across all of the focus groups, poverty was discussed as one of the major issues that must be addressed in order to improve the overall health of the SLUHN communities. Per capita income and household income are two other possible indicators of poverty. Having a lower average per capita income suggests that people may be less likely to afford care that may not be covered by insurance (i.e. dental care) and may have difficulty paying out of pocket for care if they are uninsured. The per capita income in the St. Luke's Monroe service area is \$26,122, which is lower than the state per capita income (\$28,502) and the national per capita income (\$28,154) (ACS, 2009-13). This graph is a comparison of the income distributions from our 2016 community survey, comparing the income distribution in the St. Luke's Monroe service area to that seen in SLUHN as a whole. SLUHN has a higher percentage of respondents who reported incomes at the \$25,000-\$39,999 and below, whereas the St. Luke's Monroe service area has higher percentages of respondents who reported incomes at from \$40,000-\$99,000. Interestingly, there is a large difference (8.6%) in those who reported incomes at \$100,000 and above for SLUHN (19%) as compared to St. Luke's Monroe (23.3%). In 2015, the federal poverty level for a family of four was \$ 24,250 (U.S. Department of Health and



Human Services, 2015). This graph on the previous page suggests that there is a considerable variation in the incomes reported in the St. Luke's Monroe service area, with 34% reporting incomes below \$39,000 and 62.9% who reported incomes above \$40,000. From these two discussions, we can see that unemployment and poverty are both social determinants of health that are important to understand when addressing the health status of our community.

Level of education is a factor that influences health disparities. Research has taught us that education is tied to earning capacity, and studies such as the renowned Whitehall Study have directly correlated socio-economic status with health outcomes. Higher levels of education generally lead to better health outcomes. More specifically regarding education, in the St. Luke's Monroe service area, 10.85% of the population over the age of 25 does not have a high school degree (ACS, 2009-13). This percentage is lower than the rates seen in Pennsylvania (11.34%) and in the U.S. (13.89%). Looking at those who do have some higher education, we can see that in the St. Luke's Monroe service area 32.33% of the population over the age of 25 have an Associate's degree or higher, which is lower than the percentages of those who have an Associate's degree or higher in Pennsylvania (35.14%) and in the U.S. (36.65%). Our 2016 community survey data revealed that the highest percentage of respondents in the St. Luke's Monroe service area either reported having education beyond high school (77.1% - the highest percentage across the networks) or having received a high school diploma or GED (18.4%). The percentages of respondents who did not complete high school (3.5%) were much lower than what was seen for the other SLUHN campuses. As evidenced by the distribution below, we can

see that there is considerable variation in educational attainment across the St. Luke's Monroe service area. This is important to take into consideration when addressing the health needs of our service area, since education has been noted to influence health behaviors and health status.



Language barriers were recognized throughout other campus focus groups as a barrier to improving overall access to care for children and adults, because the patients have trouble communicating with their healthcare professional. The population with Limited English Proficiency (LEP) is represented by the percentage of the population over the age of five that speak a language other than English at home and speak English less than "very well." In the St. Luke's Monroe service area, 3.62% of the population has LEP, as compared to 3.92% of the

population in Pennsylvania and 8.63% of the population in the U.S. (ACS, 2009-13). Within the campus focus groups language barriers were also discussed in terms of the fact that there are generally not enough physicians who speak Spanish. As more information is learned about the St. Luke's Monroe service area, this may be an issue to be addressed.

2. Promoting Healthy Lifestyles and Preventing Chronic Disease

Access to grocery stores is vital in promoting healthy lifestyles and healthy behaviors because eating healthy foods contributes to overall positive physical health. According to the U.S. Census Bureau's County Business Patterns (2013), the rate of grocery stores per 100,000 population in the St. Luke's Monroe service area is 12.97. This rate is much lower than the rates in Pennsylvania (21.4) and in the U.S. (21.2). If people have limited access to grocery stores they are less likely to have access to fresh fruits and vegetables, and more likely to resort to accessing their food from other sources such as fast food restaurants and convenience stores. Across the focus groups, improving education about healthy eating and physical activity was deemed as very important in order to promote healthy lifestyles in the community. Most of the focus groups recommended doing this education in the schools, because when children learn these healthy habits they will hopefully adopt them into adulthood, and teach their family members as well.

Looking at the map (showing parts of Monroe County, Carbon County, Pike County and Northampton County) we can see which areas are considered food deserts. According to the U.S. Department of Agriculture (USDA), a food desert is a place in which people do not have easy

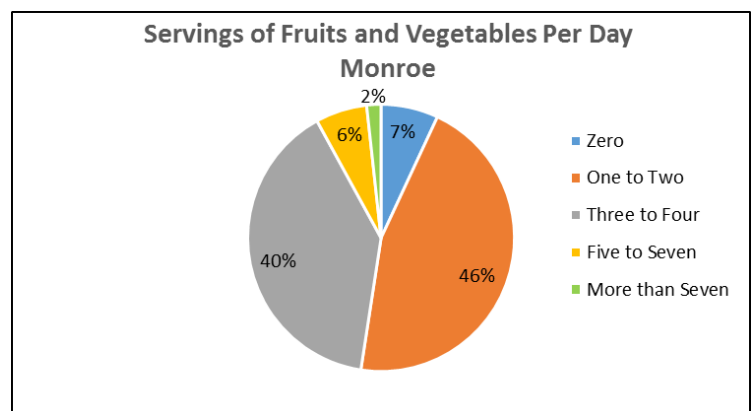
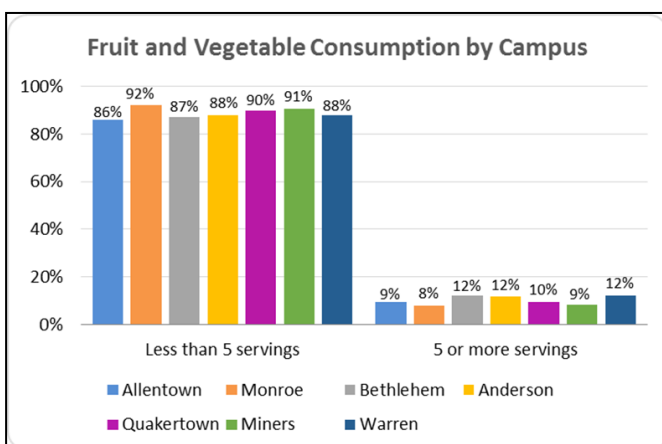
access to fresh and healthy food, and much of their food comes from fast food restaurants and convenience stores. Looking at the food desert map, the green areas show the low income census tracts where a large portion of the residents live 1 mile away (for urban areas) or 10 miles



away (for rural areas) from a grocery store. The purple represents areas where a significant number of families do not have a car and live more than half of a mile from the closest grocery store. The brown shows areas where at least 1/3 of the population lives greater than 1 mile (for urban areas) or 20 miles (for rural areas) from the closest grocery store. As exemplified by the

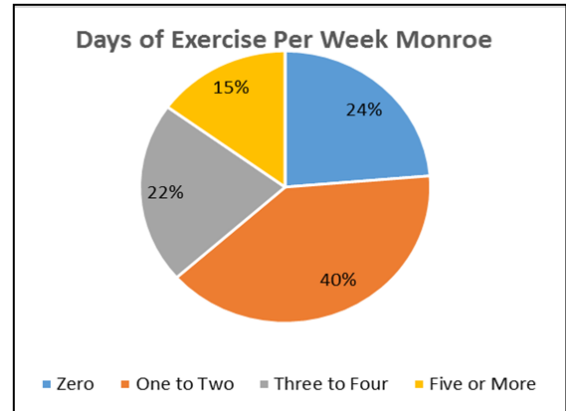
map below, we can see that there are pockets of areas where people live more than 1 or 20 miles from a grocery store and families that do not own cars and live more than a half a mile from a grocery store. From this information we can see that there is a sizeable population of individuals who do not have cars, and live in areas with low food access, making it very difficult to obtain healthy food. We can also examine food insecurity, which reports people's ability to access food and to be able to live a healthy lifestyle. Food insecurity may also represent an inability to provide all necessities for one's family, therefore having to resort to buying fast food instead of healthy food such as fruits and vegetables. In Monroe County 12.4% of the population is food insecure (Feeding America, 2013).

After examining access to grocery stores, food deserts, and food insecurity, it is important to look at fruit and vegetable consumption in our service area, since the previously mentioned factors may be limiting people's ability to meet the FDA recommendations for fruit and vegetable consumption. The bar graph below from our 2016 community survey shows the breakdown by each SLUHN campus in regards to respondents meeting the FDA recommended consumption of fruits and vegetables (five or more servings per day). In terms of the St. Luke's Monroe service area, only 8% of respondents are meeting the FDA recommendations of consuming five or more servings of fruit and vegetables per day, which is the lowest seen across the SLUHN campuses. The bar graph shows that 92% of respondents are consuming less than five servings of fruit and vegetables per day, with the pie chart displaying that the largest percentage are consuming one to two servings per day (46%). The low percentage of those meeting the FDA recommendation for fruit and vegetable consumption in the St. Luke's Monroe service area could be attributed to the limited access to grocery stores or food insecurity as previously discussed.



Lack of physical activity among community members is a major barrier in promoting healthy lifestyles and preventing chronic disease. Active lifestyles have been shown to improve physical and mental health, and are important in decreasing rates of obesity and cardiovascular disease. In the St. Luke's Monroe service area, the percent of the population reporting no physical activity

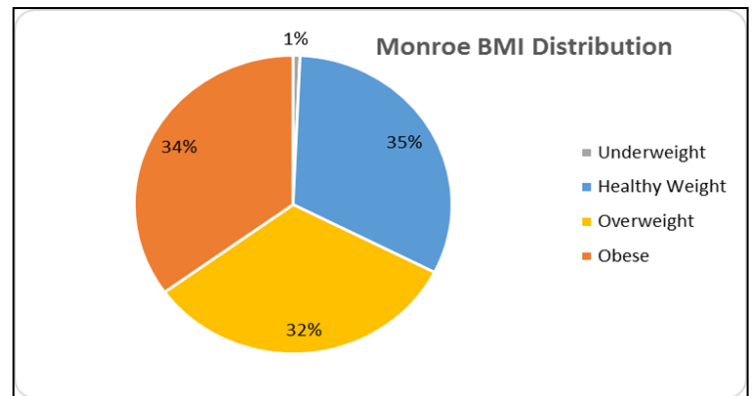
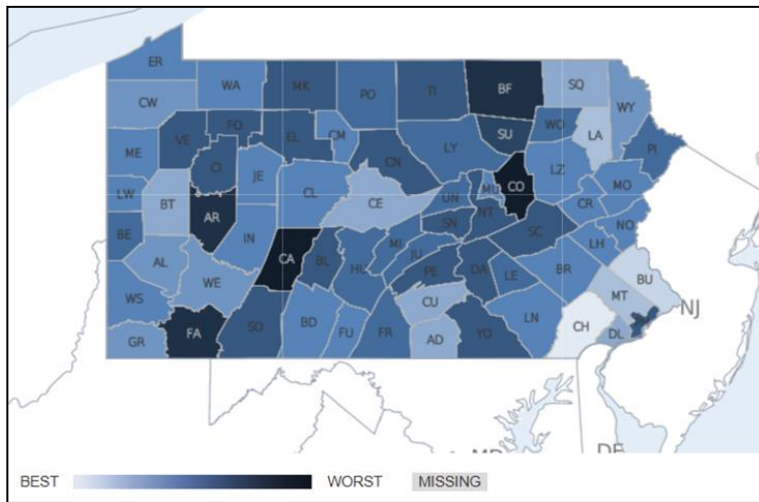
ranges from 20.2% in Pike County to 24.6% in Northampton County (National Center for Chronic Disease Prevention and Health Promotion, 2012). From our 2016 survey data, we found similar information, showing that 24% of respondents in the St. Luke's Monroe service area reported exercising 0 days per week. We can see that 37% of respondents are exercising more than three times per week (including three to four days and five or more days), but this leaves the majority of respondents likely still not participating in enough physical activity to stay healthy. The Healthy People 2020 target recommends that adults should be exercising 150 minutes per week, an average of 30 minutes per day for five days a week. The target for 2020 is that 47.9% of adults reach this benchmark and currently, only 16% of survey respondents in the whole SLUHN service area are exercising at least five times per week.



To gain a better sense of what physical activity looks like in our region, we can examine the Robert Wood Johnson 2015 County Health Rankings, which has an access to exercise opportunities indicator. This indicator measures the percentage of individuals in a county who live reasonably close to a location for physical activity. Locations for physical activity are defined as parks or recreational facilities. Parks include local, state, and national parks. 85% of the population in Pennsylvania lives close to opportunities for exercise as compared to 83% of the population in Monroe County and 78% in Carbon County.

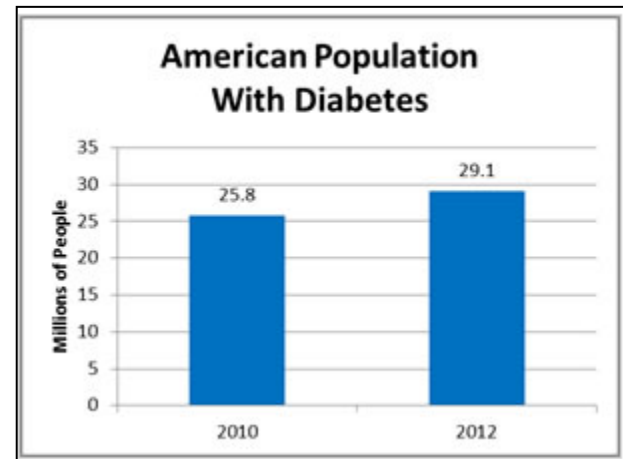
Another important topic within the health category of promoting healthy lifestyles and preventing chronic disease is obesity. Obesity is a very prevalent health issue in our community, and according to the State of Obesity (a project of the Trust for America's Health and the Robert Wood Johnson Foundation), rates in Pennsylvania are on the rise. Pennsylvania is ranked as the 20th amongst the 50 states (where 1 is the most obese state and 50 is the least obese state). Due to the limited access to grocery stores that serve healthy foods and the poverty levels, which restrict families to buying cheap fast food, obesity is growing quickly. Obesity is a risk factor for type 2 diabetes; coronary heart disease; stroke; high blood pressure; cancer; and some breathing conditions, among others. Obesity is determined by Body Mass Index (BMI), which is an indirect measure of an individual's body fat. For a person who has a normal weight the BMI range is from 18.5-24.9, for someone who is overweight the range is 25-29.9, and for someone who is obese the BMI is 30.0 or more (CDC, 2015). In the St. Luke's Monroe service area, the percent of adults who are obese ranges from 26.1% in Monroe County to 35.5% in Carbon County (Center for Chronic Disease Prevention and Health Promotion, 2012). In 2011, 12.2% of 2-4 year old children from low income families were obese (The State of Obesity, 2015). The age group with the highest obesity rate in Pennsylvania is 45-64 year olds, where 33.6% of this

population is considered obese (The State of Obesity, 2015). Below is a map of the state of Pennsylvania, where the percentage of the population that is obese within each of the counties is represented by white/light blue (lower percentages) and dark blue (higher percentages). Specifically in the St. Luke's Monroe service area, our 2016 community survey revealed that 34% of the respondents were obese, and 32% were overweight. This means that more than two thirds (66%) of respondents in our service area were overweight or obese.

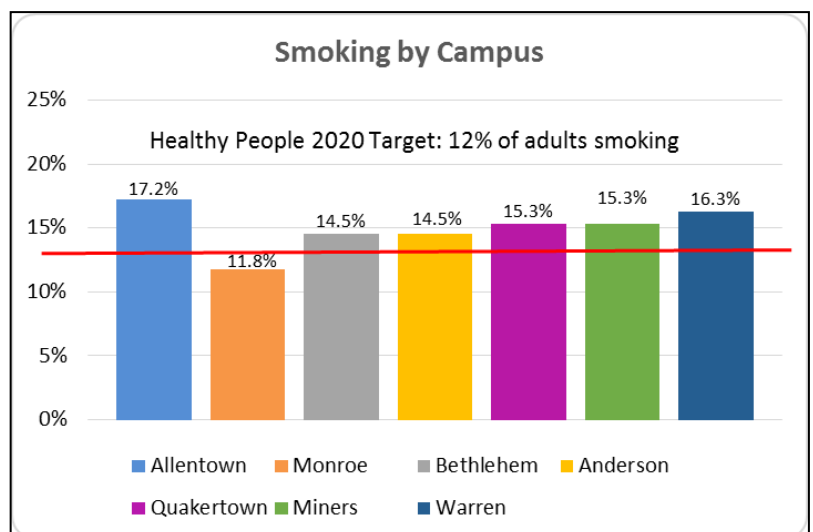


While focusing on programing is important in reducing levels of obesity, results from our 2016 community survey identified several demographic characteristics that were linked with a respondent's BMI. For SLUHN as a whole, amongst all respondents with a morbidly obese BMI, the largest percentage was evident among those earning less than \$14,999 per year (19.8%). Conversely, only 8.9% of the morbidly obese respondents reported making more than \$100,000 per year. The income range with the highest percentage obesity was \$15,000 - \$24,999 at 44.3%, while the lowest percentage of obesity was in the \$100,000 or more range at 31.0%. This is interesting because it shows us that there is an association between level of income and BMI, which reaffirms that the social determinants of health (such as income) must be taken into consideration when determining how to improve the health of our community. We also examined education, where 45.9% of those who did not receive a high school degree reported BMIs in the obese category and 41.7% of those who attained a high school diploma or GED reported BMIs in the obese category. 36.5% of those who completed education beyond high school fell into the obese category. This shows us that lower levels of educational attainment may be related to obesity. Making connections of the social determinants of health related to obesity is important so that a multifaceted approach can be taken to reduce rates of obesity in our service area.

Diabetes is a prevalent chronic health condition strongly tied to obesity, so it is important to examine it in more detail. People who have diabetes have a much higher mortality rate due to heart disease, and it is also a significant risk factor for blindness (Pennsylvania Department of Health- Bureau of Health Promotion and Risk Reduction, 2011). The percentage of adults over the age of 20 who have been diagnosed with diabetes ranges from 8.1% (Carbon County) to 8.8% (Monroe and Northampton Counties) in the St. Luke's Monroe service area (National Center for Chronic Disease Prevention and Promotion, 2012). 8.86% of adults over 20 in Pennsylvania and 9.11% of adults over 20 in the U.S. have been diagnosed with diabetes (National Center for Chronic Disease Prevention and Promotion, 2012). This shows that the rates in our service area are similar to those seen at the state and national level. Within the Medicare population, 28.26% of the Medicare beneficiaries in the St. Luke's Monroe service area have been diagnosed with diabetes, as opposed to the rate of 26.66% in the state of Pennsylvania (Centers for Medicare and Medicaid Services, 2012). According to the National Diabetes Statistics Report (2014), diabetes was the 7th leading cause of death in the United States in 2010, but it is likely that many more deaths resulted from diabetes but were not reported as such. This happens because of the various co-morbidity conditions associated with diabetes. From 2010 to 2012 the rate of diabetes in the United States has risen from 25.8 million to 29.1 million people, this current percentage represents 9.3% of the U.S. population. The number of people in the U.S. over the age of 20 who had pre-diabetes also increased from 2010 to 2012, from 79 to 86 million people (National Diabetes Statistics Report, 2014).



Tobacco usage is another important factor to consider when discussing promoting healthy lifestyles and preventing chronic disease, because smoking contributes to illnesses such as cardiovascular disease, cancers, and asthma. In order to promote healthy living, cutting down on tobacco usage within the community is a necessity. In the St. Luke's Monroe service area, the highest rates of smoking are seen in Carbon County (30.5%) and Monroe County (23.4%) (BRFSS, 2006-12).

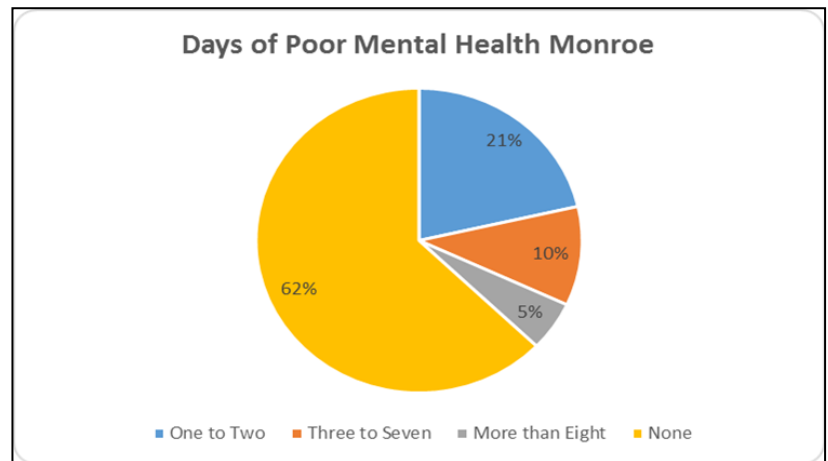


According to our 2016 survey, 11.8% of respondents in the St. Luke's Monroe service area report that they currently smoke. This was the lowest percentage seen across all of the SLUHN campuses, and it surpasses the Healthy People 2020 goal of having only 12% of adults smoking.

3. Improving Mental/Behavioral Health

In 2008, 13.4% of adults in the U.S. received care to treat a mental health issue (National Institute of Mental Health). This percentage was higher than in past years, but it still means that not all adults who have a mental health issue are receiving treatment for it. Additionally, greater than half of those who have problems with drugs and one third of those with a substance abuse problem have some sort of mental health problem (National Alliance on Mental Illness- Dual Diagnoses). In the section below we will talk about mental health as well as substance abuse individually, and we will also discuss the ways in which they are connected.

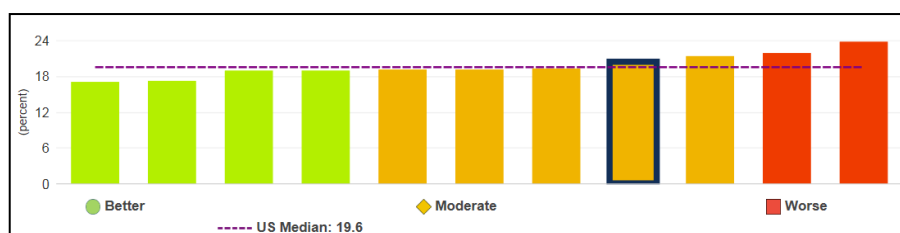
By first examining the number of days of poor mental health people report, we can begin to assess the mental health status of the St. Luke's Monroe service area. According to our 2016 survey data, in the St. Luke's Monroe service area, 36% of respondents reported missing one or more days of normal activity in the past month due to poor mental health. Those who are missing days of normal activity due to poor mental health may not be receiving any type of treatment for their condition, which is important to take into consideration when reading the rest of this section about the other issues related to mental health within our service area.



Access to mental health professionals is another challenge in improving mental health within the population. If there is a shortage of mental health professionals in the area people will be unable to obtain treatment and will continue to suffer. The mental health providers indicator from the Robert Wood Johnson 2015 County Health Rankings reports the ratio of the county population to the number of mental health providers including psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists and advanced practice nurses specializing in mental health care, and mental health providers who treat alcohol and other drug abuse. A good rate is represented by a smaller number of the population per one mental health professional. In the St. Luke's Monroe service area, the two lowest rates were seen in Monroe County (1,161:1) and Carbon County (2,314:1). However, the rate seen in the top performing counties in the U.S. was 386:1.

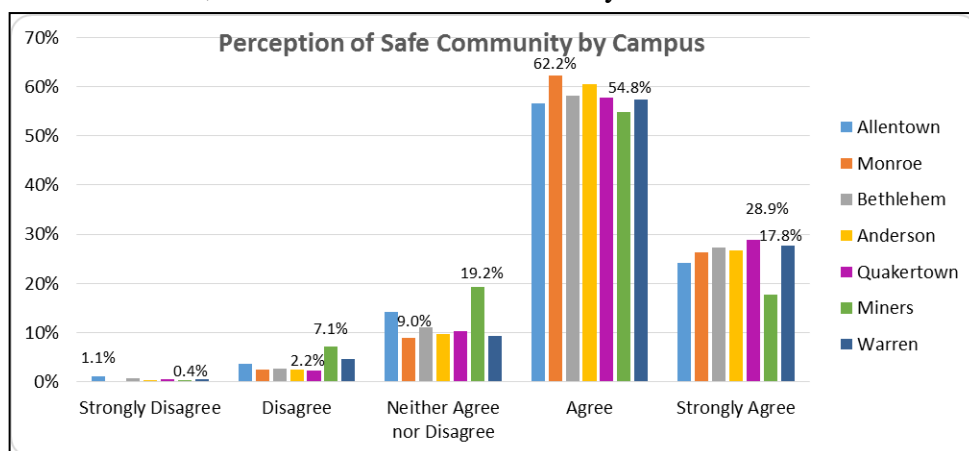
It is important for community members to have social or emotional support in order to feel confident getting through everyday problems; more importantly, social and emotional support is vital to maintaining positive mental health. Additionally, if we are able to indicate whether certain communities are lacking in emotional support or have minimal social associations, we can address these shortcomings in programming and care. As can be seen from the graph below, in Monroe County specifically, 20.5% of adults report having inadequate social support, as compared to the U.S. median of 19.6 (BRFSS, 2006-12).

Inadequate Social Support



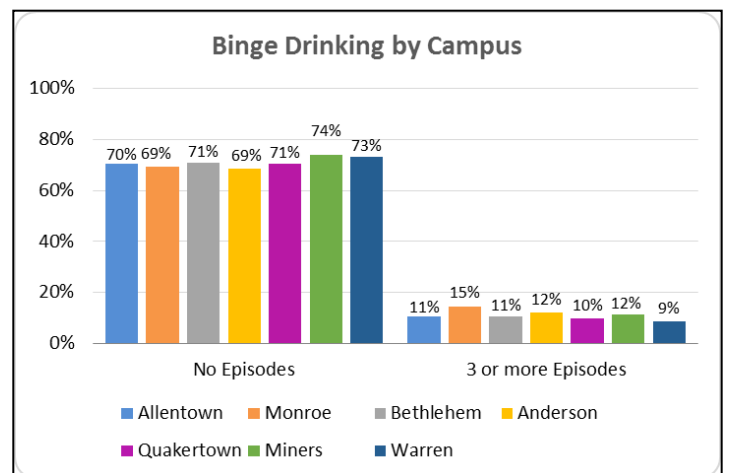
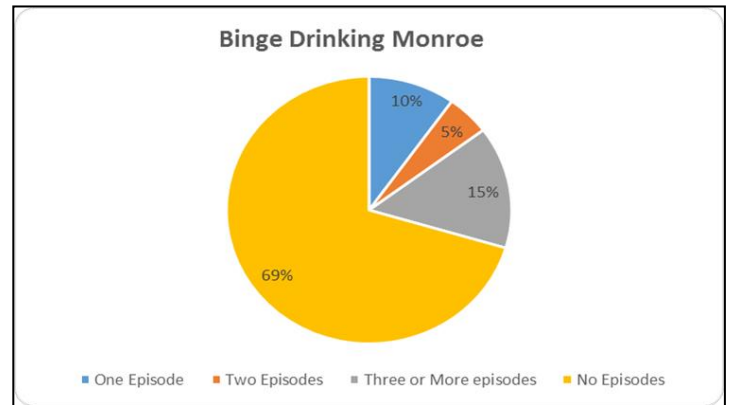
Unemployment and poverty were discussed earlier as influencing access to care, but they are also important social determinants of health to take into consideration when examining issues of mental health. They are important to examine because not having a stable job and the stress of providing for oneself and one's family are risk factors for poor mental health.

The environment people live in greatly affects their mental health status. If people are living in a community where violent crime is prevalent, they will likely feel unsafe in their own homes and this is very stressful for many. It is important to look at rates of violent crime in our community so that we can address these issues and allow people to feel secure in their own communities. According to the FBI Uniform Crime Reports (2010-12), which examines the rate of violent crimes reported by law enforcement per 100,000 community members, the violent crime rate in the St. Luke's Monroe service area is 287.55, which is lower than the Pennsylvania rate of 362 and the national rate of 395.5. From our 2016 community survey, we found that across all of the SLUHN campuses the majority of respondents agreed that their community was a safe place to live. In the St. Luke's Monroe service area, 62.2% of respondents



agreed that they lived in a safe community, which was the highest percentage seen across the seven SLUHN campuses.

Excessive alcohol consumption could be an indicator of a substance abuse problem, and may be contributing to or worsening an individual's mental health condition. In the St. Luke's Monroe service area the percentage of the adult population that report drinking excessively ranges from 15.5% in Pike County to 24.5% in Monroe County (BRFSS, 2006-12). The percentage of adults who reported binge drinking in Monroe County is much higher than the percentage of adults who report binge drinking in Pennsylvania (18.7%) and the percentage in the U.S. as a whole (16.9%). According to our 2016 community survey, in the St. Luke's Monroe service area, 69% of respondents reported no episodes of binge drinking in the past month, however, 30% reported having one or more episodes of binge drinking in the past month.



For the network as a whole, we examined the association of gender to binge drinking. We found that among those who reported no episodes of binge drinking, 74.4% of the respondents were female and 63.2% were male.

4. Improving Child and Adolescent Health

The percentage of children under the age of 19 without health insurance coverage was reported by the U.S. Census Bureau Small Area Health Insurance Estimate (2013). In the St. Luke's Monroe service area, 6.26% of the child population does not have health insurance, which is higher than the percentage in Pennsylvania (5.55%) and lower than the percentage in the U.S. as a whole (7.51%). Lack of health insurance of children and adolescents is a key indicator of child and adolescent health, which can be improved upon to create a healthier youth population. In many of the other campus focus groups, St. Luke's mobile health vans were discussed as an asset to build upon, since they provide many necessary services to students who are uninsured.

Childhood and adolescence are vulnerable times for growing children, where they must be nurtured and cared for, so if a family is in poverty this puts great strain on providing the youth with the basic necessities. 13.38% of children in the St. Luke's Monroe service area are living in households with incomes at or below 100% of the FPL, as compared to 18.76% of children in Pennsylvania and 21.58% of children in the U.S. as a whole (ACS, 2009-13).

Education is one of the most important social determinants of health that must be addressed in order to reduce health disparities. If children are not healthy they are more likely to miss school, feel less motivated to succeed, and may have an inhibited ability to learn (U.S. Department of Education). Higher education has also been tied to reducing risky health behaviors and better health status. In Monroe County specifically, the school districts include Pocono Mountain School District, Pleasant Valley School District, East Stroudsburg Area School District and Stroudsburg Area School District. Throughout all of the other campus focus groups, schools were discussed as an important asset to providing students and parents with information about health services, promote healthy lifestyles, improve knowledge about healthy eating, and as a place for social and emotional support. This was especially prevalent in the discussions about community schools, which provide holistic support for students and families.

Free or reduced lunch eligibility is determined based on income eligibility guidelines set forth by the USDA. 42.01% of the students are eligible to receive free or reduced lunch in the St. Luke's Monroe service area, which is lower than the Pennsylvania percentage of 43.58% and the U.S. percentage of 52.35%. If children are eligible for free or reduced lunch this means their family income is sufficiently low, which may mean there may not be enough income to buy enough food at home or to pay for other things such as healthcare.

It is important to look at risky health behaviors involving drugs and alcohol in youth, because it is likely that these bad habits could carry on into adulthood. Additionally, because of the complex relationship between substance abuse and mental health issues it is important to know what the youth in our community are doing in order to prevent the transition from experimenting to abuse. Data from the Pennsylvania Youth Survey (PAYS) were not available for Monroe County, because the county has less than two public school districts that agreed to take part in the data collection. However, we can look at the youth data from PAYS presented in the Report on Underage and High Risk Drinking from the Pennsylvania Liquor Control Board for the state of Pennsylvania as a whole and compare it to national data from the Monitoring the Future 2013 survey results. When asked about lifetime use of alcohol in the past 30 days, 74.2% of 12th grade students in Pennsylvania as opposed to 68.2% nationally reported alcohol consumption. Rates of binge drinking (five or more drinks in one sitting) reported on more than one occasion in the past two weeks was slightly lower for 12th grade students in Pennsylvania (21.8%) than the percentage of students nationally (22.1%). Rates of using marijuana and other illicit drugs were lower in the state of Pennsylvania as compared to national rates.

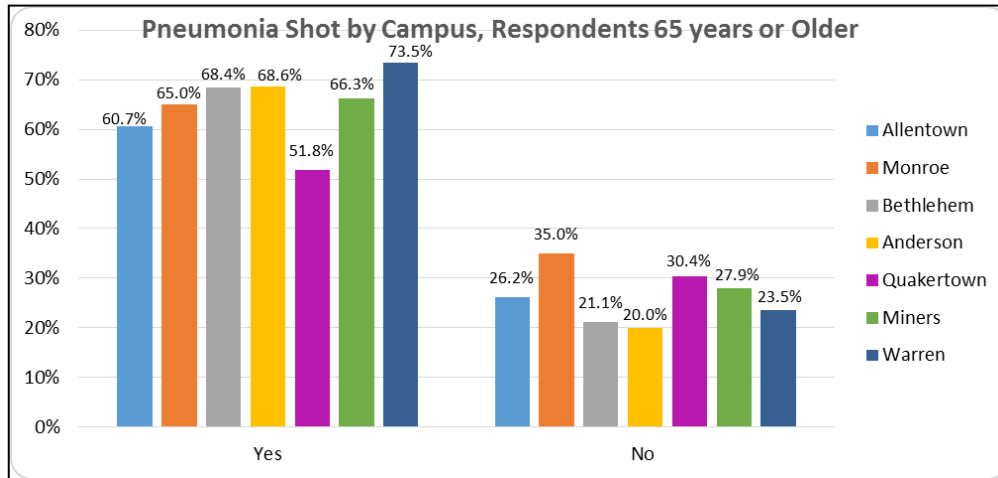
5. Improving Elder Health

Elder health is important to address because the elderly represent a very vulnerable population, who may have more difficulties than others in navigating the healthcare system. We can see through America's Health Rankings 2015 that Pennsylvania ranks 25th out of 50 for elder health, placing it squarely in the middle of all of the states within the U.S. The main challenges that Pennsylvania faces in preserving the health of the elderly are the high prevalence of obesity, the lack of physical activity, and the low prevalence of high quality nursing homes. There are other demographic and socioeconomic health issues that influence elder health, which will be discussed below.

According to the U.S. Census Bureau, elderly who are living to be the oldest tend to face more chronic illnesses. Approximately 80% of the elderly population in the U.S. has one chronic disease, and for this age group treatment and care for chronic diseases represents 95% of their healthcare expenditures (Pennsylvania Department of Health- Bureau of Health Promotion and Risk Reduction, 2011). Increasing physical activity, improving healthy eating, decreasing tobacco and alcohol use are all lifestyle behaviors that could be altered to help decrease rates of chronic disease. Within the Medicare population, 29.77% of beneficiaries in the St. Luke's Monroe service area have been diagnosed with ischemic heart disease. This rate is slightly lower than the Pennsylvania rate (30.04%) and slightly higher than the national rate 28.55% (Centers for Medicare and Medicaid Services, 2012).

The second leading cause of death in the U.S., which is also a chronic disease, is malignant neoplasms (cancer), so we should also examine the prevalence and mortality rates of cancer amongst the elderly population. When examining cancer mortality rates from 2000-2008, the death rate rose by 50% with each subsequent 5-year increase in age (Pennsylvania Department of Health- Bureau of Health Promotion and Risk Reduction, 2011).

In our 2016 community survey we looked at the variety of different health conditions present within each of the SLUHN hospital campuses, but this was not broken down by age. A high prevalence of elevated blood pressure, high cholesterol, and arthritis were identified in the St. Luke's Monroe service area (for the whole respondent population), which happens to correspond with the chronic disease conditions listed for the elderly in the Lehigh Valley Seniors Healthy at Home Survey (2014). Additionally, in our 2016 community survey, we looked at preventive health services utilized by respondents. In particular for the elderly, we examined whether or not they received their pneumonia shot. The chart on the following page shows that 65% of respondents over the age of 65 in the St. Luke's Monroe service area reported receiving their pneumonia shot.



Mental health is also important to take into consideration within the elderly population because often times it is overlooked, due to the burden of other chronic diseases. In the St. Luke's Monroe service area, 16% of Medicare beneficiaries have depression, which is slightly lower than the Pennsylvania percentage of 16.2% and is slightly higher than the U.S. percentage of 15.4% (Centers for Medicare and Medicaid Services, 2012). Across the campus focus groups members discussed improving social and emotional support for the elderly, since social support is thought to improve mental well-being.

It is important to examine seniors living in poverty because many times older adults must be able to cover costs of living and cover medical costs on their own. Additionally, as they age they may encounter more health issues, which results in greater healthcare costs. According to the Kaiser Family Foundation June 2015 issue brief, the national poverty rate for the population over the age of 65 is 15% under the Supplemental Poverty Measure (SPM) as compared to 10% poverty rate for the over 65 population using the Federal Poverty Level (FPL). (The SPM was created by the Census Bureau to take into account modern factors affecting level of income, such as information about financial resources, and regulation of poverty thresholds depending on geographical differences in the prices of homes). In 2013 the percentage of the 65 and older population that were positioned 200% below the SPM was 45%. Once more primary data is available about the state of the elderly in the St. Luke's Monroe service area, it will be important to address these factors.

III. Conclusion

Improving access to care/reducing health disparities, promoting healthy lifestyles and preventing chronic disease, improving mental/behavioral health, improving child and adolescent health, and improving elder health are the five main health priority categories that were identified based on needs and areas for improvement through our community survey, secondary data analyses, and the key stakeholder focus groups that were conducted for the other SLUHN hospital campuses. With the addition of this hospital we will have many new great services available to help improve health in our region, but a concentrated and sustained effort will be necessary amongst

all those who contribute to our community's health to create new programs and continue existing community programs to address the current concerns in a more holistic, integrated care model. These priority health categories discussed above will serve as our guide in creating an outcomes based implementation plan to best address the health needs of the St. Luke's Monroe service area.

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Appendix A. Community Resources and Programs

St. Luke's Monroe Campus

The following is a list of community resources, which include potential partners or organizations for our implementation plan:

Big Brothers Big Sisters of Monroe County
East Stroudsburg University
Head Start Monroe County
Northampton Community College- Monroe campus
Pocono Alliance