



Community Health Needs Assessment

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**Department of
Community Health & Preventive Medicine**

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I. St. Luke's Bethlehem 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. 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 in the appendices. 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 - Bethlehem Campus

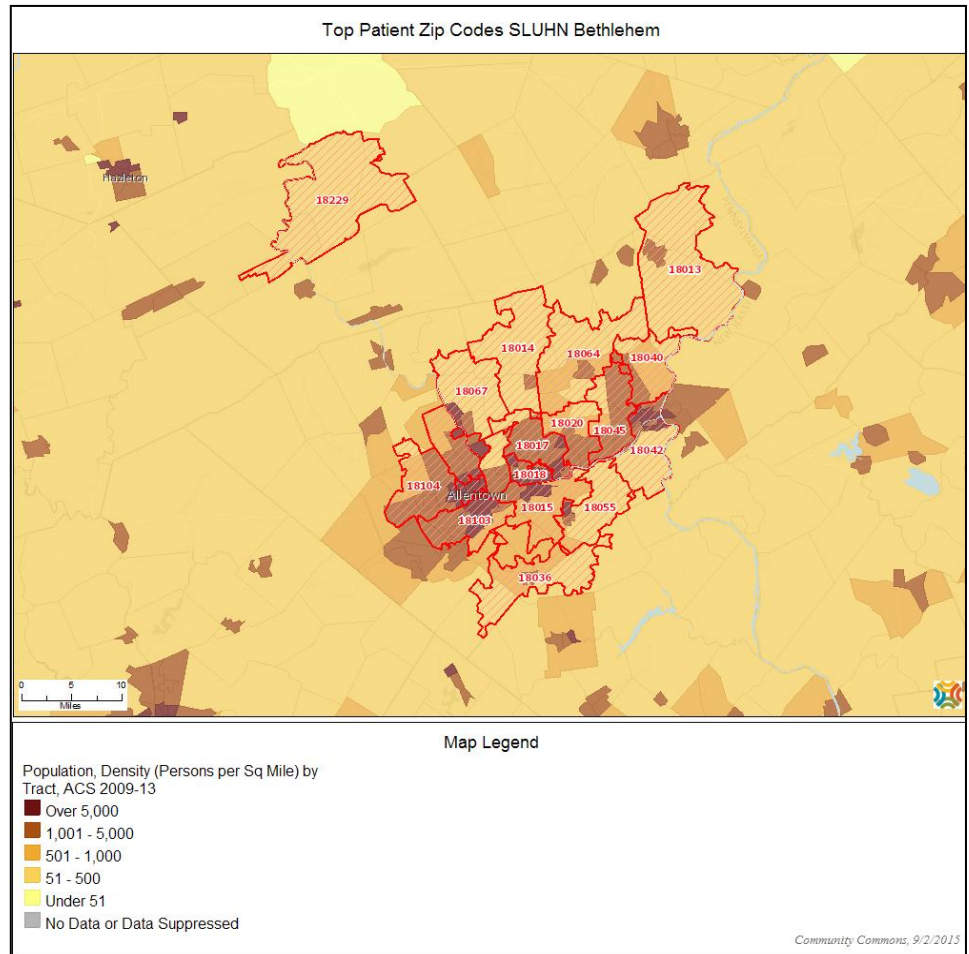
St. Luke's University Health Network's (SLUHN's) Bethlehem campus is the central hospital of the network, which was opened in 1876. The hospital resides in the Lehigh Valley, with Northampton as the largest county in the area and Bethlehem, Allentown and Easton as the major centers. The Lehigh Valley is a region with a rich history of trade and manufacturing, due to the strong presence of the late Bethlehem Steel Company. The Lehigh Valley is also an area of great cultural diversity that offers many exciting opportunities and events to become involved in the community such as Musikfest, Celtic Fest, ArtsQuest, the Hispanic Center, the Boys & Girls club, as well as many other Bethlehem based events and organizations. St. Luke's Bethlehem has a long standing relationship with community members due to its caring staff and doctors, as well as the hospital's involvement within the schools and the

community as a whole. The hospital is located at 801 Ostrum Street in the borough of Fountain Hill. This hospital facility contains 480 beds and provides many specialized and nationally recognized services such as its level 1 trauma center, robotic surgery, a nationally accredited open heart surgery program, neuroscience services, and radiology services, among others.

D. Geographic Description of Medical Service Area & Community Served

A total of 496,209 people live in the 408.57 square mile report area defined for this assessment, according to the U.S. Census Bureau American Community Survey (2009-2013) 5-year estimates. The population density for this area, estimated at 1,214.51 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 46,227 persons, a change of 10.34%. This population increase is greater than both the percent increase in population for the United States, which is 9.74%, and the percent increase in Pennsylvania, which is 3.43%.

We defined our service area by determining the top patient zip codes of our residents who receive services from St. Luke's Bethlehem. We defined the top zip codes as those that make up 80% of the population served by this hospital. This report will refer to this area as the "St. Luke's Bethlehem service area". The top five counties served by St. Luke's Bethlehem in Pennsylvania include Northampton, Lehigh, Carbon, and Bucks Counties in Pennsylvania, and Warren County in New Jersey. There are a total of 19 zip codes that were included in the final analyses. The map above identifies the areas served. On the following page is a table listing the top zip codes as well as the percentage that the population from each zip code constitutes for the patient population seen at St. Luke's Bethlehem and at SLUHN as a whole.



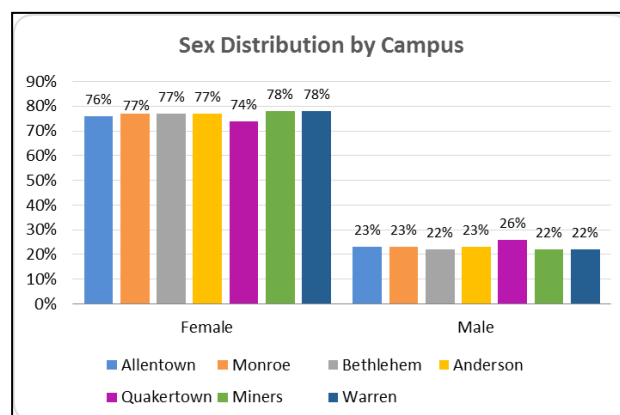
Analysis of Top Patient ZIP Codes, All Patients St. Luke's Bethlehem, 2014			
Facility	ZIP	% Bethlehem Campus	% SLUHN
Bethlehem	18015	14.91%	7.19%
Bethlehem	18017	14.53%	7.01%
Bethlehem	18018	10.26%	4.95%
Bethlehem	18042	5.04%	2.43%
Bethlehem	18064	4.82%	2.32%
Bethlehem	18020	4.55%	2.19%
Bethlehem	18103	3.72%	1.79%
Bethlehem	18055	3.28%	1.58%
Bethlehem	18045	2.65%	1.28%
Bethlehem	18102	2.55%	1.23%
Bethlehem	18014	2.23%	1.07%
Bethlehem	18067	2.02%	0.98%
Bethlehem	18109	1.93%	0.93%
Bethlehem	18052	1.54%	0.74%
Bethlehem	18104	1.49%	0.72%
Bethlehem	18036	1.39%	0.67%
Bethlehem	18013	1.37%	0.66%
Bethlehem	18040	1.23%	0.59%
Bethlehem	18229	1.06%	0.51%
Grand Total		80.55%	38.85%

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

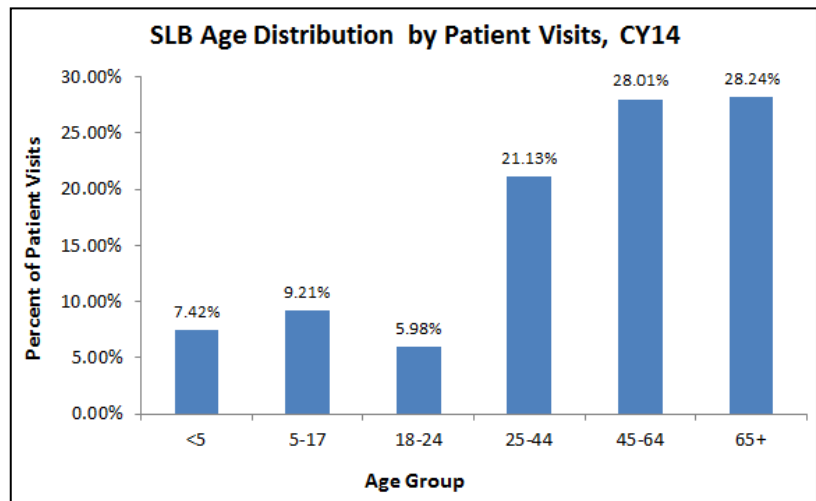
According to the U.S. Census Bureau's American Community Survey (ACS, 2009-13), the percentage of females in the St. Luke's Bethlehem service area ranges from 50.55% (Carbon County) to 51.41% (Lehigh County). The percentage of males ranges from 48.59% (Lehigh County) to 49.45% (Carbon County) (ACS, 2009-13). For males the percentage



range is lower, which is in accordance with the national trend of there being a lower percentage of males (49.19%) (ACS, 2009-13). In our 2016 community survey, the majority of our respondents from all of the SLUHN campuses were female. In the St. Luke's Bethlehem service area, 77% of respondents were female and 22% were male.

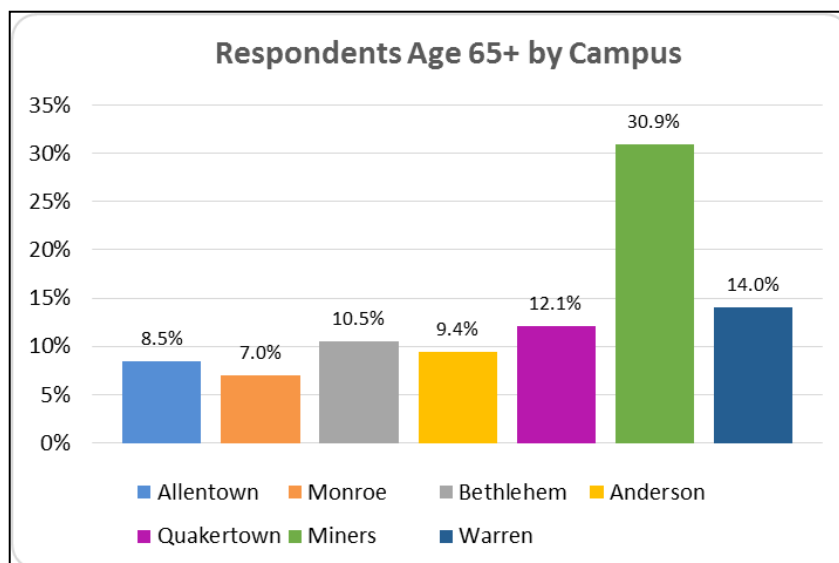
ii. Age

The percent of the population that falls under the age of 18 as reported by the ACS (2009-13) is 22.32% of the population, and the percent of the population that is over the age of 65 represents 15.79% of the population. This means that 61.89% of the population falls between the ages of 18-65. The age distribution graph by patient visits from St. Luke's internal data shows that the largest age group of the patients seen fell in the above 65



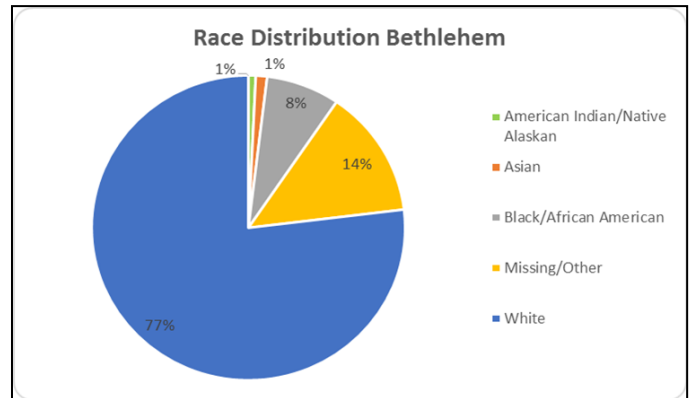
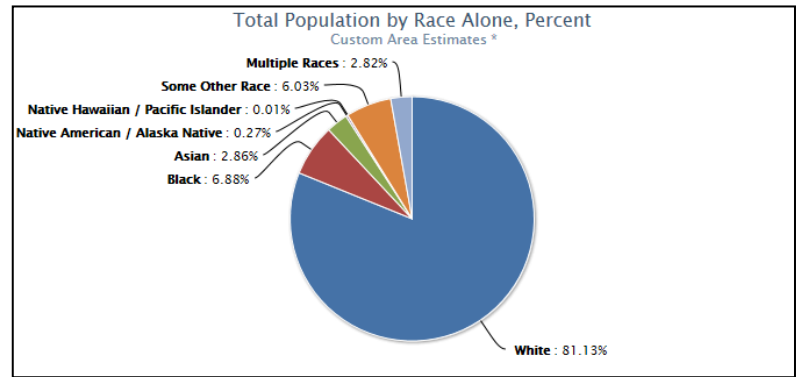
range, with 45-64 being the second highest age group from which patients visited St. Luke's Bethlehem in the past year. This age distribution graph covers all types of medical care, i.e. inpatient, outpatient, ER, primary care (SLB refers to St. Luke's Bethlehem in the graph).

In terms of our 2016 community survey, the age distribution of those who took the survey yielded interesting results. Although the 65 and older population constitutes 28.24% of the patients seen at St. Luke's Bethlehem (seen in 2014), only 10.5% of respondents who completed the survey were in this age bracket. One potential reason for the low response rate from the post-retirement age population may be that the majority of surveys were conducted via iPad or on a computer, which could be prohibitive for people who are unfamiliar with how to use such technology as the elderly population often is. However, this value is between the percentage of 65 and older in the population and the percentage we see as patients.



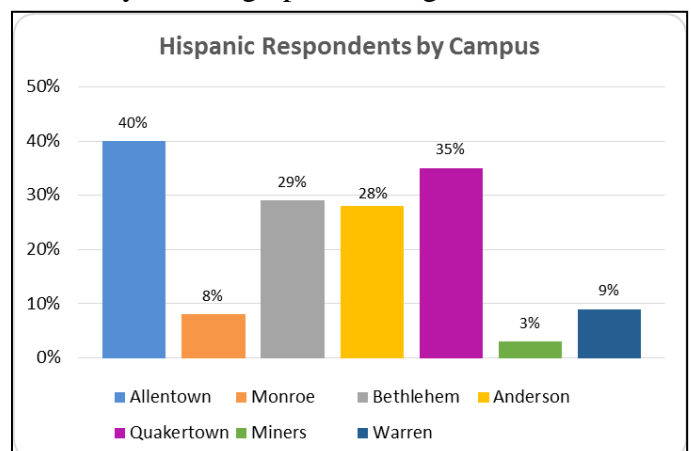
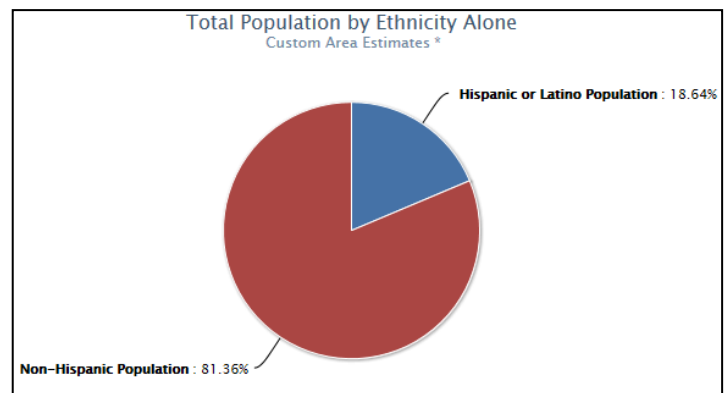
iii. Race

When the St. Luke's Bethlehem population is broken down by race, the top pie chart shows that most of the individuals in the population identify as White, constituting 81.13% of the service area (ACS, 2009-13). The second largest race group in this area is those who identify as Black, who represent 6.88% of the population (ACS, 2009-13). Overall, races other than White represent 18.87% of the total population in the St. Luke's Bethlehem service area (ACS 2009-13). In our 2016 community survey, we found a similar pattern to the total population breakdown by race, where 77% of the respondents identified as White and 8% identified as Black/African American, as seen in the bottom pie chart. 14% of respondents identified their race as Other, which may be higher than the Some Other Race category for the total service area population due to the fact that people in our service area who are Hispanic/Latino may not consider themselves to fall in the White race category.



iv. Ethnicity

By examining ethnicity, we can better understand what the St. Luke's Bethlehem population looks like. The data show that most of the population identifies their ethnicity as non-Hispanic (81.36%), and the remaining 18.64% of the population identifies as Hispanic or Latino (ACS, 2009-13). This breakdown is similar to the percentage of individuals in Lehigh County specifically who identify as Hispanic or Latino (19.58%) (ACS, 2009-13). As evidenced by the bar graph to the right, the 2016 survey was able to capture this vulnerable population in our data due to the larger proportion of Hispanic respondents than is seen in the total population. Our survey data revealed that 29% of the respondents from the St. Luke's Bethlehem service area identified as Hispanic.



v. Language

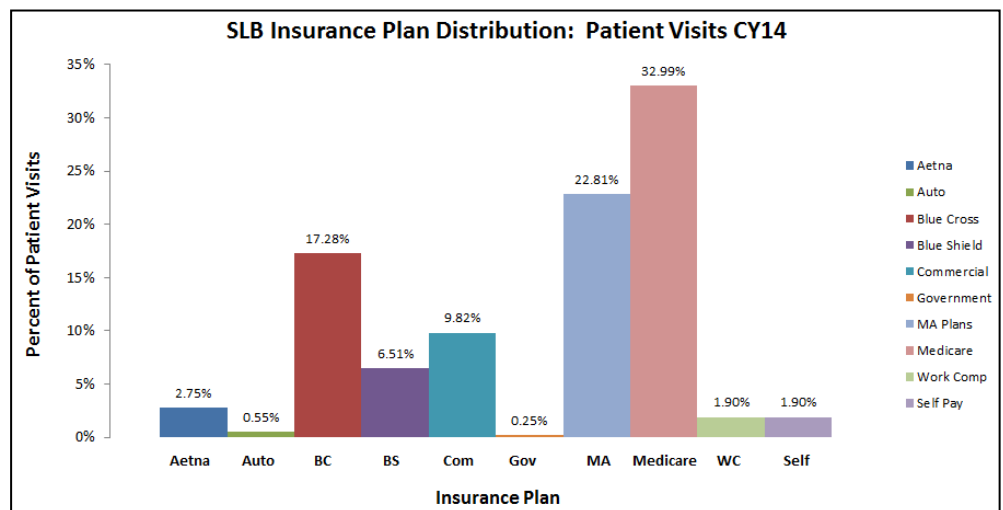
Bethlehem				
ZIP	% Facility	% Spanish Speaking in zip code	% of zip code who speaking Spanish but speak English less than "very well"	Next Frequent Language
18015	14.91%	22.37% (6,743 people)	8.28% (2,495 people)	Chinese (1% - 394 people)
18017	14.53%	9.8% (3,447 people)	4.25% (1,492 people)	Arabic (1% -363 people)
18018	10.26%	11.16% (3,506 people)	3.21% (1,009 people)	Greek (0.5% - 156 people)
18042	5.04%	9.82% (3,885 people)	3.69% (1,459 people)	Other Indic Languages (0.65% - 259 people)
18064	4.82%	1.26% (295 people)	0.33% (78 people)	German (0.7% - 154 people)
18020	4.55%	6.26% (1,230 people)	1.82% (358 people)	Portuguese (1.4% - 278 people)
18103	3.72%	24.41% (11,002 people)	10.78% (4,858 people)	Vietnamese (1.4% - 611 people)
18055	3.28%	2.18% (260 people)	0.25% (30 people)	Urdu (1.76%)
18045	2.65%	2.87% (702 people)	1.00% (247 people)	Other Indic Languages (1.88% - 461 people)
18102	2.55%	46.21% (19,756 people)	19.85% (8,485 people)	Arabic (2.4% - 1,030 people)
18014	2.23%	0.96% (106 people)	0.06% (7 people)	Italian (0.95% - 104 people)
18067	2.02%	3.33% (575 people)	1.72% (297 people)	German (1.01% - 174 people)

From the above chart we can see that the St. Luke's Bethlehem service area has community members who speak a wide variety of languages. This shows the great diversity of community members that we have living in the Lehigh Valley. The variety of languages present may also be indicative of the movement of people into the Lehigh Valley area. Translators/interpreters are required in locations where either over 5% of the community speaks a different language or over 1,000 community members mainly speak that language. Interestingly, for St. Luke's Bethlehem, this means many of the zip codes we serve indicate that we need Spanish and Arabic translators/interpreters.

vi. Health Insurance Plans

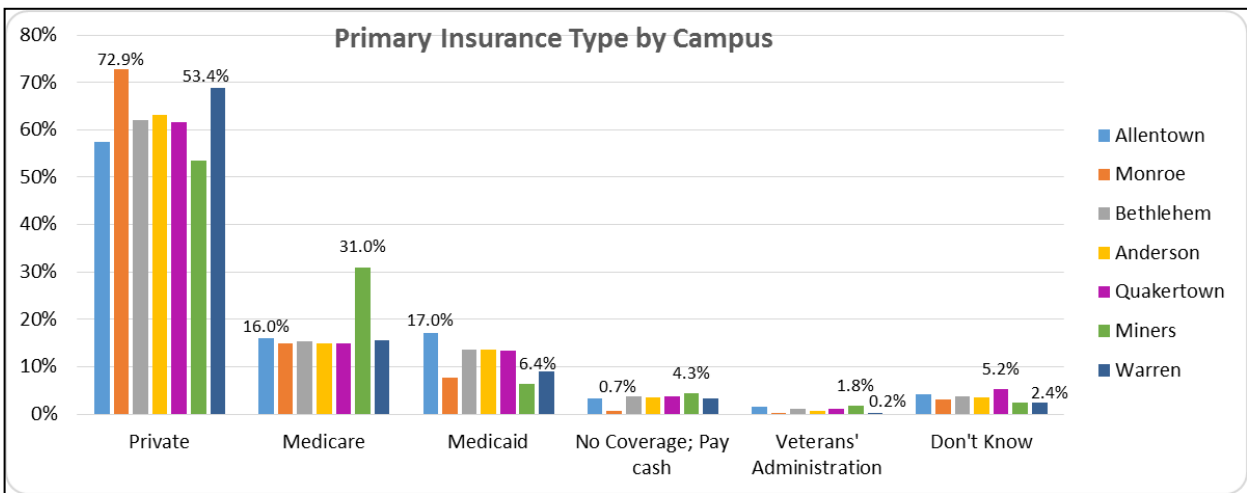
Our patients at St. Luke's Bethlehem utilize a variety of methods of payment to cover their healthcare needs. According to our internal reviews, the graph to the right shows that the highest percentages of our patients use medical assistance plans or Medicare to cover their healthcare costs. This distribution of insurance plans mirrors the pattern seen for St.

Luke's as a network, with medical assistance, Medicare, and Blue Cross also as the three most popular



forms of insurance used. Additionally, charity care (which is free or subsidized care from the hospital) is included in the self-pay category, which represents 1.9% of the coverage methods that our patients utilize. This insurance distribution covers all types of care, i.e. inpatient, outpatient, ER, primary care. For SLUHN as a whole the total cost of healthcare provided to uninsured and vulnerable populations for SLUHN in 2014 was \$48,796,104.

The bar graph below shows the breakdown of primary insurance types by SLUHN campus from our 2016 community survey, in which we found that 62.1% of respondents from the St. Luke's Bethlehem service area used private insurance, and 3.8% of respondents were uninsured and pay cash for their medical expenses. These percentages are similar to the distribution seen for the other SLUHN campuses.

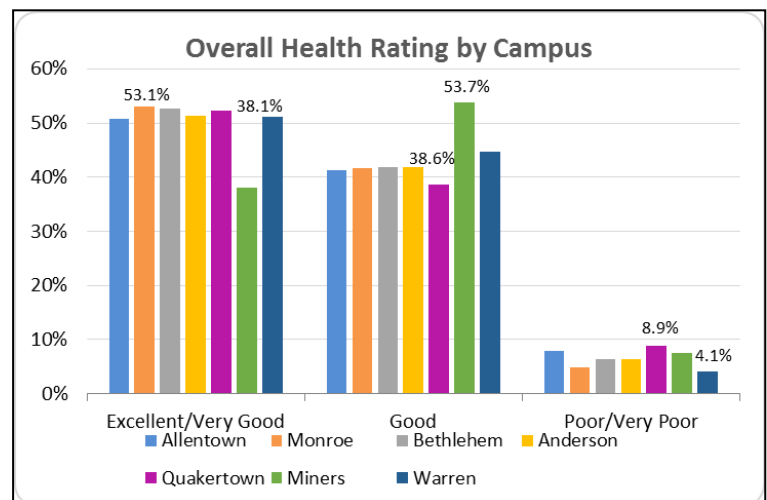


vii. Poverty

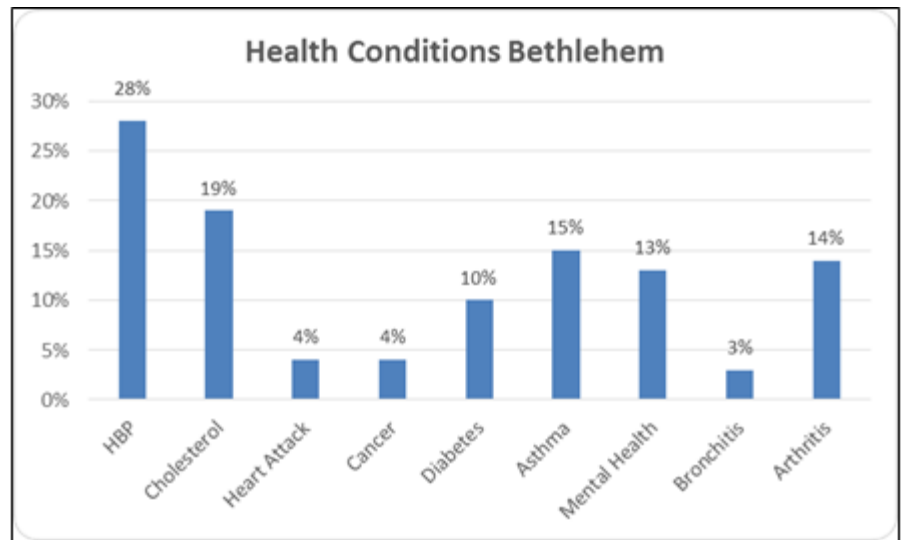
According to the ACS (2009-13), the percent of the population that have incomes that fall at or below 100% of the Federal Poverty Level (FPL) in the St. Luke's Bethlehem service area is 13.49%. This is compared to 13.3% of the population in Pennsylvania and 15.37% of the U.S. population who have incomes that fall at or below 100% of the FPL. In 2015, the federal poverty level for a family of four was \$ 24,250 (U.S. Department of Health and Human Services, 2015)

viii. Overall Health and Health Conditions

According to our 2016 community survey, most people in the St. Luke's Bethlehem 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. 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 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 Bethlehem service area reported having high blood pressure (28%) followed by high cholesterol (19%) and asthma (15%).



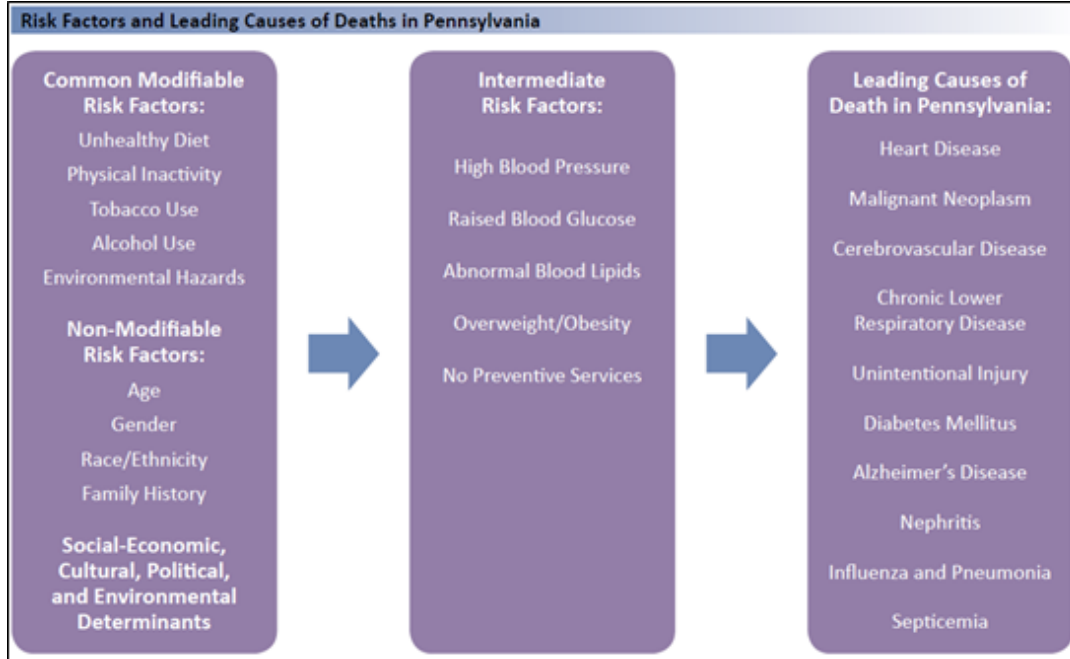
ix. Top Reasons for Hospitalization

The chart below displays the top 10 reasons for inpatient hospitalization at St. Luke's Bethlehem for 2014. Examining these reasons for hospitalization will help to understand the priority health categories that will be discussed in the next section. The top three causes for inpatient hospitalization in 2014 were cardiovascular, obstetrics, and general medicine. The highest percentage of respondents from our 2016 community survey in the St. Luke's Bethlehem service area reported high blood pressure and high cholesterol as conditions they had been diagnosed with, which are both risk factors for our top reason for inpatient hospitalization, cardiovascular disease.

Top 10 Reasons for Hospitalization by Service Line, Inpatients St. Luke's Bethlehem, 2014		
Service Line	Encounters	Rank
Cardiovascular	2,322	1
Obstetrics - Delivery	2,075	2
General Medicine	1,883	3
Behavioral	1,772	4
Pulmonary Medicine	1,453	5
Normal Newborns	1,387	6
Gastroenterology	1,200	7
Infectious Disease	940	8
General Surgery	908	9
Neonatal	777	10

x. Leading Causes of Death

This flow chart 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 priority health categories (Pennsylvania Department of Health- Bureau of Health Promotion and Risk Reduction, 2011).



In Northampton County in 2012, accidents were the leading cause of death for people ages 5-24 and 25-44. For people ages 45 and older, the top two leading causes of death were cancer and heart disease, with cancer as the number one leading cause of death for those ages 45-64 and as the number two cause of death for those ages 65 and older. The other leading causes of death for each age bracket in Northampton County are listed in the chart below (Pennsylvania Department of Health- Division of Health Informatics, 2014).

<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	15	Accidents	14	Accidents	24	Cancer	134	Diseases of Heart	598
Birth Defects	6	Assault (Homicide)	4	Cancer	17	Diseases of Heart	77	Cancer	503
Accidents	3	Cancer	3	Suicide	14	Accidents	25	C.L.R.D.**	107
		Suicide	3	Diseases of Heart	7	Diabetes Mellitus	14	Stroke	101
				Assault (Homicide)	3	Septicemia	13	Alzheimer's Disease	63
TOTAL	27	TOTAL	32	TOTAL	89	TOTAL	389	TOTAL	2,226

*In situ, benign, and uncertain neoplasms

Note: Total includes all other causes.

F. 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 Bethlehem service area. We can see that we live in an area where poverty is a prevalent issue, there are language barriers to care, and a large percentage of our patients utilize medical assistance. During the 2013-2016 CHNA cycle, we focused on child and adolescent health, mental health, healthy living and preventing chronic disease, reducing health disparities, and elder care. 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/reducing health disparities, promoting healthy lifestyles and preventing chronic disease, improving mental/behavioral health, improving child and adolescent health and improving elder health. We will expand upon the health needs within each priority health category individually. The focus group summary and a list of participants can be found in appendix A and B respectively. Implementation plan strategies will be written for the 2016-2019 timeframe with attention to the specific priority categories reviewed.

II. Health Category Profiles

1. Improving Access to Care and Reducing Health Disparities

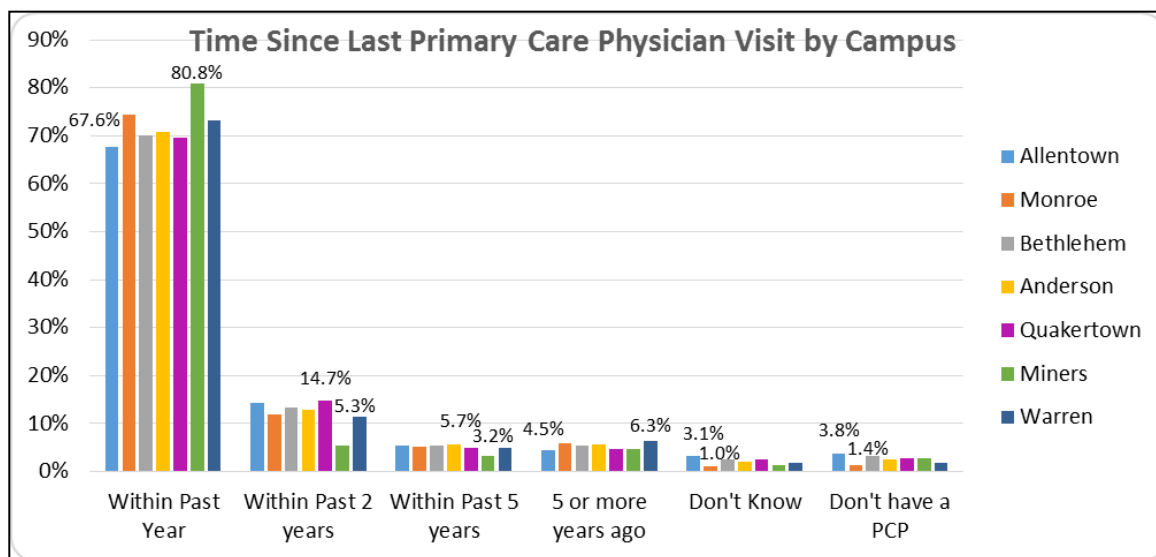
This section will discuss issues related to improving access to care and reducing health disparities in our service area. While this category title is specific, we are actually examining the broader category of the social determinants of health. Social determinants of health include the economic, environmental, and social conditions in which people live that influence their access to basic needs, healthcare services, education, 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.



One major factor in reducing health disparities is improving access to healthcare for all, which can be exemplified by access to primary care doctors. Primary care physicians (PCP's) are generally the first point of contact for individuals who have a medical issue, and many times PCP's are the doctors who identify major health problems such as chronic disease or mental health issues. If individuals lack a

consistent primary care doctor, this may put them at a disadvantage in terms of their present and future health. Access to primary care doctors is expressed as the number of primary care physicians present per 100,000 in the population. The overall rate of primary care physicians per population for the St. Luke's Bethlehem service area (86.24) is greater than the average for Pennsylvania (80) and New Jersey (85.6) (Area Health Resource File, 2012). Unfortunately, three out of the five counties this campus serves fall below the state averages, most disturbingly Carbon County, for which the rate is nearly half (46.1) (Area Health Resource File, 2012). The rate of primary care physicians in Carbon County is concerning because Carbon County is just 45 minutes from Lehigh County and Northampton County, which have much higher rates of physicians per population. This speaks to the need for better examination of the spread of healthcare services and to determine where medical professionals are lacking the most.

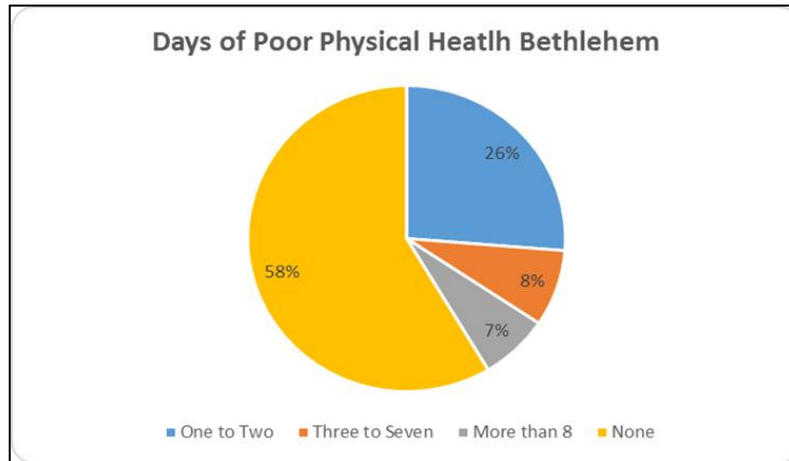
The social determinants of health such as poverty, education, and unemployment may all be reasons why people are not able to access care even if it is available. From our 2016 community survey, we found that most respondents in the St. Luke's Bethlehem service area had visited their PCP within the past year (70%).



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. However, 80.9% of the people with Medicaid saw their PCP in the last year along with 83.5% of respondents with Medicare. 14.4% of people with no insurance coverage did not have a primary care doctor compared to 1.7% of those with private insurance and 2.1% of those with Medicaid.

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

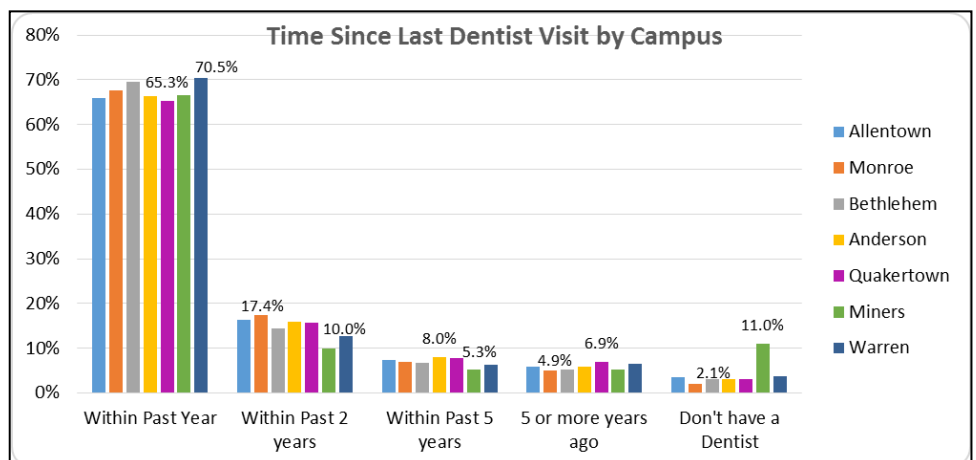
progressing. We can examine a piece of health status by examining the number of days the respondent could not perform daily functions due to physical health issues in the St. Luke's Bethlehem service area. From our 2016 community survey, we found that 41% of respondents reported missing one or more day of normal activity in the past month due to poor physical health.



Another barrier to accessing care is access to dentists. Measuring access to dentists is one way to examine the ability for people to receive dental care. Lack of preventative and restorative dental services can result in higher risk for heart disease or stroke, gum disease, tooth decay, diabetes, and some types of cancer. In the St. Luke's Bethlehem service area, the rate of dentists per population is 64.83 per 100,000 population, which is slightly better than the rates seen in Pennsylvania (62.5) and nationally (63.2) (Area Health Resource File, 2013). One particular issue related to dental health is that dental care is generally not covered by Medicare and is not always covered by other medical assistance programs. The focus group members discussed how St. Luke's Bethlehem offers free and subsidized care for many students on the mobile health dental vans, as well as at clinics in the area.

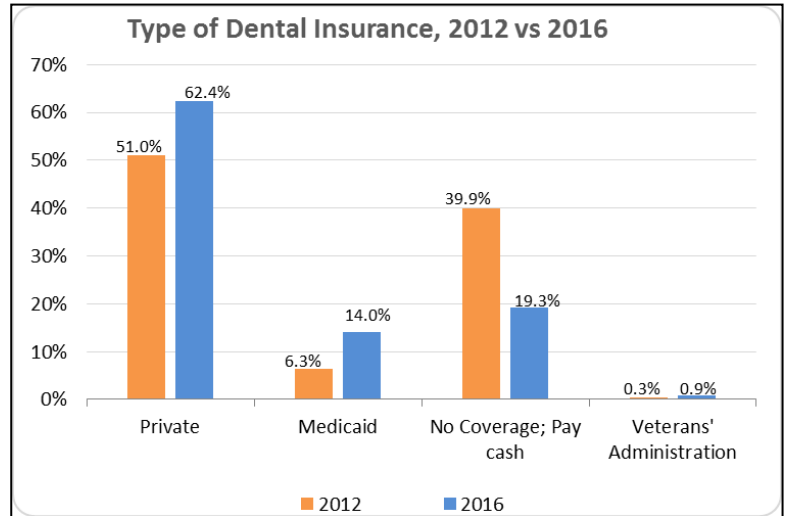
Since it seems that access to dentists may be limited due to availability and insurance coverage, we examined when was the last time respondents visited the dentist, as well as the type of dental insurance that they used in our 2016 community survey. As evidenced by the bar graph, the majority of respondents in the St. Luke's Bethlehem service area, as well as 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 for the network, 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 did 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 present 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 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 another major barrier to receiving healthcare, because without insurance, receiving health services is difficult and costly. According to the ACS (2009-13), 10.84% of the population in the St. Luke's Bethlehem service area is uninsured, as compared to 9.81% of the population in Pennsylvania and 14.87% of the population in the U.S. Looking 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 Bethlehem service area is 19.35%, which is higher than the New Jersey average of 15.43% and the Pennsylvania average of 18.24% (ACS 2009-13). Although Northampton County and Lehigh County have higher rates of PCP's per population, many of these providers do not accept Medicare or Medicaid, which a large percentage of our patients utilize to cover the costs of their care. Within 10 miles of Bethlehem, there are 656 primary care providers who accept Medicare (Centers for Medicare and Medicaid Services- Physician Compare). There is a great need for more primary care physicians who accept both Medicare and Medicaid in the St. Luke's Bethlehem service area.

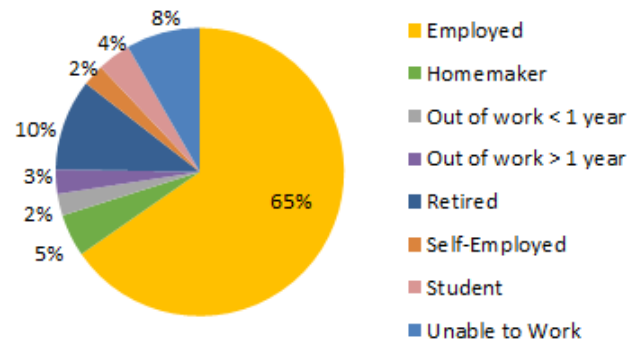
Our 2016 community survey also showed that when asked to choose the reasons why the respondent missed a medical appointment, many respondents chose responses that revolved around insurance coverage. In terms of the St. Luke's Bethlehem service area, out of the top five reasons for postponing care, 10.9% of the responses were that their share of the cost was too high and 10.5% of the responses were that they postponed care because they didn't have health insurance. 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 at St. Luke's Bethlehem

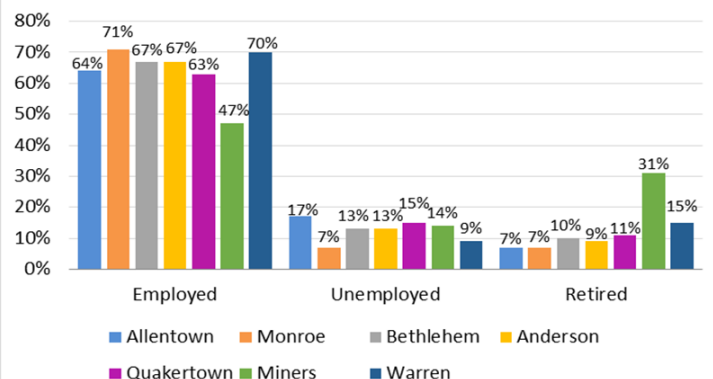
Reason for Postponement of Medical Care at Bethlehem	Percentage of Responses
My share of the cost was too high (deductible/copay)	10.9%
Didn't think problem was serious	10.7%
Didn't have health insurance	10.5%
Couldn't get time off from work	9.0%
Insurance didn't cover what I needed	7.9%

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. According to the Bureau of Labor Statistics (August 2015), the unemployment rate for the St. Luke's Bethlehem service area was 6.3% of the civilian non-institutionalized population over the age of 16, whereas in Pennsylvania the rate was 6.1%, in New Jersey it was 6.6%, and nationally it was 6.3%. From this data, it seems that our service area has a very similar unemployment rate to the state and national averages, but on a county level, Northampton County, Lehigh County, and Carbon County have unemployment rates that are higher than the state rate. We can look at our 2016 community survey results to better understand what unemployment looks like in our service area. Our data revealed that a total of 13% of our respondents were unemployed. This unemployment rate is much greater than that reported for the St. Luke's Bethlehem service area as a whole (6.3%). The pie chart on the previous page shows the breakdown of employment status for our service area, where we can see that more than half of respondents were employed or self-

Bethlehem Employment Distribution

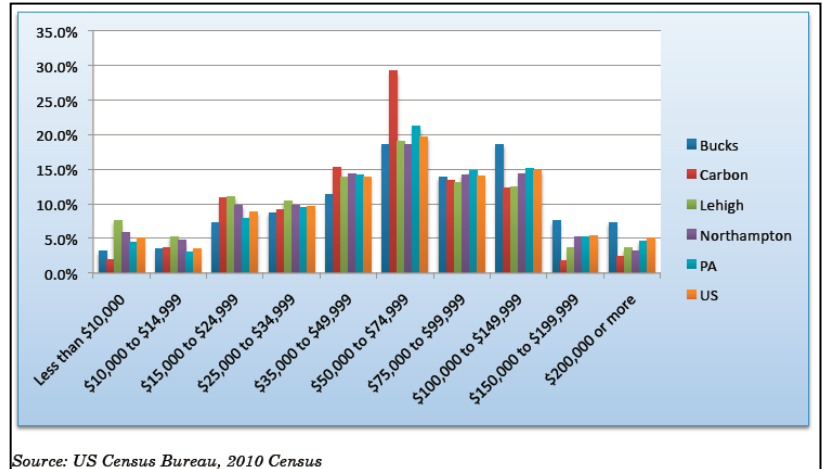


Employment Distribution by Campus



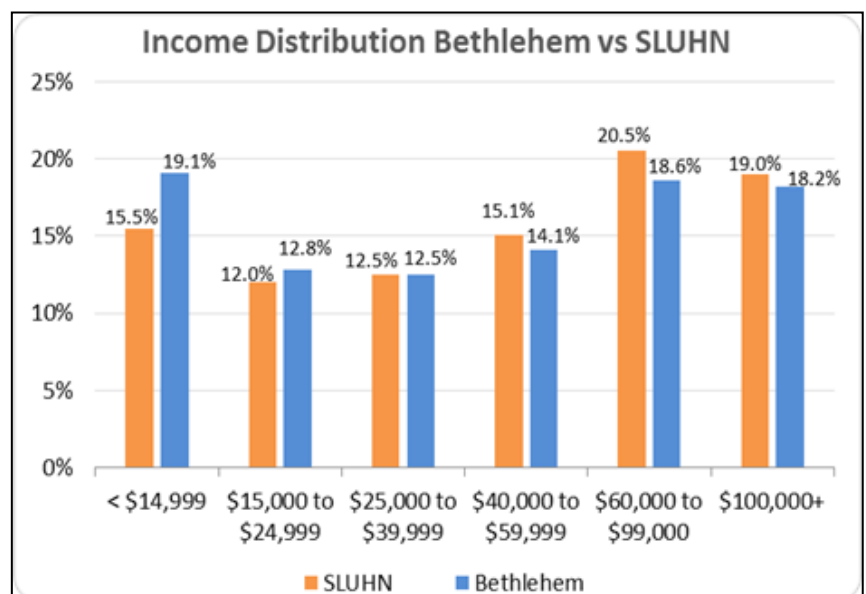
employed (67%), but it is still important to keep in mind the high unemployment rate reported by respondents.

Poverty is linked to unemployment because if a person does not have a job they likely have limited income, which means they may not be able to pay out of pocket for healthcare services or have coverage through insurance. 13.49% of people in the St. Luke's Bethlehem service area are living in homes where their income is at or below 100% of the Federal Poverty Level (FPL) (ACS, 2009-13). We can also examine household income to better understand what poverty looks like in our service area.



Household income is an important indicator of possible health disparities because if some people have lower incomes than others they may be less likely to be able to pay for the costs of healthcare. The graph above from the Lehigh Valley Research Consortium (LVRC) analysis of secondary data sources shows that in 2010, a little below 20% of households in Bucks, Lehigh and Northampton had incomes in the \$50,000 to \$74,999 range, and Carbon had nearly 30% of their population household incomes fall in that range. However, Lehigh and Northampton reported 24% and 20% of the households in their respective counties had incomes less than \$25,000. Taking all of this information together, we can see that there is a high level of income inequality in the St. Luke's Bethlehem service area.

This bar graph refers to our 2016 community survey results, where we compared the income distribution within the St. Luke's Bethlehem service area to the income distribution of SLUHN as a whole. This graph shows that the two income distributions are fairly similar, with slight variations. There was a larger percentage of respondents in the St. Luke's Bethlehem service area who reported household incomes less than \$14,999 (19.1%) and a slightly lower percentage of those who reported incomes in the \$60,000-\$90,000 income bracket (18.6%), than what was seen for SLUHN. The percentage of survey respondents in the St. Luke's Bethlehem service area with a household income over \$60,000 made



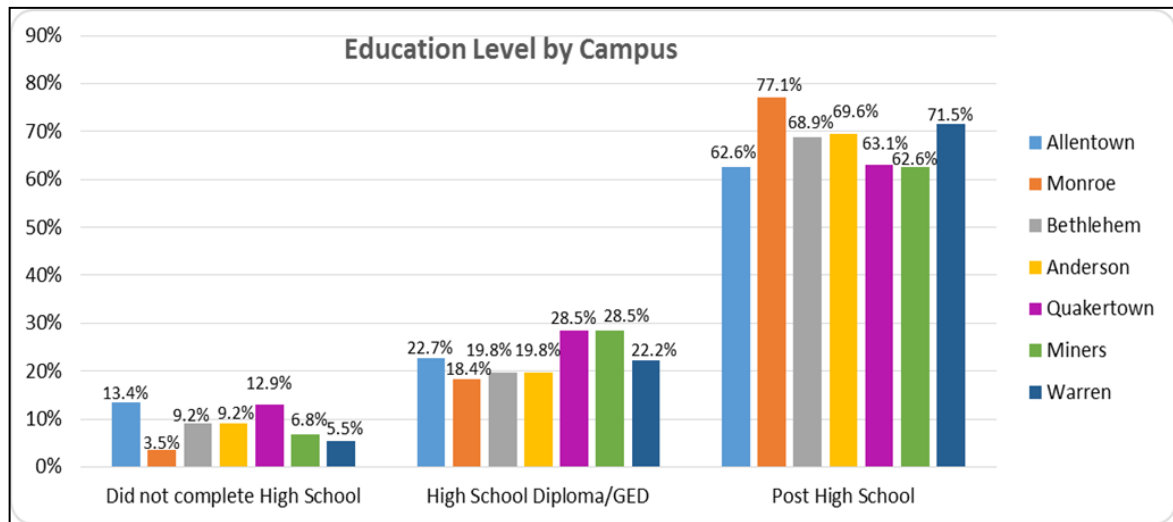
up 36.8% of the distribution, and respondents making under \$39,999 made up 44.4% of the distribution. This once again affirms the income inequality in the St. Luke's Bethlehem service area. We can see that poverty and unemployment are both social determinants of health that are important to understand when addressing the health status of our community.

The focus group members identified language barriers as another important source of health disparities. There are not enough doctors and nurses who are proficient in Spanish, which is concerning because the St. Luke's Bethlehem service area has a large percentage of the population that identify as Hispanic or Latino. In our service area, 18.64 percent of the population is Hispanic or Latino, with the highest percentages seen in Lehigh County (19.58%) and Northampton County (10.96%) (ACS, 2009-13). 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." For the St. Luke's Bethlehem service area, 7.56% of the population over the age of five had LEP, as compared to 3.92% in Pennsylvania and 8.63% nationally (ACS, 2009-13). In the zip codes 18015 (Bethlehem) and 18103 and 18102 (Allentown), there are very high percentages of the population who speak English less than very well (8.28%, 10.79%, and 19.85% respectively). Language barriers were discussed in the focus group as a major challenge to children and adolescents receiving care, since many times their parents do not speak English very well, so they are hesitant to bring their children to a healthcare professional that may not be able to understand them. Participants of the focus group suggested that there be better cultural competency trainings for medical professionals as well as the presence of translation services to help patients communicate with their doctors. The focus group members also suggested that international students from local universities be utilized, since they are proficient in their native languages.

The focus group members also identified transiency within the community as a major contributor to health disparities. When families move around often they have to switch healthcare providers, which results in lack of continuity in care as well as gaps in receiving appropriate care. The population geographic mobility indicator measures the influx of individuals to a particular region from a different prior location (this does not include people who moved out of the area). The percent population in-migration for the St. Luke's Bethlehem service area is 6.42%, which is higher than the in-migration percentages in NJ (4.32%), PA (4.8%), and nationally (6.01%) (ACS, 2009-13). This shows that there are large numbers of people moving into the area, which means people will need to find new healthcare providers and may face discontinuity of care. The focus group members said that this discontinuity could be addressed by examining the medical home model, which recommends that there is a coordinated effort between parents, doctors, and children to provide care that is culturally relevant, continuous, easily accessed, integrated and holistic.

Level of education is another social determinant of health that has a great influence on 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. In the St. Luke's Bethlehem service area, 44,618 people over the age of 25 do not have a high school diploma or GED,

which represents 13.28% of the population in this age group (ACS, 2009-13). This rate is higher than in New Jersey where the percentage of population with no high school degree is 11.87%, and in Pennsylvania where the percentage is 11.34% (ACS, 2009-13). Additionally, in our service area, 34.15% of the population has their Associate's degree or higher, which is slightly lower than both the Pennsylvania percentage (35.14%) and the U.S. percentage (36.65%) (ACS, 2009-13). Our 2016 community survey data revealed that the highest percentage of respondents in the St. Luke's Bethlehem service area reported education beyond high school (68.9%), followed by those who reported receiving a high school diploma or GED (19.8%). As evidenced by the distribution below, we can see that there is considerable variability in educational attainment within the St. Luke's Bethlehem 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.

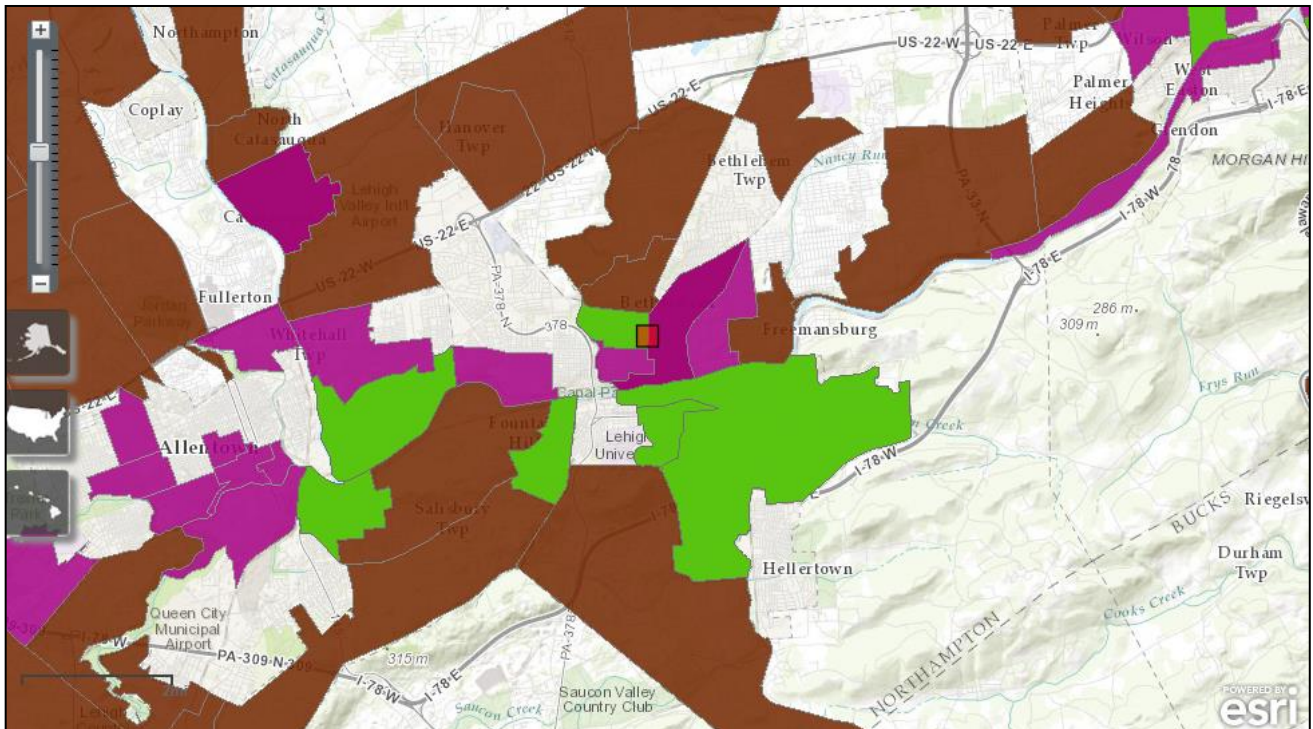


2. Promoting Healthy Living and Preventing Chronic Disease

Access to healthy foods is a major issue that plays into promoting healthy lifestyles and preventing chronic disease. We can look at access to healthy food issues by examining access to grocery stores. The rate is expressed as the number of grocery stores per 100,000 in the population from the U.S. Census Bureau's County Business Patterns (2013). The rate of grocery stores per 100,000 in the St. Luke's Bethlehem service area is 19.73, which is lower than the PA rate (21.4), the NJ rate (30.5), and the national rate (21.2). All five of our counties fall below the state and national rates, which is problematic because this means that families in our service area have limited access to grocery stores within their own communities, restricting the amount of food (more specifically healthy foods) that they can provide for their families.

The map on the following page displays the city of Bethlehem and shows the regions that are considered food deserts and have low vehicle access and/or low access to grocery stores. According to the United States Department of Agriculture (USDA), a food desert is a place in which people do not have easy access to fresh and healthy food, resulting in much of their food coming from fast food restaurants and

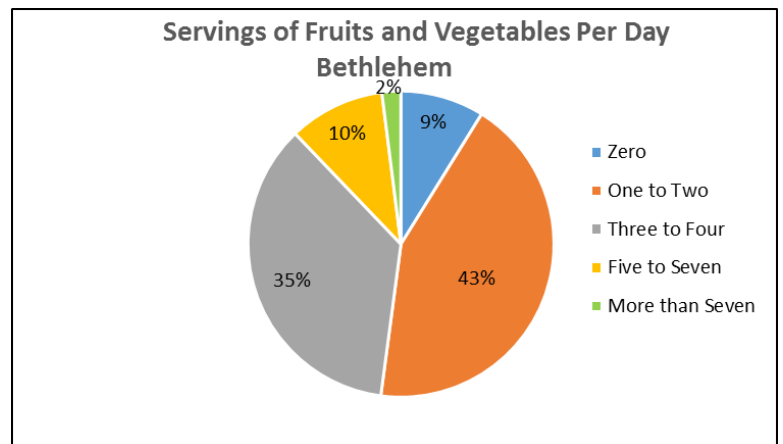
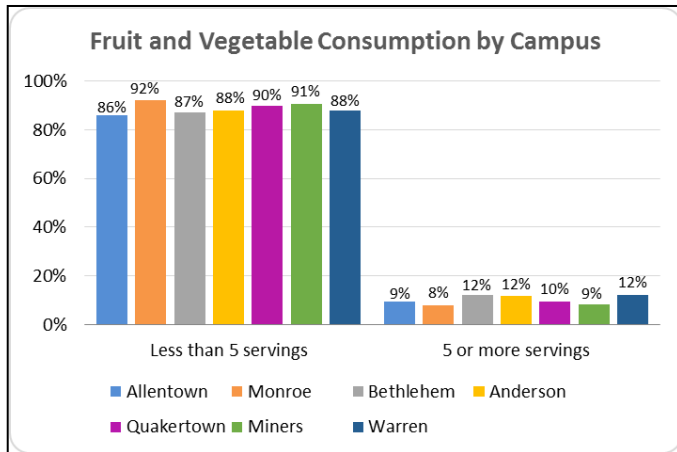
convenience stores. Looking at the food desert map below, the green areas show the low income census tracts where a large portion of the residents live 1 mile away (for urban areas) or 10 miles away (for rural areas) from a grocery store. The purple represents areas where a significant number of families 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. The map generated shows that many sections of Bethlehem have low food access at 1 and 20 miles, as well as surrounding areas that are food deserts or have low vehicle access. This means that there is a sizeable population of individuals who do not have cars and live in areas with low food access, making it nearly impossible to obtain healthy food.



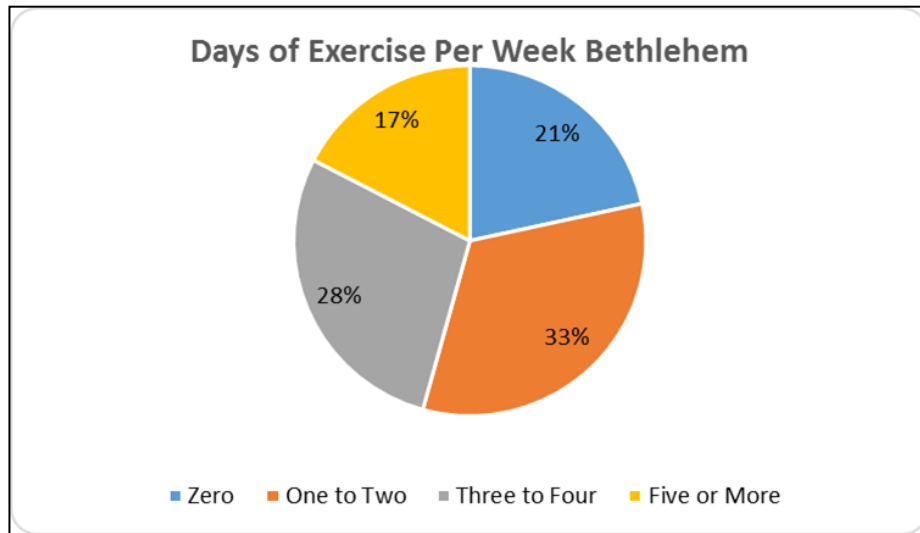
We can also examine food insecurity, which reports people's ability to access food and to be able to live a healthy lifestyle. Food insecurity may also represent an inability to provide all necessities for one's family; therefore they may have to result to buying fast food instead of healthy food such as fruits and vegetables. In Lehigh County, 11.8% of the population is food insecure and in Northampton County 11.4% of the population is food insecure (Feeding America, 2013). The stakeholder focus group mentioned schools as a great way to provide healthy eating programming and cooking lessons to students.

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 survey data shows the breakdown by each SLUHN campus in regards to the service areas meeting the Food and Drug Administration (FDA) recommended consumption of fruits and vegetables (five or more servings per day). In terms of the St. Luke's Bethlehem service area, only 12% of respondents were meeting the FDA requirements for having five or more servings of fruits and vegetables per day, which is the highest percentage (alongside Anderson and Warren) seen across the SLUHN campuses. However, this still means that approximately only 1 in 10 people are meeting the FDA recommendations. The bar graph shows that 87% of respondents in the St. Luke's Bethlehem service area were eating less than five servings of fruit and vegetables per day, with the pie chart showing that the largest number of respondents reported consuming one to two servings in a day (43%). Although fruit and vegetable consumption is high compared to the other campuses, 12% is still a low number, and this could possibly be attributed to access to grocery stores or presence of food deserts that was previously discussed.



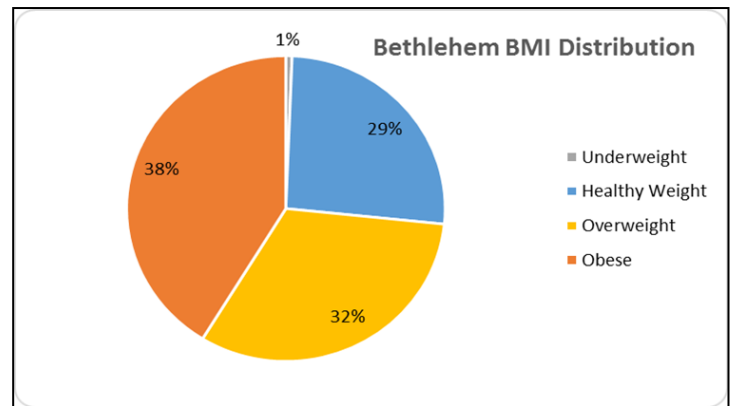
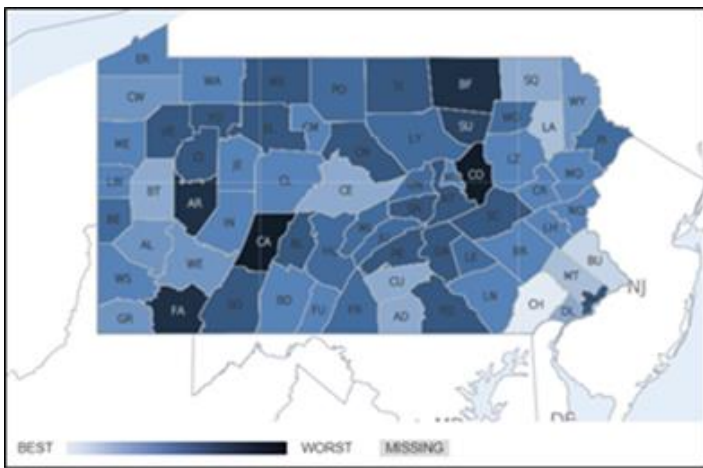
Lack of physical activity among community members is a major barrier in promoting healthy lifestyles and preventing chronic disease. Consistent exercise has been shown to improve physical and mental health, and is important in decreasing rates of obesity and cardiovascular problems. According to the National Center for Disease Control Prevention and Health Promotion (2012), in the St. Luke's Bethlehem service area, between 20.9% (Bucks County) and 24.6% (Northampton County) spend no time taking part in physical activity. From our 2016 community survey data, we found similar information, showing that 21% of respondents reported no days of exercise per week in the St. Luke's Bethlehem service area. Nearly half (45%) of these survey respondents reported exercising more than three days per week (including three to four days and five or more days), which shows that there are many people who are exercising consistently, but that there are also people who are likely 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, such as outdoor parks or recreational facilities. The Pennsylvania state average is 85%, with Bucks County, Lehigh County, and Northampton County all having higher percentages than the state for access to exercise opportunities. Carbon County has a lower percentage of access at 78%. The New Jersey average and the Warren County average are the same at 96% of individuals who live in close distance to a recreational facility. The focus group recognized that even though there are various areas for exercise, not all community members are taking advantage of these opportunities. SLUHN's "Get Your Tail on the Trail" program was highly successful this past summer in getting community members out and walking as much as possible. But, the general lack of facility usage is likely indicative of a barrier to physical activity, whether this is due to long work hours, community safety issues, cultural barriers to exercise, or lack of knowledge about the importance of exercise. Additionally, the focus group participants mentioned that it is problematic that Bethlehem is not a particularly walkable city, which means it may be difficult for people to walk around for exercise or to get to doctor's offices, therefore contributing to poor health status in the community.

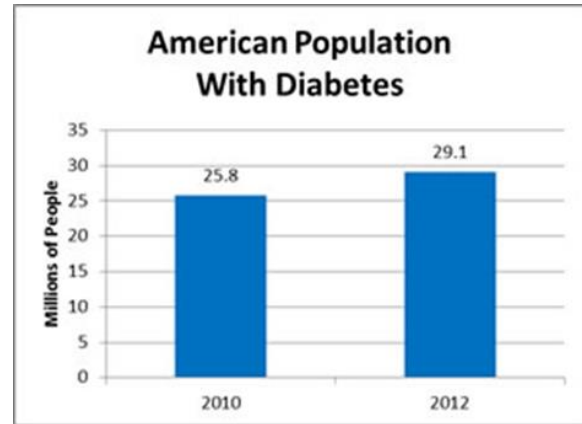
Another important topic within the health category of promoting healthy lifestyles and preventing chronic disease is obesity. Obesity is a very prevalent health issue in our community, and according to the State of Obesity (a project of the Trust for America's Health and the Robert Wood Johnson Foundation), rates in Pennsylvania are on the rise. Pennsylvania is ranked 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 (such as fresh fruits and vegetables) and high poverty levels, obesity is growing quickly. Obesity is also a risk factor for other health issues such as diabetes, high blood pressure, some cancers, heart disease, stroke, and breathing problems. 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). The map on the following page is of the state of Pennsylvania, representing the percentage of the population that is obese within each of

the counties, 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). In the St. Luke's Bethlehem service area, between 25.6% (Bucks County) and 35.5% (Carbon County) of adults aged 20 and older self-reported that they had a BMI greater than 30.0. The Pennsylvania average is 28.4% and the national average is 27.1% (National Center for Disease Control Prevention and Health Promotion, 2012). According to our 2016 survey data, 38% of respondents in the St. Luke's Bethlehem service area were obese and 32% were overweight (BMI was calculated using respondent's weight and height). This obesity rate is higher than that which was reported by the CDC for this service area. The focus group participants recommended that the schools include a healthy eating and behaviors curriculum in order to promote healthy lifestyles.

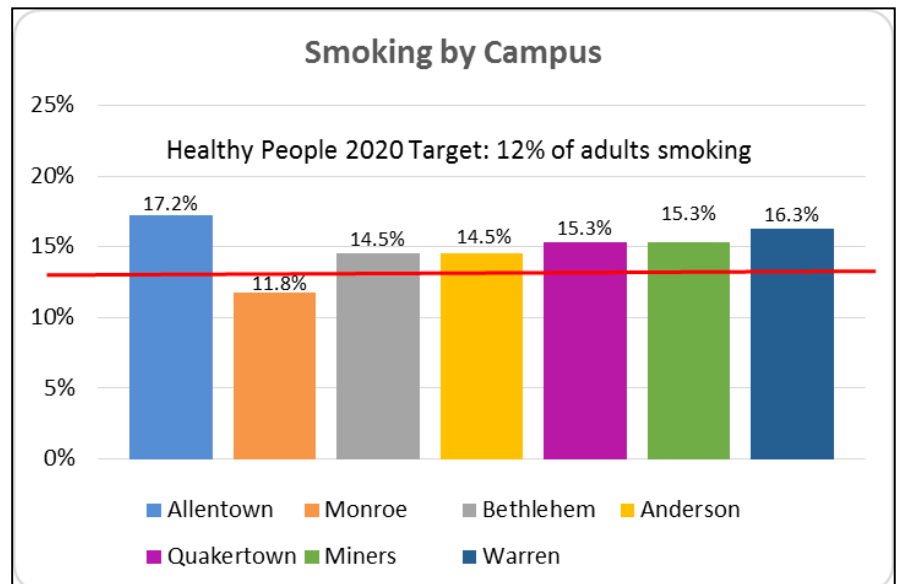


While focusing on programming is important in reducing levels of obesity, results from our 2016 community survey identified several demographic characteristics that were linked with a respondent's BMI. For SLUHN as a whole, amongst all respondents with a morbidly obese BMI, the largest percentage was 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 to 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. Diabetes is a disease where a person's blood glucose levels are too high. Type I diabetes is generally found in children under the age of 20, where the pancreas does not produce enough insulin. Type II diabetes is of great concern in our community served, because type II can be caused by being overweight or obese. Diabetes can also cause other health issues such as blindness, kidney disease, foot problems, and heart disease. There are treatments for type II diabetes including medications, better diet, and exercise, but some people with type II diabetes have it permanently. In Lehigh County, 9.4% of the population and in Northampton County 8.8% of the population over the age of 20 has been diagnosed with diabetes (National Center for Chronic Disease Prevention and Health Promotion, 2012). These are similar to the percentage of the population over 20 with diabetes in Pennsylvania (8.9%) and in the U.S. as a whole (9.1%). According to the National Diabetes Statistics Report (2014), diabetes was the 7th leading cause of death in the United States in 2010. 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 rose from 25.8 million to 29.1 million people, this 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).

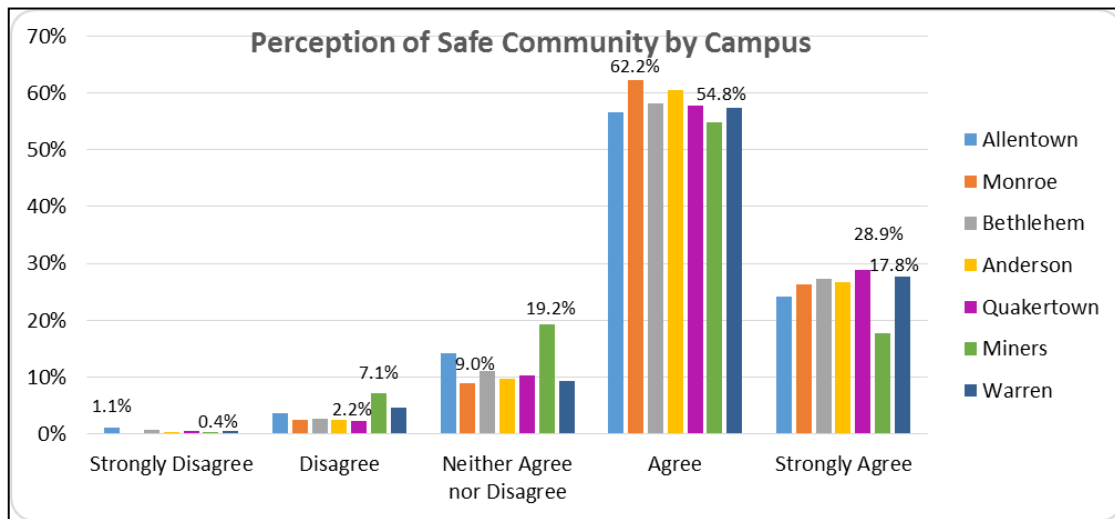


Tobacco usage is another important factor to consider when discussing promoting healthy lifestyles and preventing chronic disease, because smoking contributes to illnesses such as cardiovascular disease, cancers, and breathing conditions. In order to promote healthy living, cutting down on tobacco usage within the community is a necessity. In the St. Luke's Bethlehem service area, between 17.4% (Bucks County) and 30.5% (Carbon County) of adults over the age of 18 reported that they currently smoke (BRFSS, 2006-12). The percentage of the population who smoke cigarettes in New Jersey is 15.8%, in Pennsylvania is 20.8%, and nationally is 18.1% (BRFSS, 2006-12). As discussed in the focus group, SLUHN has instituted a smoke free campus policy for all of its campuses and for the hiring of new employees. The focus group members mentioned



that smoking cessation programs should also be targeted at decreasing smoking within the communities. According to our 2016 survey data in the bar graph on the previous page, 14.5% of respondents in the St. Luke's Bethlehem service area report that they currently smoke. This is slightly above the Healthy People 2020 goal of having only 12% of adults smoking, so there are still improvements to be made in terms of reducing smoking in our service area.

Also relating to promoting healthy lifestyles is how safe people feel their neighborhood is. If individuals feel that they live in an unsafe neighborhood, they are less likely to pursue outdoor activities and will likely not allow their children to run around and play without adult supervision. Members of the focus group mentioned that many times both parents work and because of this, kids will stay indoors and end up playing video games and watching TV since they are not allowed outside without supervision. 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 Bethlehem service area is 229.9, which is much lower than the Pennsylvania rate (362), the New Jersey rate (302), and the national rate (395.5). The highest violent crime rate in our area is seen in Carbon County, which has a rate of 275.2 per 100,000 population. The focus group members said that having more parks and outdoor spaces where parents will feel comfortable allowing their kids to play is of the utmost importance in creating a trusting and unified community. Interestingly, our 2016 community survey revealed that the majority of people in the St. Luke's Bethlehem service area, as well as across all campuses, agree or strongly agree that their community is a safe place to live in.

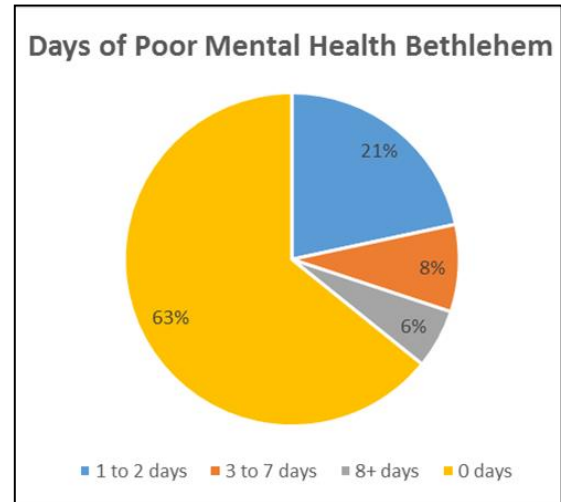


3. Improving Mental/Behavioral Health

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 means that not all adults who have a mental health issues 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, as well as 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 Bethlehem service area. According to our 2016 survey data, in the St. Luke's Bethlehem service area, 35% of respondents reported having missed one or more days of normal activity due to poor mental health within the past month. 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.



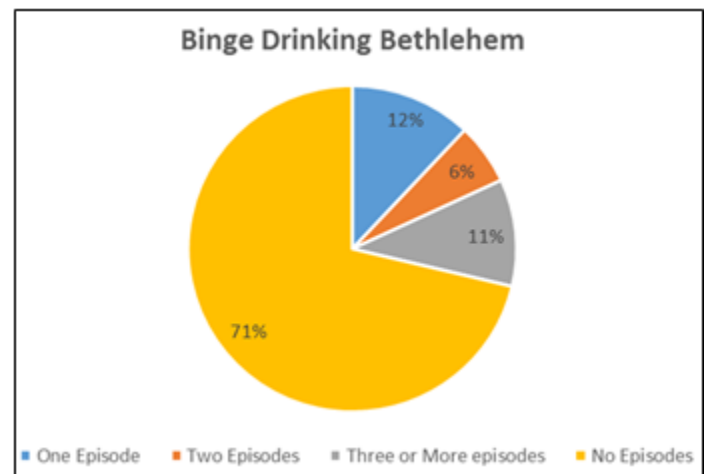
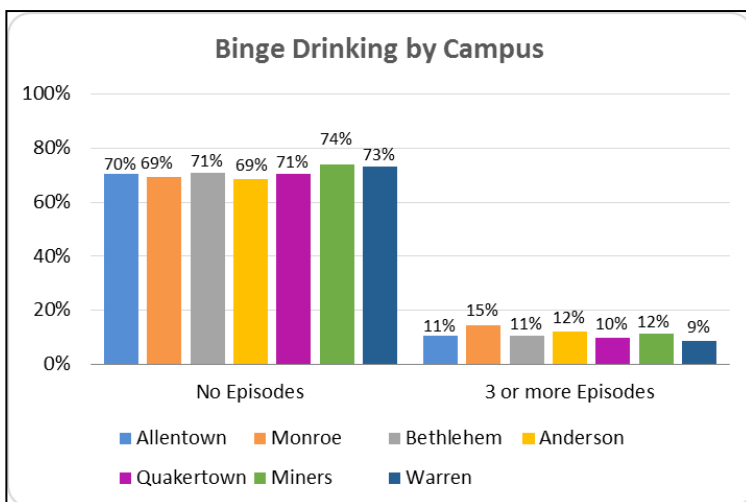
Limited access to mental health professionals is a huge barrier to improving mental health. If there is a shortage of mental health professionals in the area people will be unable to obtain treatment and will continue to suffer. The mental health providers indicator from the Robert Wood Johnson 2015 County Health Rankings analyzes the ratio of the county population to the number of mental health professionals. The ratio in Pennsylvania was 623:1, with two of the counties from our service area having better ratios than the state: Bucks County (529:1) and Northampton County (592:1). Carbon County (2,314:1) and Lehigh County (647:1) had ratios that were worse than the state ratio. The focus group members discussed the shortage of behavioral health providers in our region, including mental health professionals, social workers, case workers and therapists. They said that the paucity of case workers is especially concerning because these are the professionals who help navigate a patient through the various points of care associated with mental health services. The focus group members suggested building on the St. Luke's Nursing School program, where nurses have been going out into the community to help identify mental health needs as well as form trusting relationships with community members. Another way to improve access to mental health professionals mentioned was to utilize school nurses and the community schools, so that services can be provided in a consistent location with flexible hours. The stakeholders said that this is especially important for parents who are working during the day, who may have trouble making appointments during normal hours.

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 counties are lacking in emotional support, we can address these shortcomings in programming and care. The indicator looking at lack of social or emotional support examines adults over the age of 18 who expressed that they do not receive enough support the majority of the time. The percentage of adults who reported inadequate social support in the St. Luke's Bethlehem's service area ranges from 17.9%

(Lehigh County) to 24.9% (Carbon County). 20.9%, and is 20.7% nationally (BRFSS, 2006-12). The stakeholders mentioned that there is stigma within the community for seeking help for a mental or substance abuse disorders, which may be causing people to forgo receiving care, which is another piece of evidence to explain why social and emotional support is so important.

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. As mentioned previously, 6.1% of the adult population is unemployed and 13.49% of the whole population is living in homes at or below 100% of the FPL (Bureau of Labor Statistics, 2015; ACS, 2009-13). In the focus group, the members discussed the cost of mental health services as being too high for many community members, which is especially concerning when taking into consideration unemployment and poverty rates. They said this is also an issue because even if people are covered by some sort of subsidized insurance it may be turned down for mental health services.

It is also imperative to discuss excessive drinking and substance abuse disorders, since they are recognized as comorbidities with mental health issues. There are many cases where mental health issues go undetected because alcoholism and substance abuse issues may overshadow these issues. According to the Robert Wood Johnson 2015 County Health Rankings, 17% of adults in Pennsylvania report excessive consumption of alcohol as compared to 18% of the adult population in Lehigh County and 17% of the adult population in Northampton County. According to our 2016 community survey, 71% of respondents reported no episodes of binge drinking in the past month in the St. Luke's Bethlehem service area. However, 29% reported having one or more episodes of binge drinking, and 11% reported three or more episodes.



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). 5.46% of the population under 19 in the St. Luke's Bethlehem service area does not have health insurance, which is lower than the Pennsylvania percentage (5.55%), the New Jersey percentage (5.58%), and the national percentage of 7.54%. If children are not covered by insurance they are likely to have restricted access to healthcare. The key stakeholder focus group for Bethlehem's campus mentioned the mobile health vans as a great asset to combat lack of health insurance and issues related to access. The mobile health vans offer physical, dental, and vision care for free or at subsidized costs for students who do not have insurance. They also mentioned the utility of the community school model in providing families with holistic care.

In the St. Luke's Bethlehem service area, 21.37% of children under 18 are living in homes in which their family income is 100% below the FPL (ACS, 2009-13). This percentage is higher than 18.76% of the Pennsylvania population that is under 18 and 14.93% of the NJ population under 18 that live at 100% at or below the FPL. The percentage in our service area is essentially the same as the national percentage, which is 21.68%. 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. The highest percentages of children who live in homes with incomes at or below 100% of the FPL in our service area (between 22.6%-30%) lies in Lehigh County, which includes large sections of Allentown.

Education is a highly important asset to utilize in improving child and adolescent health. Looking again specifically at the city of Bethlehem (school information for the whole St. Luke's Bethlehem service area is too extensive to provide in this report), the Bethlehem Area School District (BASD) serves approximately 13,500 students and serves children from Pre-K-12. The BASD has a number of its schools following the community school model, where health and human services are offered to both students and their families. This includes after school activities, medical clinics, health screenings, and nighttime family events. In the BASD, 52.68% of the students were identified as economically disadvantaged. This correlates with the poverty data discussed earlier, as well as the percentage of children receiving free and reduced lunch in our region, which will be discussed below. The stakeholder focus group mentioned that more of the Bethlehem schools should become community schools, in order to improve children's social, emotional, and physical health through an integrated care model.

49.24% of public school students in the St. Luke's Bethlehem service area are eligible for free/reduced price lunch. This percentage is higher than the percent of children eligible for free or reduced lunch in PA which is 43.58% and NJ which is 38%, but it is lower than the national average of 52.35% (National Center for Education Statistics-NCES Common Core of Data, 2013-14). This indicator is relevant because it reveals that there is a high percentage of children who may not be receiving the nutrition they

need at home, which may indicate children who are vulnerable to poor nutrition and other related health issues.

Looking at youth and adolescents' health habits is important because they tend to carryover from childhood and adolescence into adulthood. Additionally, if we can identify what risky health behaviors are occurring among youths, we can target these behaviors and determine how to reduce their prevalence. The Pennsylvania Youth Survey (PAYS) looks at youth's attitudes, knowledge and behavior regarding drugs and alcohol. The PAYS reports are broken down by county, so here we will specifically focus in on Northampton County, since it is the county from which most of the St. Luke's Bethlehem service area live. In 2013, the most used "gateway substance" was alcohol, with 46.5% of students in Northampton County having consumed alcohol previously. Binge drinking was reported by 7.5% of the students who live in Northampton County, which is better than the state average of 9.7%. Marijuana was the second most popular substance tried, with 18.6% of students having tried it at some point during their life. In terms of prescription drug use, narcotic prescription drugs (i.e. pain management drugs) was reported as being used by 7.5% of students and prescription tranquilizers (i.e. sleep inducers, anxiety medication) was used by 3.7% of students. Amongst students in Northampton County, a staggering 47.5% of students in 12th grade said they have texted while driving before. In terms of mental health, 34.9% of students in Northampton County reported feeling "depressed or sad MOST days". Along the same lines, 17.1% of students reported that they strongly debated committing suicide. Overall, for youth healthy lifestyles and behaviors, the focus group members discussed the issue of easy access to drugs and alcohol. They indicated that the schools should be used as an important asset to teach students about positive health behaviors.

In terms of child abuse, the 2014 Pennsylvania Department of Human Services Annual Child Abuse Report found that in Pennsylvania, 48 of the 67 counties received an increased number of child abuse reports than in 2013. Additionally, there was an increase seen in the number of total reported cases, from 26,944 cases in 2013 to 29,273 cases in 2014. 11.4% (which translates into 3,340 cases) from 2014 were confirmed as abuse through evidence. The state of Pennsylvania has the ChildLine system, where parents, peers, and educators can call to report possible child abuse cases and also receive information about services available. According to a local Lehigh Valley news publication, the Bethlehem Area School District educators have been utilizing this hotline, especially after the new law change that requires "if you see it, you report it". This is a substantial change from the procedures previously in place, because the prior rule was that teachers or staff would report to a Principal or higher up who would in turn do the reporting. In order to further prevent child abuse and help victims who have been through abuse, Northampton County has the Children, Youth and Families (CYF) Division. The CYF division offers social services to the families and children of suspected abuse (such as counseling and protective services), as well as foster care options for children who need it. In Bethlehem, there is also the Valley Youth House that sponsors Project Child, which is a coalition of organizations in the region that are fighting to prevent child abuse. Services provided by Project Child include education and

support classes for parents, advocacy of child abuse issues through community events, and events for children to teach them about being caring towards others.

According to the CDC, the top reason for death for children in the U.S. ranging from ages 1-19 is unintentional injury. In 2009 the number of child deaths due to unintentional injury was 9,143, which is equivalent to approximately 25 children dying per day. Data from the Bethlehem Health Bureau shows that when examining the whole Bethlehem population, the mortality rate due to unintentional injury (for all ages) was 93 per 100,000 population. In Northampton County, according to the 2014 Hospitalized Injury Profile, from children under age 5 to children age 14 the most common reason for hospitalization was unintentional injury. For both age groups, falls were the most frequent reason for being hospitalized. When moving to the next age group of 15-24, motor vehicle accidents becomes the most common reason for hospitalization.

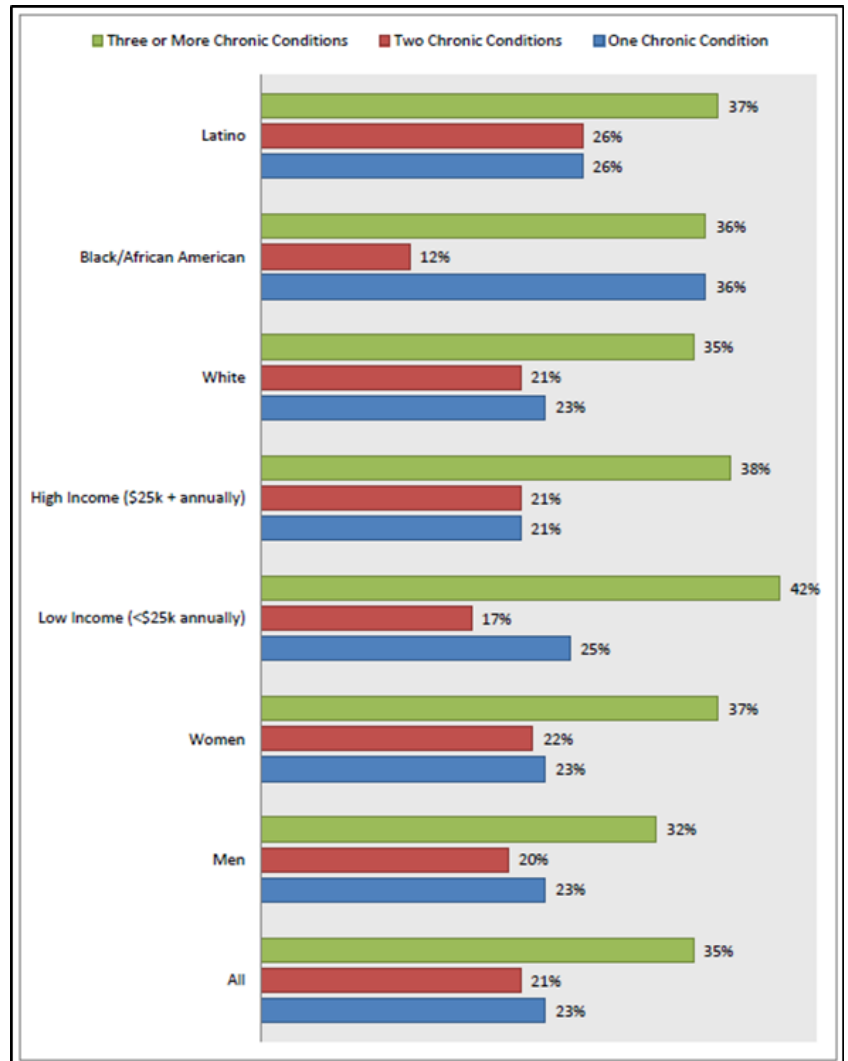
5. Improving Elder Health

Elder health is important to address because the elderly represent a very vulnerable population who may need help navigating the healthcare system. We can see through America's Health Rankings that Pennsylvania ranks 25th out of 50 for elderly 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 (America's Health Rankings- Pennsylvania, 2015). There are also other demographic and socioeconomic issues that influence elder health, which will be discussed below. The focus group members recognized the Phoebe Institute on Aging as a major local resource to build upon to improve elder health. The institute encourages the meeting of multidisciplinary geriatric professionals in order to share ideas and discuss what the major issues are in providing care to the elderly. Another great program the focus group members suggested is the LINK program, which is a joint effort between Northampton County and Lehigh County, funded by the Pennsylvania Department of Aging to disseminate health information and help get seniors in touch with service homes. The importance of improving social and emotional support for the elderly was also discussed. Focus group members mentioned the Hispanic Center in Bethlehem and church programs throughout the Lehigh Valley as important in providing the elderly with opportunities for socialization. Programs through these organizations provide seniors with meals, exercise opportunities, and connection to other social services.

The Lehigh Valley Research Consortium (LVRC 2012), in conjunction with the United Way of the Greater Lehigh Valley completed a report on the status of the non-institutionalized elderly population for the Lehigh Valley Alliance on Aging. This report is based on surveys from elder adults in Lehigh County, Northampton County, and sections of Montgomery County and Bucks County. According to the report, in the year 2010, approximately 15% of residents in Pennsylvania were over the age of 65. In the past 10 years there has been a growth of 66% in the elderly population over the age of 85 in Pennsylvania. The U.S. Census Bureau Population Estimates and Projections (2014) said the elderly population in the United States could rise to 83.7 million by the year 2050. With this increase in the

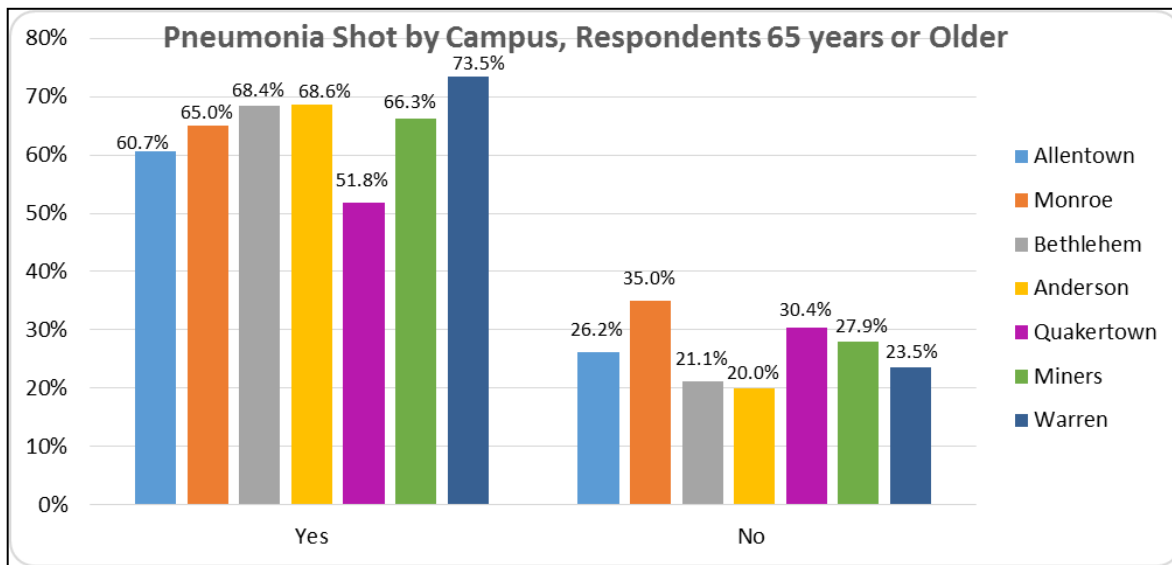
aging population come specific health needs that must be addressed, such as mental health, accidents, and chronic disease. The focus group participants discussed how there will be a pressing need for an increase in the number of trained professionals who can help care for the elderly population.

According to the U.S. Census Bureau, elderly who are living to be the oldest tend to face more chronic illnesses. In the LVRC (2012) report this is exemplified by the large percentage of the elderly population who report various chronic conditions. The prevalence of diabetes amongst older adults in the Lehigh Valley is relatively high at 23%, which is greater than the U.S. average of 19% and the Pennsylvania average of 22%. Among the most common chronic diseases, the elderly also discussed being diagnosed with arthritis (45% of the population), high blood pressure (50%), and high cholesterol (30%) (LVRC, 2012). The graph to the right exemplifies the breakdown by race, income and gender for elderly who have one or more chronic health conditions (Lehigh Valley Seniors Healthy at Home Survey, 2014). The green bar represents three or more chronic diseases, the red is two or more chronic diseases, and the blue signifies having one chronic disease. 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 Bethlehem 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).

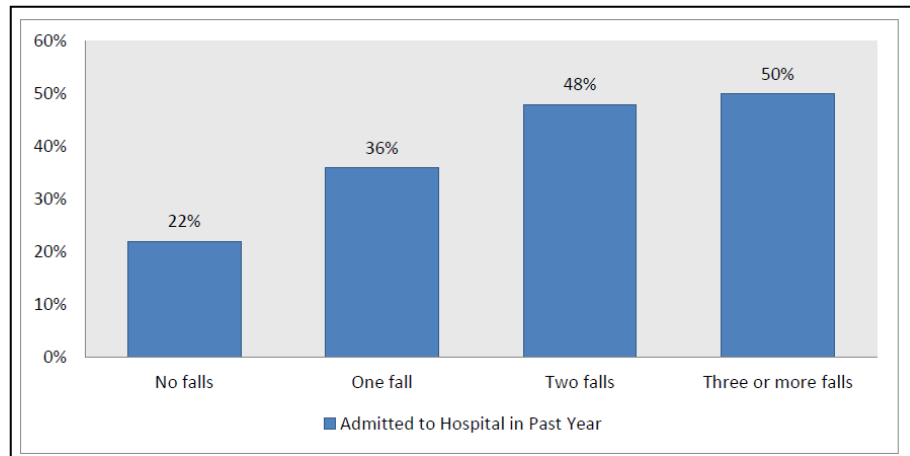
Additionally, in our 2016 community survey, we looked at preventive health services utilized by respondents. In particular for the elderly, we examined whether or not they received their pneumonia shot. The chart below shows that 68.4% of respondents over the age of 65 in the St. Luke's Bethlehem service area reported receiving their pneumonia shot.



The elderly population in the Lehigh Valley is expected to increase greatly in the coming years. A major concern of the key stakeholders was mental healthcare among the elderly population. According to the LVRC and United Way 2012 Status Report on older adults in the Lehigh Valley, Pennsylvania has been recognized as a state with an extremely high percentage of elderly within the state population (15% of the population is over the age of 65). Depression was identified as large issue facing elder adults, especially depression amongst dementia patients. In the Lehigh Valley, an individual who has identified as having depression and hospitalized for approximately six days, will cost about \$449,804 (LVRC, 2012). With a diagnosis of dementia, patients were generally hospitalized for five days, costing approximately \$263,253 (LVRC, 2012). According to the Centers for Medicare and Medicaid Services (2012), in the St. Luke's Bethlehem service area 18.28% of the Medicare recipient population were identified as having depression, which is much higher than the percentages seen in New Jersey (12.7%), Pennsylvania (16.2%), and nationally (15.4%). The stakeholder focus group mentioned geriatric behavioral health as a main area that needs to be improved upon in order to reach more individuals.

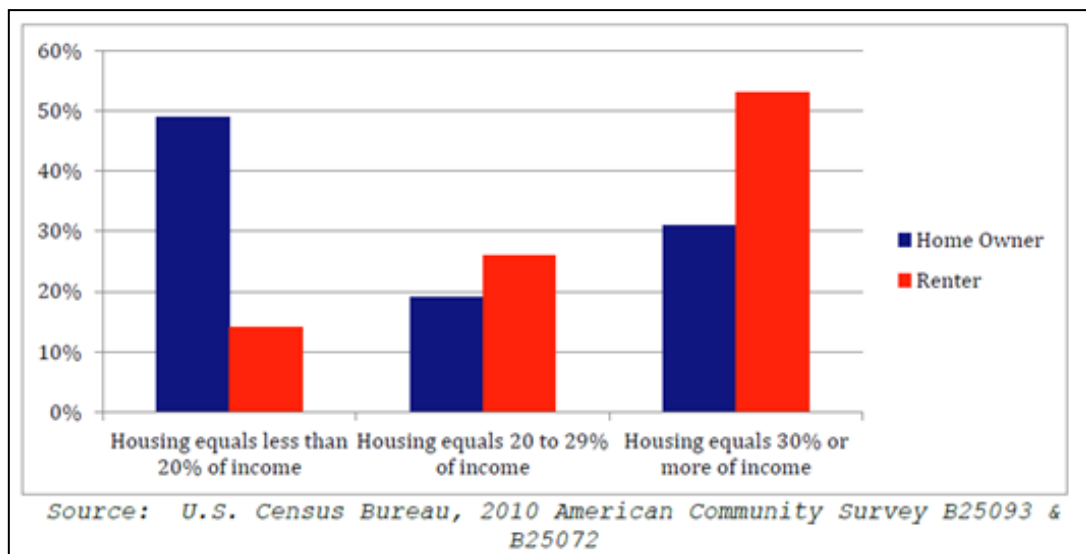
Elderly falls have been identified as an issue throughout the country, where the CDC reported that throughout the year one out of three seniors will experience a fall. In the LVRC (2012) report, surveys informed us that in the Lehigh Valley, approximately 22% of the elderly reported one or more falls over the past three months. The report also found that most of the elderly who needed to be hospitalized for their falls stayed at the hospital for a little over 4 days, and 75% of them required help at home once they were discharged. As evidenced by the bar graph on the following page from the LVRC (2014) report, a relationship was found between the number of falls the elderly reported and the likelihood of hospital admissions in the past year. Falls are not only dangerous for the elderly, since they may cause serious injuries, but they are also costly to the medical system. Each fall patient costs roughly \$234,423 (LVRC, 2012). For these reasons it would be in the best interests of the community as well as hospitals such as ours to help prevent falls amongst the elderly.

Occurrence of Falls and Admittance to Hospital in Past Year



Affordable housing is an issue that was discussed amongst the stakeholders in the St. Luke's Bethlehem focus group. The elderly population may want to live on their own, or at least choose where they want to reside as they age. The graph below from the LVRC (2012) report shows that amongst those in the elderly population who rent their homes, a little more than half of them have housing costs that are equivalent to 30% or more of their income. The stakeholder focus group participants mentioned that this is an extremely large expense for many who have to choose between paying for their home, and paying for other necessities such as food, clothing, and healthcare.

Lehigh Valley Older Adult Household Costs as a Percent of Income

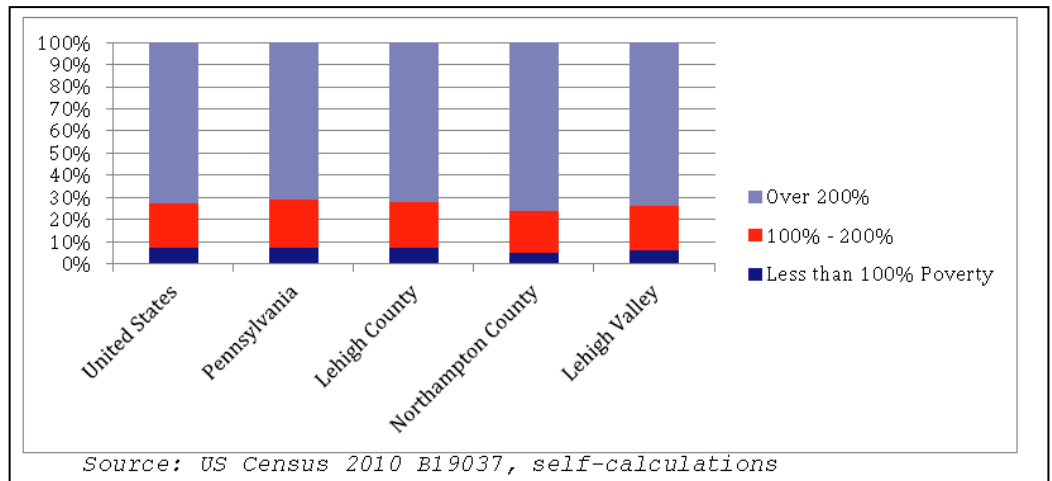


Because of the high cost of renting or owning a home, many older adults are choosing to live with their children and grandchildren. This living arrangement has the possibility to place a lot of strain on family income and mental well-being. The focus group members discussed the Long Valley Intergenerational

Care Facility as a great model to follow. This facility includes a daycare that is linked with a permanent care retirement village, which is suggested to improve elderly morale.

Approximately 6,000 individuals in the elderly population within the Lehigh Valley are living at or below 100% of the FPL. Older adults have to work longer to cover costs of living and to cover medical costs, since more health issues arise as they age. For an elderly individual living alone, 200% of the poverty level is \$21,660. Examining the level of poverty at this level shows us that more than 25% of the elderly living in the Lehigh Valley have extremely low incomes (LVRC, 2012).

**Percentage of Older
Adults Living in Poverty
(2000-2010)**



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 categories that were identified as areas for improvement through our community survey, our key stakeholder focus groups, and secondary data analyses. We already have many 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 programs to address the current concerns more comprehensively. The needs discussed within the health categories will serve as our guide in creating a campus specific implementation plan to best address the needs of the St. Luke's Bethlehem service area.

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Appendix A: Bethlehem Stakeholder Focus Group Overview

Bethlehem Campus Priority Areas

1. Child and Adolescent Health
2. Mental Health
3. Healthy Living and Preventing Chronic Disease
4. Reducing Health Disparities
5. Elder care

I. Priority Area Specific Questions

1) Improving Child and Adolescent Health

a. What strengths and resources can be built upon and utilized to *improve child and adolescent health*?

The mobile vans are a great resource to build upon to improve child and adolescent health. These vans are ideal for getting students care because the care comes directly to the school, so parents do not need to take off work to bring children to the doctor. The vans are also helpful in providing prenatal care for pregnant teenagers, as well as primary care services for students and their families. The stakeholders suggested there should be greater utilization of school nurses within school health initiatives. Another suggestion was to build on the community school program by getting more schools to participate. There are still some Bethlehem schools that are not involved, and this program is a great way to provide multifaceted, integrated care to students and their families. Lastly, it was recommended that more work be done with the child abuse prevention grant.

b. What are the barriers and challenges that our community faces to *improve child and adolescent health*?

The complexity of the healthcare system makes it difficult for parents to navigate through different services, which may prevent them from getting care for their children. Along those same lines, care is not coordinated amongst different health providers, which results in disjointed care.

Other barriers to improving child and adolescent health that were mentioned include lack of childcare, language barriers, cost of healthcare, and the diminished access to healthy foods.

2) Improving Mental Health

a. What strengths and resources can be built upon and utilized to *improve mental health*?

An important strength to build upon is the Lehigh University Partnership. One of the stakeholders mentioned it would be beneficial to connect with more local universities that are able to provide social work services.

The community schools program is a great resource to utilize in order to improve mental health because the school acts as a main hub for many health services for students and their families. School locations are convenient and it is an easy way for people of all ages to access behavioral health services.

Another program to build upon is the St. Luke's School of Nursing program, where nursing students are going into the community to interact with community members and create trusting relationships. It would be beneficial to enhance this program to allow more nurses to get out in the community.

Lastly, it was said that currently this community has a very good program for geriatric behavioral health, and this should be expanded so that it can reach more individuals.

b. What are the barriers and challenges that our community faces to *improve mental health*?

There is a major shortage of trained professionals within behavioral health, including mental health professionals, social workers, caseworkers, therapists and physicians. The lack of caseworkers is a concerning issue because they are needed to help guide patients towards the services they need. Without caseworkers, individuals with behavioral health issues may get lost in the system. Additionally, social workers are currently fulfilling the niche of case workers, but this is without compensation and in addition to their regular duties.

Parents who work are not able to receive the services that the schools offer because they cannot get to the school during the day when the services are available. Additionally, school programs lack sufficient resources and staff to give people care they need every day. Due to lack of funding, we are also not seeing as many preventative programs in schools, which is concerning because these programs targeted younger children to make them knowledgeable about mental health issues.

Another major barrier to improving mental health is that many times the co-pay for these services is too high, or the patient's insurance is turned down. This presents an issue where people are not receiving the care they need, even though they are making the effort to access these services. On the flip side, some people may not know how to access mental health services in the first place. Many people believe that they have to go to the hospital first to access these services. Hospitals also tend to refer patients to inpatient programs, rather than telling them about the other outpatient resources available.

There is also a stigma attached to receiving care for a mental health issue, which perpetuates the problem of people forgoing treatment. Forgoing treatment worsens mental health conditions, which creates a big problem to community members who are suffering greatly.

3) Promoting Healthy Living and Preventing Chronic Disease

a. What strengths and resources can be built upon and utilized to *promote healthy living and prevent chronic disease*?

The Food Policy Council is an important resource to build upon in order to promote healthy living. This council will be vital in looking at access to food and food sustainability issues. There are currently many healthy food curriculum materials that are being taught within Bethlehem elementary schools through the Adopt-A-School Program. Many community schools also have gardens where they are growing vegetables with the students. Lastly, the St. Luke's smoking cessation programs and smoke free campuses are great changes that have been made to improve healthy living and prevent chronic disease for SLUHN employees and patients.

b. What are the barriers and challenges that our community faces to *promote healthy living and prevent chronic disease*?

One stakeholder mentioned that service recommendations are hindered by Health Insurance Portability and Accountability Act (HIPAA). For example, work is being done with United Way on a fall prevention initiative and they want to send seniors to specific programs, but because of HIPAA they cannot identify people with these needs.

Another major barrier in promoting healthy living and preventing chronic disease is that there are few grocery stores to provide fresh produce and healthy foods in the inner city.

A challenge to promoting healthy living is that community members may be in the position where they are living in an unsafe neighborhood or are the sole provider of their family; therefore they have more important issues to worry about than exercise and eating healthy. These core issues must be addressed first before community members can think about leading a healthy life.

Access to free and safe exercise is another barrier to promoting healthy living and preventing chronic disease. The layout of Bethlehem is not conducive to exercising, although the Get Your Tail on the Trails program aims to boost exercise with the existing resources available. Since Bethlehem is not a particularly walkable city, it is important to try to ensure that essential facilities (i.e. pharmacies, doctor's offices, and grocery stores) are located within walking distance, so that community members can get to these places easily.

Education for Alzheimer's disease is of great importance, but many times people do not know that the community has educational resources available. It is vital to connect community members to learning opportunities so that they can develop healthy behaviors and learn about the disease.

It is important to collaborate with the city to inform community members about available resources and events. For example informing people about community pools as well as getting people out to attend community events such as Musikfest.

4) Reducing Health Disparities

a. What strengths and resources can be built upon and utilized to *reduce health disparities within the community*?

Unfortunately, the stakeholders did not mention many resources that can be built upon in order to reduce health disparities within the community. One major resource that should be improved upon on is forging personal relationships within the community. If community members feel they can relate to and trust medical personnel, this will likely lead to more positive health outcomes.

b. What are the barriers and challenges that our community faces to *reduce health disparities within the community*?

One barrier discussed is the need for improved cultural competency for healthcare providers at all levels. This involves medical professionals gaining a real understanding of different cultures so that when they meet with patients, they can understand their point of view and can help frame medical terminology in a way that makes more sense. In terms of language barriers, improving cultural competency may involve the implementation of translation services. Unfortunately, sometimes translation services do not truly

capture all of the details a medical provider is trying to get across. Additionally, there is no credentialing for translation services, so translators may have different skill levels and qualifications. One suggestion was that international students from local universities be used to help translate, since they are fully proficient in their native born language. With any translation service used, it is important that people are trained in specific medical terminology so that nothing gets lost in translation. This is vital because practices can be sued based on translation errors.

Another challenge to reducing health disparities within the community is it that people move very often. Since families are moving around a lot it makes it difficult to provide continuous care, follow services, and see how a patient is progressing. There also tends to be a 30 day gap in medical assistance when a patient moves to a new area.

5) Improving Elder Care

a. What strengths and resources can be built upon and utilized to *improve elder care*?

The Phoebe Institute on Aging is one important resource to build upon in order to improve elder care. This involves meetings of multidisciplinary geriatric professionals in order to share ideas and discuss what the major issues are in providing care to the elderly. Another great program is the LINK program, which is a joint effort between Northampton county and Lehigh county, funded by the Pennsylvania Department of Aging to disseminate health information and help get seniors in touch with service homes. This program serves individuals ages 60 and up, as well as individuals with disabilities from ages 18-59. The Hispanic center is also a good resource to utilize because of its diabetes programs, but also because of the opportunity for socializing it provides for seniors.

Church programs are also key resources that provide health information to the elderly, but these programs could definitely be better connected to one another. One specific program allows elderly individuals to go into the schools and take part in a mentoring program with current students; this provides benefit for both the students and the seniors.

The Gatekeeper Program should be expanded and built upon to improve elderly care. This program trains employees, who because of the nature of their jobs interact with seniors often, to give them skills to determine if senior is at risk and can help connect them to services.

Currently there are no intergenerational care facilities, but the Long Valley intergenerational daycare linked with a permanent care retirement village in New Jersey is a model to strive for.

b. What are the barriers and challenges that our community faces to *improve elder care*?

In 2014 there was a 30% increase in the number of elderly using food stamps, which may also be linked to more seniors visiting food pantries. Seniors need to work longer in order to cover the costs of aging, but there are few jobs available and the ones that are available offer very low pay. The combination of these two issues forces seniors to decide where to spend their money, and generally this decision has to be made in regards to necessities such as food, medication, and rent. There is also a lack of affordable housing. Many seniors are opting to live with their families, but this puts a burden on relationships and resources within the home.

There has been an increase in number of dementia patients, which has resulted in issues for care because these seniors cannot follow doctor's recommendations. There is a pressing need for dementia friendly communities within this area.

There is going to be a doubling of the elderly population by 2040, which is an extreme barrier to improving elderly care because at the current rate there will not be enough trained professionals to care for this population. There must be an expansion of the current workforce and resources in order to accommodate the growing elderly community.

II. Non-Priority Specific Questions

1) Do you see any additional emerging community health needs especially among underserved populations?

Oral health is a continuous issue that must be addressed. Advanced care planning for the elderly is another need that should be focused on because many seniors are getting to the point where they have never had end of life conversations, so family members end up making these decisions for them. Another issue is hospital discharging mental health patients, because when they are discharged these patients have nowhere to go. A focus on planning and affordable housing is necessary to address this issue. Growth of violence is a community problem that needs to be addressed. This issue should be addressed by promoting conflict resolution instead of strictly resorting to violence. A concern regarding mental health that was not mentioned earlier is how to help patients who have dual diagnoses.

2) Do you feel that people in the community are fully aware of the healthcare services/options that are available to them? How do they receive information about healthcare services?

The stakeholders felt that community members are not aware of the services and programs available to them. Most community members receive information about health services by word of mouth within the community or from providers when they enter the healthcare system.

3) Do you have any recommendations to improve communication about healthcare services?

Open data sharing would be a great way to improve communication about healthcare services. The Regional Homeless Advisory Board (RHAB) is working on bringing together agencies to integrate information, and the hope would be that an individual could contact one agency and receive all the information they need. Essentially, the goal is to create a consolidated resource of information. This is being attempted with LINK as well, but it is difficult because it is an online resource, so the information would have to be constantly and consistently updated to keep everyone up to date with the newest information.

4) What accommodations are available for groups who may not have access to typical avenues of information?

There are several modes of communication for groups who may not be able to access information such as Internet resources, the local library system, and trainees of the Gatekeeper Program who work with for-profit companies (i.e. UGI and PPL), who can help detect issues in seniors' homes and get them connections to the right services.

5) What do you think St. Luke's role should be in improving health and quality of life in the community?

The stakeholders agreed that St. Luke's should act as an educational resource for community members. SLUHN should also continue getting suggestions from the community to see what they need, and then decide what to do to address these needs. This is exemplified by the great programs that have been implemented in the Bethlehem Area School District, which came about as a result of community input.

SLUHN should also continue to collaborate with community partners to create joint programs in order to have a greater impact on the community. SLUHN should also combine resources with LVHN in order to create larger and more effective initiatives.

Lastly, it would be beneficial for SLUHN to find ways to work with HIPAA in order to get information to organizations such as St. Luke's Kidscare clinic, so that the greatest number of community members can be serviced.

6) What do you see as the top 3 most important needs within our community? Please rank these in order from most to least important, with 1 being the most important need and 3 being important, but perhaps not quite as critical.

- 1) Communication of the resources available
- 2) Quality education
- 3) Obesity, violence prevention, and livable wages (three way tie)

7) What makes a need greater than the others?

The overarching need is what makes it greater than the others, the communication of resources available involves the coordination of care and informing people of the services that they have at their disposal. Communication is vital in getting people connected to the resources they need.

Appendix B: Stakeholder Focus Group Synopsis
Bethlehem Campus Community Health Needs Assessment

Priority Area	Strengths	Challenges	Suggestions
Child and Adolescent Health	<ul style="list-style-type: none"> - St. Luke's Mobile Youth Van services- prenatal and primary care - School nurses - Community schools program- provide integrated care to families 	<ul style="list-style-type: none"> - Complexity of the healthcare system - Care is not coordinated - Lack of childcare, language barriers, costs, limited access to healthy food 	<ul style="list-style-type: none"> - Increase use of Mobile Vans - Utilization of school nurses - Promote community schools program- not all Bethlehem schools involved yet - Utilize the child abuse prevention grant
Mental Health	<ul style="list-style-type: none"> - Lehigh Partnership - Community schools program- convenient location to provide services - St. Luke's School of Nursing- nurses out in the community - Geriatric program 	<ul style="list-style-type: none"> - Shortage of professionals - Working parents cannot get to schools at times when services are offered - Lack of resources/funding - High co-pays/deductibles - Stigma associated with receiving care 	<ul style="list-style-type: none"> - Growth of the Lehigh University Partnership - Connect with universities that can provide social work services - Expand geriatric program - Bilingual/bicultural services - Inform community- how to access services
Healthy Living and Preventing Chronic Disease	<ul style="list-style-type: none"> - Food Policy Council - Adopt-A-School Program- healthy food programs - Community school gardens - SLUHN smoking cessation programs and smoke free campuses 	<ul style="list-style-type: none"> - Service recommendations hindered by HIPPA - Limited access to fresh food in inner city - Lack of free/safe exercise - Essential facilities not within walking distance 	<ul style="list-style-type: none"> - Address food access/sustainability - Continue healthy lifestyle programs such as Get Your Tail on the Trail - Address core issues- exercise/healthy eating not priority for those who lack necessities - Collaborate with the city to inform community
Reducing Health Disparities	<ul style="list-style-type: none"> - Forging personal relationships within the community 	<ul style="list-style-type: none"> - Cultural barriers- need to understand patients points of view when providing medical care, language - Lack of credentialing for translation services - Transiency 	<ul style="list-style-type: none"> - Build trust within the community - Improve cultural competency - Translation services- utilization of international students from universities - Improving access to health information- internet & library
Elder Care	<ul style="list-style-type: none"> - Phoebe Institute on Aging - LINK program- Lehigh/Northampton - The Hispanic Center - Church programs - Gatekeeper Programs 	<ul style="list-style-type: none"> - Lack of preventative services - Working to cover costs - Living with family- strain - Increase in dementia - Increase of elderly population 	<ul style="list-style-type: none"> - Help through Balancing Incentives Program - Get more people involved in - LINK/Gatekeeper - Increased recruitment and training of professionals - Intergenerational care facility

Bethlehem Focus Group Participant List: Community Stakeholders and Public Health Professionals

Tuesday, April 21, 2015

12:30 – 2:30pm

	Name	Organization/Affiliation
1.	Kathy Hawkins	Bethlehem Area School District
2.	Lisa Giovanni, MSN, RN	SLUHN – VNA President
3.	Sayda Castaneda	SLUHN – ASC Case Management
4.	Barbara Valentine	Cedar Brook Nursing Home
5.	Anne Baum	Vice President Capital Blue Cross
6.	Diane Elliott	New Bethany Ministries
7.	Mary Hazzard	Cedar Brook Nursing Home
8.	Bernie Story	LV Community Foundation
9.	Kristen Wenrich	Bethlehem health Bureau
10.	Linda Moller	SLUHN – VNA Director of Hospice
11.	Debra Youngfelt	East Central AHEC
12.	Cori Rolon	United Way - Director
13.	Vivian Robledo-Shorey	Bethlehem Area School District
14.	Donna Zimmerman	Lehigh County Aging and Adult Services
15.	Bryon Grigsby	Moravian College
16.	Patricia Fernandez	Lehigh Valley Act – Program Coordinator
17.	Kelly F. Austin, Ph.D	Lehigh University – Department of Sociology & Anthropology
18.	Sara Reitenauer	Magellan Behavioral Health of PA, Inc.
19.	Diane Ankrom, RN, BS	SLUHN – VNA Director of Home Health
20.	Susan Regalis, NHA	Administrator – Holy Family Manor
21.	Barbara Mack, MSW	Director of Social Services Holy Family Manor
22.	Kenneth Szydlow	SLUHN – Vice President of Marketing
23.	Carla Arbushites	SLUHN – AVP Development
24.	Kelly Carney	Phoebe Ministries

Appendix C: Community Resources and Programs

St. Luke's Bethlehem Campus

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

Alcoholics Anonymous
AARP
Adult Day Cares/Services
AIDSNET
Allentown Health Bureau
American Cancer Society, local chapters
American Diabetes Association, local chapters
American Heart Association, local chapters
Auxiliary of St. Luke's University Health Network
Benefits Check-up
Bethlehem Area school district
Bethlehem Health Bureau
Bethlehem Housing Authority
Bethlehem Partnership for a Healthy Community
Boys & Girls Clubs of Easton & Southside Bethlehem
Bradbury-Sullivan LGBT Community Center
Buy Fresh Buy Local
Center for Healthy Aging
Center for Humanistic Change
Center for Vision Loss
Centers for Disease Control and Prevention
Community Action Council of the Lehigh Valley
CONCERN
Congregations United for Neighborhood Action (CUNA)
Connell Funeral Home
Crime Victims Council of the Lehigh Valley
Delaware & Lehigh Heritage Corridor
East Stroudsburg University
Eastcentral PA Area Health Education Center
Easton Children's Home
Easton Hospital
Easton Nazareth and Slate Belt YMCA
Farmer's Markets
Fund to Benefit Children and Youth
Gracedale
Health Resources and Services Administration (HRSA)
Highmark Foundation
Hispanic Center of the Lehigh Valley
In-home and Respite Care Centers

Just Born, Inc.
Kellyn Foundation
KidsPeace
Lafayette College
Lehigh Carbon Community College
LANTA- Lehigh Northampton Transportation Authority
Lehigh County Child Advocacy Center
Lehigh County:Children, Youth & Families
Lehigh University
Lehigh Valley Child Care
Lehigh Valley Council for Children
Lehigh Valley Dental Hygienists' Association
Lehigh Valley Dental Society
Lehigh Valley Health Network
Lehigh Valley Research Consortium
Lehigh Valley Workforce Development Board Inc./ Career Link Lehigh Valley
Local grocery stores
Local mental health counselors
Local psychiatrists
Local Senior Centers
Meals on Wheels
Moravian College
Morning Star Rotary
New Bethany Ministries
New Directions
Northampton Community College
Northampton Country Club
Northampton County Area Agency on Aging
Northampton County Drug and Alcohol Division
Northampton County MHMR Division
Northampton County, Department of Human Services
Nurture Nature Center
Our Lady of Perpetual Help Church
PA Department of Health
Pearle Vision Center, Bethlehem Square
Pinebrook Family Answers
Planned Parenthood of Northeastern PA
RENEW Lehigh Valley
Richard Ritter Pharmacy
Rotary Club of Bethlehem
SADD chapters
Safe Harbor
Second Harvest Food Bank
Senior Solutions, Inc.
ShareCare Faith in Action
Sodexo

The Allentown area school district
Tobacco Free Northeast PA
Trinity Episcopal Church
Turning Point of the Lehigh Valley
Two Rivers Health and Wellness Foundation
United Way Alliance on Aging
United Way of the Greater Lehigh Valley
Unity House
Valley Youth House
Via of the Lehigh Valley
VNA of St. Luke's
Wildlands Conservancy
Women, Infants and Children Program (WIC)