St Luke's
QUAKERTOWN CAMPUS

Community Health Needs Assessment

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Community Health & Preventive Medicine**
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I. St. Luke's Quakertown 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 at the end of this report. The needs identified in the focus groups were supplemented by the survey data and secondary data to provide us with a more comprehensive picture of the needs in the community and what factors are affecting these health issues.
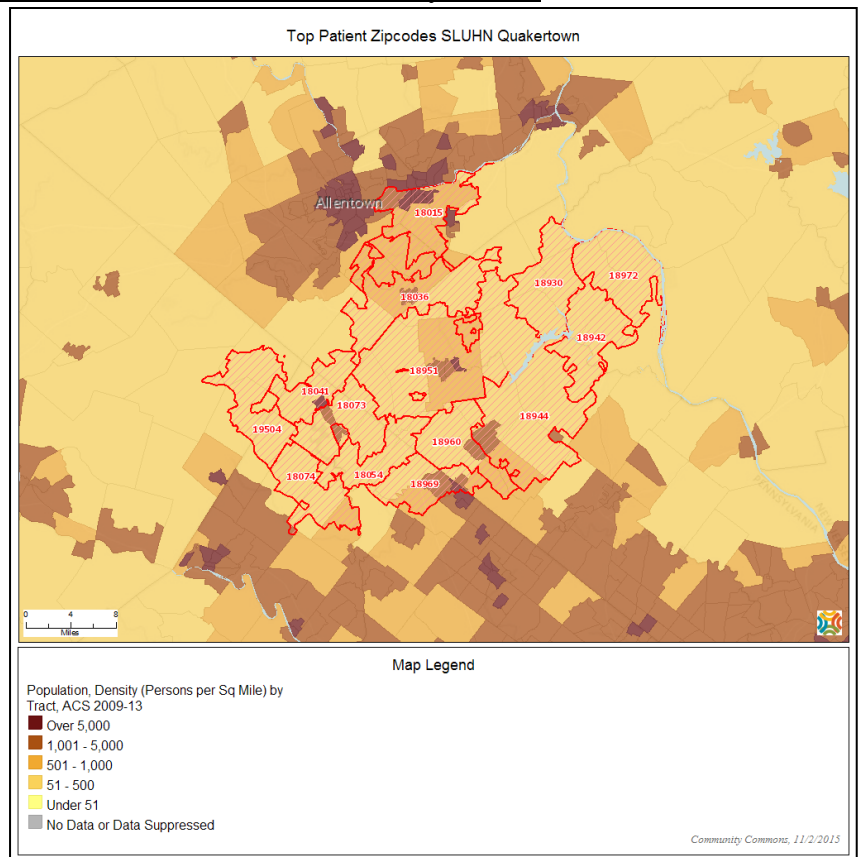
C. About St. Luke's University Health Network Quakertown Campus

Quakertown Community Hospital officially opened on June 5, 1930. Over time the community and hospital staff has helped the hospital grow to make it what it is today. In 1995, Quakertown Community Hospital officially joined St. Luke's University Health Network (SLUHN) and was renamed St. Luke's Quakertown Hospital. St. Luke's Quakertown includes over 275 physicians operating within 40 different medical specialties in the Upper Bucks and Montgomery counties and some regions of the greater Lehigh Valley. Although located in Bucks County, this hospital

mostly serves the Northern part of the county in the Quakertown region. Quakertown is uniquely situated on the border of both the Delaware Valley and the Lehigh Valley. There are four major highways that feed into the Quakertown area, making travel to other areas very accessible. St. Luke's Quakertown works tirelessly to provide patients with superior care. St. Luke's Quakertown is highly supportive of the surrounding community, exemplified through the addition of new services and the creation of jobs in the region. St. Luke's Quakertown provides a variety of services including 24/7 emergency care, women's health services, orthopedics, heart and vascular, dialysis, and radiology, amongst many other available services.

D. Geographic Description of Medical Service Area and Community Served

A total of 185,316 people live in the 360.34 square mile report area defined for this assessment according to the U.S. Census Bureau American Community Survey (ACS, 2009-13) 5-year estimates. The population density for this area, estimated at 514.28 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 17,785 persons, an increase of 10.67%. This percent population change is higher than that seen in Pennsylvania (3.43%) and in the U.S. as a whole (9.74%).

Top Patient Zipcodes SLUHN Quakertown

Map Legend

Population, Density (Persons per Sq Mile) by Tract, ACS 2009-13
- Over 5,000
- 1,001 - 5,000
- 501 - 1,000
- 51 - 500
- Under 51
- No Data or Data Suppressed

Community Commons, 11/2/2015

We defined our service area by determining the top patient zip codes of our residents who receive services from St. Luke's Quakertown. 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 Quakertown service area". The top five counties served by St. Luke's Quakertown include Northampton, Lehigh, Berks, Bucks and Montgomery counties. There are a total of 17 zip codes that were included. 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 Quakertown and at SLUHN as a whole.

Analysis of Top Patient ZIP Codes, All Patients St. Luke's Quakertown, 2014				
Facility	**ZIP**	**Encounters**	**% Facility**	**% SLUHN**
Quakertown	18951	32,121	41.04%	3.25%
Quakertown	18036	5,624	7.19%	0.57%
Quakertown	18073	5,550	7.09%	0.56%
Quakertown	18041	3,374	4.31%	0.34%
Quakertown	18944	2,108	2.69%	0.21%
Quakertown	18076	2,034	2.60%	0.21%
Quakertown	18960	1,752	2.24%	0.18%
Quakertown	18034	1,671	2.13%	0.17%
Quakertown	18955	1,612	2.06%	0.16%
Quakertown	18054	1,284	1.64%	0.13%
Quakertown	18015	1,103	1.41%	0.11%
Quakertown	18930	1,094	1.40%	0.11%
Quakertown	18969	921	1.18%	0.09%
Quakertown	18972	795	1.02%	0.08%
Quakertown	18074	797	1.02%	0.08%
Quakertown	18942	778	0.99%	0.08%
Quakertown	19504	778	0.99%	0.08%
Grand Total		**63,396**	**81.00%**	**6.42%**

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

In the St. Luke's Quakertown service area, the percentage of females in the population ranges from 50.91% to 51.48% (ACS, 2009-13). The percentage of males in our service area ranges from 48.52% to 49.09% (ACS, 2009-13). This pattern is similar to the U.S. as a whole, where there are more females (50.81%) than 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 Quakertown service area, 74% of respondents were female and 26% were male.
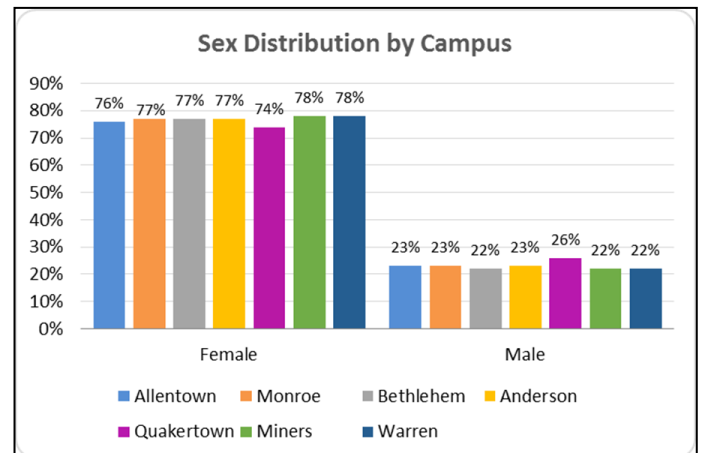
ii.   Age

22.41% of the population in the St. Luke's Quakertown service area is under the age of 18 and 13.91% of the population is over the age of 65 (ACS, 2009-13). This means that 63.68% of the

population in this service area falls between the ages of 18-64. The bar graph from our internal data shows that a higher number of our patients seen fell in the 45-64 or the 65 and above age groups. It is likely that there was a high percentage of patients that fell in the above 65 group because as people age they face more health issues such as chronic diseases. (SLQ refers to St. Luke's Quakertown in the graph). This age distribution graph covers all types of medical care, i.e. inpatient, outpatient, ER, primary care
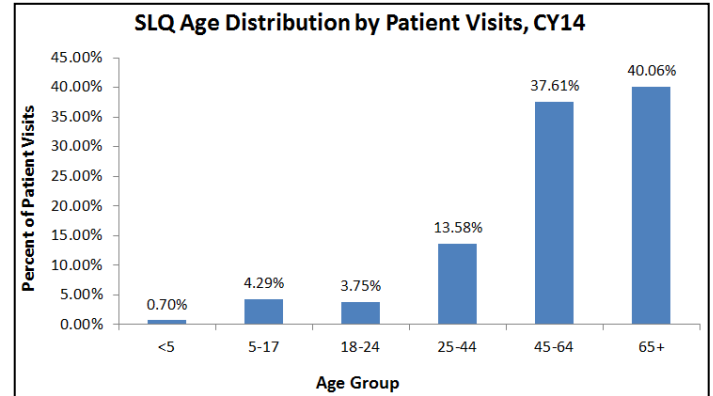

The age distribution of those who took the community survey yielded interesting results. Although the 65 and older population constitutes 40.1% of the patients seen at St. Luke's Quakertown (in 2014), only 12.1% of respondents who completed the survey were in this age bracket (bottom bar graph). One 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.
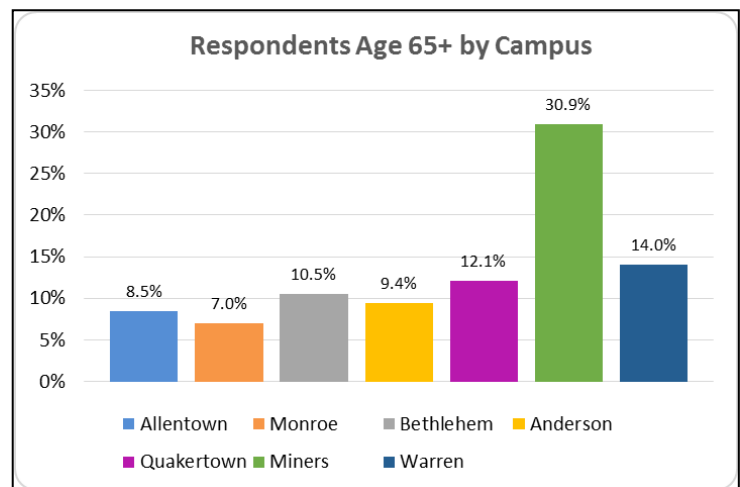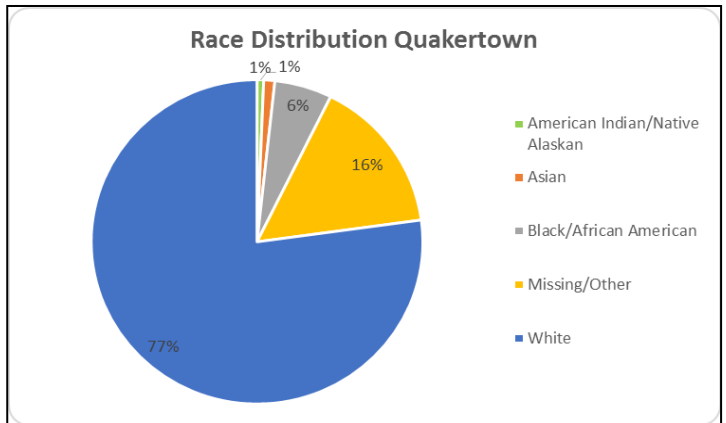

iii.   Race

As we can see from the breakdown of race in the pie chart to the right, within the St. Luke's Quakertown service area, 91.54% of the population is White, 2.38% is Black, and 2.15% is Asian. The other race groups make up the remaining 3.93% of the population (ACS, 2009-13).
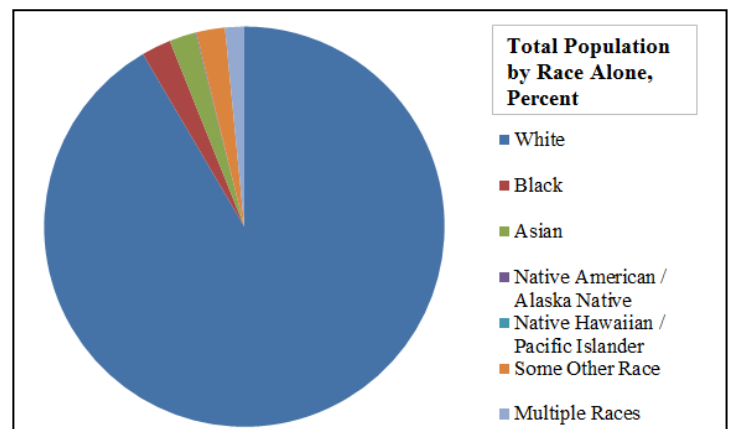
Our 2016 community survey results yielded slightly different results. In the St. Luke's Quakertown service area, 77% of respondents identified as White, 16% as missing/other, and 6% as Black. The percentage of the "Other" group may be higher than is seen for the service area as a whole because people in our service area who are Hispanic/Latino may not consider themselves to fall in the White race category, which would make the White percentage lower and the "Other" percentage higher.

Race Distribution Quakertown

- American Indian/Native Alaskan
- Asian
- Black/African American
- Missing/Other
- White

iv.   Ethnicity

By examining ethnicity we can better understand what the St. Luke's Quakertown service area looks like. According to the ACS (2009-13), 92.53% of the population in the service area identifies as non-Hispanic and 7.47% identify as Hispanic or Latino. Our 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 showed that 35% of the respondents from the St. Luke's Quakertown service area identified as Hispanic.


Hispanic Respondents by Campus

Total Population by Ethnicity Alone
Custom Area Estimates *
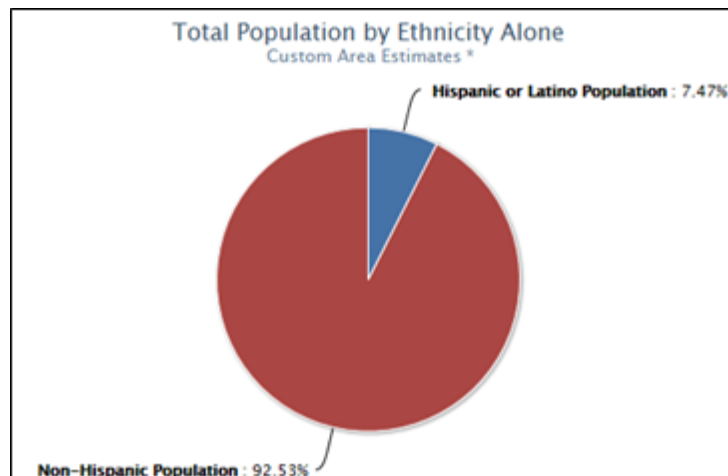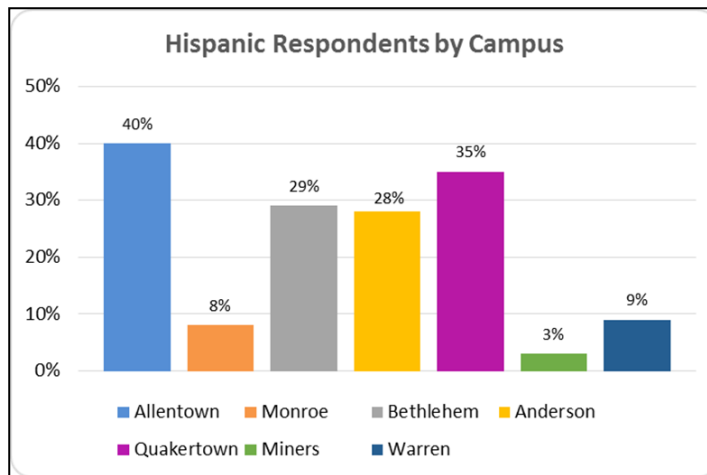
v.   Language

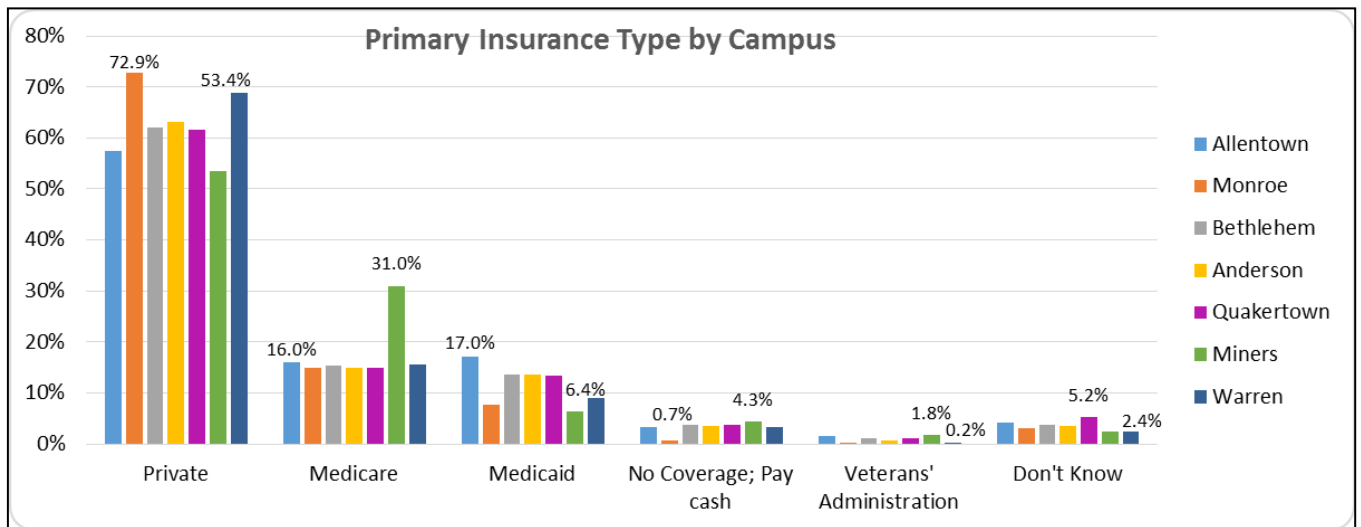| Quakertown				
ZIP	% Facility	% Spanish Speaking in zip code	% of zip code who speaking Spanish but speak English less than "very well"	Next Frequent Language
18951	41.04%	1.7% (550 people)	0.79% (254 people)	Vietnamese (1.1% - 187 people)
18036	7.19%	2.99% (361 people)	0.73% (88 people)	German (0.83% - 100 people)
18073	7.09%	0.97% (87 people)	0.48% (43 people)	Other Indic Languages (0.43% - 39 people)
18041	4.31%	0.66% (33 people)	0.08% (4 people)	German (0.66% - 33 people)
18944	2.69%	0.96% (227 people)	0.67% (158 people)	Italian (0.48% - 114 people)
18076	2.60%	1.09% (28 people)	0% (0 people)	Italian (1.24% - 32 people)
18960	2.24%	1.45% (175 people)	0.08% (10 people)	German (0.35% - 42 people)
18034	2.13%	4.18% (341 people)	0.04% (3 people)	Arabic (3.56% - 290 people)

From this chart we can see that there are a variety of languages spoken in the St. Luke's Quakertown service area. The most commonly spoken language besides English is Spanish, where 2.99% of the people in the zip code 18036 speak Spanish (361 people) and 1.7% of the people in 18951 speak Spanish (550 people). The next most frequently spoken language is Arabic, which represents 3.56% of the population in the zip code 18034. 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. In the St. Luke's Quakertown service area, the number of community members speaking different languages is not sufficient to require translation services.

vi.   Health Insurance Plans

Our patients utilize a variety of methods to cover the costs of receiving healthcare services. According to our internal reviews, a large percentage of our patients utilize Medicare as their main form of insurance (42.50%). The next most popular forms of coverage are Blue Cross (25.95%) and commercial insurance (8.32%). This distribution of insurance plans mirrors the pattern seen for St. Luke's as a network, with Medicare, and Blue Cross as two of the most popular forms of insurance used. However, for the network, medical assistance programs falls in the top three types of insurance used. Charity care (which is free or subsidized care from the hospital) is included in the self-pay category, which represents 3.11% of the coverage methods that our patients utilize. Throughout SLUHN as a whole, the total cost of healthcare provided to uninsured and vulnerable populations in 2014 was $48,796,104. This insurance plan distribution graph covers all types of medical care, i.e. inpatient, outpatient, ER, primary care. (SLQ represents St. Luke's Quakertown in the graph on the following page).
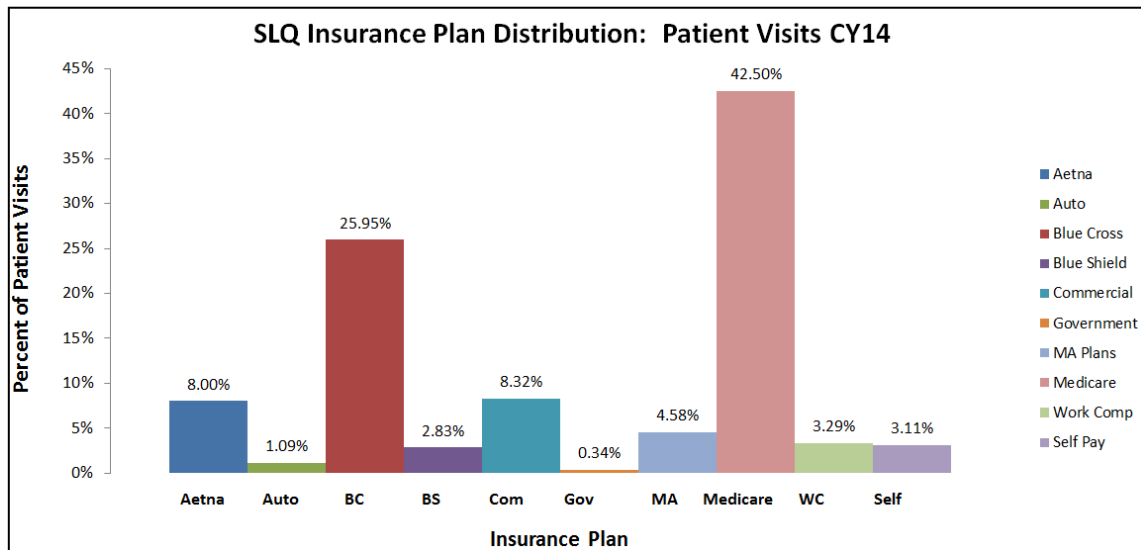
The bar graph below shows the breakdown of primary insurance types by SLUHN campus from our 2016 community survey data, in which we found that 61.6% of respondents from the St. Luke's Quakertown service area used private insurance, 13.4% use Medicaid, and 14.9% use Medicare. Interestingly, for the patients seen at St. Luke's Quakertown last year, 42.5% reported using Medicare as opposed to the 14.9% we found in our 2016 community survey. This difference may be due to the fact that only 12% of survey respondents from this service area were over the age of 65.


vii.   Poverty

According to the ACS (2009-13), 8.62% of the population in the St. Luke's Quakertown service area has incomes that fall at or below 100% of the Federal Poverty Level (FPL). This percentage is lower than that seen in Pennsylvania (13.3%) and in the U.S. as a whole (15.37%). When looking at the percent of the population that has incomes that fall at or below 200% of the FPL,

21.23% of the population falls at this level as compared to higher percentages seen in Pennsylvania (30.51%) and the U.S. (34.23%) (ACS, 2009-13).

viii.   Overall Health and Health Conditions

According to our 2016 community survey, most people in the St. Luke's Quakertown 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. However, St. Luke's Quakertown had the lowest percentage for those reporting good health (38.6%) and the highest percentage of those reporting poor or very poor health (8.9%). For the network as a whole, 93.4% of respondents rated their health as good or better.
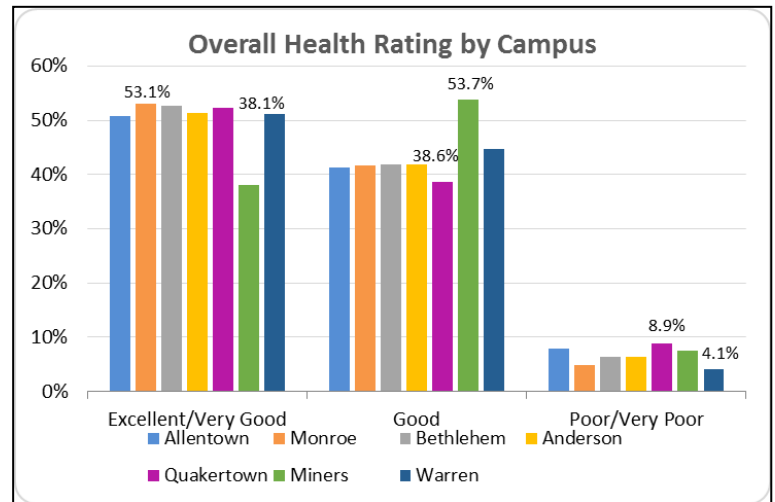
After examining people's perceptions of their own health, it is important to look at the prevalence of specific health conditions reported by the respondents in order to assess the health status and needs of the community. According to our survey results for the St. Luke's Quakertown service area, most people reported having high blood pressure (30%), high cholesterol (19%), followed by asthma and arthritis (both at 16%).
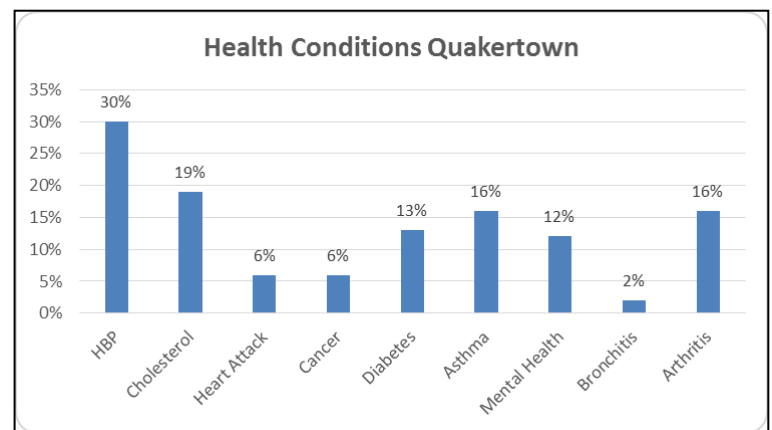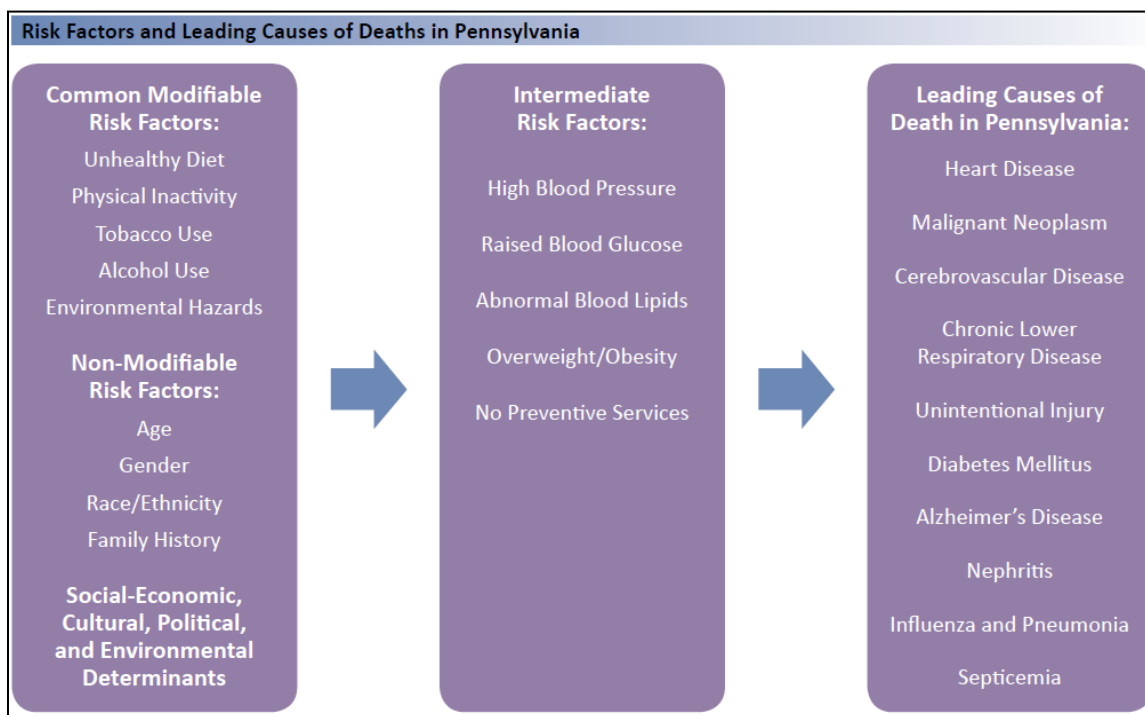

ix.   Top Reasons for Hospitalization

The chart on the following page displays the top 10 reasons for inpatient hospitalization in the St. Luke's Quakertown service area for 2014. Examining these reasons for hospitalization will help in understanding the priority health categories that will be discussed in the next section. The top three reasons for inpatient hospitalization were behavioral health issues, cardiovascular, and infectious disease. Interestingly, the highest percentage of respondents from our 2016 community survey in the St. Luke's Quakertown service area reported high blood pressure and high cholesterol as conditions they had been diagnosed with, which are both risk factors for our second top reason for inpatient hospitalization, cardiovascular disease.

Top 10 Reasons for Hospitalization by Service Line, Inpatients St. Luke's Quakertown, 2014		
Service Line	**Encounters**	**Rank**
Behavioral	846	1
Cardiovascular	401	2
Infectious Disease	282	3
General Medicine	280	4
Gastroenterology	249	5
Pulmonary Medicine	246	6
Nephrology	99	7
General Surgery	99	8
Urology	89	9
Endocrinology	79	10

x.   Leading Causes of Death

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

Risk Factors and Leading Causes of Deaths in Pennsylvania

Common Modifiable Risk Factors:
Unhealthy Diet
Physical Inactivity
Tobacco Use
Alcohol Use
Environmental Hazards

Non-Modifiable Risk Factors:
Age
Gender
Race/Ethnicity
Family History

Social-Economic, Cultural, Political, and Environmental Determinants

Intermediate Risk Factors:
High Blood Pressure
Raised Blood Glucose
Abnormal Blood Lipids
Overweight/Obesity
No Preventive Services

Leading Causes of Death in Pennsylvania:
Heart Disease
Malignant Neoplasm
Cerebrovascular Disease
Chronic Lower Respiratory Disease
Unintentional Injury
Diabetes Mellitus
Alzheimer's Disease
Nephritis
Influenza and Pneumonia
Septicemia

In Bucks County specifically (since a large number of the patients in our service area come from Quakertown), accidents were the leading cause of death for people ages 5-44, cancer was the leading cause of death for people ages 45-64, and heart disease was the leading cause of death for people ages 65 and older. These leading causes of death for the two older groups follow what is seen in Pennsylvania, where cancer and heart disease are the top two leading causes of death. The other leading causes of death for each age bracket in Bucks County are listed in the chart below (Pennsylvania Department of Health- Division of Health Informatics, 2014).

Selected Leading Causes of Death, Number by Age Group (2012)

Under 5 Years of Age		5-24 Years of Age		25-44 Years of Age		45-64 Years of Age		65 Years and Older	
Perinatal Conditions	20	Accidents	37	Accidents	76	Cancer	339	Diseases of Heart	962
Birth Defects	11	Suicide	6	Cancer	25	Diseases of Heart	98	Cancer	921
Accidents	2	Cancer	3	Suicide	25	Accidents	73	Stroke	246
		Assault (Homicide)	2	Diseases of Heart	23	Suicide	37	C.L.R.D.**	242
		Diseases of Heart	2	Assault (Homicide)	5	Diabetes Mellitus	31	Alzheimer's Disease	123
TOTAL	42	TOTAL	60	TOTAL	200	TOTAL	892	TOTAL	4,139

^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 Quakertown service area. We can see that we live in an area where poverty is a prevalent issue, there are some language barriers to care, and a large percentage of our patients utilize Medicare to cover their healthcare costs. During the 2013-2016 CHNA cycle, we focused on healthy lifestyles, mental health, oral health, access to care, and elder health. 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 list of focus group 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

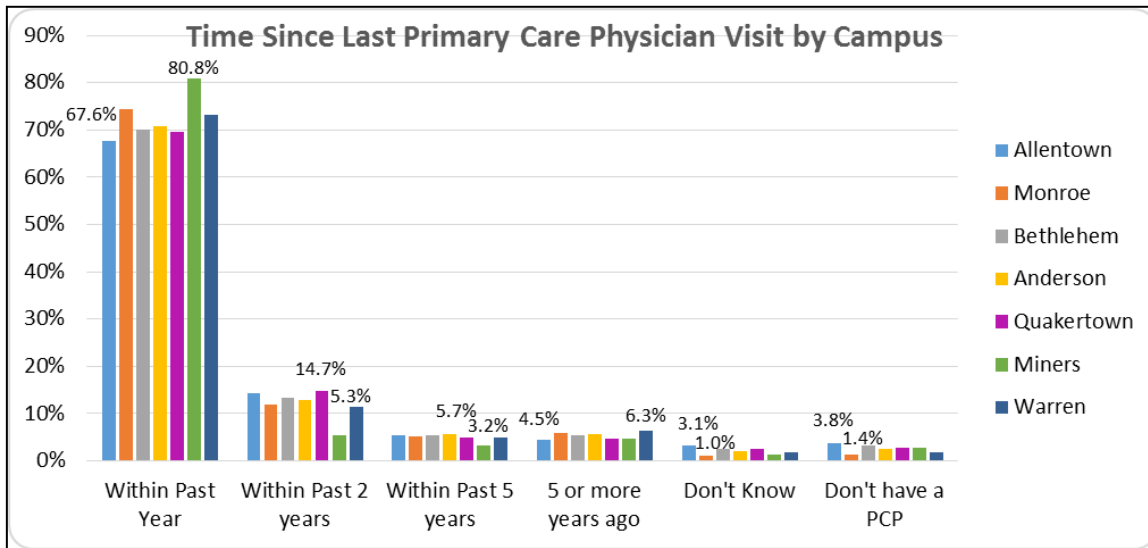1. Improving Access to Care and Reducing Health Disparities

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, and health behaviors, amongst other factors that shape a person's health status (Healthy People 2020, 2014). When reading this section, please take into consideration this more comprehensive idea of addressing the social determinants of health, which have an enormous influence on issues related to accessing healthcare and disparities seen in health outcomes.


Access to primary care physicians (PCP's) is an important determinant of access to healthcare. It is especially important to examine access to primary care because many times PCP's are the first to detect a chronic disease or mental disorder, as well as being the ones who provide preventive services. In the St. Luke's Quakertown service area, the rate of PCP's per 100,000 population is 100.11 (Area Health Resource File 2012). This rate is better than the rates seen in Pennsylvania (80) and in the U.S. as a whole (74.5). In terms of our counties served, Berks County has a particularly low rate of 64.8 PCP's per 100,000 population. The focus group members discussed how the volunteer doctor's clinic in the area closed, which resulted in community members having to look for healthcare services elsewhere.

As discussed in greater detail throughout this section, the social determinants of health such as poverty, education, and unemployment may all be reasons why people are not accessing care even if it is available. From our 2016 community survey we found that most respondents in the St. Luke's Quakertown service area had visited their PCP within the past year (69.6%).

For SLUHN as a whole we also 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 do not have a primary care doctor compared to 1.7% of those with private insurance and 2.1 % of those with Medicaid.

Time Since Last Primary Care Physician Visit by Campus

Legend: Allentown, Monroe, Bethlehem, Anderson, Quakertown, Miners, Warren

Selected labels:
- Within Past Year: 67.6%, 80.8%
- Within Past 2 years: 14.7%, 5.3%
- Within Past 5 years: 5.7%, 3.2%
- 5 or more years ago: 4.5%, 6.3%
- Don't Know: 3.1%, 1.0%
- Don't have a PCP: 3.8%, 1.4%

If an individual has not visited their PCP 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 Quakertown service area. From our 2016 survey results, we found that 40% of respondents in the St. Luke's Quakertown service area reported missing one or more days of normal activity in the past month due to poor physical health.

Days of Poor Physical Health Quakertown

- One to Two: 25%
- Three to Seven: 9%
- More than 8: 6%
- None: 58%
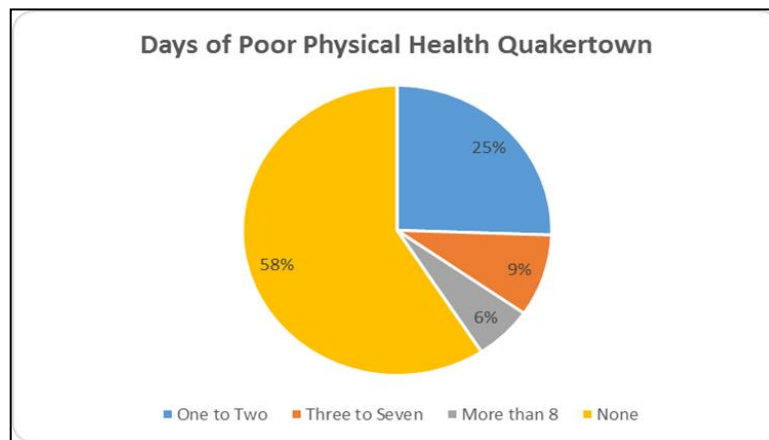
Another barrier to accessing care is access to dentists. Lack of preventative and restorative dental services can result in higher chance for heart disease or stroke, gum disease, tooth decay, diabetes, and some types of cancer. Although dental care is extremely important, many medical assistance programs do not cover dental care through their plans, and as we saw earlier, many of our patients utilize these types of insurance plans. In the St. Luke's Quakertown service area, the rate of dentists per 100,000 population is 77.18 (Area Health Resource File, 2013). This rate is better than the rates seen in Pennsylvania (62.5) and nationally (63.2). Within our counties served, the lowest rates are in Berks County (50.8) and Northampton County (51.4). The focus group members discussed the St. Luke's Mobile Health Dental Van as an important resource to

continue building upon, since the van rotates to different schools and has reached many children, especially those from low income families. Integrating adult and child dental care was a suggestion made by some of the focus group members, where the family could come in as a unit on the van and their dental needs would be addressed. The focus group members also mentioned the challenge of people with intellectual disabilities or special needs that may have trouble getting care because they do not feel comfortable seeing these dentists and the dentists may not also feel comfortable treating them.

Since it seems that access to dentists may be limited due to availability and insurance coverage, in our 2016 community survey we examined when was the last time respondents visited the dentist, as well as the type of dental insurance that they used. As evidenced by the bar graph, the majority of respondents throughout the network had seen their dentist within the past year.
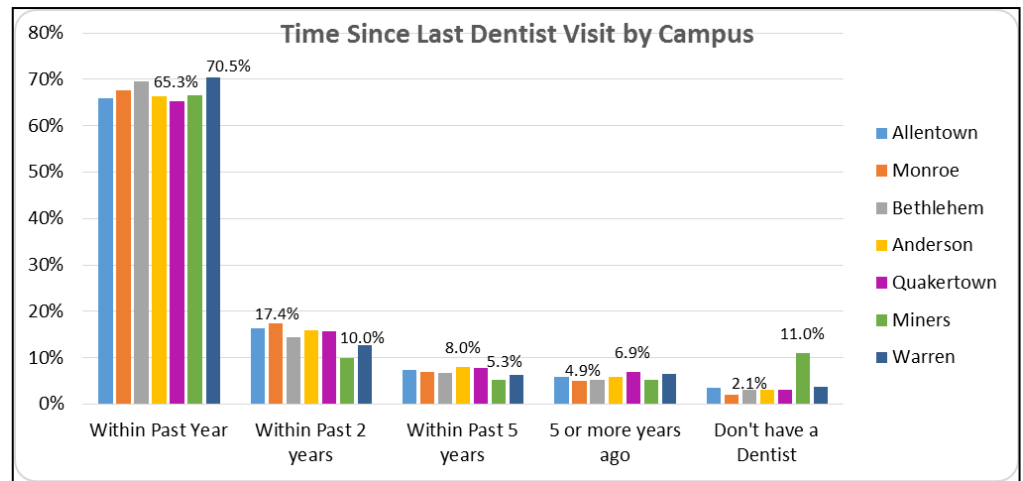
For SLUHN as a whole, we found a pattern between income and time since last dentist visit. Our 2016 survey results showed us that 51.3% of respondents who reported making less than $24,999 saw a dentist in the past year as compared to 82.3% of respondents who reported making over $60,000. Additionally, 8.0% of those making less than $24,999 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 survey from 2016. The percentage of respondents throughout the network using private insurance to cover their dental care increased to 62.4%, the percentage using Medicaid more than doubled (from 6.3% to 14%), and the percentage of those who had no coverage or paid cash greatly decreased. This is a great improvement because the data show us that more people have become insured and less people are uninsured or having to pay with cash, which ultimately should help boost access to dental care. Although these results are promising, we found interesting disparities when examining type of dental insurance used in relation to income. 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.
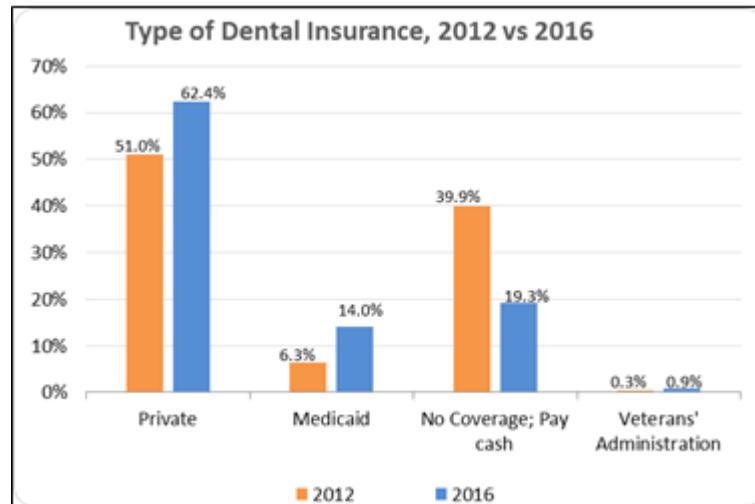
Lack of insurance is a major barrier to receiving healthcare because without insurance receiving health services are very difficult and very costly. According to the Small Area Health Insurance Estimates (2013), 11.38% of the adult population and 4.76% of the children in the St. Luke's Quakertown service are uninsured. The total percent of the population that is uninsured in our service area is 7.87%, which is better than the percentages seen in Pennsylvania (9.81%) and in the U.S. (14.87%) (ACS, 2009-13). Looking at the percentage of the population with insurance who are enrolled in Medicaid or other types of public health insurance is also important to examine 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 Quakertown service area is 11.31%, which is better than both the state average (18.24%) and the national average (20.21%) (ACS, 2009-13).

Our 2016 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 Quakertown service area, out of the top 5 reasons for postponing care, 9.9% of the responses were that they postponed care because they didn't have health insurance, 8.6% of the responses were that their share of the cost was too high and 6.7% said insurance did not cover what they needed. This shows that lack of insurance or coverage for certain services poses a significant challenge to receiving care.

Top Five reasons for Postponement of Care at St. Luke's Quakertown

Reason for Postponement of Medical Care at Quakertown	Percentage of Responses
Didn't have health insurance	9.9%
Didn't think problem was serious	9.7%
My share of the cost was too high (deductible/copay)	8.6%
Couldn't get time off from work	8.4%
Insurance didn't cover what I needed	6.7%

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. Unemployment and poverty are two factors that may limit access to care because if one does not have a job they are less likely to have insurance, and if they are in poverty it may be more difficult to pay for healthcare services out of pocket. According to the Bureau of Labor Statistics (August 2015), the unemployment rate in the St. Luke's Quakertown service area is 5.6%, which is lower than the unemployment rate seen in Pennsylvania (6.1%) and nationally (6.3%). We can look at our 2016 community survey results to better understand what unemployment looks like in our service area. 15% of respondents in the St. Luke's Quakertown service area reported being unemployed, which is much higher than the 5.6% reported for the service area as a whole. The employment distribution shows the breakdown of employment status for our service area, where we can see that more than half of respondents were employed or self-employed (63%), but it is also important to keep in mind the high unemployment rate reported.
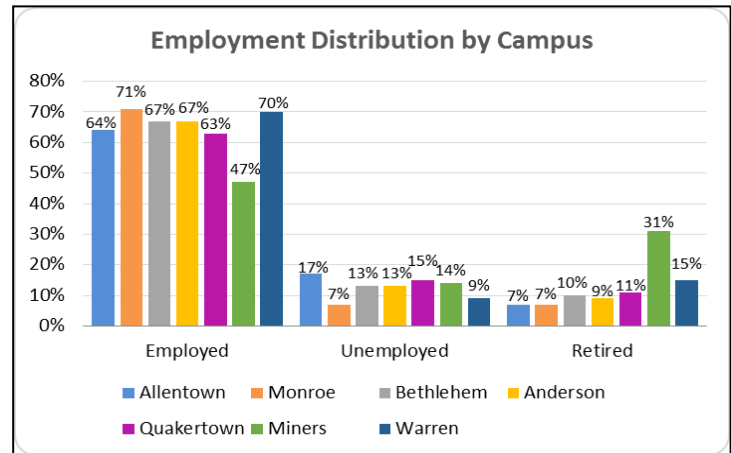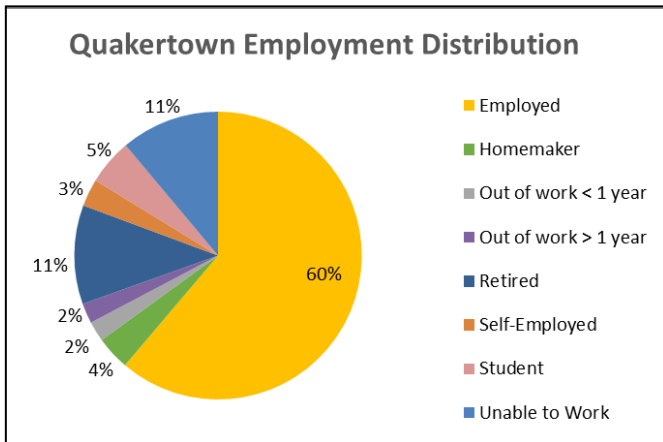

Poverty is linked to unemployment because if a person does not have a job they likely have no income, which means may not be able to pay for out of pocket healthcare services or have insurance. As discussed earlier, 8.62% of the population in the St. Luke's Quakertown service area has incomes that fall at or below 100% of the Federal Poverty Level (FPL) and 21.23% fall at or below 200% of the FPL (ACS, 2009-13). Both of these percentages are better than the state and national percentages, where 13.3% of the population in Pennsylvania and 15.37% of the U.S.

population are living below 100% of the FPL, and 30.51% of the population in Pennsylvania and 34.23% of the U.S. population are living at or below 200% of the FPL (ACS 2009-13).

We can also examine household income and per capita 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. Per capita income includes all reported income from wages and salaries as well as income from self-employment, interest or dividends, public assistance, retirement, and other sources. In the St. Luke's Quakertown service area, the per capita income is $31,735, which is higher than the per capita income in Pennsylvania ($28,502)

and in the U.S. ($28,154) (ACS, 2009-13). The higher per capita income in our service area may reflect the high averages seen in Bucks County ($37,465) and in Montgomery County ($41,471). But, the per capita income is much lower in Berks County ($26,723) and Lehigh County ($27,923). The graph on the right is from the Lehigh Valley Research Consortium (LVRC) analysis of secondary data sources, where the

Source: US Census Bureau, 2010 Census

household income per county was reported for the year 2010 (Please note, Carbon County is not one of our counties included in our Quakertown campus analyses).
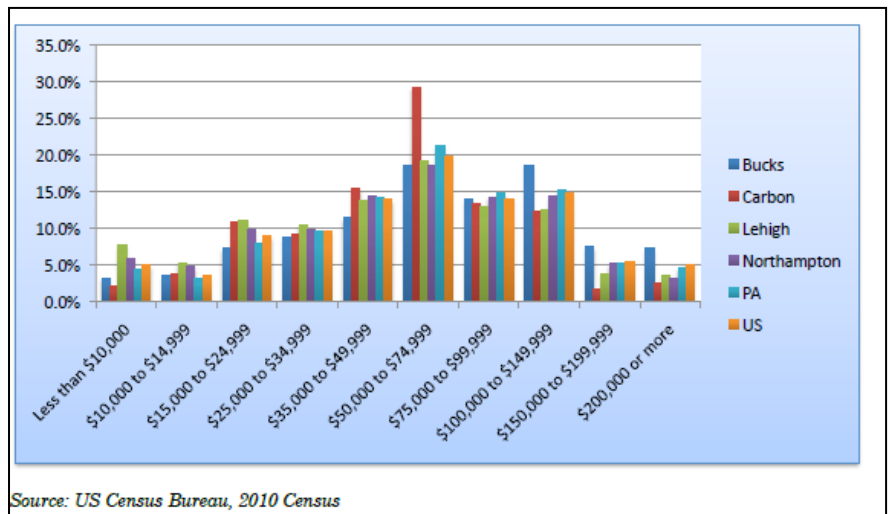
This bar graph refers to our 2016 community survey data, where we compared the income distribution within the St. Luke's Quakertown service area to the income distribution of SLUHN

as a whole. This graph shows that there is a higher percentage of respondents in the St. Luke's Quakertown service area who reported incomes below $14,999 (5.2% higher than in SLUHN as a whole) and from $15,000-$24,999 (3.5% higher than SLUHN). In 2015, the federal poverty level for a family of four was $ 24,250 (U.S. Department of Health and Human Services, 2015). For respondents in SLUHN as a whole, there were greater percentages than the St. Luke's Quakertown respondents for
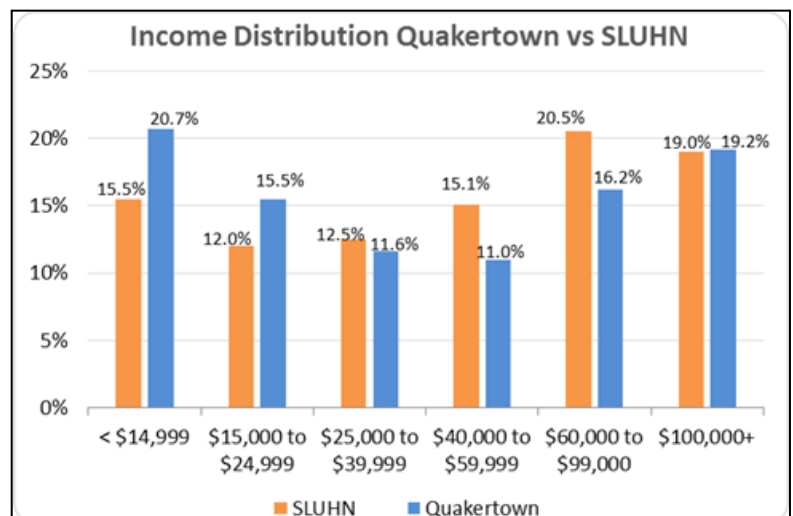
the higher income brackets. Even so, a large percentage of respondents in the St. Luke's Quakertown service area (35.4%) reported incomes above $60,000. This once again affirms the income inequality in the St. Luke's Quakertown service area that we saw when comparing the per capita incomes by county earlier in this section. From these two discussions, 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.

Language barriers were recognized by the focus group members as a barrier to improving overall access to care because many Spanish-speaking patients have trouble communicating with their healthcare professional. The population with Limited English Proficiency (LEP) is represented by the percentage of the population over the age of five that speak a language other than English at home and speak English less than "very well." In the St. Luke's Quakertown service area, 3.23% of the population has LEP, as opposed to 3.92% of the population in Pennsylvania and 8.63% of the population in the U.S (ACS, 2009-13). One major issue in improving access to care is the large population of undocumented people who do not speak English. Community stakeholders in the focus group recommended that a strategy be developed to speak with and reach out to provide services for undocumented individuals living in the area.

Education is another crucial social determinant of health that must be addressed in order to reduce health disparities. Higher education has been tied to reducing risky health behaviors and better health status. According to the ACS (2009-13), in the St. Luke's Quakertown service area, 9.93% of the population over the age of 25 does not have a high school diploma, which is better than the percentages seen in Pennsylvania (11.34%) and in the U.S. (13.98%). Additionally, 37.53% of the population over the age of 25 has an Associate's degree or higher, which is also better than the percentage in Pennsylvania (35.14%) and in the U.S. (36.65%) (ACS, 2009-13). Our 2016 community survey revealed that the highest percentage of respondents in the St. Luke's Quakertown service area reported having education beyond high school (63.1%) or having received a high school diploma or GED (28.5%). As evidenced by the distribution below it is clear that there is considerable variability in educational attainment in this 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.


Education Level by Campus
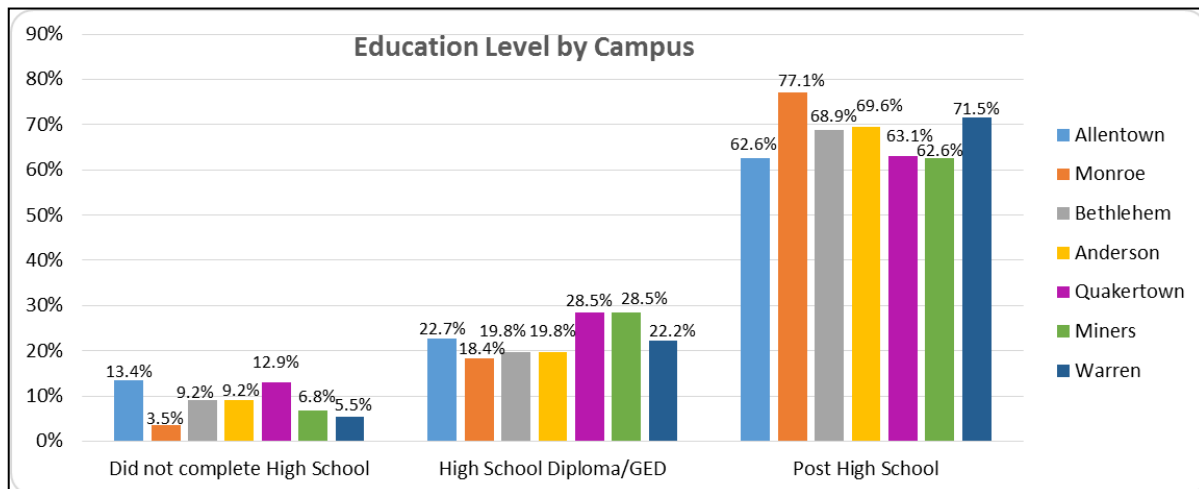
Another issue stakeholders felt was pertinent to issues in access to care has to do with transportation. Transportation was discussed as an issue in terms of access to all types of care, because if one cannot access transportation they will not be able to receive the services that they need. In Pennsylvania, 76.5% of workers drove to work (alone), 8.94% carpool, and 5.42% take public transportation (U.S. Department of Transportation, 2012). The transportation needs of the community should be addressed in order to improve community member's access to healthcare.

2. Promoting Healthy Lifestyles and Preventing Chronic Disease

Access to grocery stores has implications for preventing chronic disease and promoting healthy lifestyles. Access to grocery stores is measured as the number of grocery stores per 100,000 population. Grocery stores are defined as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry (County Business Patterns, 2013). Looking at the rate of grocery stores per population is an important indicator of health because it can show us the level of access that people have to healthy food. In the St. Luke's Quakertown service area, the rate of grocery stores is 18.07, which is worse than the rates seen in Pennsylvania (21.4) and in the U.S. (21.2) (County Business Patterns, 2013). In addition to the rate of grocery stores in our area being lower than the state and national averages, the focus group members also mentioned that young families may actually have fresh produce but may not know how to use the ingredients to cook a meal or how to cook it so that their kids will want to eat it.

We can also examine the presence of food deserts as a barrier to promoting healthy lifestyles. According to the U.S. Department of Agriculture (USDA), a food desert is a place in which people do not have easy access to fresh and healthy food, and the most of their food likely comes from fast food restaurants and convenience stores. On the map to the right, the green areas show the low income census tracts where a large portion of the residents live 1 mile away (for urban areas) or 10 miles away (for rural areas) from a grocery store. The purple represents areas where a significant

number of families do not have a car and live more than half of a mile from the closest grocery
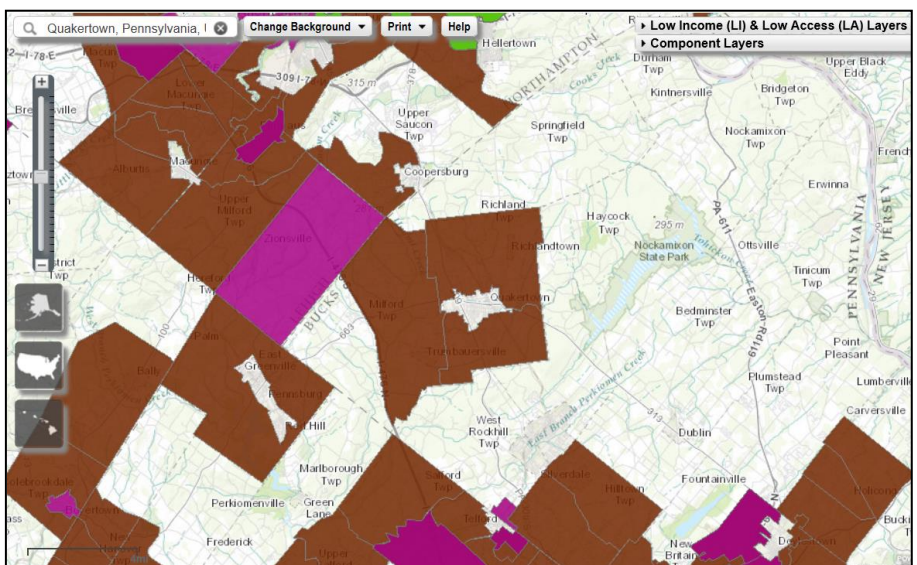
store. The brown shows areas where at least 1/3 of the population lives greater than 1 mile (for urban areas) or 20 miles (for rural areas) from the closest grocery store. As can be seen from the map, in the St. Luke's Quakertown service area there are various areas of low vehicle access that are surrounded by large pockets where people live 1 or 20 miles from the closest grocery store. 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 result to buying fast food instead of healthy foods such as fruits and vegetables. In Lehigh County 11.8% of the population is food insecure, in Northampton County the rate is 11.4%, in Berks County the rate is 11.3%, in Bucks County the rate is 10.0%, and in Montgomery County the rate is 10.7% (Feeding America, 2013). Food insecurity and food deserts represent barriers to promoting healthy lifestyles because if people do not have access to grocery stores, they will likely get their food from fast food restaurants or convenience stores. This in turn may contribute to the high obesity rates. Members of the stakeholder focus group mentioned the opportunity to partner with the Delaware Valley United Way to garden in the summer and then help donate the food. They also mentioned the community garden in Quakertown where low-income families can register for a space and once they attend a basic training, they can grow their own food.
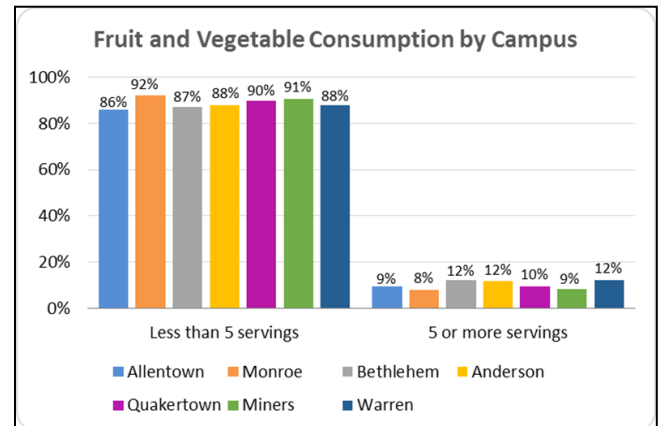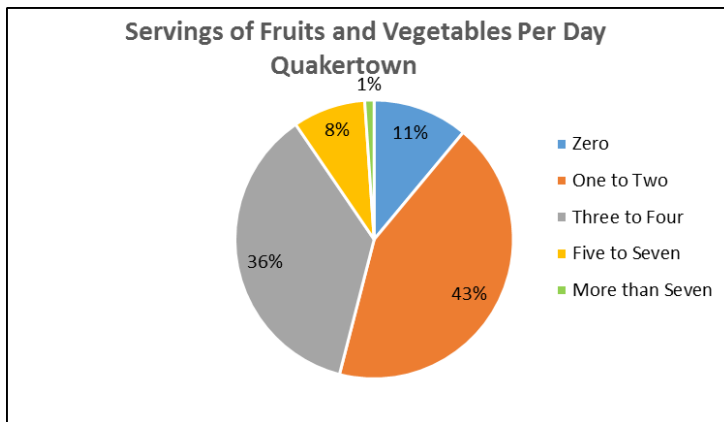
After examining access to grocery stores, food deserts, and food insecurity, it is important to look at fruit and vegetable consumption in our service area, since the previously mentioned factors may be limiting people's ability to meet the FDA recommendations for fruit and vegetable consumption. The bar graph from our 2016 survey data shows the breakdown by each SLUHN campus in regards to respondents meeting the FDA recommended consumption of fruits and vegetables (five or more servings per day). In terms of the St. Luke's Quakertown service area, 10% are meeting the FDA requirements for having five or more servings of fruits and vegetables per day. The bar graph shows that most respondents reported consuming less than five servings per day (90%), and the pie chart shows that the largest percentage of respondents reported consuming one to two servings of fruits and vegetables per day (43%). Both graphs show that the percentage of those meeting FDA requirements for consuming five or more

servings of fruits and vegetables per day in the St. Luke's Quakertown area is low, which could possibly be attributed to access to grocery stores, which was discussed earlier in this section.

Lack of physical activity among community members is a major barrier in promoting healthy lifestyles and preventing chronic disease. Active lifestyles that include consistent exercise have been shown to improve physical and mental health, and are important in decreasing rates of obesity and cardiovascular problems. According to the National Center for Chronic Disease Prevention and Health Promotion (2012), the percent of the population over the age of 20 reporting no physical activity ranges from 18% (Montgomery County) to 24.6% (Northampton County). This range is similar to those reporting no physical activity in Pennsylvania (22.9%) and nationally (22.6%). From our 2016 community survey data, we found similar results, showing that 24% of respondents in the St. Luke's Quakertown service area reported no days of exercise per week. We can see that 39% of 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. The focus group members discussed the partnership between the Quakertown Area School District and St. Luke's Quakertown as one strength to build upon, such as the after school activities that are provided and the trainers that help at football games. Additionally, they said that that

education is extremely important in promoting healthy lifestyles to community members.
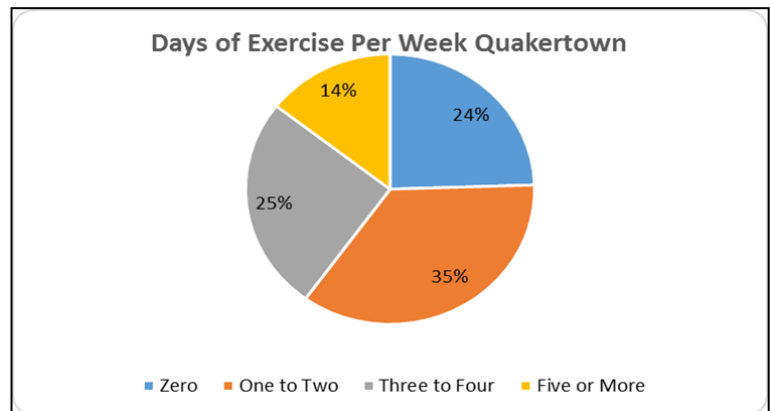
To gain a better sense of what physical activity looks like in our region, we can examine the Robert Wood Johnson 2015 County Health Rankings, which has an access to exercise opportunities indicator. This indicator measures the percentage of individuals in a county who live reasonably close to a location for physical activity. Locations for physical activity are defined as parks or recreational facilities. Parks include local, state, and national parks. The Pennsylvania state average is 85%, with Lehigh County (88%), Northampton County (87%), and Bucks County (94%) having higher percentages of access to exercise opportunities. The focus group members mentioned that the YMCA in Perkiomen Valley as well as SLUHN's Tail on the Trail program are both great assets to utilize in order to promote physical activity.

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 and the poverty levels, which restrict families to buying cheap fast food, obesity is growing quickly. Obesity is a risk factor for type 2 diabetes, coronary heart disease, stroke, high blood pressure and some breathing conditions. 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 from18.5-24.9, 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). According to our 2016 survey data, 37% of respondents in the St. Luke's Quakertown service area are obese and 31% are overweight (BMI was calculated using respondent's weight and height). On a county

level in the St. Luke's Quakertown service area, the percentage of the population over the age of 20 that is considered obese ranges from 23.4% (Montgomery County) to 30.2% (Berks County) (National Center for Chronic Disease Prevention and Health Promotion, 2012).
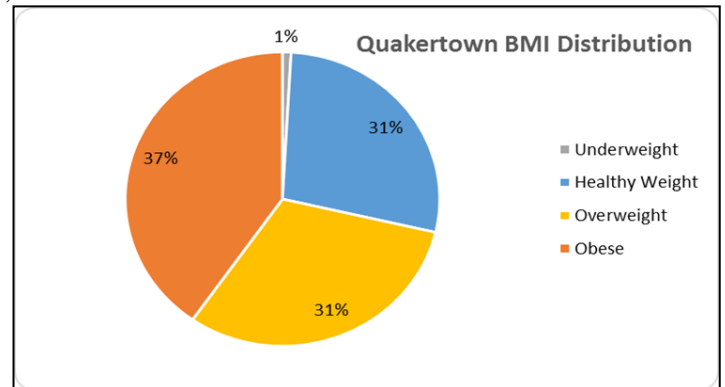
This is a map of the state of Pennsylvania, where the percentage of the population who are obese within each of the counties is represented by white/light blue (lower percentages) and dark blue (higher percentages). Focus group members mentioned the lack of access to healthy foods as an issue in the service area. The members mentioned that for single parents it is easier to give kids a quick meal, usually fast food, especially if they are working full time. Additionally, the stakeholders said providing children with healthy food during the summer is a challenge because many children usually
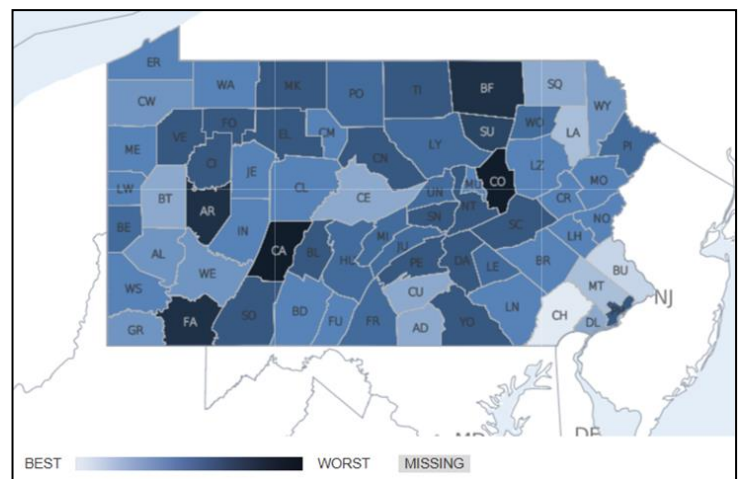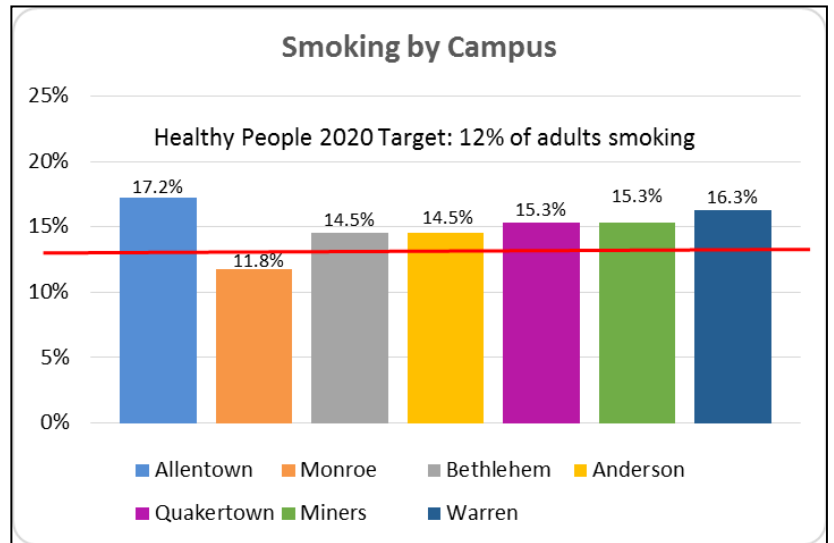

receive free and reduced lunch during the year. Lastly, the stakeholders also discussed improving the stock in food pantries so that they have more fresh produce rather than just starches.

While focusing on programing is important in reducing levels of obesity, results from our 2016 community survey identified several demographic characteristics that were linked with a respondent's BMI. For SLUHN as a whole, amongst all respondents with a morbidly obese BMI, the largest percentage was evident among those earning less than $14,999 per year (19.8%). Conversely, only 8.9% of the morbidly obese respondents reported making more than $100,000 per year. The income range with the highest percentage obesity was $15,000 - $24,999 at 44.3%, while the lowest percentage of obesity was in the $100,000 or more range at 31.0%. This is interesting because it shows us that there is an association between level of income and BMI, which reaffirms that the social determinants of health (such as income) must be taken into consideration when determining how to improve the health of our community. We also examined education, where 45.9% of those who did not receive a high school degree reported BMIs in the obese category and 41.7% of those who attained a high school diploma or GED reported BMIs in the obese category. 36.5% of those who completed education beyond high school fell into the obese category. This shows us that lower levels of educational attainment may be related to obesity. Making connections 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 the St. Luke's Quakertown service area, between 6.2% (Montgomery County) and 9.4% (Lehigh County) of the adult population have diabetes (National Center for Chronic Disease Prevention and Health Promotion, 2012). According to the National Diabetes Statistics Report (2014), diabetes was the 7th leading cause of death in the United States in 2010, but it is likely that many more deaths resulted from diabetes but were not reported as such. This happens because of the various co-morbid conditions associated with diabetes. From 2010 to 2012 the rate of diabetes in the United States has risen from 25.8 million to 29.1 million people, this current percentage represents 9.3% of the U.S. population. The number of people in the U.S. over the age of 20 who had pre-diabetes also increased from 2010 to 2012, from 79 to 86 million people (National Diabetes Statistics Report, 2014).
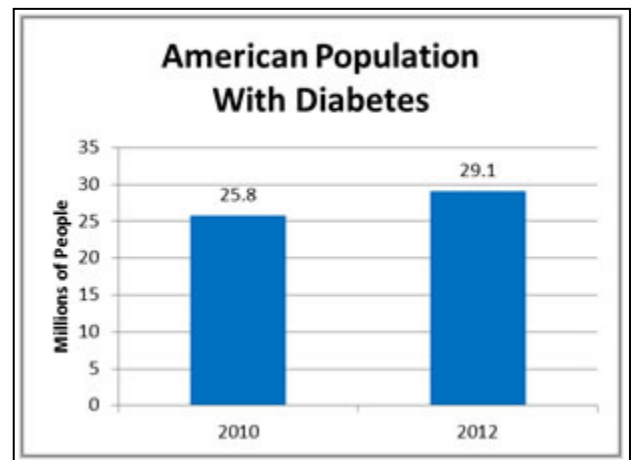
Tobacco usage is another important factor to consider when discussing promoting healthy lifestyles and preventing chronic disease, because smoking contributes to illness such as cardiovascular disease, cancer, and asthma. In order to promote healthy living, cutting down on tobacco usage within the community is a necessity. Looking at the Behavioral Risk Factor Surveillance System (BRFSS, 2006-12), in the St. Luke's Quakertown service area, between

Smoking by Campus

Healthy People 2020 Target: 12% of adults smoking

Allentown: 17.2%
Monroe: 11.8%
Bethlehem: 14.5%
Anderson: 14.5%
Quakertown: 15.3%
Miners: 15.3%
Warren: 16.3%

15.8% (Montgomery County) and 20.3% (Lehigh County) of the adult population smoked cigarettes. According to our 2016 survey data referring to the bar graph, 15.3% of respondents in the St. Luke's Quakertown service area report that they currently smoke. This percentage is higher than the Healthy People 2020 goal of having only 12% of adults smoking, so there are improvements to be made in terms of reducing smoking in our service area.

The focus group members made two last recommendations. They said that one resource to build upon is St. Luke's Quakertown's participation in the Bucks County Health Improvement Partnership wellness program, which includes flu shots and disease screenings (such as mammograms). The focus group members mentioned the issue of transportation should be addressed when planning community wide health promotion events, because the rural small town geography of the St. Luke's Quakertown service area makes it difficult for people to get to these events.

3. Improving Mental/Behavioral Health

In 2008, 13.4% of adults in the U.S. received care to treat a mental health issue (National Institute of Mental Health). This percentage was higher than in past years, but it still means that not all adults who have a mental health issue are receiving treatment for it. Additionally, greater than half of those who have problems with drugs and one third of those with a substance abuse problem have some sort of mental health problem (National Alliance on Mental Illness- Dual Diagnoses). In the section below we will talk about mental health as well as substance abuse individually, and we will also discuss the ways in which they are connected. The focus group members pointed to the variety of mental health and substance abuse services that are available as an important resource in the St. Luke's Quakertown service area. However, they also identified the challenge of stigma as a barrier to improving mental health, since people still feel

shame about accessing mental health services. The focus group members said that education will be extremely important in trying to reduce stigma within the community.

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 Quakertown service area. According to our 2016 survey data, in the St. Luke's Quakertown service area, 35% of respondents reported missing one or more days of normal activity due to poor mental health in 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 about the other issues related to mental health within our service area.
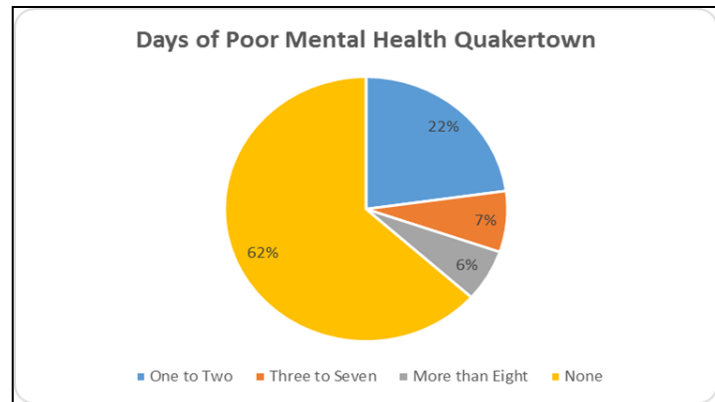

Lack of mental health professionals is one large barrier to providing mental health services to community members. According to the Robert Wood Johnson 2015 County Health Rankings, the rate of population per mental health provider ranges from 529:1 in Bucks County to 913:1 in Berks County. A good rate of population per provider is exemplified by a smaller population per one provider, such as in the top performing U.S. counties where the average rate of population per mental health provider is 386:1. The focus group members discussed the lack of availability of mental health providers as one barrier to improving mental health in the St. Luke's Quakertown service area. The focus group members said that another barrier to improving mental health is that the programs that are available are not communicated to community members well and are highly fragmented. They also discussed a need to better integrate physical and behavioral healthcare services.

It is important for community members to have social or emotional support in order to feel confident getting through everyday problems; more importantly, social and emotional support is vital to maintaining positive mental health. Additionally, if we are able to indicate whether certain communities are lacking in emotional support or have minimal social associations, we can address these shortcomings in programming and care. The graph on the following page shows the percentage of the adult population over the age of 18 in Bucks County that perceives having inadequate social or emotional support. In Bucks County this represents 18.9% of the adult population, which is slightly lower than the U.S. median (20.7%) (BRFSS, 2006-12). The focus group members said that one important part of improving mental health is having people in similar situations able to talk to each other, so it will be important to strengthen support systems for people within the community. The focus group members also discussed the barriers of

confidentiality in being able to bring people together to talk, especially amongst doctors, where it would be beneficial to have them work together.


% Inadequate Social Support
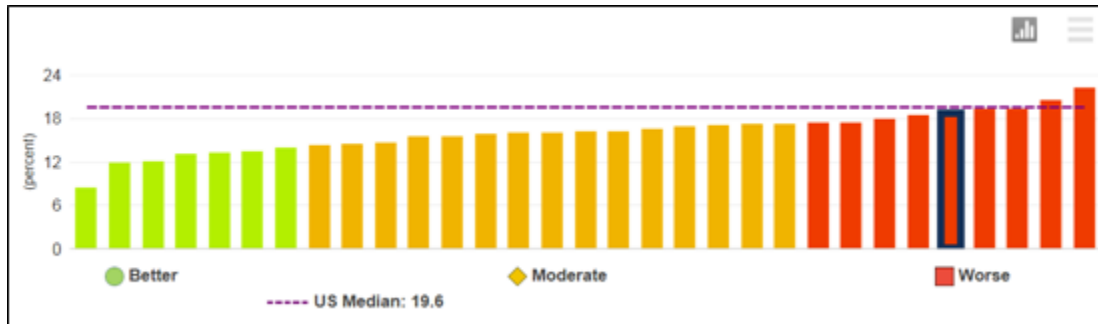
Unemployment and poverty were discussed earlier as influencing access to care, but they are also important social determinants of health to take into consideration when examining issues of mental health. They are important to examine because not having a stable job and the stress of providing for oneself and one's family is risk factors for poor mental health. As mentioned previously, the unemployment rate in the St. Luke's Quakertown service area is 5.6% (Bureau of Labor Statistics, 2015) and 8.62% of the population in the St. Luke's Quakertown service area has incomes that fall at or below 100% of the Federal Poverty Level (FPL) and 21.23% fall at or below 200% of the FPL (ACS, 2009-13). Unemployment and poverty both relate to the focus group discussion of costs of healthcare being too high. This is especially an issue for mental health services, because these services tend to be costly and even if people are covered by subsidized insurance it may be turned down.

It is also important to discuss excessive drinking and substance abuse disorders, since they are recognized as comorbidities with mental health issues. Excessive alcohol consumption could be an indicator of substance abuse problems, and may be contributing to or worsening an individual's mental health condition. In the St. Luke's Quakertown service area, the percentage of adults that report drinking excessively ranges from 16.9% (Berks County) to 21.3% (Bucks County) (BRFSS, 2006-12). The percentage of the adult population that drinks excessively is 18.7% in Pennsylvania and 16.9% in the U.S. as a whole. According to our 2016 community survey, in the St. Luke's Quakertown service area, 71% of respondents reported no episodes of binge drinking in the past month. However, 28% of respondents reported one or more episodes of binge drinking in the past month and 10% report three or more episodes.

For the network as a whole, we examined the association of gender and income to binge drinking. From our 2016 community survey we found that among those who reported no episodes of binge drinking, 74.4% of the respondents were female and 63.2% were male.
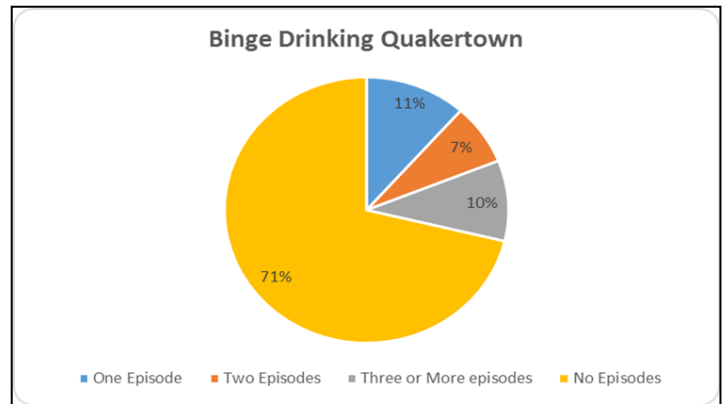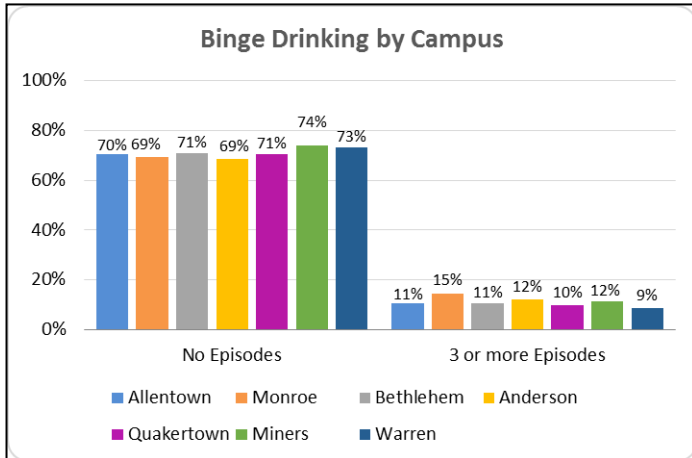
4. Improving Child and Adolescent Health

The lack of insurance coverage is an important issue that may prevent children from receiving proper care. The percentage of children without insurance reports the percentage of individuals under the age of 19 who do not have insurance. In the St. Luke's Quakertown service area 4.76% of children do not have medical insurance, as compared to 5.55% in Pennsylvania and 7.51% nationally (Small Area Health Insurance Estimates, 2013).

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. In the St. Luke's Quakertown service area, 11.82% of children under the age of 18 are living in households where the income is at or below 100% of the Federal Poverty Level, as compared to 18.76% in Pennsylvania and 21.58% in the U.S. (ACS, 2009-13).

Free or reduced lunch eligibility is determined based on income eligibility guidelines set forth by the USDA. If children are eligible for free or reduced lunch this means their family income is sufficiently low, which may mean there may not be enough income to buy enough food at home or to pay for other things such as healthcare. 25.27% of students in the St. Luke's Quakertown service area are eligible to receive free and reduced lunch, as compared to 43.58% in the state of Pennsylvania and 52.35% nationally (NCES- Common Core of Data, 2013-14). When examining free and reduced lunch by county, the percentages are particularly high in Berks County (46.46%) and Lehigh County (46.24%). The focus group mentioned how there are many children enrolled in the free and reduced lunch program, and teaching these children healthy eating habits is of great importance. Additionally, the focus group mentioned that children may have these

meal programs during the school year but these children have issues accessing food during the summer.

Education is recognized as an important determinant of health, where higher education is linked to involvement in less risky health behaviors and better overall health status. Additionally, education for children and adolescents is extremely important in teaching about healthy lifestyles and behaviors, which they will carry with them for the rest of their lives. There are over a dozen school districts in Bucks County alone, which does not even include all of the students from the other counties that St. Luke's Quakertown serves.

It is important to look at risky health behaviors involving drugs and alcohol in youths, because it is likely that these bad habits could carry on into adulthood. Additionally, because of the complex relationship between substance abuse and mental health issues it is important to know what the youth in our community are doing in order to prevent the transition from experimenting to abuse. Through examining the Pennsylvania Youth Survey (PAYS) 2013 Bucks County report (because the largest percentage of St. Luke's Quakertown patients come from Bucks County), we can see that 48.6% of students in this county have ever consumed alcohol and 11.1% reported binge drinking in the past two weeks (more than five drinks on one occasion). 21% of students had ever experimented with marijuana and 5.2% of students had reported abusing narcotic prescription drugs. Additionally, the report says that the use of alcohol, tobacco and other drugs increases the likelihood of depression in teenagers and depression is closely linked to suicide. This is especially important because in the age range 15-24, suicide was recognized as the third main reason for death. In Bucks County 30.3% of students reported feeling "depressed or sad MOST days", and 14.7% of all students in the county had strongly thought about committing suicide.

    5.   <u>Improving Elder Health</u>

Elder health is important to address because the elderly represent a very vulnerable population, who may have trouble navigating the healthcare system. We can see through America's Health Rankings that Pennsylvania ranks 25th out of 50 for elder health, placing it squarely in the middle of all of the states within the U.S. The main challenges that Pennsylvania faces in preserving the health of the elderly are the high prevalence of obesity, the lack of physical activity, and the low prevalence of high quality nursing homes (America's Health Rankings, 2015). There are other demographic and socioeconomic health issues that influence elder health, which will be discussed below. The focus group members recognized the large number of senior centers in the area upheld by the agency on aging as important resources in the St. Luke's Quakertown service area. The stakeholders also discussed how services for the elderly are fragmented, reimbursement for services is limited, and not many elderly have long term care insurance. In a general sense, the focus group members said that caregivers of the elderly need to

be educated about the services available to them, so that they can take advantage of these great resources.

The Lehigh Valley Research Consortium (LVRC) in conjunction with 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 an increase in the aging population come specific health needs that must be addressed, such as mental health, accidents, and chronic disease.

According to the U.S. Census Bureau, elderly who are living to be the oldest tend to face more chronic illnesses than younger individuals. Approximately 80% of the elderly population in the U.S. has one chronic disease, and for this age group treatment and care for chronic diseases represents 95% of their healthcare expenditures (Pennsylvania Department of Health-Bureau of Health Promotion and Risk Reduction, 2011). In the LVRC (2012) 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, the elderly discussed being diagnosed with arthritis (45% of the population), high blood pressure (50%), and high cholesterol (30%) (LVRC, 2012). The graph above from the LVRC (2014) report exemplifies the breakdown by race, income and gender for elderly who have one or
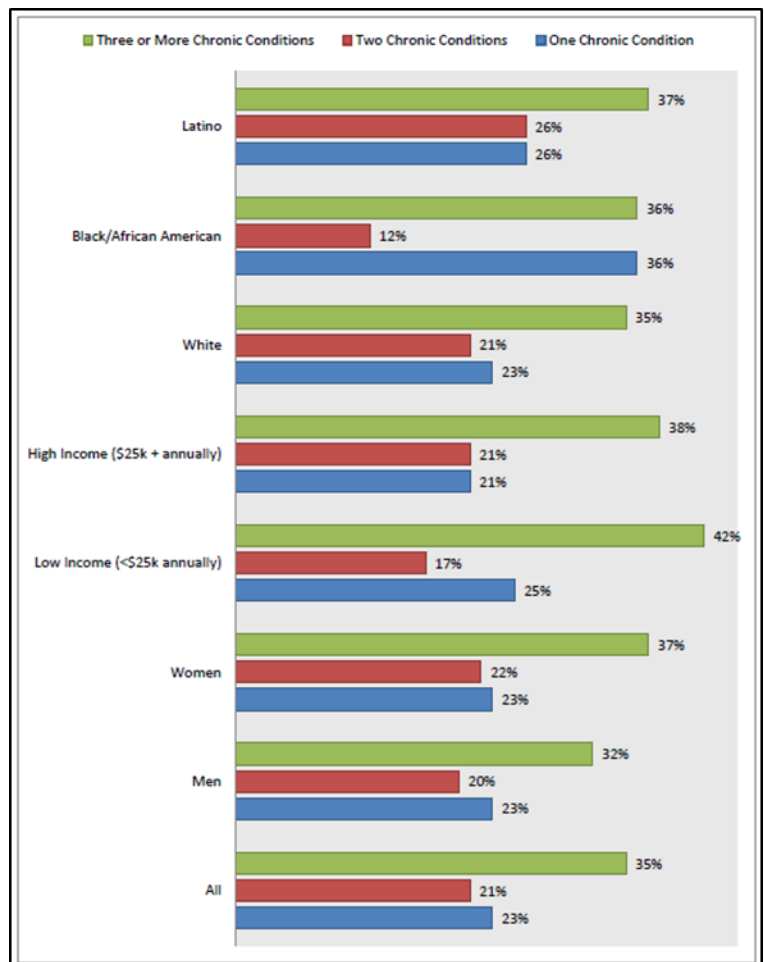

more chronic health conditions The green bar represents three or more chronic diseases, the red is two or more chronic diseases, and the blue signifies having one chronic disease. The focus

group members discussed the navigators in Montgomery County (county employees who help people navigate social services) as an asset to build upon in helping to improve elder health.

In our 2016 community survey we looked at the variety of different health conditions present within each of the SLUHN hospital campuses (discussed in the introduction), 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 Quakertown service area (for the whole respondent population- not broken down by age), 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 51.8% of respondents over the age of 65 in the St. Luke's Quakertown service area reported receiving their pneumonia shot, however, this percentage was the lowest seen across the seven SLUHN campuses.
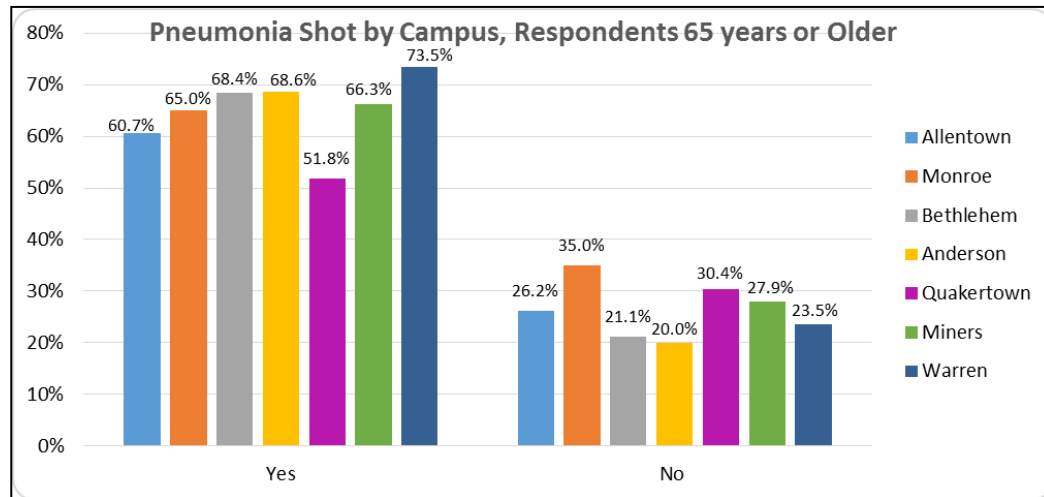
Mental health issues facing the elderly community are vast and many times are overlooked. In the St. Luke's Quakertown service area, 16.24% of Medicare beneficiaries have depression. This percentage is similar to the percentage seen in Pennsylvania (16.2%) and in the U.S. (15.4%) (Centers for Medicare and Medicaid Services, 2012). Social and emotional support has been shown to be an important way to improve mental health status. Although not specifically referring to the benefits of social support for mental health, the focus group members discussed how the Silver Sneakers program at the YMCA is a great resource to build upon, so that seniors can utilize the services at the YMCA. Additionally, the directors of the YMCA and the Senior Center have been collaborating to co-develop programs for seniors.
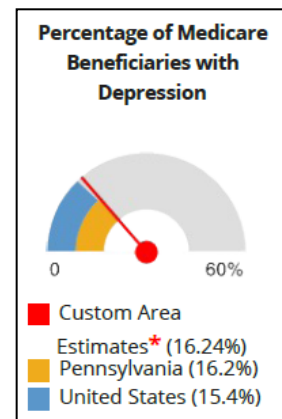
Elderly falls has been identified as an issue throughout the country, where the CDC reported that within the year one out of three seniors will experience a fall. In the LVRC (2012) report, surveys informed us that in the Lehigh Valley, approximately 22% of the elderly reported one or more falls in the past three month. 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 below 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 approximately $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
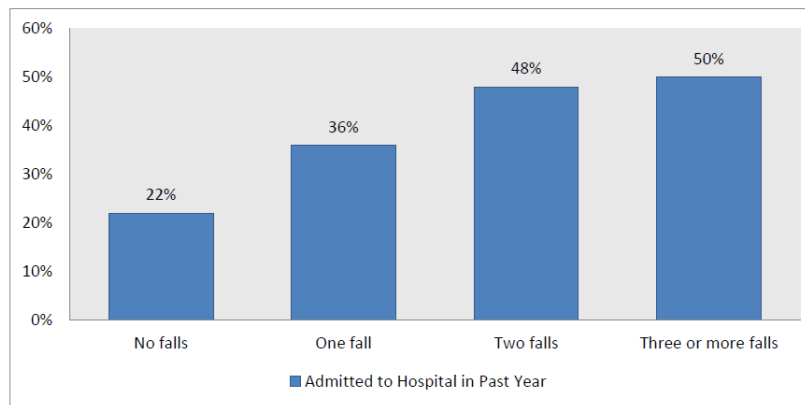
Seniors living in poverty is important to examine because many times older adults must be able to cover costs of living and cover medical costs on their own. Additionally, as they age they may encounter more health issues, which result in greater healthcare costs. According to the Kaiser Family Foundation June 2015 issue brief, the poverty rate for the population over the age of 65 is 15% under the Supplemental Poverty Measure (SPM) as compared to 10% poverty rate for the over 65 population using the Federal Poverty Level (FPL). (The SPM was created by the Census Bureau to take into account modern factors affecting level of income, such as information about financial resources, regulating of poverty threshold depending on geographical differences in the prices of homes). In 2013, the percentage of the 65 and older population that were positioned below 200% below the SPM was 45%. 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 as they age more health issues arise. 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 Lehigh Valley has extremely low incomes (LVRC, 2012).

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

Source: US Census 2010 B19037, self-calculations
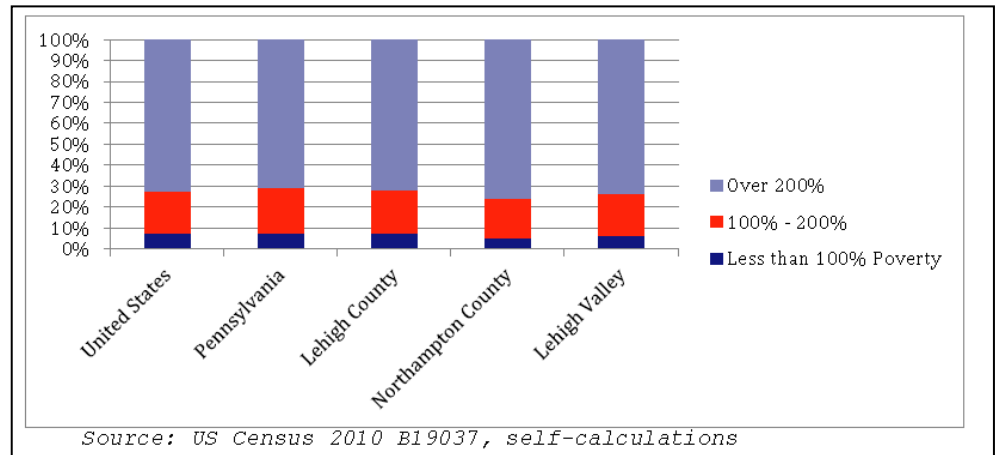
In relation to poverty, the focus group members said that many times the elderly are living with their children who also have children of their own, which puts strain on the family physically and financially. They said this is especially an issue for those who cannot afford a contract in the Continuing Care Retirement Communities.

Affordable housing is an issue that is prevalent in the elderly population across the country. 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 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 (LVRC, 2012). 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 Householder Costs as a Percent of Income

Source: U.S. Census Bureau, 2010 American Community Survey B25093 & B25072
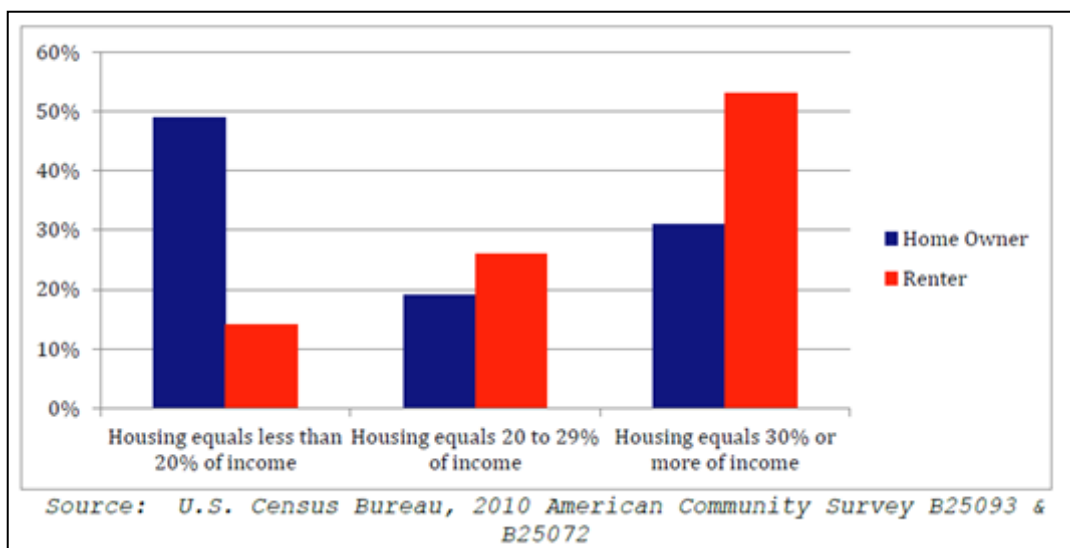
The issues of transportation and isolation of the elderly population was also discussed by focus group members as a barrier to improving elderly care. They said that either the seniors do not have a car or cannot drive, the hours of operation of the bus services are not convenient for them, or their family members/caregivers work so they cannot give them a ride to receive the healthcare services that they need. According to the Pennsylvania Department of Human Services, there is the Medical Assistance Transportation Program, where medical assistance beneficiaries are offered transportation services if they do not have access to their own mode of transportation. This service should be an option offered within most if not all counties in Pennsylvania.

III. <u>Conclusion</u>

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 more comprehensively address the current concerns. 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 Quakertown service area.

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Appendix A: Quakertown Focus Group Overview

Quakertown Campus Priority Areas

1. Healthy Lifestyles
2. Mental Health
3. Oral Health
4. Access to Care
5. Elder Health

I. Priority Area Specific Questions

1) <u>Healthy Lifestyles</u>

    a. **What strengths and resources can be built upon and utilized to improve healthy lifestyles?**

- The strength that we have in regards to the partnership with QASD & St. Luke's such as the after school activities and trainers at football games
- Focus on education; support concept of health and wellness
- SLQ participation with CHIP's wellness program which includes flu shots, screenings, timely mammograms
- The more education we do the more we can get out the importance to everyone the importance of healthy lifestyles
- Opportunity to partner with Delaware Valley United Way – garden in summer, everything grown donated; in Quakertown, community garden started a few years ago; low income families can sign up for a space, go to 1-2 night required training, can go & grow their own food

    b. **What are the barriers & challenges that our community faces in promoting and improving Healthy lifestyles?**

- Doing things community-wise is tough because you have to drive if you're at either end. So that rural small town mix makes things a challenge.
- Access to fresh fruits/ produce is always a challenge
- People using food pantries often have to resort to the starches that are less healthy so any way we can enhance fresh produce coming into pantries would be great
- Food pantries have ups and downs throughout the year and are definitely getting processed canned foods & foods that aren't nutritious but the people who need the food don't have much; outreach on healthy choices and starting at an earlier age
- Education is huge because young families don't know how to cook; have fresh produce but don't know what to do with it – and how do you cook it so kids will eat it; when shopping from food pantry, all ingredients may not be available; education part definitely lacking

- Time and energy continues to be a problem with single family parents; easier to open a box of mac & cheese or fast food than prepare a healthy meal, especially getting kids to a place to exercise

2) **Mental Health**

a. **What strengths & resources can be built upon and utilized to promote and support Mental Health?**

- One of the things our community benefits from whole variety of mental health programs & substance abuse supportive services that are available

b. **What are the barriers & challenges that our community faces in providing Mental Health services?**

- Mental health programs & substance abuse supportive services aren't well communicated, fragmented, aren't well understood systemically – great opportunity to bring together providers and variety of folks whose lives are touched by MH and Substance Abuse issues around the area. People are getting to a point where they need help and they didn't before and don't know where to turn.
- Need to better integrate physical and behavioral health. How can we look at them together; all problems and we need to educate physicians.
- Availability of providers to take care of patients with MH and SA issues.
- Community perception that it's a stigma to need MH services, so still an educational issue that should be overcome, not just in the community but nationwide
- Struggle with individuals who are on the fence - they've never been diagnosed but the pieces don't all fit together and it oftentimes affects their living situations and providers are at a loss at how to address that.
- One of the things we know is that where's MH care isn't provided by MH professionals but by all the other supportive care systems in the community, it's a fragmented system where people don't know how to speak to each other.
- Barriers of confidentiality; how do people talk together; haven't seen it across the board and there's a significant separation of MH and SA benefits versus other health benefits and that's a huge barrier across the system.
- Prevention services

3) **Oral Health Services**

a. **What strengths & resources that can be built upon and utilized to enhance access to oral health services in the community?**

- With dental van it took a couple years to work out kinks but it's making a huge difference rotating the van to different schools; it's pretty good number of

children who've gotten services and it's a remarkable connection and really helped the low-income families so that the families don't have to take off a day of work; the children are there, the papers are signed and everything's there in a package.

b. What are some barriers & challenges that our community faces in providing access to oral health services?

- If you connect the adult dental care with the children who can't it would be a unique approach, we could get parents in and if we bring the family unit in it'd be interesting to see how you could solve the dental things with this one van on one trip.
- There's a significant access issue with regards to getting good dental care with special needs like those with intellectual disabilities and those who have significant dental issues.
- Transportation – everyone always says it is a problem for people who don't have a car and for them to get to a service.
- Communication about the van is lacking.
- Encourage you to keep working with the dentists who are willing to give time and services.

4) Access to Care

a. What strengths & resources that can be built upon and utilized to enhance access to care in the community?

- Doctor's care in Quakertown
- Volunteer Doctor's Clinic closed due a lack of perceived need based on reduced volumes.

b. What are some barriers & challenges that our community faces in providing access to care?

- Transportation.
- Undocumented people/don't speak English and how can we speak to them & reach out with the services we already provide.

5) Elder Health

a. What strengths & resources can be built upon and utilized to improve access to Elder Health?

- Silver Sneakers program at the YMCA and getting the word out that they can utilize the YMCA.
- The Director of our YMCA and Senior Center have collaborated together and are working together to develop programs.
- SLQ has it's own EMS and can use that for outreach.

- We have so many senior centers; strong area agency on aging and keeping up those centers.

b. **What are some barriers & challenges that our community faces in successfully providing Elder Health and increasing access to Elder Health?**

- Transportation. Isolation of this population.
- Services are fragmented.
- Reimbursement limited, very few people have long term care insurance.
- Very few resources outside the traditional family and it's a family situation where both children are working and have their own families and for those who don't have the ability to buy a contract in a CCRC, these issues become community issues.
- Navigants (county employees specifically there to help people navigate social services available through the county).
- Caregivers of elderly also need education on the services and where to go to find the resources they need.

II.   Non-Priority Specific Questions

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

- Growing homelessness in the community and people struggling to shop for health needs; working on relationships with youth ministers in community and guidance counselors so they're able to not share but sharing what's available to parents but some students don't have parents, staying with friends; homelessness among students is growing
- There are people who have SA issues but not MH issues.

2) **Do you feel that people in the community are fully aware of the healthcare services/options that are available to them?**

- I don't think so. I think it's more important to educate public of services available in all aspects of treatment available
- I concur; they don't know until they need it and then they're in a crisis situation and they don't know where to go
- We act in our own little orbits and don't communicate with each other enough.

3) **Do you have any recommendations to improve communication about health care services?**

- There's a large amount of people who call 911 who are afraid of getting a bill and there's a missed opportunities to get them info; when you start seeing treat and releases going to the same houses that there are people using the system because they can't afford to go to a doctor/ ER so we can tell them what else is out there

- Increase of high deductibles
- Use the primary care network to support other programs through partnerships. How can we work together and how do we work outside the box to communicate what we do collectively.

4) **Are there groups who have been identified as underserved with regard to receiving vital information about healthcare services?**

- Special needs clients in MH realm and stats suggest that a person with serious MH illness has lifespan of 25 years less; somewhere along the way the system hasn't met their needs in a way that it serves other folks
- 22,000 children on free/ reduced lunch in Bucks County; correlation with demographics with people who need healthy living program
- Population that needs meal programs in schools, but what happens in summer?

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

- If St. Luke's could come up with a community service project and there are resources and contact information and we can easily distribute magnets with one number to call and that number triages to the correct contact points.
- Family services association runs the referral services in bucks county, can go to united way mobile app that lists all services and nonprofits and you can add more; have networks through family services and 211 that can be utilized and can be made more robust to get the word out; we need to find those magnet ideas.
- Impressed with efforts you've made so far and excellent start and first year doing hospital community needs assessments was pretty challenging but you've made a great start.
- Important to be out in the community; visible to see that St. Luke's is doing this and these services are brought to you by SLQ and it makes people realize what a great hospital SLQ is.

Appendix B. Stakeholder Focus Group Synopsis
Quakertown Campus- Community Health Needs Assessment

Priority Area	Strengths	Challenges	Suggestions
Healthy Lifestyles	• Partnerships with QASD • Focus on education • Participating with CHIP's wellness program • Partnerships with the YMCAs • Tails to trails program	• Access to fresh fruits/ produce • Outreach on healthy choices • Starting at an earlier age • Don't know how to cook fresh produce • Time and energy for single parent families	• More education • Community garden • Education
Mental Health	• Variety of mental health and substance abuse programs	• Services not well communicated • Integration of mental and physical health • Availability of providers • Stigma / community perception • Fragmented system • Lack of prevention services	• Bring together providers and variety of folks whose lives are touched by MH and Substance Abuse • Community education • Coordinate the care • Communication
Oral Health	• Dental van	• Transportation • Access to dental care for people with development needs	• Connect the adult dental care with the children • Better communication about the van • Work with existing dentists
Access to Care	• Volunteer that Doctor's clinic closing due to lack of need • Family services association runs the referral services in bucks county, can go to united way mobile app that lists all services and nonprofits and you can add more	• Undocumented people don't speak English • Growing homeless population • Communication among providers • People using EMS as Primary Care • Increase with high deductible	• A Navigant-type program • Fridge magnets with single number to call for access • Work with youth ministries
Elder Health	• Programs working together • St. Luke's EMS to see what is needed • Many senior centers • Strong area agency on aging	• Transportation • Hours of services for working caregivers • Gap in supportive services	• A Navigant-type program • Caregivers of elderly need education on the services/resources

Quakertown Focus Group Participant List: Community Stakeholders and Public Health Professionals Monday, April 27, 2015 3:00pm – 5:00pm

Quakertown Focus Group Participant List:

	Name	**Organization/Affiliation**
1.	Pat Edwards	Upper Bucks YMCA
2.	Wayne Mugrauer	Penn Foundation
3.	Sue Kovacs	SLUHN Marketing
4.	Bill Harner	Quakertown School District
5.	Brenda Happ	State Senator Bob Mensch Office
6.	Mary Young	Open Link
7.	Stacy Kaiser	Bucks County Opportunity Council
8.	John Sylvia	St. Luke's Quakertown Administration
9.	Kathy Ramson	St. Luke's Quakertown Administration
10.	Sally Fabian	BCHIP
11.	Jaime Haddon	United Way of Bucks County
12.	Kathy Ehrhardt	DeSales University
13.	Maryfrances Watchous	St. Luke's Quakertown Behavioral Health

Appendix C. Community Resources and Programs

St. Luke's Quakertown Campus

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

Bucks County Health Department
Bucks County Health Improvement Partnership
Quakertown School District
DeSales University
Borough of Quakertown
Helping Upper Bucks Be Universally Better (HUBBUB)
The Open Line
United Way of Bucks County
Healthy Communities Healthy Youth Coalition
Volunteer Doctors Care – Upper Bucks Clinic
Dental Care for Adults
Bucks County Dental Society
Local dentists
PA Department of Health
Upper Bucks YMCA
Local Restaurants participating in St. Luke's Heart Smart program
Local grocery stores
Rails-to-Trails Committee
Delaware & Lehigh Heritage Corridor
American Diabetes Association
American Cancer Society
American Heart Association
Quakertown Food Pantry
Farmer's Markets – Q-Mart, etc.
Bucks County Behavioral Health System
Bucks County Crisis Intervention Team Task Force
Bucks County Drug and Alcohol Commission
Penn Foundation
Lenape Valley Foundation
Penndel Mental Health
Tri-County Respite New Vitae Mental Health Center
Just Communities, Inc.
SADD chapters
AA meetings, groups
Bucks County Opportunity Council
Local Psychiatrists
Local Mental Health Counselors
Bucks County Agency on Aging
Meals on Wheels

Upper Bucks Senior Citizens Center
Seniors Helping Seniors
PBS
Channel 69
The Morning Call