Geisinger St. Luke's Campus Community Health Needs Assessment

June 2022

Authors
Whitney Szmodis, Ph.D., M.Ed.
Amanda Chapin, MA
Rajika E. Reed, Ph.D., MPH, M.Ed.

Table of Contents

Icon Legend

St. Luke's Partner Quote (Key Informant/Community Forum Attendee)

St. Luke's Community Health Needs Assessment Data

Executive Summary

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

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

The needs discussed within the health categories outlined in this document will serve as our guide in creating a detailed campus-specific implementation plan to best address the specific needs of the Geisinger St. Luke's service area using three pillars:

*Wellness and Prevention   *Care Transformation   *Research and Partnerships

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

Introduction

Background

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

Methodology

The CHNA is comprised of both primary and secondary data. The primary data were collected through three methods. First, key informant interviews were performed with leaders from each campus community to identify high level strengths and needs in their respective communities. A list of the interview questions can be found in Appendix A. Second, a community forum was held for each campus community through SLUHN and facilitated by Dr. Christopher Borick of Muhlenberg College. A list of organizations represented at the forum can be found in Appendix B. Due to the COVID-19 pandemic, key informant interviews were conducted through Microsoft Teams and the community forums were conducted through Zoom. Third, voluntary CHNA surveys were administered throughout our fourteen campus geographic regions, where the main priority health needs were identified for each entity, and a total of 536 surveys were collected from the top 80 percent zip codes in the Geisinger St. Luke's service area. We used snowball sampling to reach respondents, especially those represented in our vulnerable populations. Snowball sampling is most effective when used to reach vulnerable populations to help shed light on social determinants of health (SDOH) within hard-to-reach populations. To reach populations with diverse resources, surveys were completed in either paper or digital format. The survey findings document, also posted online, lists questions and responses recorded from CHNA surveys conducted in 2012, 2016, 2019, and 2022. Secondary data included the use of hospital network data as well as county, state, and national level data obtained from the following: U.S. Census, the Robert Wood Johnson Foundation, Vital Statistics, Community Commons, the American Community Survey (ACS), U.S. Department of Labor, the Behavioral Risk Factor Surveillance System, as well as

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

·············· Existing Geisinger St. Luke's Community Assets ··············

When asking key informants to describe Schuylkill county, responses indicated that it is a strong, tightknit community where people work together. Some also mentioned that it is caring, warm, and generous community with a willingness to work with others and promote partnerships. Regarding COVID-19, one informant said "our community has gone above and beyond expectations to meet its needs. The overwhelming response to COVID allowed us to get additional funding dollars with no strings attached to use in this community to help those in need." Another informant said that "there is a willingness to look into partnerships and work with others… during COVID, it has only grown more. The virtual connections have contributed to increased [partnerships] I believe." One informant mentioned, "we all work together for the same common cause. You don't see that in all communities. It is one of the things that I cherish." Some informants mentioned that the strength of the community is deeply rooted in the area, mentioning that "I think it goes back to the coal mining days. It is a strong community. It is a small county, but it is fierce when looking at all the collaboration." Another agreed saying that there is a deep sense of pride in Schuylkill county heritage. Though these are great strengths, one informant said "it is rural and diverse. When looking at different levels of wealth in the districts, some have more resources than others. The community is diverse with various levels of resources."

When asking community forum members about the strengths of Schuylkill county, one person said:

> *"There is a deep community bond that the people here have. It's helped us through big challenges even when resources and support [are] pretty thin."*

Geisinger St. Luke's opened in Fall 2019 and has been promoting community health initiatives, including the breast and cervical cancer early detection screening programs, literacy initiatives with Dr. Seuss Day at Schuylkill county elementary schools, promoting oral health literacy, and training rural community health workers.

In response to COVID-19, physical initiatives like Walk with a Doc were held virtually but spread the message of COVID safety and personal well-being. Rural community health staff continued to promote education on social distancing, working on partnerships with local nonprofits, school districts, and intermediate units, and meeting to ensure that the Substance Use Disorder Response team could continue to educate and reduce overdose deaths in our rural regions. Throughout the pandemic, SLUHN has been able to pivot and meet the needs of the community through existing relationships built with nonprofits, schools, and community-based organizations.

·········· County Health Rankings ··········

Every year, the Robert Wood Johnson Foundation releases data that compare counties to state averages, as well as U.S. top performers. There are 20 indicators evaluated for each county, with the U.S. top performers being the counties at the 90th percentile in the nation. The indicators are color-coded using a stoplight approach, in which green indicates that the value is better than both state and U.S. top performers, yellow indicates that the value is in between state and U.S. top performers, and red indicates that the value is at or worse than both state and U.S. top performers. In looking at the 2021 data table (Figure 1) out of 180 values, 60% of values are red (108), 21% are yellow (38), and 19% are green (34). There was a 47.8% overall increase in green tiles since 2018 during the last CHNA cycle. Additionally, in Schuylkill county, there are 75% red values, 20% yellow values, and 5% green values. In 2018, there were 55% red values, 45% yellow values, and 0% green values. From 2018 to 2021, there was a 36.4% increase in red values, a 55.6% decrease in yellow values, and a 100% increase in green values. Out of all St. Luke's counties that house a hospital (not including Berks county) Schuylkill county falls at the lowest end of the spectrum along with Carbon county and Monroe county in terms of green values.

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

2022 St. Luke's University Health Network Geisinger St. Luke's Community Health Needs Assessment

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

University of Wisconsin Population Health Institute. *County Health Rankings and Roadmaps.* 2021.	KEY	At or above State/Top Performer	Between Top Performers and State	At or below State/Top Performer

Figure 1

Demographics

Population

For the purposes of the CHNA, we define the top zip codes as those that account for 80% of the population served by the Geisinger St. Luke's campus (i.e., service area). In the Geisinger St. Luke's service area, 46% of the patients served reside in Schuylkill county zip codes 17972 (Schuylkill Haven), 17901 (Pottsville), and 17961 (Orwigsburg).

A total of 94,632 people live in the 397.33 square mile area outlined in Figure 3 according to the U.S. Census Bureau American Community Survey (ACS) 5-year estimates (2015-2019). The population density for this area is estimated at 238.17 persons per square mile, compared to 285.89 persons per square mile in Pennsylvania and 91.93 persons per square mile nationally. According to the 2010 Decennial Census, 71% of the Geisinger St. Luke's service area lives in an urban setting and 29% of the service area lives in a rural setting. Urban areas are defined by population density, count, size thresholds and the amount of impervious surface or development (i.e., areas impervious to water seeping into the ground, concrete-heavy areas). Rural areas are all other areas not defined as urban. The Pennsylvania percentages for urban and rural living are 78.7% and 21.3%, respectively. The United States urban and rural percentages are 80.9% and 19.1%, respectively.
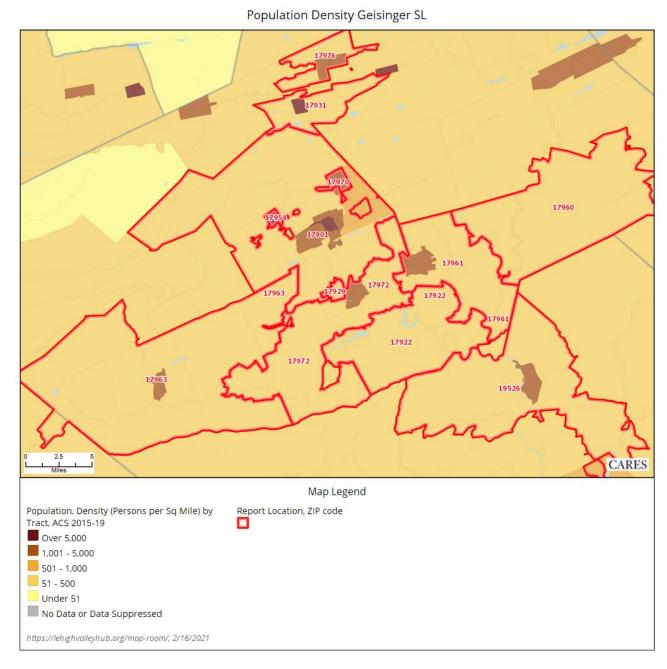
FY20 SLGO - Zip Codes Comprising Top 80% of Facility Encounters		
Zip Code	% SLGO Total (n = 12,366)	% Network Total (n = 1,554,201)
17972	17%	0.14%
17901	16%	0.13%
17961	13%	0.10%
19526	7%	0.06%
17922	7%	0.05%
17954	4%	0.03%
17963	4%	0.03%
17960	3%	0.03%
17929	2%	0.02%
17931	2%	0.02%
17970	2%	0.02%
17976	2%	0.01%
Total	80%	0.64%

Figure 2

The following sections give a brief overview of the populations which Geisinger St. Luke's serves. Understanding the demographics of the service area is essential to addressing needs and improving upon the region's health services. The following data comes from ACS 5-year estimates (2015-2019) by the Census Bureau and St. Luke's CHNA survey data unless otherwise noted.[1] Please refer to the Network and Campus Community Health Needs Assessment Survey Findings document for more detailed information from the survey.
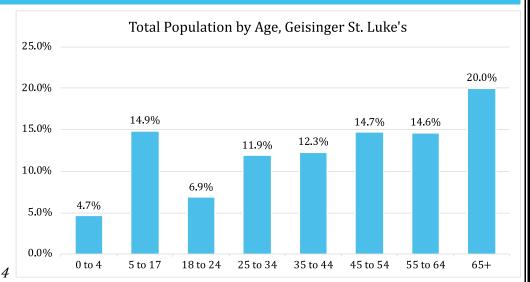

Figure 3

---

[1] https://www.census.gov/programs-surveys/acs/

Age

The ACS reports 19.6% of the service area population are people under 18 years old and 20% are 65 years and older (Figure 4). Combined, these groups account for 39.6% of the service area population, leaving 60.4% between the ages of 18 and 64. In Schuylkill county, 19.8% of the population are under 18 and 20% are 65 and older, leaving 60.2% between the ages of 18 and 24.
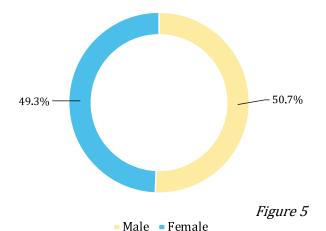
CHNA survey respondents from the Geisinger St. Luke's service area vary in age, with 27% of respondents 65 years and older, 17% ages 55 to 64, 13% ages 45 to 54, 15% ages 35 to 44, 24% ages 25 to 34, and 4% ages 18 to 24. The CHNA survey was administered to people 18 and older, therefore, ages below 18 are not represented in the survey results. The median age of respondents was 50 years old.
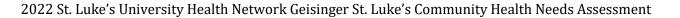
Figure 4

Total Population by Age, Geisinger St. Luke's

Age group	Percent
0 to 4	4.7%
5 to 17	14.9%
18 to 24	6.9%
25 to 34	11.9%
35 to 44	12.3%
45 to 54	14.7%
55 to 64	14.6%
65+	20.0%

Sex

The 2019 ACS survey asked respondents to indicate their sex assigned at birth (male or female only); 49.3% of people identified as female and 50.7% identified as male in the Geisinger St. Luke's service area (Figure 5). This is similar to the national average, 50.8% and 49.2%, respectively. In Schuylkill county, 48.9% of people identify as female and 51.1% as male.
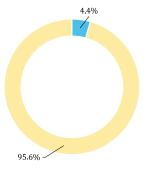
When asked about sex assigned at birth in the survey, 76% Geisinger St. Luke's service area respondents indicated female and 24% male.

Total Population by Sex, Geisinger St. Luke's

49.3% 50.7%

Male Female

Figure 5

Ethnicity

Total Population by Ethnicity, Geisinger St. Luke's

Figure 6

■ Hispanic ■ Non-Hispanic

According to the ACS, 95.6% of the Geisinger St. Luke's service area identifies as non-Hispanic and 4.4% identifies as Hispanic (Figure 6). The Hispanic/Latino population in Pennsylvania is 92.7% non-Hispanic and 7.3% Hispanic; the United States population is 82% and 18%, respectively. In Schuylkill county, 95.6% of identify as non-Hispanic and 4.4% identifies as Hispanic.
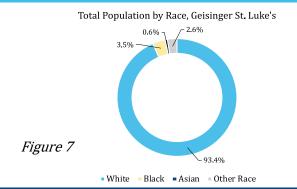
When asked about ethnicity, 4% of CHNA survey respondents in the Geisinger St. Luke's service area identified as Hispanic.

Race

The ACS reports that 93.4% of the Geisinger St. Luke's service area identifies as White, followed by Black (3.5%), and Other Race (2.6%). Data for individuals identifying as Native Hawaiian/Pacific Islander, Native American/Alaska Native, and Multiple Races were combined with Other Race due to small sample sizes. In Schuylkill county, the majority of individuals identify as White (93.7%), followed by Black (3.2%), Other Race (2.6%), and Asian (0.5%).

The majority of CHNA survey respondents from the Geisinger St. Luke's service area were White (93%), followed by Black (3%), Other Race (3%), and Asian (1%).

Total Population by Race, Geisinger St. Luke's

Figure 7

■ White ■ Black ■ Asian ■ Other Race

Vulnerable Populations

The following data was retrieved from the 5-year American Community Survey (2015-2019) by the Census Bureau.[2]

---

[2] https://www.census.gov/programs-surveys/acs/

Black, Indigenous, People of Color (BIPOC)

It is important to identify the BIPOC communities within the SLUHN service area in order to address specific needs. For example, Indigenous peoples historically lack proper access to health resources and information and often face discrimination when accessing healthcare facilities.[3] Additionally, in regard to the COVID-19 pandemic, more than half of the infections have occurred among Black Americans, despite only comprising approximately 14% of the United States Population.[4,5] Disparities in access to care for BIPOC communities can be detrimental to health outcomes and generate mistrust in healthcare.[6] In the Geisinger St. Luke's service area, 3.5% of the total population identifies as Black and 4.4% of the total population identifies as Hispanic. Out of the BIPOC individuals who were surveyed in the network, 33% identified as Other Race, followed by Black (32%), Multiple Races (23%), Asian (10%), and American Indian or Alaskan Native (2%).

Uninsured Population

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

In the Geisinger St. Luke's service area, only 0.4% of the 65 and older population are uninsured, 7.5% of ages 18 to 64 are uninsured, and 4.4% of children under 18 years old are uninsured.
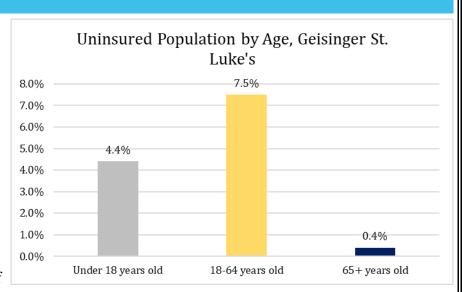

Figure 8

---

[3] https://www.bsr.org/en/our-insights/blog-view/respecting-the-rights-of-vulnerable-groups
[4] https://www.bsr.org/en/our-insights/blog-view/respecting-the-rights-of-vulnerable-groups
[5] https://covid.cdc.gov/covid-data-tracker/
[6] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194634/

According to CHNA survey results, 3.4% of all surveyed respondents in the network either have no coverage and pay cash or do not know if they have insurance. The discrepancy between service area statistics and CHNA survey respondents is important to note as we continue to increase our outreach efforts in the communities we serve to reach our most vulnerable populations, which includes the uninsured population.

"I think insurance and access is also a challenge...Making referrals can be difficult because not everyone takes all insurances and you need parent permission. My school only takes medical assistance, so I need to go out looking for people that take private insurance, and that kid's private insurance because not all offices take every insurance. I wish there were rainy day funds where you could have a cash session to help a kid."

·························· ALICE ··························

Asset Limited, Income Constrained, Employed (ALICE) are households that earn more than the Federal Poverty Level, but less than the basic cost of living.[7] Because ALICE households do not qualify for Federal assistance, they cannot always pay bills and have little money left over to put towards savings. ALICE households are often forced to make difficult decisions like choosing between paying rent or quality childcare. Problems that ALICE families face are often intertwined and affect each other, all of which can pose risks to health, safety, and financial stability.[8] These areas often include housing, childcare, education, food, transportation, health care, technology, and taxes. The most recent ALICE report (2018) found that 29% of households in Schuylkill county were considered ALICE,[9] 2% higher than the Pennsylvania state average (27%). In Schuylkill county, 5,106 single or cohabitating households were ALICE, 2,290 families with children were ALICE, and 9,649 people 65 years and older were ALICE. This is partially due to the increase in living costs while wages have stayed stagnant. In 2018, the average cost of living for a single adult in Schuylkill county was $1,846 a month and $22,152 a year, while the average hourly wage was $11.08.[10] Out of all of the cities, boroughs and townships in Schuylkill county, the Coaldale borough has the highest ALICE percent (42%) and Delano township is second with 41% of households.

---

[7] https://www.unitedforalice.org/
[8] https://www.unitedforalice.org/consequences
[9] https://www.unitedforalice.org/pennsylvania
[10] https://www.unitedforalice.org/pennsylvania

Children and Adolescents

According to 5-Year ACS (2015-2019) estimates, 19.6% of the Geisinger St. Luke's service area is below 18 years old. Childhood is a crucial time for development in all aspects of life, thus it is important to study health behaviors and target initiatives towards addressing negative health patterns in youth. The 2019 Pennsylvania Youth Survey (PAYS)[11] is run by the Pennsylvania Commission on Crime and Deliquency and asks questions pertaining to drug use, violence, mental health, school safety, and more. PAYS is administered (by paper or online) biennially in odd years to students in grades 6, 8, 10, and 12. According PAYS, 44.7% of students in Schuylkill county report lifetime alcohol use and 16.8% marijuana use. Additionally, 29.7% of students in Schuylkill county reported experiencing bullying within the past 12 months. Lifetime use refers to using the drug at any point in their life and 30-day use refers to using the drug in the past 30 days. The data in this section is reported from PAYS unless stated otherwise.

Tobacco, Nicotine, and Vaping

In Schuylkill county, 13.9% of students report a lifetime use of cigarettes, which is more than 3% higher than state level. Additionally, 23.4% of Schuylkill county students report a 30-day vape use, which is much higher than the state (19%) and an increase from 19.1% of Schuylkill county students in 2017. In the last year, 57.5% of Schuylkill county students used a nicotine vape, including 74% of 12th graders and 46.5% of 8th graders and 16% of Schuylkill county students report using marijuana/hash oil in their vapes, a 142.4% increase from 6.6% in 2017.

Other Substance Use

Substance use in children and adolescents can have a significant impact on their health and well-being.[12] Substance use can affect their growth and development, especially brain development, lead to risky behaviors such as unprotected sex, and dangerous driving, as well as contribute to health problems in adulthood (e.g., heart disease, sleep disorders).[13] In 2019, PAYS found that lifetime alcohol use across the state was 41% and state lifetime use of marijuana was 17.3%. In Schuylkill county, 44.7% of students have lifetime alcohol use and 15.7% lifetime use of marijuana. In Pennsylvania, state lifetime use of prescription pain medication was 4.1% and 3.9% for over-the-counter drugs. In Schuylkill county, lifetime prescription use was 4.5% and 3.9% for over-the-counter drugs. Students often view these drugs as safer than illicit drugs because they are prescribed by a doctor or legally available for adults. Small portions of the state used cocaine,

---

[11] https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS)-2019.aspx
[12] https://www.cdc.gov/ncbddd/fasd/features/teen-substance-use.html
[13] https://www.cdc.gov/ncbddd/fasd/features/teen-substance-use.html

methamphetamines, heroin, ecstasy, and synthetic drugs. However, the most frequent "other drug" used were hallucinogens, with a 2.7% lifetime use. Schuylkill county students had a 2.9% lifetime use of hallucinogens.

Regarding risky behavior while under the influence of drugs and other substances, 7.4% of Pennsylvania students engaged in binge drinking in the past two weeks and 1.5% of students reported driving while or shortly after drinking. Additionally, 3% of Pennsylvania students indicated driving after using marijuana in the past year. In Schuylkill county, 7.3% of students engaged in binge drinking in the past 2 weeks, 1.8% of students reported driving while or shortly after drinking, and 2.9% report driving after using marijuana in the past year. Finally, 34.3% of students in the state, and 31.7% of students in Schuylkill county, report *taking without permission* as their most frequent source/method of obtaining alcohol. The next highest source was *giving money to someone to buy it for them*, which was 26.7% of students in the state and 28.0% of students in Schuylkill county. For prescription drugs, the most common method for obtaining *was taking them from a family member in the house*, a method used by 41.4% of students in the state and 45.1% of students in Schuylkill county. For willingness to use, 24.5% of students across the state and 26.3% of students in Schuylkill county indicated a willingness to use alcohol if presented with the chance.

·························· Violence and Bullying ··························

It is important for all children to feel safe at school in order to learn, socialize, and develop. However, PAYS has found that violence on school property is a concern, with 24.6% of Schuylkill county students report being threatened with violent behavior on school property in the past year. This is well above the state at 18.9% and increased 1.6 percentage points since 2017. Of the 10.3% of students that reported having been attacked on school property, 1.4% were attacked with a weapon. Additionally, 0.9% of both Pennsylvania and Schuylkill county students report bringing a weapon to school.

Bullying is also a factor contributing to violence in schools, prompting some students to skip school, and potentially lowering self-esteem. In Schuylkill county, 29.7% of students reported being a victim of bullying in the past 12 months, an 11% increase since 2015. The most common way Schuylkill county students reported being abused was emotional abuse, insults, and name calling (60%), followed by physical injury (24%), and threats (21.1%). Additionally, 17.7% of students report being cyberbullied. Of the students in Schuylkill county that indicated having been cyberbullied, 49.7% indicated feeling so sad or hopeless every day for the past 2 weeks they stopped doing usual activities; and in the past year, 39.1% of those students seriously considered suicide, 34% made a suicide plan, and 29.5% attempted suicide.

Mental Health

Mental health is an important indicator for children and adolescents social and emotional development. Important mental health habits such as resilience and good judgment aid in overall well-being. When asked about depression, the most common depressed thought expressed by Schuylkill county students was *at times I think I am no good at all* (37.1%) compared to 36.3% of all students in Pennsylvania. Additionally, 38% of students in Pennsylvania report feeling sad or depressed MOST days in the past 12 months compared to 40.6% of students in Schuylkill county.

PAYS also asks questions pertaining to self-harm and suicide. In Pennsylvania, 14.4% of students indicated using self-harm (e.g., cutting, scraping, burning) in the past 12 months, 15.4% of students in Schuylkill county. In Pennsylvania, 16.2% of students indicated seriously considering suicide, 12.9% planned suicide, 9.7% attempted suicide, and 2% needed medical treatment as a result. In Schuylkill county, 17.5% of students seriously considered suicide, 15% planned suicide, 11.5% attempted suicide, and 2.4% needed medical treatment as a result.

The 2019 PAYS also illustrated some concerning trends regarding perceived importance of school, with only 53.3% of students in Schuylkill county feeling that school is going to be important for their future. Only 37.2% of students in 2019 reported enjoying being in school during the past year, a 3.4% reduction from 2017. In Schuylkill county, 79% of students report feeling safe at school which is below the state average (80%).

Risk and Protective Factors

Many risk and protective factors come into play when understanding observed rates of drug use and mental health issues addressed in the CHNA. A risk factor is something that poses potential harm to a student's life and a protective factor is something that can help keep the student safe. Finally, total risk factor profile is evaluated to be 44% among Schuylkill students, while total protection risk factor profile is 53%. The key risk factors were low commitment toward school, perceived risk of drug use and parental attitudes favorable toward antisocial behavior. The key protective factors in Schuylkill county included family opportunities for prosocial involvement, family attachment, and family rewards for prosocial involvement.

Seniors

According to the ACS (2015-2019), there are approximately 18,848 people 65 years and older living in the Geisinger St. Luke's service area.[14] In Schuylkill county, there is an estimated 28,561 people 65 years and older. The U.S. Census Bureau reports the 65 and older population grew 34.2% in the last ten years and by 3.2% from 2018 to 2019.[15] The Bureau also estimates that the 65 and older population will outnumber children by the year 2034.[16] By 2060, adults 65 and older will account for 23.4% of the population, approximately 94.7 million people.

In 2018, 18.3% of Medicare beneficiaries in the Geisinger St. Luke's service area reported suffering from depression. In the same time frame, 18.2% of Medicare beneficiaries in Schuylkill county reported having depression.[17] Both of these numbers are lower than the Pennsylvania state average (19.3%), but higher than the United States average (18.4%).

Multiple community forum attendees mentioned how seniors have been negatively impacted by the pandemic, including isolation, child care, and access to facilities:

"Our elderly population is taking on their children's kids because their children are struggling with substance abuse. They are exhausted and dealing with lots of stress."

"The senior population wants to stay here, but they are feeling great pressures and major mental health issues. The local facilities are doing a great job, and with the new hospital people can stay local more than the past, but the demand is really quite extensive."

---

[14] https://www.census.gov/programs-surveys/acs/
[15] https://www.census.gov/newsroom/press-releases/2020/65-older-population-grows.html
[16] https://www.census.gov/library/visualizations/2018/comm/historic-first.html
[17] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF

Other important factors to observe in the senior population are the prevalence of diseases that begin to appear or worsen with age. Examples include diabetes, heart disease, high blood pressure and high cholesterol. Figure 9 illustrates a table of the percentage of Medicare beneficiaries within the Geisinger St. Luke's service area that report having these diseases.[18] Out of all of the service areas, the Geisinger St. Luke's service area has the lowest percentage of Medicare beneficiaries with high cholesterol. Of the adults 65 and older surveyed from the Geisinger St. Luke's service area, 17.6% have diabetes, 16.2% have had a heart attack or other disease, 53.5% have high blood pressure, and 35.9% have high cholesterol.

	Percent of Medicare Beneficiaries				
	St. Luke's Survey	Geisinger St. Luke's Service Area	Schuylkill County	Pennsylvania	United States
Diabetes	17.6%	27.7%	27.9%	25.8%	27.0%
Heart Attack and other Disease	16.2%	29.2%	29.6%	27.3%	26.8%
High Blood Pressure	53.5%	62.1%	62.1%	58.5%	57.2%
High Cholesterol	35.9%	56.4%	55.9%	52.7%	47.7%

Figure 9: Data reported from St. Luke's survey and Centers for Medicare and Medicaid Services 2018 and gathered from lehighvalleyhub.org

While these numbers are much lower than previously reported, senior chronic health will continue to be a focus area for healthy aging. Food insecurity is another important factor in terms of senior health. Feeding America released a 2020 food insecurity report on seniors in America and found that 7.3% of seniors are food insecure.[19] The report found that of the food insecure senior population, the highest insecure rates were found in racial and ethnic minorities, those with lower incomes, those who are younger seniors (ages 60-69), and those who are renters.

"Seniors have been really isolated over the last year and their mental health is suffering. They're in pretty rough shape."

Each year America's Health Rankings produces senior health reports for each state in the United States. The organization ranks the state on six categories: overall, behaviors, social and economic, physical environment, clinical care and health outcomes, with a score of 1 as the best. Pennsylvania's best ranking appeared in clinical care (19) and worst in physical environment (46).[20] Clinical care assesses factors like access
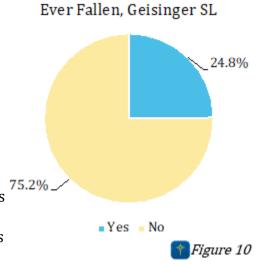
---

[18] https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF
[19] https://www.feedingamerica.org/research/senior-hunger-research/senior
[20] https://www.americashealthrankings.org/explore/senior/measure/overall_sr_3/state/PA

to care, quality of services provided, and preventive services. Physical environment assesses factors like air and water quality, pollution, and housing conditions. Senior mental health is a growing concern in the United States and even more so with isolation during the COVID-19 pandemic. According to the America's Health Rankings 2020 Senior Report, 8.3% of senior adults in Pennsylvania experience frequent mental health distress, while the 2020 United States Average is 7.9% of senior adults.[21]

Frequent mental distress is defined as 14 or more poor mental health days a month and is associated with physical inactivity, insufficient sleep, obesity, smoking, and alcohol consumption. Other factors that can contribute to frequent mental distress are the inability to afford healthcare, living alone, and activity limitations due to chronic conditions, physical disabilities, or mental health problems.[22] One reason that the senior population may not receive adequate mental care is due to the fact that symptoms of some mental health issues like depression or lapses in memory often get dismissed as typical aspects of aging.[23] Other health conditions related to aging also impact mental health in seniors; older adults with diabetes have a higher risk of developing depression or cognitive impairment while adults with coronary heart disease or whom have had a stroke are more likely to have frequent mental distress.[24,25] Falls are an important warning sign to look at in senior populations because falls are costly in dollars but also in quality of life. Falls are the leading cause of fatal and nonfatal injuries in older Americans.[26] The 2020 senior health report found that 24.2% of older adults in Pennsylvania had fallen within the last 12 months.[27]

Ever Fallen, Geisinger SL

24.8%

75.2%

- Yes - No

Figure 10

One in five falls among older adults causes serious injury, including hip fractures and head injuries. Common factors that can lead to falls are balance and gait, vision, medications, environment and chronic conditions.[28] However, the number of falls can be reduced through practical lifestyle adjustments, educational programs, and community partnerships.[29] Of the adults 65 and older surveyed from the Geisinger St. Luke's service area, 24.8% have ever fallen. Of those who have ever fallen, 18% have fallen 1-2 times, 4% have fallen 3-4 times, and 2% have fallen 5 or more times.

---

[21] https://www.americashealthrankings.org/explore/senior/measure/overall_sr_3/state/PA
[22] https://www.americashealthrankings.org/explore/senior/measure/mental_distress_sr/state/NJ
[23] https://www.agingcare.com/articles/understanding-mental-health-issues-in-seniors-209387.htm
[24] https://www.cdc.gov/aging/publications/coronary-heart-disease-brief.html
[25] https://www.nia.nih.gov/health/diabetes-older-people
[26] https://www.ncoa.org/healthy-aging/falls-prevention/preventing-falls-tips-for-older-adults-and-caregivers/
[27] https://www.americashealthrankings.org/explore/senior/measure/falls_sr/state/PA
[28] https://www.ncoa.org/healthy-aging/falls-prevention/preventing-falls-tips-for-older-adults-and-caregivers/6-steps-to-protect-your-older-loved-one-from-a-fall/
[29] https://www.ncoa.org/healthy-aging/falls-prevention/

Along with all the other health concerns that increase with aging, polypharmacy is one of the hardest to track. Polypharmacy lacks a central definition, but authors Dagli and Sharma define polypharmacy as the use of multiple medications generally referred to as five or more prescribed drugs per day.[30] This is common among the senior population because of the need to treat various diseases and injuries that increase with age. Symptoms of polypharmacy include tiredness, decreased alertness, incontinence, lack of appetite, falls, depression, tremors, hallucinations, and more.[31] In 2020 it was estimated that 44% of men and 57% of women 65 and older take five or more prescription and/or nonprescription drugs a week.[32] Polypharmacy has severe negative impacts on patient care and increases the risk for adverse drug reactions.[33]

By increasing protective factors in the community, the effects of aging can be mitigated, and the senior population can thrive. A protective factor is a condition or characteristic that helps people deal more effectively with stressful events and lessens risk of vulnerability.[34] Engaging in physical activities or hobbies and eating well can have a positive impact on senior well-being. Regular exercise can reduce the risk of some diseases, lower blood pressure, and help cognitive function.[35] Self-efficacy, the belief in one's ability to achieve goals and influence life events, is also a potential protective factor and is related to increased energy, better sleep, decreased pain or discomfort, and increased overall satisfaction with life.[36] Engaging seniors in meaningful relationships and coordinating resources in the community can help their overall well-being and protect against some negative effects from aging. For the senior population, Healthy People 2030 seeks to reduce the rate of hospital admissions for diabetes among older adults, reduce fall related deaths, and to reduce the proportion of older adults who use inappropriate medicines.[37]

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

In 2020, the Bradbury-Sullivan LGBT Community Center in Allentown, Pennsylvania, with funding from the PA Department of Health, conducted a Pennsylvania statewide LGBT Needs Assessment (N= 6,582). Results showed that 23.6% of Bradbury-Sullivan respondents have not visited the doctor for a routine check-up in a year or longer and 36% did not visit the dentist in the past year.

---

[30] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4295469/
[31] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4295469/
[32] https://www.uspharmacist.com/article/polypharmacy-and-drug-adherence-in-elderly-patients
[33] https://www.npjournal.org/article/S1555-4155(19)31051-7/fulltext
[34] https://www.respectaging.ca/training/Participant_Manual_-_Module_08.pdf
[35] https://www.ncbi.nlm.nih.gov/books/NBK316205/
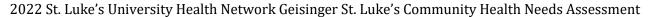[36] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4437657/
[37] https://health.gov/healthypeople/objectives-and-data/browse-objectives/older-adults
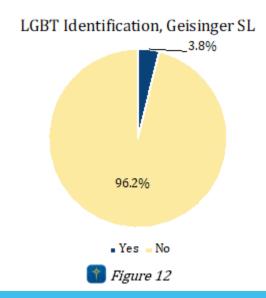
Additionally, 1 in 3 Bradbury-Sullivan respondents feared seeking healthcare services because of past or potential negative reactions from healthcare providers. Carbon and Schuylkill county data was combined due to the small number of participants from each county. The mean age of respondents was approximately 36 years old, and the ages ranged from 12 years to 68 years old. Only 8 respondents identified as transgender or non-binary, and due to the limited sample size, the responses of transgender and non-binary respondents are not included separately in this analysis. Within counties served by Geisinger St. Luke's, 35% of respondents report being dissatisfied with their life and 80% of have considered suicide at some point in their life.
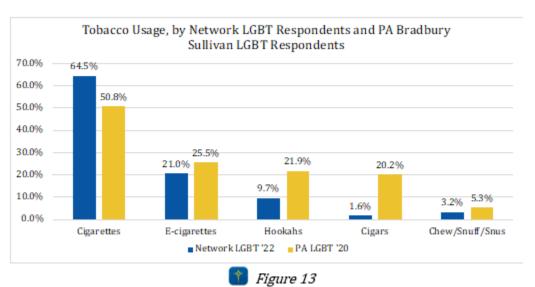
From the St. Luke's survey, we found that 3.8% of respondents from the Geisinger St. Luke's service area identify as LGBT. Additionally, 0.28% of all respondents in the network identify as non-binary, 0.08% identify as genderqueer, 0.06% identify as gender fluid, and 0.1% identify as another gender. When comparing Bradbury Sullivan LGBT respondents to St. Luke's LGBT respondents, rates of cigarette use and e-cigarette use fares similar; cigarettes are the most used tobacco product by respondents in both surveys. However, hookah use (21.9%) and cigar use (20.2%) is much higher in Bradbury Sullivan respondents than St. Luke's respondents, 9.7% and 1.6%, respectively.

Category	Outcome Measures	Carbon and Schuylkill County PA LGBT Respondents
Mental Health	Ever Considered Suicide	80.0%
	Dissatisfied with Life	35.0%
Mental Health Access	Had a Mental Health Challenge in the last 12 months	85.0%
	Seen by a Mental Health Provider in the las 12 months	45.0%
Healthcare Barriers	Uninsured	9.5%
	no Primary Care Provider	33.3%
Discrimination and Violence	Experienced Discrimination	70.0%
	Experienced Violence	35.0%
Financial, Food and Housing Insecurity	Financially Insecure	52.4%
	Food Insecure	30.0%
	Ever Homeless	20.0%
Chronic Disease	Diabetes Diagnosis	10.0%
	Pre-Diabetes Diagnosis	20.0%
	HIV Diagnosis	15.0%
Tobacco and Drug Use	Current Cigarette Smoker (18+ years)	38.9%
	Curren E-Cigarette Smokers (all ages)	5.0%
	Ever Engaged in Chemsex	31.6%

Figure 11

24

LGBT Identification, Geisinger SL

Figure 12

Tobacco Usage, by Network LGBT Respondents and PA Bradbury Sullivan LGBT Respondents

Figure 13

Disabled Population

In the Geisinger St. Luke's service area, 16.2% of people have a disability.[38] The six disability types considered in this category are hearing difficulty, vision difficulty, cognitive difficulty, ambulatory difficulty (serious difficulty walking or climbing stairs), self-care difficulty, and independent living difficulty.[39] Of those who have a disability in the Geisinger St. Luke's service area, 8.4% are under 18 years old, 47.3% are between 18 and 64 years, and 44.3% are 65 years and older.

Veteran Population

Of the Geisinger St. Luke's population 18 years and older, 9.4% are veterans. The Census Bureau classifies a veteran as "a person 18 years old or over who has served (even for a short time), but is not now serving, on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or who served in the U.S. Merchant Marine during World War II."[40] Of the 9.4% of veterans in the Geisinger St Luke's service area, 93.8% are male and 6.2% are female.[41]

---

[38] data.census.gov/ Table (S1810)
[39] https://www.census.gov/topics/health/disability/guidance/data-collection-acs.html
[40] https://www.census.gov/content/dam/Census/topics/population/veterans/guidance/acs-topic-information-veterans.pdf
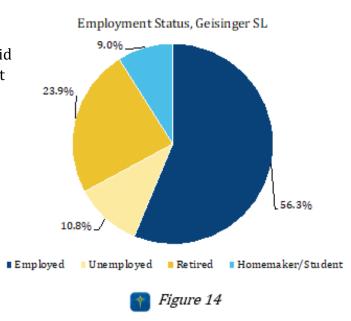[41] Data.census.gov/ Table (S2101)

Social and Economic Environment

···················· Employment ····················

Unemployment and underemployment have serious impacts on an individual's health. Income is a social determinant of health, and in addition to affecting one's income, unemployment and underemployment can leave individuals without health insurance, paid sick leave, and parental leave—exacerbating negative health outcomes when people are at their most vulnerable. The unemployment rate is 4.4% in Pennsylvania according to the Robert Wood Johnson Foundation.[42] However, unemployment rates varied widely during the COVID-19 pandemic. In January of 2020, Pennsylvania had an unemployment rate of 4.7%. However, that unemployment rate sky-rocketed to 16.1% by April of 2020—the highest observed since the U.S. Great Depression. Pennsylvania reached unemployment rates below 10% by September of 2020 and 5.4% of residents of Schuylkill county experience unemployment, remaining higher than state and national levels.[43]

The majority of survey respondents from the Geisinger St. Luke's service area are employed (56%), 24% are retired, and 9% are homemakers or students. In terms of unemployment, 11% of respondents are unemployed, including those out of work or unable to work.

Employment Status, Geisinger SL

9.0%

23.9%

56.3%

10.8%

■ Employed Unemployed ■ Retired ■ Homemaker/Student

Figure 14

---

[42] https://www.countyhealthrankings.org/
[43] https://www.countyhealthrankings.org

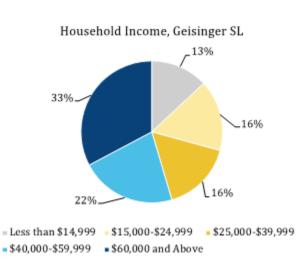# Household Income and Poverty

The 2021 Federal Poverty Line (FPL) poverty guideline is measured at $12,880 a year for one person and $26,500 for a family of four.[44] If one person is 200% of the FPL, they make $25,760; if a family of four is 200% of the FPL, they make $53,000. ACS data (2019) reports that 31% of the Geisinger St. Luke's service area live 200% below the federal poverty level. This is slightly higher than Pennsylvania (28.3%) and below the United States (30.9%) with 17954 is the zip code most affected by poverty. The ACS also reports that the median household income in Schuylkill county is $52,280, which is lower than the median household income in Pennsylvania ($61,744) and the United States ($62,843) and the lowest of all service area county median household income.[45]

Survey results from the Geisinger St. Luke's service area revealed that 32.7% of respondents have a household income of $60,000 and above, 21.8% have a household income of $40,000-$59,999 (21.8%), 16.2% have a household income of $15,000-$24,999, 16.2% have a household income of $25,000-$29,999, and 13.1% have a household income less than $14,999 (13.1%).

Out of all campus service areas, Geisinger St. Luke's has the largest number of respondents with a household income is less than $14,999. While we cannot determine how many people live below the FPL based on household size, these survey results do reveal that there are many people who could use support from food pantries, Federally Qualified Health Centers, government assistance, rent assistance, and more to supplement their income.
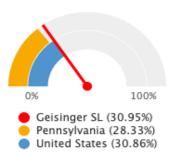

Percent Population with Income at or Below 200% FPL

- Geisinger SL (30.95%)
- Pennsylvania (28.33%)
- United States (30.86%)

Figure 15

Figure 16

Household Income, Geisinger SL

13%
33%
16%
16%
22%

- Less than $14,999
- $15,000-$24,999
- $25,000-$39,999
- $40,000-$59,999
- $60,000 and Above

---

[44] https://aspe.hhs.gov/2021-poverty-guidelines
[45] Data.census.gov/

Education

While income and employment are linked to health status, educational attainment is linked to income and employment. These lay the building blocks for the next generation to have an improved socioeconomic status and correlated positive health outcomes. Healthy People 2030 high school target graduation rate is 90.7%.[46] In Pennsylvania, 91% of people have a high school diploma or equivalent compared to 89% in Schuylkill county.[47]

Of all Geisinger St. Luke's service area CHNA respondents, 95.2% have a high school degree or higher and 4.9% of respondents have less than a high school degree, the highest of all service area counties.

Broken down further, 29.8% have only a high school diploma, 38.1% have some college or an associate's (21.7% have some college and 16.4% have an associate's), 15.8% have a bachelor's, and 11.5% have a graduate degree. CHNA survey results show that respondents have much higher rates of higher education than the general public (Figure 17).
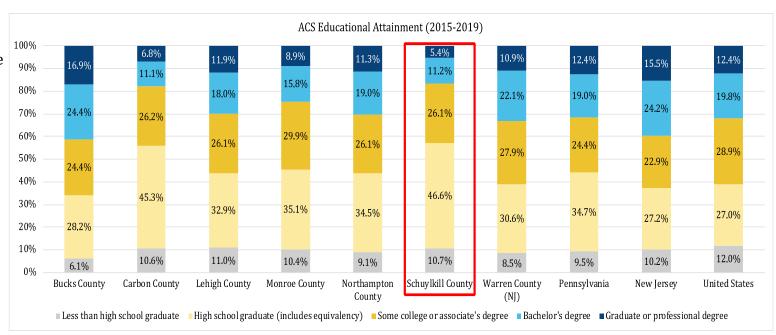

Figure 17

Additionally, CHNA survey data has lower percentages of respondents with less than a high school diploma compared to ACS findings. It should be noted that people with higher levels of education are more likely to live healthier and longer lives than those with lower education levels.[48] Healthy People 2030 states that children with less access to quality education are less likely to get safe, high-paying jobs and will be more likely to have health problems (e.g., heart disease, diabetes). This is a significant concern for St. Luke's because it is crucial to identify and work with populations with lower access to education and healthcare in order to aid in healthy lifestyles and well-being.

Language

English is the language most widely spoken in the Lehigh Valley area and surrounding areas of Pennsylvania. However, many people in our service area may be identified as having limited English proficiency. Limited English proficiency is reported as the percentage of the population five years and older who speak a language other than English at home and speak English less than "very well." Respondents were not instructed on how to interpret the meaning of "very well."[49] Speaking and understanding English is important in this service area because most health services are provided in English. Language can also be a large barrier to educational attainment, higher income, employment, accessing healthcare, and good health outcomes.

Population Age 5+ with Limited English Proficiency, Percent

0% — 25%

● Geisinger SL (1.39%)
● Pennsylvania (4.32%)
● United States (8.40%)

Figure 19

Geisinger St. Luke's Service Area Languages			
Top Zip Codes	Percentage and Number of Spanish Speakers in Zip Code	Percentage and Number of Spanish Speakers in Zip Code Who Speak English Less than "Very Well"	Next Frequent Language
17972	0.7% (78 people)	29.5% (23 people)	German or other West Germanic languages (1.7%- 186 people)
17901	1.3% (290 people)	5.5% (16 people)	German or other West Germanic languages (1.3%- 270 people)
17961	1.0% (66 people)	3.0% (2 people)	Other Indo-European languages (1.1%- 72 people)
19526	1.4% (154 people)	28.6% (44 people)	German or other West Germanic languages (1.1%- 118 people)
17922	0.9% (40 people)	40.0% (16 people)	German or other West Germanic languages (1.3%- 56 people)
17954	5.9% (241 people)	21.6% (52 people)	Russian, Polish, or other Slavic languages and Other Indo-European languages (both 0.5%- 20 people)
17963	2.1% (184 people)	39.7% (73 people)	German or other West Germanic languages (1.4%- 121 people)
17960	0.8% (32 people)	0.0% (0 people)	German or other West Germanic languages (1.7%- 67 people)
17929	1.6% (23 people)	17.4% (4 people)	Chinese (incl. Mandarin, Cantonese) (1.3%- 19 people)
17931	6.9% (587 people)	36.3% (213 people)	Korean (1.0%- 89 people)
17970	0.6% (19 people)	10.5% (2 people)	Russian, Polish, or other Slavic languages (0.3%- 10 people)
17976	15.1% (951 people)	36.2% (344 people)	Other Indo-European languages (0.8%- 48 people)

Figure 18

Only 1.4% of the Geisinger St. Luke's service area are considered to have limited English proficiency, compared to 4.3% in Pennsylvania and 8.4% in the United States (Figure 19). Translators and interpreters are required in locations where either 5% of the community speaks a different language or over 1,000 members speak a different language.[50] A translator typically only translates the written word while interpreters translate orally. Figure 18 shows the Geisinger St. Luke's service area zip codes. Columns shown in red text indicate areas that require translator or interpreter services.

"Highlighting resources and services for the public and connecting people with needs to the appropriate providers has been a struggle. We need to give more attention to outreach."

Safety

Perceived safety is an important component of integrating into one's community. People who don't feel safe in their neighborhood are less likely to participate in outdoor activities and are more likely to isolate themselves, which can have negative impacts on both physical and mental health. Violent crime, defined as "offenses that involve face-to-face confrontation between a victim and a perpetrator, including homicide, rape, robbery, and aggravated assault"[51], is one measure of community safety. Schuylkill county has a violent crime rate of 319 per 100,000, which is slightly higher than Pennsylvania's violent crime rate of 315 per 100,000. The U.S. top performers rate is 63 per 100,000. Violent crime rates in Schuylkill county have increased significantly since 2014.[52] When asked to rate the degree to which they agree that their community is a safe place to live, the majority of respondents in the Geisinger St. Luke's service area agreed (57.2%), 27.6% strongly agreed, 12% neither agreed nor disagreed, 2.4% disagreed, and 0.8% strongly disagreed.
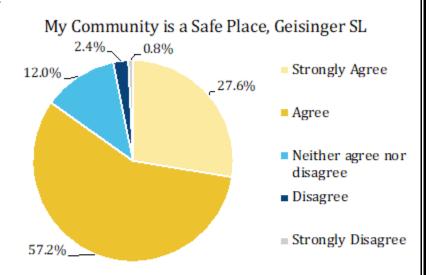

Figure 20

---

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

Social Associations

Related to safety, social association is a measure of the emotional and social support available to an individual. This indicator measures the number of membership associations per 10,000 population. The social association indicator in Schuylkill county falls at 13.2, 1 point per 10,000 population above Pennsylvania (12.2) but below U.S. top performers (18.2).[53]

"Educating the public about issues has been challenging. It hasn't been easy making sure the public knows what wellness is all about, and what resources are in place to help. I think we have done better than in the past in getting messages out through marketing efforts, but there are some big gaps to fill."
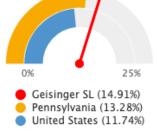
Physical Environment

Food Insecurity

Food insecurity, according to the United States Department of Agriculture (USDA), is the lack of consistent access to a variety of foods for a quality diet.[54] A quality diet is one with access to a variety of foods that meet the individual's taste and nutritional needs. Very low food security (VLFS) is when normal eating patterns are disrupted and households lack money or other resources to obtain food. The USDA's annual report (2019) found that 10.5% of households nationwide are food insecure, 6.5% of which have low food security and 4.1% have VLFS.[55] Among households with children, 6.5% are food insecure and 0.6% have VLFS.

The USDA report stated that households with children facing VLFS had to skip meals or not eat for entire days due to a lack of money for food.[56] In 2019, Pennsylvania had a food insecurity rate of 10.2% and VLFS rate of 4.1%.

Percent Households Receiving SNAP Benefits

- Geisinger SL (14.91%)
- Pennsylvania (13.28%)
- United States (11.74%)

Figure 21

---

[53] https://www.countyhealthrankings.org
[54] https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx
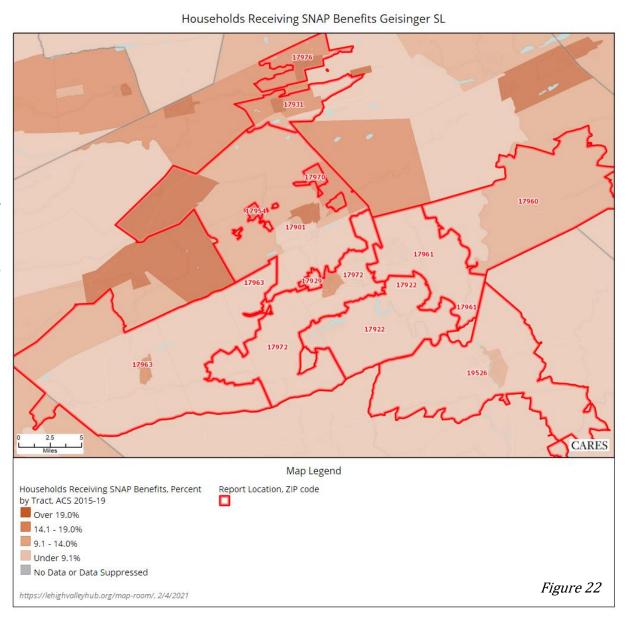[55] https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4
[56] https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4

Government assistance programs aim to help reduce food insecurity through national programs such as the Supplemental Nutrition Assistance Program (SNAP), the National School Lunch Program (NSLP), and Women, Infants and Children (WIC). In 2019, an estimated 49.7% of households receiving SNAP were food insecure, 36.9% of households receiving free or reduced school lunches were food insecure, and 34.1% of households receiving WIC were food insecure.[57] Additionally, 57.7% of households classified as VLFS reported participating in one of these three federal assistance programs, with SNAP having the largest number of participants (47.8%). According to the ACS (2015-2019), 14.9% of the Geisinger St. Luke's service area received SNAP benefits.[58] Figure 21 depicts Geisinger St. Luke's compared to Pennsylvania and the United States and Figure 22 illustrates households receiving SNAP benefits by Census tract.

Households Receiving SNAP Benefits Geisinger SL

Map Legend

Households Receiving SNAP Benefits, Percent by Tract, ACS 2015-19

- Over 19.0%
- 14.1 - 19.0%
- 9.1 - 14.0%
- Under 9.1%
- No Data or Data Suppressed

Report Location, ZIP code

https://lehighvalleyhub.org/map-room/, 2/4/2021

Figure 22

---

[57] https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4
[58] data.census.gov/

The COVID-19 pandemic required shutdowns across the county in 2020, resulting in many people losing jobs and their ability to afford food and other essential items to survive. Feeding America (2021) projected the potential rates of food insecurity because of COVID-19, estimating more than 50 million people experiencing food insecurity because of the pandemic.[59] Feeding America projects the annual food insecurity rate to increase to 12.9% in 2021, meaning that 1 in 8 people will be food insecure, along with 1 in 6 children. Additionally, the report projects the unemployment rate to be approximately 6.7% and the annual poverty rate to be 12% in 2021, which is a 0.9% increase from 2020.[60] In 2020, the food insecurity rate in Schuylkill county was 14.9%, a 24% increase from 2019. The food insecurity rate for 2021 in Schuylkill county is projected to be 12.9% and 12% in Pennsylvania. Additionally, 18% of children in Schuylkill county in 2021 are projected to be food insecure. Schuylkill county ranked 28 out of the 67 counties in Pennsylvania for food insecurity, with 1 ranked at the highest food insecurity rate.

Schuylkill County Feeding America COVID-19 Food Insecurity Projections					
Rank 2021	2021	2020	2019	Change 2019-2020	2021 Child
28/67	13.0%	14.9%	12.0%	24.0%	18.0%

Figure 23

Additionally, availability of food can be a concern for children. PAYS asked students if they have been worried about running out of food one or more times in the past year., and 11.7% of students across Pennsylvania and 14.6% of students in Schuylkill county agreed with this statement.[61]

It is also important to note that the pandemic affected people of color (BIPOC) communities hardest in terms of unemployment and food insecurity. The Latino population had the highest unemployment rate among all racial and ethnic groups, spiking to 18.9% in April 2020. Additionally, Black individuals were already 2.4 times more likely to live in food insecure households than White individuals prior to the pandemic, and now 18 of the 25 counties across the country projected to have the highest food insecurity rates in 2020 are predominantly Black.[62]

Research studies have found that stress from inconsistent access to food can play an active role in fat accumulation and chronic disease.[63] In non-senior adults, food insecurity is associated with decreased nutrient intakes, increased rates of mental health problems, hypertension,

---

[59] https://www.feedingamerica.org/research/coronavirus-hunger-research
[60] https://www.feedingamerica.org/research/coronavirus-hunger-research
[61] https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS)-2019.aspx
[62] https://www.feedingamerica.org/research/coronavirus-hunger-research
[63] https://doi.org/10.3945/an.112.002543

and poor sleep outcomes.[64] In children, food insecurity is associated with increased risks of asthma, lower nutrient intakes, cognitive problems, aggression, and anxiety. Food insecure children may also have higher risks of hospitalization, poor overall health, asthma, depression, and worsened oral health.[65] Food deserts also play a role in food insecurity and chronic disease. A food desert is an area that has limited or nonexistent access to affordable and healthy grocery stores.[66] Living in a food desert has been linked to a poor diet and a greater risk for obesity, while people who live near a grocery store are more likely to consume fruits and vegetables and less likely to be obese.[67] Typically, in food deserts, there is a large amount of fast food and corner stores with inexpensive, high calorie food that lacks nutritional value. Long term consumption of unhealthy food can increase likelihood of obesity, type 2 diabetes, heart disease, and other diet-related conditions.[68]

The Robert Wood Johnson Foundation ranks counties based on their food environment index; the food environment index is measured by the "percentage of the population that is low income and does not live close to a grocery store."[69] Schuylkill county scored 8.3 out of 10, with 10 as the best.

"I see many families struggling with healthy living. It is expensive to buy healthy food… it is much easier to buy the cheaper items that are not healthier. The fast food and dollar items are what concern me with healthy living."

Housing and Blight

Stable and safe housing is an important factor that sets the foundation to achieve quality education, valuable social interactions, and access to nutritious foods. According to Healthy People 2030, safe housing is considered a social determinant of health, which are "conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks."[70] Housing affects other sectors including education, health, racial equity, economic stability, homelessness, hunger, crime, the environment, and disability rights.[71] Over time, homeownership can help build wealth and savings, which are important in relation to health; but, not everyone has equal opportunity to homeownership. Decades of discriminatory practices and inability to benefit

---

[64] https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0645
[65] https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0645
[66] https://foodispower.org/access-health/food-deserts/
[67] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708005/
[68] https://foodispower.org/access-health/food-deserts/
[69] https://www.countyhealthrankings.org/app/pennsylvania/2020/measure/factors/133/description
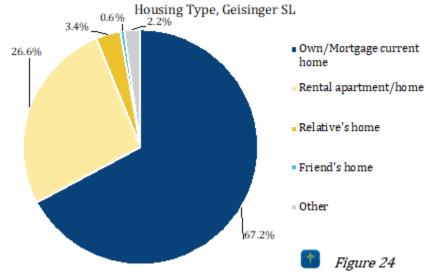[70] https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health
[71] https://www.opportunityhome.org/related-sectors/

from homeownership programs has led to a disproportionate homeownership rate between races.[72] Healthy People 2030 has made housing a focus, including efforts to reduce the proportion of families that spend 30% or more of income on housing, increase the proportion of homeless adults who get mental health services, and to increase the proportion of homes that have an entrance without steps to make it accessible for people with disabilities.[73]

The COVID-19 pandemic has resulted in thousands of people losing jobs, leaving them vulnerable to evictions or foreclosures. The CDC issued a moratorium on September 4, 2020 temporarily halting evictions. The moratorium was set to end December 31, 2020, however it was pushed back until January 31, 2021 and was extended further to March 31, 2021 as the virus persisted.[74] The moratorium was meant to keep people in their current housing situations regardless of ability to pay rent, however it did not exclude tenants from paying rent. While this was a temporary solution, people facing eviction are likely to experience high rates of depression, anxiety, and psychological distress.[75]

To better understand how the Geisinger St. Luke's service area population lives, we asked respondents to indicate their housing type.
Due to small sample size, "Other" consists of individuals living in a shelter (0.19%), senior living (0.19%), homeless (0.19%), or Other (1.7%). The majority of respondents own or have a mortgage on their home (67.2%), followed by renting their home (26.6%), living at a relative's home (3.4%), living at a friend's home, Other (2.2%), and living at a friend's home (0.6%).

One indicator used to assess housing status is the percentage of households that are cost-burdened. According to the department of Housing and Urban Development (HUD), a household is considered cost-burdened if 30% or more of the income goes toward their mortgage or rent.[76] A household is considered to be severely cost-burdened if 50% or more of their income goes toward paying mortgage or rent. These situations can be detrimental to an individual's overall well-being because there is less disposable income to pay for food, healthcare costs, transportation, and other out of pocket expenses. A 2019 report by the County Health Rankings and Robert Wood Johnson (RWJ)

Housing Type, Geisinger SL

Figure 24

---

[72] https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report
[73] https://health.gov/healthypeople/objectives-and-data/browse-objectives/housing-and-homes
[74] https://www.cdc.gov/coronavirus/2019-ncov/more/pdf/CDC-Eviction-Moratorium-01292021.pdf
[75] https://doi.org/10.1016/j.socscimed.2017.01.010
[76] https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html

Foundation found that 1 in 10 households across the United States spend more than half of their income on housing costs (severe cost-burdened).[77] The report also found that severe cost-burdened households are more likely to be affected by food insecurity, child poverty, and fair or poor health. Additionally, segregated counties across the United States have higher cost-burdened rates for both Black and White households.

However, nearly 1 in 4 Black households spend more than half of their income on housing.[78] Cost-burdened housing is a significant problem in the St. Luke's service area as wages and housing costs are not always aligned. Further assessing the wage disparities, the National Low Income Housing Coalition (NLIHC) released a report on fiscal year 2020's housing costs and wage. Out of all states, Pennsylvania ranks 26 for highest housing wages.[79] In Pennsylvania, the fair market rent for a two-bedroom apartment is $1,000, meaning that for a household to not be cost-burdened, they must earn $3,333 a month or $39,992 annually.[80] This translates into an hourly wage of $19.23, however Pennsylvania's state minimum wage is only $7.25 an hour. Someone living on the state minimum wage would need to work 106 hours a week to afford rent each month. The Lehigh Valley (Allentown, Bethlehem, Easton) is the fourth most expensive area in Pennsylvania, requiring $19.73 an hour to afford an apartment and not be cost-burdened. In Schuylkill county, the fair market rent price for a two-bedroom apartment is $723, requiring a household to make $13.90 an hour or $28,920 a year. This is the lowest of all service area counties. Based on the 2020 estimated hourly mean wage for renters in Schuylkill county, which is $11.52 an hour, an individual would need to work 1.2 jobs to afford an apartment.[81]
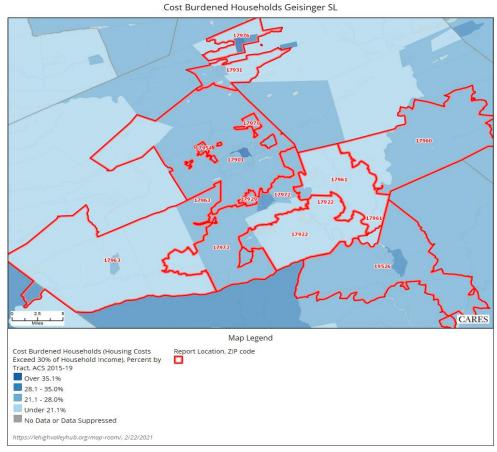

Figure 25

---

[77] https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report
[78] https://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report
[79] https://reports.nlihc.org/oor
[80] https://reports.nlihc.org/sites/default/files/oor/files/reports/state/PA-2020-OOR.pdf
[81] https://reports.nlihc.org/sites/default/files/oor/files/reports/state/PA-2020-OOR.pdf

One key informant touched on the need for affordable housing in Schuylkill county:

"The biggest need is housing. Adequate and safe, affordable housing. It is cheaper to live in Schuylkill county, but is it adequate? We have the oldest housing stock in the county and in the state of Pennsylvania. Our median year is 1943 and we do not have a lot of new development so there is an incredible need to preserve what we already have and prevent vacancies that contribute to blight. This happened pre-COVID and during COVID. People are reserved to their houses now. Are other health factors going to develop as a result of unsafe housing?...People have fallen behind on rents significantly. I think in some instances they had the protection, but that is a developing need for what they call an "eviction cliff" once the moratorium is lifted."

The 10 lowest income census tracts in the Geisinger St. Luke's service area have a cost-burdened rate higher than the Pennsylvania state average (28.9%) and the national average (31.8%). Additionally, 9 out of these 10 tracts have over 25% of houses qualifying as cost-burdened. Census tracts 19, 15 and 2 have the highest number of houses who are paying more than 30% of income towards rent or mortgage. These percentages are 46.9%, 42.0% and 41.9%, respectively (Figure 26).

Geisinger St. Luke's (Schuylkill)		
Geographic Area Name (Zip Code)	Median Household Income (lowest first)	% Cost Burdened
Census Tract 19, Schuylkill County, PA (17901)	$ 27,054	46.9%
Census Tract 6.02, Schuylkill County, PA (17976)	$ 27,614	34.5%
Census Tract 6.01, Schuylkill County, PA (17976)	$ 28,603	39.2%
Census Tract 15, Schuylkill County, PA (17954)	$ 31,100	42.0%
Census Tract 5, Schuylkill County, PA (17948 & 17976)	$ 32,669	30.8%
Census Tract 2, Schuylkill County, PA (18231 & 18237)	$ 33,315	41.9%
Census Tract 26, Schuylkill County, PA (18252)	$ 36,574	28.7%
Census Tract 28, Schuylkill County, PA (18218 & 18252)	$ 36,953	20.8%
Census Tract 10, Schuylkill County, PA (17921)	$ 37,457	26.5%
Census Tract 23, Schuylkill County, PA (17970 & 17971)	$ 40,884	29.1%
Average 10 Census Tracts	$ 33,222	34.0%
Pennsylvania	$ 61,744	28.9%
National	$ 62,843	31.8%

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

Two other important metrics to look at are the percentage of households that lack complete kitchens and the percentage of households that lack complete plumbing. It is important to assess the conditions inside of houses because they give an indication of living standards and assess the quality of household facilities.[82] According to the 2019 ACS subject definitions guide, a complete kitchen must include a sink with a faucet, a stove or range, and a refrigerator.[83] If a household lacks any one or more of these facilities, the household is considered to lack a complete kitchen. A complete plumbing facility must include hot and cold running water, and a bathtub or shower.[84] If a household lacks one or both of these facilities, the house is considered to lack complete plumbing. Without a complete kitchen, families are unable to cook nutritious meals and may rely more heavily on fast food or other ready-made food. For households lacking complete plumbing facilities, families may not be able to bathe regularly leading to worsened hygiene.

The average percent of households lacking a complete kitchen in the 10 lowest income tracts from Schuylkill county is 9.2%, which is well above the Pennsylvania and national percentages. Schuylkill county has 4 out of 10 census tracts who have 10% or more households lacking a complete kitchen; 12.4% of households in tract 6.02, 14.3% in tract 6.01, 22.7% in tract 5, and 13.1% in tract 10. This is the most out of any county that St. Luke's serves.

Geisinger St. Luke's (Schuylkill)		
Geographic Area Name (Zip Code)	Median Household Income (lowest first)	% Lacking complete kitchen
Census Tract 19, Schuylkill County, PA (17901)	$ 27,054	9.9%
Census Tract 6.02, Schuylkill County, PA (17976)	$ 27,614	12.4%
Census Tract 6.01, Schuylkill County, PA (17976)	$ 28,603	14.3%
Census Tract 15, Schuylkill County, PA (17954)	$ 31,100	3.2%
Census Tract 5, Schuylkill County, PA (17948 & 17976)	$ 32,669	22.7%
Census Tract 2, Schuylkill County, PA (18231 & 18237)	$ 33,315	3.5%
Census Tract 26, Schuylkill County, PA (18252)	$ 36,574	3.5%
Census Tract 28, Schuylkill County, PA (18218 & 18252)	$ 36,953	5.5%
Census Tract 10, Schuylkill County, PA (17921)	$ 37,457	13.1%
Census Tract 23, Schuylkill County, PA (17970 & 17971)	$ 40,884	4.1%
Average 10 Census Tracts	$ 33,222	9.2%
Pennsylvania	$ 61,744	3.4%
National	$ 62,843	2.8%

Figure 27: Data is reported from the 5-year ACS (2015-2019) estimates by the U.S. Census Bureau

The average percent of households lacking complete plumbing in the 10 lowest income tracts from Schuylkill county is 9.4%. Similar to lacking a complete kitchen, this is well above the Pennsylvania and national percentages. Additionally, 4 out of the 10 census tracts have 10% or more households who lack complete plumbing; 12.8% in tract 19, 20.4% in tract 6.02, 19.6% in tract 6.01, and 17.0% in tract 5. These percentages are highest among the lowest income tracts from the counties that St. Luke's serves.

---

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

Homelessness is another important indicator when assessing housing. Each year, HUD collects homeless data across the country, also known as the Continuums of Care data. As of January 2020, an estimated 13,375 people in Pennsylvania experienced homelessness on any given day.[85] Of the 13,375 people who reported experiencing homelessness, 1,550 were family households, 977 were Veterans, 716 were unaccompanied young adults (ages 18-24), and 1,772 were individuals experiencing chronic homelessness.[86]

Geisinger St. Luke's (Schuylkill)		
Geographic Area Name (Zip Code)	Median Household Income (lowest first)	% Lacking complete plumbing
Census Tract 19, Schuylkill County, PA (17901)	$ 27,054	12.8%
Census Tract 6.02, Schuylkill County, PA (17976)	$ 27,614	20.4%
Census Tract 6.01, Schuylkill County, PA (17976)	$ 28,603	19.6%
Census Tract 15, Schuylkill County, PA (17954)	$ 31,100	2.1%
Census Tract 5, Schuylkill County, PA (17948 & 17976)	$ 32,669	17.0%
Census Tract 2, Schuylkill County, PA (18231 & 18237)	$ 33,315	3.3%
Census Tract 26, Schuylkill County, PA (18252)	$ 36,574	5.3%
Census Tract 28, Schuylkill County, PA (18218 & 18252)	$ 36,953	1.3%
Census Tract 10, Schuylkill County, PA (17921)	$ 37,457	8.4%
Census Tract 23, Schuylkill County, PA (17970 & 17971)	$ 40,884	3.7%
Average 10 Census Tracts	$ 33,222	9.4%
Pennsylvania	$ 61,744	2.6%
National	$ 62,843	2.1%

Figure 28: Data is reported from the 5-year ACS (2015-2019) estimates by the U.S. Census Bureau

Each school year, the Pennsylvania Education for Children and Youth Experiencing Homelessness Program records the number of homeless students served by the program. The population includes children under the age of 5 and youth enrolled in pre-K through 12th grade.[87] The unique count is based on where the child was identified as homeless and attributed to the local education agency.[88] Of the eight counties that St. Luke's reaches in Pennsylvania, 7,656 students were identified as homeless in the 2018-2019 school year. This number does not encompass the entire child homeless population as it does not include children who were not served by this program (i.e., students not in the Pennsylvania public school system). During the 2018-2019 school year, Schuylkill county reported 436 homeless students, which is well above the previous school year (358 homeless students).[89]

The Robert Wood Johnson Foundation produces County Health Rankings measuring many social determinants of health. One measure pertinent to housing is the percent of people living with severe housing problems. A household is considered to have a severe housing

---

[85] https://www.usich.gov/homelessness-statistics/pa/
[86] https://files.hudexchange.info/reports/published/
CoC_PopSub_State_PA_2019.pdf
[87] https://www.education.pa.gov/
[88] https://www.education.pa.gov/
[89] https://www.education.pa.gov/Documents/K-12/Homeless%20Education/
Reports/2017-18%20Unique%20and%20Duplicate%20Counts%20by%20County.pdf

problem if one or more of these conditions is met: lacking a complete kitchen, lacking complete plumbing facilities, house is overcrowded, or the house is severely cost-burdened.[90] Schuylkill county ranks 25 out of 67 Pennsylvania counties for severe housing problems, 1 ranked as the least amount of problems. In Schuylkill county, 11% of residents have one or more of the housing problems listed above compared to 15% of households in Pennsylvania.[91]
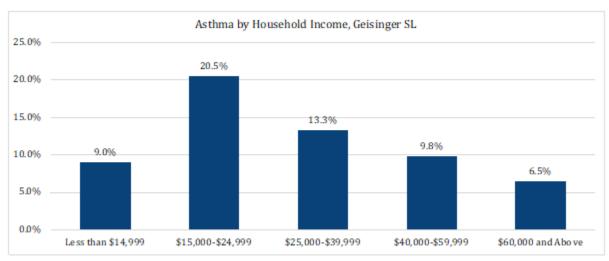
Air and Water Quality

Air quality is a growing concern, especially in urbanized and industrialized areas. Poor air quality can irritate the eyes, nose, and throat, and cause long term health effects.[92] Air quality is typically assessed by two components, ozone (O_3) and Particulate Matter (PM). Ozone is a gas molecule that is harmful to breathe and aggressively attacks lung tissue. Ozone is dangerous because it can be carried by wind far downstream, causing harm to people in multiple areas.

Geisinger St Luke's (Schuylkill)				
	Weight average	Orange days	Red days	Purple days
High Ozone	DNC	DNC	DNC	DNC
High PM	DNC	DNC	DNC	DNC

Figure 29: Orange- unhealthy for sensitive groups, Red- unhealthy, Purple- very unhealthy, DNC- Did Not Collect

Ozone can also cause premature death, immediate breathing problems, long term exposure risks, and potential cardiovascular harm.[93] PM is a particle that occupies the air we breathe but is small enough that we cannot see it unless there are large amounts of PM in one area. Large amounts of PM would result in reduced visibility, or haziness in the air. PM 2.5 is the smallest particle and most dangerous size because it can easily pass through lung tissue and into the blood stream.[94]

Figure 30

[90] https://www.countyhealthrankings.org/
[91] https://www.countyhealthrankings.org/
[92] https://www.sparetheair.org/understanding-air-quality/air-pollutants-and-health-effects/whos-at-risk
[93] https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/ozone
[94] https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/particle-pollution

Objectives for environmental health determined by Healthy People 2030 are to increase the proportion of people with safe water to drink, reduce the amount of toxic pollutants in the environment, and to reduce the number of days people are exposed to unhealthy air.[95] Schuylkill county did not report data for O_3 or PM in 2016-2018.

Additionally, our survey asks respondents to indicate if they have ever been diagnosed with asthma. When distributed by income, 9% of respondents in the Geisinger St. Luke's service area who make less than $14,999 have asthma, 20.5% of respondents making less than $24,999 have asthma, and only 6.5% of respondents who make $60,000 and above have asthma (Figure 30). The significant difference in rates of asthma should be taken into account as we think about care and prevention efforts for low-income populations.

Water quality is another important aspect of the environment. Water is delivered in two ways, through wells and through municipalities. Each municipality is required to report water quality reports each year, but well quality is difficult to track because it is not typically managed by the state. From Pennsylvania's Department of Environment Protection (DEP) water report in 2019, 11% of Pennsylvania households use well water and 89% of households use community water systems.[96] The report tracks violations within the Maximum Contaminant Level (MCL) which is the highest level of contaminant allowed in drinking water. The water is permitted to have some contaminants in them if it does not exceed the MCL. This is important to note because even though a water system does not have violations, it does not necessarily mean the water is completely safe. The water report also tracks the Maximum Residual Disinfectant Level (MRDL) which limits the amount of disinfectants allowed in safe drinking water.[97] Some of the typical contaminants tested are chlorine, fluoride, radium, turbidity, organic carbon, lead, and copper.[98] Water contaminants can result in a variety of negative health impacts, like gastrointestinal illness, worsened nervous or reproductive system, and a variety of diseases (e.g., cancer).[99] The effects can also be short term or long term, while also going unseen, potentially worsening the effects over time.

Schuylkill county residents receive water from the Schuylkill County Municipal Authority.[100] The Authority has seven water treatment facilities across the county. The 2019 report concluded there were no MCLs or treatment techniques exceeded. A treatment technique is a process to reduce the number of contaminants in water. Too high of treatment can also result in unsafe drinking water. Though there were no contaminant violations, the county failed to collect four samples of total trihalomethanes (TTHMs) and halo acetic acids (HAA5s) for the 2nd and 3rd quarters. Instead, the county only collected three samples. This resulted in a monitoring violation but was quickly resolved. It is also important to understand the risk of lead in drinking water. While most counties in the St. Luke's service area do not have lead that

[95] https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health
[96] http://files.dep.state.pa.us/Water/BSDW/DrinkingWaterManagement/PublicDrinkingWater/PA_DEP_2019_Annual_Compliance_Report.pdf
[97] https://www.state.nj.us/dep/watersupply/pdf/violations2019.pdf
[98] http://files.dep.state.pa.us/Water/BSDW/DrinkingWaterManagement/PublicDrinkingWater/PA_DEP_2019_Annual_Compliance_Report.pdf
[99] https://www.epa.gov/report-environment/drinking-water
[100] https://www.scmawater.com/wp-content/uploads/2020/10/WQR-Rev-1PDF.pdf

contaminates drinking water from the source, lead pipes, faucets, and other risks of lead poisoning are risk factors that may exist in homes. Higher prevalence of lead poisoning is found in low income homes.[101]

Transportation

The type of transportation a person takes to work can be a good indicator of health. Walking, biking, or taking public transportation to work promotes regular physical activity and decreases air pollution, which in turn decrease chronic diseases and obesity rates.[102] A goal of Healthy People 2030 is to increase the amount of people using public transportation to get to work.[103] People who drive to work are less likely to reach the recommended physical activity goal for the day. Driving to work can also have a significant effect on obesity, diabetes and heart disease.[104] However, it is not always feasible for someone to walk, bike or take public transportation to work as many cities lack the proper infrastructure. Figure 31 depicts the modes of transportation used to get to work in Schuylkill county, Pennsylvania, and the United States. For each geography, driving alone is the most common mode of transportation, 83.4% in Schuylkill county, 75.9% in Pennsylvania, and 76.3% in the United States. However, a relatively large number of people in Schuylkill county carpool to work (9.7%), which is slightly above Pennsylvania and the United States.

Geisinger St. Luke's (Schuylkill)			
Mode of Transportation to Work	Schuylkill %	PA %	US %
Drive Alone (Car, Truck or Van)	83.4%	75.9%	76.3%
Carpool	9.7%	8.5%	9.0%
Use Public Transportation	0.5%	5.6%	5.0%
Taxi	0.2%	0.1%	0.2%
Motorcycle	0.1%	0.1%	0.2%
Bike	0.1%	0.5%	0.5%
Walk	2.6%	3.6%	2.7%
Other	0.6%	0.8%	0.9%
Work From Home	2.8%	4.9%	5.2%

Figure 31

Though a large portion of Schuylkill county residents drive to work, 9.0% of people in Schuylkill county do not have access to a car. This percentage is above the United States percentage (8.6%), but still below Pennsylvania (10.9%).[105] Additionally, this is the highest percentage among all St. Luke's service area counties. People who do not have access to a car must then rely on public transportation,

---

[101] https://www.cdc.gov/nceh/lead/prevetion/populations.htm?CDC_AA_refVal=https%3A%2F%2F
[102] https://ephtracking.cdc.gov/showCommunityDesignAddLinkTypesOfTransportationToWork
[103] https://health.gov/healthypeople/objectives-and-data/browse-objectives/transportation
[104] https://ephtracking.cdc.gov/showCommunityDesignAddLinkTypesOfTransportationToWork
[105] Data.census.gov (Table B25044)

walking, or other modes of transportation. This can be an issue because poor public transportation and lack of walkability in some parts of the county may lead to individuals missing health appointments or screenings, which are crucial to healthy living.

In Schuylkill county, residents have access to two public transportation systems, Schuylkill Transportation System (STS) and Berks Area Regional Transportation Authority (BARTA). Both STS and BARTA have fixed bus routes as well as special van services for people with disabilities, people in need of medical assistance, and people 65 years and older. Though BARTA mainly has routes in Berks county, there are many routes with stops in Schuylkill county. One key informant touched on the limited capacity of public transportation in Schuylkill county as a challenge:

"With such a big rural population, and lots of lower income residents, getting people around is challenging. There are services that are available that aren't utilized because there isn't an affordable way for people to get there. Ride share services are too expensive... A lot of people struggle to get to appointments and services."

In addition to this key informant, a community forum attendee also mentioned the difficulty of transportation in Schuylkill county:

"Public transportation, if you don't have access, the warehouse jobs are no good if you can't get to work. That is a barrier. Everyone has the opportunity to potentially gain a good job that meets a living wage, but the locations are not in each community. Transportation becomes a major issue."

Clinical Care

Access to Care

Access to care is an issue that has been brought up in both key informant interviews and community forums:

"We need to recruit physicians who live here and buy into the community. There is a lot to offer in the county, and we need to get more physicians to make their homes here."
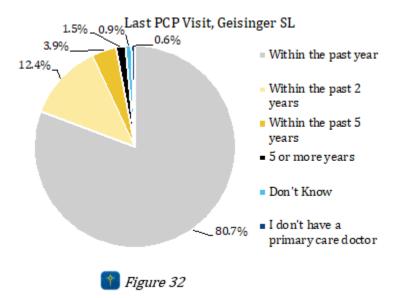
"Specialty services are still referred out of county to get quality care. Sometimes the out of county referrals are a big burden for patients because of cost and time needed to get to the services."
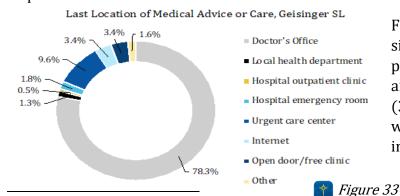
Primary Care Providers (PCPs)

Primary care providers (PCPs) are gatekeepers to the healthcare system. Often, they are a patient's first point of contact and referral to further care by specialists. Schuylkill county also has a severe shortage of primary care providers, with a ratio of individuals in the population per PCP of 1,870:1, which significantly underperforms compared to Pennsylvania overall ratio (1,230:1) and U.S. top performers (1,030:1).[106] To assess how often respondents visit their primary care provider, our survey asks respondents about the most recent care visit with a PCP. The majority of respondents from the Geisinger St. Luke's service area have seen a PCP within the past year (80.7%), followed by within the past 2 years (12.4%), within the past 5 years (3.9%), and 5 or more years (1.5%). Additionally, 1.5% of respondents do not know the last time they have seen a PCP (0.9%) or do not have a PCP (0.6%).

It is also important to look at an individual's last visit to a primary care physician by their type of insurance. Lack of insurance or high copays may hinder individuals from seeking medical attention, which could result in worsened health conditions. As seen in the CHNA survey results (Figure 34), lack of insurance impacts the frequency of doctor's visits. For respondents who do not have insurance coverage, only 50% have seen a PCP in the past year and 40% have not seen a PCP within the past 5 or more years. Additionally, 9% of respondents who do not know their type of insurance do not have a PCP, which is drastically higher than any other insurance type. These findings reinforce the need for Federally Qualified Health Centers that offer services on a sliding pay scale making healthcare affordable to all patients.
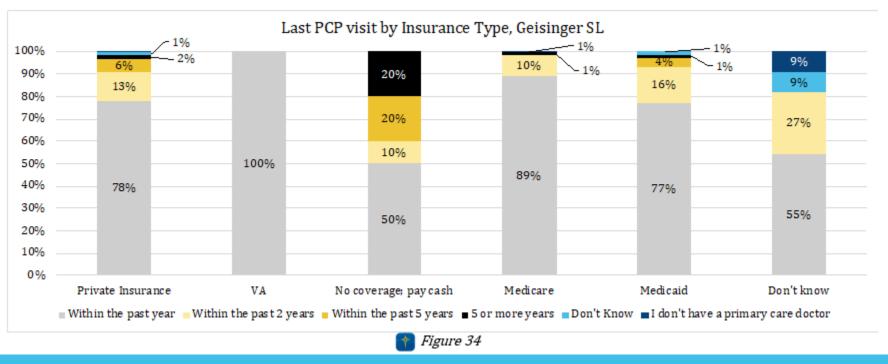

Figure 32

Figure 33

Finally, the CHNA survey asked respondents where they go most often when they are sick or in need of medical advice to get an understanding of their use of service providers. The majority of respondents go to a doctor's office (78.3%), followed by an urgent care center (9.6%), using the Internet (3.4%), and got to a free clinic (3.4%). While a majority of respondents use a doctor's office, bringing in more PCPs who have diverse backgrounds and accept many types of insurances will allow more individuals to seek help at a doctor's office.

---

[106] https://www.countyhealthrankings.org/

Figure 34

Dentists

The Mayo Clinic refers to dental health as "a window to your overall health."[107] Oral pain can be debilitating in some circumstances and oral health can affect one's overall daily life, impacting their ability to go to work or school. Poor oral health can also lead to a host of other issues in the body. A build-up of bad bacteria in your mouth due to poor oral hygiene can cause respiratory, digestive, and cardiovascular diseases.

Schuylkill county has a ratio of individuals in the population per dentist of 2,210:1, which is significantly worse than Pennsylvania overall (1,410:1) and U.S. top performers (1,210:1). While this number remains low, there has been an increasing number of dentists in the county in recent years.

Figure 35

[107] https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475

Within the past year, 62.5% of respondents from the Geisinger St. Luke's service area have seen a dentist, 17.8% of respondents have seen a dentist within the past 2 years, 7.1% within the past 5 years, 8.1% have seen a dentist 5 or more years ago, and 4.5% of respondents do not have a dentist. Additionally, 55.3% of respondents use private insurance for dental care, followed by no insurance (22.5%), Medicaid (21.3%), and Veteran's Administration (0.9%).

Having access to dental care is a major concern expressed by many key informants. One mentioned dental care is one of the two most expressed concerns. Another key informant mentioned the lack of dental care providers in Schuylkill county that take Medicaid:

"Dental and vision care are the two biggest things we hear about in our community. A lot of preschoolers coming in have very poor dental care, and we know that starts at home. For Child Development, we're concerned about the entire family. By working with the entire family we often find that parents, in addition, to the children often need vision care/glasses."

"Access to care is one of the things that popped up in our needs assessment. Specifically the dental services. Kids that were receiving Medicaid had to go to Wilkes-Barre to get dental services because the only office that accepted it was there."

Mental Health Providers

Mental health has also been identified as a significant challenge facing the communities in all our counties. The COVID-19 pandemic has greatly impacted access to mental healthcare. As an indicator of mental health providers and access in the county, Schuylkill has an overall ratio of population to mental healthcare providers of 1,210:1 which is far below Pennsylvania overall (450:1) and U.S. top performers (270:1). In addition to the lack of primary care providers, there is a serious need for mental healthcare providers. There are almost three times less mental healthcare providers in Schuylkill county than Pennsylvania overall, demonstrating the great challenges with access to care faced by our rural communities.[108]
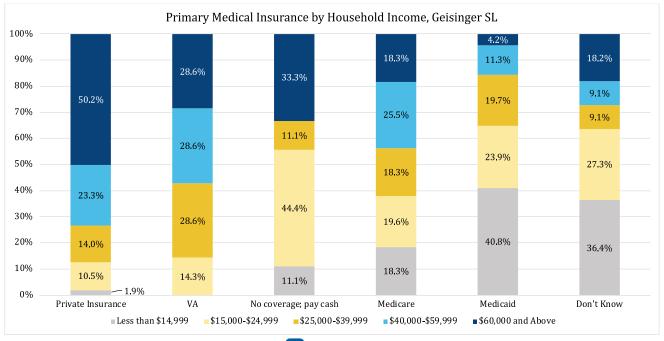
"We do not have enough service providers to address the needs. If someone is referred for mental health services, by the time they get an evaluation it is so far out."

---

[108] https://www.countyhealthrankings.org/

Health Insurance

Uninsured rates represent a major barrier to access to care. Often, uninsured patients get very ill before seeking care, leading to higher medical costs. An issue that is prevalent in many areas is the lack of providers ability to take a range of insurances. Federally Qualified Health Centers (FQHC) are a crucial step in treating people without insurance and insurance that has minimal coverage. The Health Resources and Services Administration (HRSA) defines a community-based health care provider as one who offers primary care services to underserved areas.[109] FQHCs must provide services on a sliding fee scale based on the patient's ability to pay. While FQHCs are crucial to addressing health needs, knowledge and awareness that FQHCs exist and take all or no insurance is crucial. Community Health Workers (CHW) are the next step in bridging the health gap. CHWs are defined as "a frontline public health worker who is a trusted member and/or has an unusually close understanding of the community served."[110] The CHW is the liaison between health and social services and the community. They serve an important role in improving quality of services with cultural competency, increasing health knowledge in the community, and providing advocacy. CHWs help inform people of the services available regardless of insurance type or being insured, helping to increase access for all.
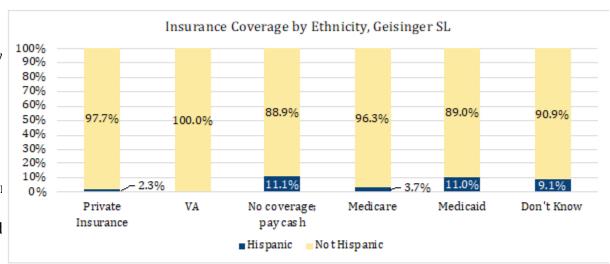

Figure 36

---

[109] https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html
[110] https://www.apha.org/apha-communities/member-sections/community-health-workers

Uninsured rates in Schuylkill county stand at 5.2% overall compared to 5.4% of residents in the Geisinger St. Luke's service area. When broken dow by age, 4.4% of those uninsured in the service area are under 18 years old, 7.5% are between 18-64 years, and 0.4% are 65 and older. In Pennsylvania, 5.7% of people are uninsured and 8.8% are uninsured in the United States.[111]

Of the CHNA survey respondents from the Geisinger St. Luke's service area, those with a household income at or below $14,999 primarily use Medicaid (40.8%), do not know their primary insurance (36.4%), or use Medicare (18.3%) as their primary insurance.

Figure 37

Those whose household income is $60,000 or more primarily use private insurance (50.2%). It should be noted that these findings are significant, but the diversity within this sample size is small, and therefore the Veterans Administration values are not presented. These findings reinforce the need for FQHCs in St. Luke's service areas along with doctors who accept Medicaid and uninsured patients. In addition, to assess the relationship between income and insurance, it is also important to look at ethnicity and insurance. Of Hispanic/Latino respondents in the Geisinger St. Luke's service area with private insurance, 2.3% are Hispanic; 11.1% with no coverage; 3.7% with Medicare; 11% with Medicaid; and 9.1% of those who do not know.
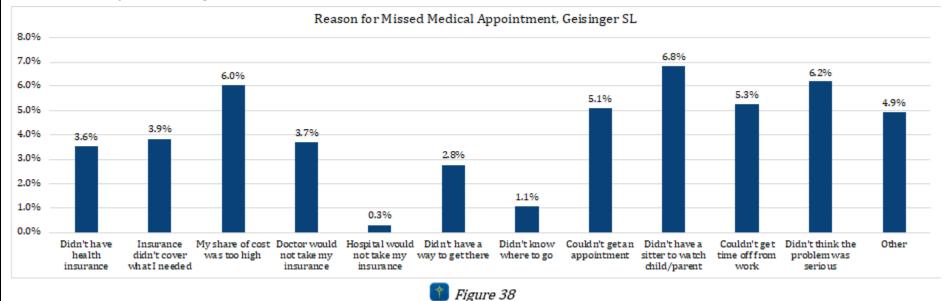
Hospital Data

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

When asked to indicate reasons for any recently missed medical appointments, the top three reasons reported in the Geisinger St. Luke's service area were: couldn't find someone to watch their child or parent (6.8%), did not think the problem was serious enough (6.2%), and

[111] https://data.census.gov/cedsci/

the copay was too high (6%). Only 0.3% of respondents indicated their reason for missing an appointment was due to the hospital not taking their insurance. These findings further reinforce the need for more adequate health insurance and facilities that offer assistance or sliding scales to lessen the financial burden of healthcare. In order to better support our service area population, St. Luke's provided $287.3 million dollars in charity care throughout the network.

Figure 38

Top Reasons for Hospitalization

Hospital data helps us to better understand the major health issues in our community. This allows us, not only from a treatment perspective but also a preventive standpoint, to focus efforts on priority areas most affecting the health of our patient population. The top 10 reasons for hospitalization at Geisinger St. Luke's campus are listed in Figure 39. Sepsis is the most common diagnosis during an inpatient encounter, accounting for 6.9% of Geisinger St. Luke's campus total inpatient encounters.

Figure 39

Principal Diagnosis	Ranking
Sepsis, unspecified organism	1
Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	2
Acute kidney failure, unspecified	3
Hypertensive heart disease with heart failure	4
Other specified sepsis	5
Chronic obstructive pulmonary disease with (acute) exacerbation	6
Pneumonia, unspecified organism	7
Urinary tract infection, site not specified	8
COVID-19	9
Sepsis due to Escherichia coli [E. coli]	10

Emergency Department Encounters

In fiscal year 2020, the average number of Emergency Department (ED) encounters per ED patient seen at Geisinger St. Luke's campus was 1.38, which is the lowest number of average ED encounters per patient in the network. *NOTE: multiple service areas contain multiple hospitals and therefore multiple EDs. The ED encounters are an average of the encounters at those hospitals.

ED utilization can be used as an indicator to gauge lack of PCP coverage. When comparing ER visits by household income, a clear finding emerges, those who make less than $60,000 frequent emergency rooms more than those who make $60,000 and above. In the Geisinger St. Luke's service area, 57.1% of respondents who have been to the ER 5 or more times in the past year make between $25,999 and $39,999, the most of any income bracket. Additionally, 37.9% of those who have not been to the ER in the past year make $60,000 and above. These findings suggest that there needs to be more affordable PCP access for lower income patients, as well as education related to appropriate ED use.
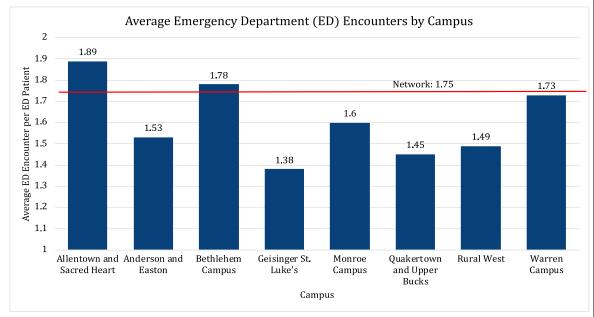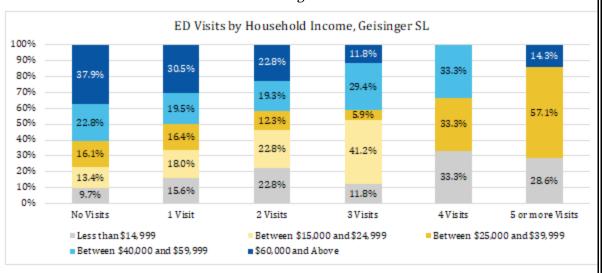

Figure 40

Figure 41

Health Behaviors

Obesity

According to the CDC, obese adults have a higher risk for developing heart disease, type 2 diabetes and certain cancers, and, as a result, obesity is estimated to cost the U.S. healthcare system $147 billion annually.[112] For each obese individual, their medical costs are estimated to be $1,429 higher than the medical costs of an individual whose BMI falls into the normal weight category. Many factors play a role in the obesity epidemic and its rapid increase over the last few decades including: lack of vegetable consumption, a lack of physical activity, poor portion control, and poor access to outdoor recreational activities and healthy foods.

In 2018, 42.4% of U.S. adults were obese—an almost 12% increase in obesity rates since 2000.[113] The 2020 report by Trust for America's Health (TFAH) using 2019 data reports that "socioeconomic factors such as poverty and discrimination have contributed to higher rates of obesity among certain racial and ethnic populations. Black adults have the highest level of adult obesity nationally at 49.6%; that rate is driven in large part by an adult obesity rate among Black women of 56.9%."[114] Additionally, concerns have risen in recent years as obesity is an underlying health condition associated with some of the most serious consequences of COVID-19. This means that 42% of all Americans are at increased risk of serious, possibly fatal, health impacts from COVID-19 due to their weight and health conditions related to obesity.[115]

The TFAH reported that Pennsylvania ranks 22 out of 51 states (including Washington, DC) for percentage of adults with obesity and ranks 21 for adults who are overweight.[116] Additionally, 41.5% of Black adults, 30.9% of Latino adults and 31.3% of White adults in Pennsylvania are obese. The age bracket with the greatest number of adults with obesity in Pennsylvania is 45-64 years old, accounting for 38.2% of adults with obesity. When assessing childhood obesity, the report found that 12.8% of children ages 2-4 and 17.4% of children ages 10-17 in Pennsylvania are obese.

"Diabetes and obesity are major issues and the need for services is growing."

---

[112] https://www.cdc.gov/obesity/adult/causes.html
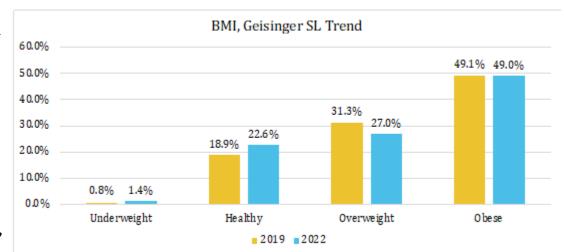[113] https://www.cdc.gov/obesity/data/adult.html
[114] https://www.tfah.org/report-details/state-of-obesity-2020/
[115] https://www.tfah.org/report-details/state-of-obesity-2020/
[116] https://www.tfah.org/wp-content/uploads/2020/09/TFAHObesityReport_20.pdf

Robert Wood Johnson's County Health Rankings also assess obesity by measuring the percentage of the adult population (age 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m². According to the CDC, "Body Mass Index (BMI) is a person's weight in kilograms divided by the square of height in meters. A high BMI can be an indicator of high body fatness. BMI can be used to screen for weight categories that may lead to health problems, but it is not diagnostic of the body fatness or health of an individual."[117] A BMI below 18.5 is considered underweight, 18.5-24.9 is considered normal, 25.0-29.9 is considered overweight, and 30 or above is considered obese. The County Health Rankings reports that 31% of adults in Pennsylvania are obese. Schuylkill county reports that 37% of adults in the county are obese, the highest of all service area counties.

Figure 42

Results from the 2022 CHNA survey show that in the Geisinger St. Luke's service area, 1.4% are underweight, 22.6% are a healthy weight, 27% are overweight, and 49% are obese. The obesity rate is one of the highest in the network, and well above national and state averages. Although the number of respondents who are overweight had decreased slightly since 2019, these findings are of significant concern, and healthy lifestyles and preventative care are critical to lowering the obesity rate in the area.

Physical Inactivity

According to the CDC, fewer than 1 in 4 children get enough physical exercise and only 1 in 4 adults meet physical activity guidelines.[118] Healthy People 2030 aim to reduce the proportion of adults who engage in no leisure time physical activity and increase the proportion of adults who meet current physical aerobic physical activity recommendations of exercising 30 minutes a day 5 days a week.[119] County Health Rankings measure physical inactivity as the percentage of adults aged 20 and over reporting no leisure-time physical activity. Robert Wood Johnson reports that "physical activity improves sleep, cognitive ability, and bone and musculoskeletal health, as well as reduces risks of
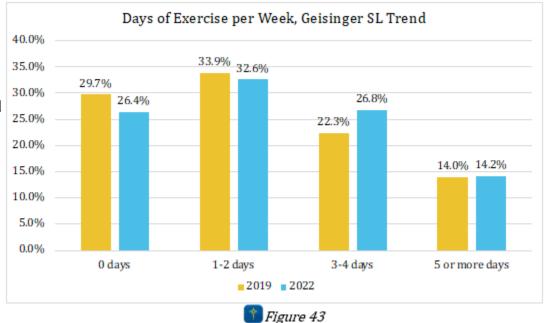
---

[117] https://www.cdc.gov/healthyweight/assessing/bmi/index.html
[118] https://www.cdc.gov/physicalactivity/data/index.html
[119] https://health.gov/healthypeople/objectives-and-data/browse-objectives/physical-activity/

dementia. Physical inactivity is not only associated with individual behavior but also community conditions such as expenditures on recreational activities, access to infrastructure, and poverty."[120]

In Pennsylvania, 22% of adults have no leisure-time physical activity along with 24% of adults in Schuylkill county. Additionally, the Rankings measure access to exercise opportunities, which "measures the percentage of individuals in a county who live reasonably close to a location for physical activity. Locations for physical activity are defined as parks or recreational facilities. Individuals are considered to have access to exercise opportunities if they: reside in a census block that is within a half mile of a park; or reside in an urban census block that is within one mile of a recreational facility; or reside in a rural census block that is within three miles of a recreational facility."[121] In Pennsylvania, 84% of individuals have access to exercise opportunities along with 75% of individuals in Schuylkill county, which is tied for the lowest access of all service area counties alongside Carbon county.

Figure 43

When asked how many days a respondent exercises 30 minutes, 26.4% of respondents from the Geisinger St. Luke's service area indicated 0 days. However, 32.6% of respondents indicated exercising 1-2 days a week, 26.8% exercising 3-4 days a week, and 14.2% exercising 5 or more days a week- the Healthy People 2030 recommendation. The number of respondents who exercise 3-4 days per week has increased 4.5 percentage points since 2019.

"I think some people are fine with sitting on their couch and not getting up. I think there is a portion of our county who are not in to getting out which leads to obesity. Professionally and personally, I think the challenge is it takes a little bit of motivation and time to do it."
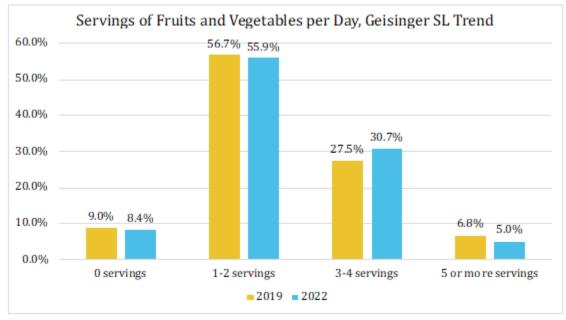
---

[120] https://www.countyhealthrankings.org/
[121] https://www.countyhealthrankings.org/

Diet

Diet (i.e., fruit and vegetable consumption) plays a large role in overall health and reducing chronic disease. The CDC states that eating a diet filled with a variety of fruits and vegetables can reduce the risk of type 2 diabetes, certain cancers, and cardiovascular disease,[122] all which play a role in the top leading causes of death nationally.

Released in February 2021, the CDC surveyed adults 20 years and older, finding that the majority of adults consumed a serving of fruit (67.3%) or vegetable (95%) on a given day, with more women reporting eating a serving of a fruit and vegetable on a given day.[123] Compared to our survey results, 93.3% of network survey respondents and 91.6% of Geisinger St. Luke's service area respondents report eating at least one serving or fruit or vegetables per day. Additionally, America's Health Rankings surveyed adults across the country asking respondents to indicate consuming two or more servings of fruit and three or more servings of vegetables daily (five servings total).[124] In Pennsylvania, 7% of adults consume two or more servings of fruit and three or more servings of vegetables daily along with 8% of adults in the United States.

The sweet food consumption NHANES survey assessed sweet food consumption of snack or meal bars, sweet bakery products, candy, and other desserts, but excluded fruit and all types of beverages. Sweet foods are typically a major source of energy, added sugar, and saturated fats with limited essential ingredients.[125] It is recommended to limit this consumption and emphasize a diet with nutrient-dense foods. The NHANES survey respondents reported that 61% of adults ate sweet foods on any given day, with the percentage increasing among adults 60 years or older.[126] Sweet food consumption was also highest among the middle and highest income groups compared to the lowest income group.

Figure 44

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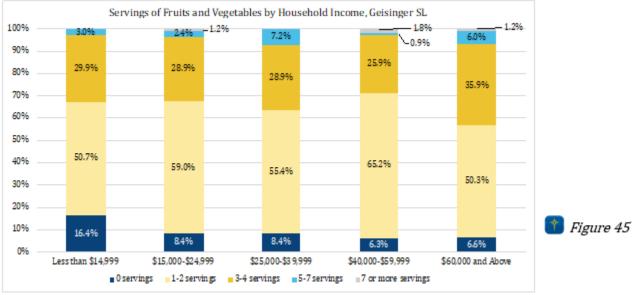[123] https://www.cdc.gov/nchs/data/databriefs/db397-H.pdf
[124] https://www.americashealthrankings.org/explore/annual/measure/fvcombo/state/U.S.
[125] https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/34_Sweet_foods_children_1518.pdf
[126] https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/33_Sweet_foods_adults_1518.pdf

In the 2022 CHNA survey, we found that only 5% of respondents from the Geisinger St. Luke's service area eat 5 or more servings of fruits and vegetables per day. The majority of respondents (55.9%) eat 1-2 servings per day and 8.4% do not eat any servings. The number of respondents who eat 3-4 servings per day has increased approximately 3 percentage points since 2019. Furthermore, looking at fruit and vegetable consumption by income shows that serving size increases with income. Of respondents who make less than $14,999, 16.4% do not consume any fruits and vegetables and only 3% consume 5 or more servings of fruits and vegetables per day. The majority of respondents in each income bracket consume 1-2 servings of fruits and vegetables a day, followed by 3-4 servings per day. Respondents who make $60,000 and above have the highest percentage of respondents who eat 5 or more servings a day (7.2%), along with those who make $25,000-$39,999.

Figure 45

Free or Reduced Lunch

During the 2018-2019 school year, 53.3% of students in Pennsylvania were eligible for free or reduced lunch.[127] Free or reduced lunch is a part of the National School Lunch Program (NSLP), a federally assisted meal program providing nutritionally balanced, low cost or free school lunches each day in public, private, and residential child care institutions.[128]

---

[127] https://datacenter.kidscount.org/data/tables/2720-school-lunch--students-eligible-for-free-or-reduced-price-lunch?loc=40&loct=10#detailed/2/any/false/1740/any/10325
[128] https://www.fns.usda.gov/nslp

In order to qualify for the NSLP, families must have an income at or below 130% of the poverty level. In 2016, the NSLP reached 30.4 million children nationwide. In Schuylkill county, an average of 57.2% of all students qualify for free or reduced lunch, the highest of all service area counties. Shenandoah Valley reported 100% of their students as eligible for free or reduced lunches and Blue Mountain reports the lowest number of children eligible, 28.2%.[129] For many of these children, school is when students have access to consistent meals.

Percent of Children During 2018-2019 School Year with Free or Reduced Lunch Eligibility	
Schuylkill--Blue Mountain (Rural)	28.2%
Schuylkill--Tri-Valley (Rural)	33.6%
Schuylkill--Pine Grove Area (Rural)	40.5%
Schuylkill--Schuylkill Haven Area (Rural)	47.5%
Schuylkill--Tamaqua Area (Rural)	48.7%
Schuylkill--Minersville Area (Rural)	49.3%
Schuylkill--North Schuylkill (Rural)	53.2%
Schuylkill--Schuylkill Technology Centers	58.1%
Schuylkill--Pottsville Area (Rural)	60.5%
Schuylkill--Saint Clair Area (Rural)	60.6%
Schuylkill--Gillingham CS	68.4%
Schuylkill--Williams Valley (Rural)	70.4%
Schuylkill--Mahanoy Area (Rural)	82.2%
Schuylkill--Shenandoah Valley (Rural)	100.0%
Average	57.2%

Figure 46

"Being able to provide food services for students from an educational standpoint, this was already an issue before COVID. For some students, the only meals they are getting come from a school setting. When COVID first set in, that was one of the first conversations with the superintendents. How do we distribute food so that the students have it for that day and multiple days at a time? They were creative with the distribution of food. Food is a major need and special challenge, especially with the pandemic."

[129] https://datacenter.kidscount.org/data/tables/2720-school-lunch--students-eligible-for-free-or-reduced-price-lunch?loc=40&loct=10#detailed/2/any/false/1740/any/10325

Sexual Activity

Healthy People 2030 reports that there are more than 20 million new cases of preventable sexually transmitted infections (STI) in the United States each year.[130] Healthy People 2030 objectives are to increase knowledge and education of sexual education across adolescents and adults, and to decrease the rate of STIs and sexually transmitted diseases (STDs). Adolescents may experience developmental changes that affect physical and mental health, potentially increasing risky behaviors. Risky behaviors increase the chances of STIs and teen pregnancy. Healthy People 2030 objectives for teen pregnancy are to reduce pregnancies in adolescents, increase the percentage of adolescents using effective birth control, and to increase the number of adolescents who receive formal sexual education before age 18.[131]

The Robert Wood Johnson Foundation's County Health Rankings assess two sexual activity measures: STI and teen births. The 2021 rankings use STI data that reflects the number of new chlamydia cases per 100,000 population, which showed there was a 21% increase in both chlamydia and gonorrhea. Chlamydia is important to assess because it is the "most common bacterial sexually transmitted infection (STI) in North America and is one of the major causes of tubal infertility, ectopic pregnancy, pelvic inflammatory disease, and chronic pelvic pain."[132] Chlamydia also disproportionately impacts adolescent women; 1 in 20 sexually active women ages 14-24 have chlamydia.[133] In Pennsylvania, the rate is 463.4 per 100,000 population and in Schuylkill county the rate is 244.8.

There are also strong connections between teen birth, poor socioeconomic, and/or mental health. Teenage mothers who give birth are less likely to achieve an education level beyond high school and are more likely to experience psychological distress.[134] The measure is represented by the number of births per 1,000 for the female population ages 15-19 years. In Pennsylvania, the rate is 17 per 1,000 population and the rate in Schuylkill county is 22 per 1,000 population.

In addition to the impact of teen pregnancy on mothers, the prevalence of low birthweight in teen pregnancy is significant. Low birthweight is when a baby is born weighing less than 5 pounds, 8 ounces. Approximately 1 in 12 babies in the United States is born with low birthweight. A low birthweight may have significant complications, including birth defects, infections, trouble eating, and trouble gaining

---

[130] https://health.gov/healthypeople/objectives-and-data/browse-objectives/sexually-transmitted-infections
[131] https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents
[132] https://www.countyhealthrankings.org/
[133] https://www.cdc.gov/std/chlamydia/stdfact-chlamydia-detailed.htm
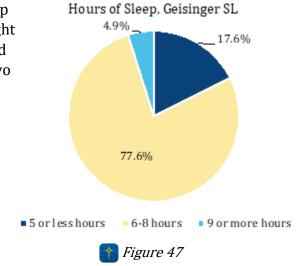[134] https://www.countyhealthrankings.org/

weight.[135] Teen mothers (and mothers over 40) are highly likely to have a low birthweight child. Between 2015-2019, 8.5% of births in Schuylkill county were low birthweight.[136]

Sleep

The Robert Wood Johnson Foundation indicated that sleep is an important part of a healthy lifestyle and a lack of sleep can have serious and negative health effects.[137] Healthy People 2030 also reports that about 1 in 3 adults do not get enough sleep.[138] Ongoing sleep deficiency has been linked to a number of health conditions such as heart disease, stroke, depression, and anxiety. Objectives for Healthy People 2030 include a reduction in the number of motor vehicle crashes due to exhaustion and to increase the number of children and adults who get enough sleep. The 2021 Robert Wood Johnson County Health Rankings assessed the percent of adults who report less than 7 hours of sleep on average. In Pennsylvania, 39% of adults report less than 7 hours of sleep, and 41% of adults in Schuylkill county do not get enough sleep. To get an understanding of how many hours of sleep CHNA survey respondents get, we asked respondents to indicate, on average, the number of hours they sleep in a 24 hour period. The majority of respondents in the Geisinger St. Luke's service area, 77.6%, get 6-8 hours of sleep per night. 4.9% of respondents get more than the recommended 8 hours per night and 17.6% only get 5 hours or less per night.

The 2019 PAYS survey asked students to indicate if on average, they get less than 7 hours of sleep a night.[139] In Pennsylvania, 37.9% of students reported averaging less than 7 hours of sleep a night and 37.8% of students in Schuylkill county do not 7 hours of more of sleep. The survey also asked if students "felt tired or sleepy during the day," "every day," or "several times" during the past two weeks; 64.7% of students across Pennsylvania indicated consistent sleepiness during the past 2 weeks and 60.6% of students in Schuylkill county agreed with this statement.

Hours of Sleep, Geisinger SL
4.9%
17.6%
77.6%
■ 5 or less hours   ■ 6-8 hours   ■ 9 or more hours

Figure 47

---

[135] https://www.marchofdimes.org/complications/low-birthweight.aspx#
[136] https://health.pa.gov/topics/HealthStatistics/VitalStatistics/CountyHealthProfiles/Documents/current/maps-births.aspx#low-birth-weight
[137] https://www.countyhealthrankings.org/
[138] https://health.gov/healthypeople/objectives-and-data/browse-objectives/sleep
[139] https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS)-2019.aspx

Mental Health

Mental health has been an increasing issue during the last 10 years, even prior to COVID-19. Mental health disorders can affect people of all age and racial groups, but some populations have disproportionately higher rates of diagnosis.[140] Mental health disorders like anxiety and depression can affect a person's ability to take part in healthy behaviors and result in physical health problems making it harder for them to get treatment for mental health disorders.[141] Goals related to mental health for Healthy People 2030 are to increase the proportion of people who get treatment for substance use and mental health disorders, increase the proportion of children and adolescents with symptoms of trauma who get treatment, increase quality of life for cancer survivors, reduce the suicide rate, and increase the proportion of public schools with a social worker, counselor, and psychologist. To help reach, educate, and connect people with mental health disorders to care, there is a local National Alliance on Mental Illness (NAMI) or related chapter in each SLUHN service area. In Schuylkill county, there is the NAMI Schuylkill county.[142]

According to the State of Mental Health in America 2021 Report, 19% of adults prior to COVID-19 experienced a mental illness. Now, 10.8% of Americans suffering from a mental illness are uninsured and 24% of adults with a mental illness report an unmet need for treatment.[143] The report ranks states (including the District of Columbia) on their prevalence rates and access to care for adults and youth. States ranked 1-13 have lower prevalence and higher access to care, while 40-51 have higher prevalence rates and lower access to care. For overall rankings, Pennsylvania ranks 5 for adults and 2 for youth, indicating a lower prevalence rate and more access to care.[144]

The 2021 report indicated that 19% of Americans report experiencing any mental illness (AMI) which is characterized as having a diagnosable mental, behavioral, or emotional disorder other than a developmental or substance use disorder. Pennsylvania ranks 11 with a 18.2% prevalence rate. Additionally, 4.6% of adults experience a severe mental illness (Figure 48).

---

[140] https://health.gov/healthypeople/objectives-and-data/browse-objectives/mental-health-and-mental-disorders
[141] https://health.gov/healthypeople/objectives-and-data/browse-objectives/mental-health-and-mental-disorders
[142] https://www.nami.org/Find-Your-Local-NAMI/Affiliate/Details?state=PA&local=0011Q000022G9N0QAK
[143] https://www.mhanational.org/issues/state-mental-health-america
[144] https://mhanational.org/issues/2021/ranking-states

The 2021 Report also ranked states by youth measures, and 13.8% of youth ages 12-17 report suffering from at least one major depressive episode in the past year. A major depressive episode is "a period of two weeks or longer in which a person experiences certain symptoms of major depression: feelings of sadness and hopelessness, fatigue, weight gain or weight loss, changes in sleeping habits, loss of interest in activities, or thoughts of suicide."[145] Additionally, 9.7% of youth cope with severe major depression (Figure 49).

State of Mental Health in America 2021 State Adult Rankings			
	PA %	PA rank	US
Adults with Any Mental Illness (AMI)	18.2%	11	19.0%
Adults with Substance Use Disorder in the past year	7.3%	15	7.7%
Adults with serious thoughts of suicide	4.2%	12	4.3%
Adults with AMI who are uninsured	6.0%	8	10.8%
Adults with AMI who did not receive treatment	53.0%	21	57.0%
Adults with AMI reporting an unmet need	26.8%	44	23.6%
Adults with disability who could not see a doctor due to costs	22.5%	10	28.7%

Figure 48

State of Mental Health in America 2021 State Youth Rankings			
	PA %	PA rank	US
Youth with at least on Major Depressive Episode (MDE) in the past year	11.9%	3	13.8%
Youth with Substance Use Disorder in the past year	7.1%	4	9.7%
Youth with severe MDE	3.4%	8	3.8%
Youth with MDE who did not receive mental health services	57.5%	28	59.6%
Youth with severe MDE who received some consistent treatment	37.1%	10	27.3%

Figure 49

"Getting access to services- the stigma around getting services is still a challenge on all levels, even for professionals too. Just talking about it and seeing it as an illness and not just treating it as something you have to deal with."

---

[145] https://www.bridgestorecovery.com/major-depression/what-is-a-major-depressive-episode/

During the COVID-19 pandemic, the National Center for Health Statistics (NCHS) partnered with the U.S. Census Bureau to conduct the Household Pulse Survey, which asked people about the frequency of anxiety and depression symptoms they experienced.[146] The survey has been ongoing, broken up into Phases. Phase 1 ran April 23, 2020 to July 21, 2020. Phase 2 ran August 19, 2020 to October 26, 2020. Phase 3 ran October 28, 2020 to March 29, 2021. Phase 3.1 ran April 14 2021 to July 5, 2021. Phase 3.2 ran July 21 to October 11, 2021. All phases had periods of break in between. Nationally, 27.3% of adults reported experiencing symptoms of an anxiety disorder within the past 7 days at mid-October 2021, with the highest percentage at 37.2% in November 2020 and the lowest at 25.5% at the beginning of July 2021. Additionally, 21.8% of adults report experiencing symptoms of a depressive disorder within the past 7 days at mid-October 2021, with the highest percentage at 30.2% in December 2020 and the lowest 20.9% at the beginning of July 2021. When anxiety and depression symptoms were surveyed together, 31.6% of adults report experiencing symptoms of either an anxiety disorder or depressive disorder in the past 7 days at mid-October 2021, with the highest 42.6% at the end of November 2020 and the lowest at 29% at the beginning of July 2021. However, in Pennsylvania at mid-October 2021, 31% of people reported symptoms of an anxiety disorder in the past 7 days, which ranks 7 out of 51 states including Washington, DC. The higher the ranking, the higher the percentage. During this time in Pennsylvania, 24% of people report experiencing a depressive disorder in the past 7 days, ranking 13 out of 51. Lastly, when asked together, 33.8% of people in Pennsylvania report experiencing an anxiety disorder or depressive disorder, ranking 14 out of 51.

Starting in Phase 2, the Household Pulse Survey began asking about mental healthcare. At mid-October 2021, 11% of people in the U.S. report needing counseling or therapy in the last 4 weeks but not receiving care, and 11% of people in Pennsylvania report needing counseling and not receiving care, ranking 25 out of 51. Additionally, as of July 5, 2021, 18.6% of respondents across the U.S. delayed or did not get care in the last 4 weeks. This has been on a downward trend since June 30, 2020 when 45.7% of people delayed or did not get care. This question did not get asked again after the completion of Phase 3.1. As of July 5, 2021 in Pennsylvania, 19% of people delayed or did not get care in the last 4 weeks. Finally, in mid-October 2021, 10% of people in the U.S. at the time of the interview did not have health insurance. The uninsured rate at the time of the interview has consistently been between 10 and 14% since Phase 1. During this time in Pennsylvania, 8% of people were uninsured at the time of the interview, ranking 22 out of 51.

Prior to COVID-19, depression was still a growing issue facing the U.S. and the residents in our service areas. The National Institute of Mental Health (NIMH) defines depression as a mood disorder that causes "severe symptoms [that] affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. To be diagnosed with depression, the symptoms must be present for at least two weeks."[147] Some signs of depression are, but not limited to: a persistent, sad mood; feelings of hopelessness or pessimism; decreased energy or fatigue; difficulty concentrating, remembering, or making decisions; and thoughts of death or suicide. Depression can happen at any age but is more common in adulthood.

[146] https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm
[147] https://www.nimh.nih.gov/health/topics/depression/index.shtml

In midlife or older adults, depression can co-occur with other serious medical illnesses (e.g., diabetes, cancer, heart disease, Parkinson's disease).[148] Risk factors include personal or family history of depression, major life changes, trauma, or stress, certain physical illnesses, and medications. Depression can be treated with medications, psychotherapy (e.g., counseling), or a combination of both. In Pennsylvania, the state asked about depression on the 2019 Behavioral Health Risk Factor Surveillance System (BRFSS), which included depression, major depression, and minor depression (i.e., dysthymia). The survey found that 20% of people in Pennsylvania were depressed. The survey broke the counties into clusters, finding that 19.4% of Berks and Schuylkill report a depression diagnosis.[149]

Figure 50

"*Stigma remains a key impediment that prevents people here from reaching out for services, particularly mental health issues. There is a need to continue to destigmatize these issues.*"

Anxiety is another common mental disorder that affects people across the country. Anxiety is a normal part of life, but for a disorder, it is more than temporary worry or fear. The NIMH says "for a person with an anxiety disorder, the anxiety does not go away and can get worse over time. The symptoms can interfere with daily activities such as job performance, schoolwork, and relationships."[150] Risk factors for anxiety disorders differ for each disorder, but generally include temperamental traits of shyness or behavioral inhibition in childhood, exposure to a stressful or negative life or environmental events in early childhood or adulthood, a history of anxiety in relatives, and some health conditions.[151] Anxiety disorders can be treated with psychotherapy, medication, or a combination. Surveyed in 2019 but released in

---

[148] https://www.nimh.nih.gov/health/topics/depression/index.shtml
[149]https://www.health.pa.gov/topics/HealthStatistics/BehavioralStatistics/BehavioralRiskPAAdults/Pages/BehavioralRisksPAAdults.aspx
[150] https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml
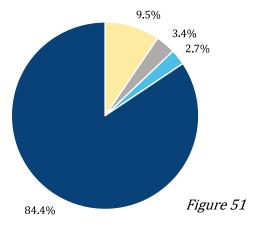[151] https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml

2020, the CDC released a report of symptoms of generalized anxiety disorder among adults in the U.S. Generalized Anxiety Disorder (GAD) displays excessive anxiety or worry, most days for at least 6 months, about numerous things, causing significant problems in areas of life

like social interactions, school, and work.[152] The CDC survey found that 9.5% of adults experienced mild symptoms of anxiety, 3.4% experienced moderate symptoms of anxiety, and 2.7% experienced severe symptoms of anxiety in the past 2 weeks, while 84.4% of people reported no or minimal symptoms.[153] The percentage of adults who experienced all types of symptoms was highest among those 18-29 years and decreased with age. One significant finding in the study was that women are more likely to experience all levels of anxiety symptoms than men.

2019 CDC Percent of Adults in US Experiencing Anxiety Symptoms

Figure 51

In addition to anxiety and depression, substance use is another disorder that has continued to affect many Americans. A substance use and suicide study done by Substance Abuse and Mental Health Services Administration (SAMHSA) in 2016 found that nearly 1 in 12 adults in the United States had a substance use disorder.[154] The NIMH describes substance use disorder as a mental disorder that affects a person's brain and behavior with drug use and can interfere with a person's ability to work, to go to school, and to have good relationships with family and friends.[155]

Substance use disorders also co-occur at high prevalence rates with anxiety disorders, depression disorders, bipolar disorders, and attention-deficit disorder (ADHD).[156] Additionally, people with schizophrenia have higher rates of alcohol, tobacco, and drug use disorders than the general population. Around 1 in 4 individuals with a serious mental illness (diagnosable mental, behavioral, or emotional disorders that cause serious functional impairment interfering with one or more major life activities) also have a substance use disorder.[157] Substance use disorder vulnerability can largely be attributed with genetics, but physical and emotional trauma also puts people at a higher risk. The 2021 State of America report previously found that 7.7% of adults in America reported having a substance use disorder in the past year.[158]

---

[152] https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml
[153] https://www.cdc.gov/nchs/products/databriefs/db378.htm
[154] https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4935.pdf
[155] https://www.nimh.nih.gov/health/topics/substance-use-and-mental-health/index.shtml
[156] https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness
[157] https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness
[158] https://mhanational.org/issues/2021/ranking-states

In 2016, the SAMHSA study found that opiates, including heroin and prescription pain killers, were present in 20% of suicide deaths in the U.S. Additionally, 22% of all suicide deaths in 2016 involved alcohol intoxication. Alcohol is a commonly used substance, but its ability to increase aggressiveness and constrict cognition, which impairs coping strategies and may increase risk of suicidal behaviors.[159]

"This was big before COVID, and during COVID it has been pushed to the side. It is something I think we're going to start seeing more of. I have seen the abuser of a substance coming out on the other side, and that is something they've had to work on during COVID. It is hard for us day in, day out; imagine a person with substance use disorder—I know that they have had to work twice as hard as us."

Suicide involves dynamic interactions between national issues, community issues, families, relationships, and individual health and or well-being.[160] It has become a growing concern as it is now the 10th leading cause of death among all ages in the United States, but second leading cause of death for 10-34 years and fourth for 35-54 years.[161] Suicide is likely to remain a significant issue during, and well beyond, the pandemic. The long-term effects on the general population, the economy, and vulnerable groups is unknown, but the impact on mental health and suicide risk may also be increased during the pandemic due to the stigma towards individuals with COVID-19 and their families.[162] Therefore, responses to suicide should target the whole population, focusing on particular risk factors like financial stressors, alcohol consumption, isolation, and access to care.[163]

"Pre-COVID in Minersville Area School District and the short time that I have been here, there have already been 5 student suicides. That was pre-COVID. Now during this time, there was even one more suicide with COVID. That is just one of our 12 school districts. It was a huge need before the pandemic. We have had motivation speakers and put resources in the hands of teachers and students, but it continues to be an issue. I feel that there is an increased need for mental health assistance because of the pandemic...I know throughout the state it is a huge need."

---

[159] https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4935.pdf
[160] https://www.mentalhealth.va.gov/docs/data-sheets/2019/
2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf
[161] https://www.cdc.gov/nchs/products/databriefs/db398.htm
[162] https://doi.org/10.1016/S2215-0366(20)30171-1
[163] https://doi.org/10.1016/S2215-0366(20)30171-1

A CDC Suicide Mortality report in the United States from 1999-2019 was released February 2021, outlining the suicide rate over a 10-year period. The age-adjusted rate in 2019 was 13.9 per 100,000 people, which is slightly lower than the rate in 2018 (14.2).[164] The 2019 crude rate is 24.5 per 100,000 people.[165] In 2018, the National Hospital Ambulatory Medical Care Survey (NHAMCS) reported 312,000 emergency visits for self-injury.[166] CDC WONDER data shows the 2019 crude rate of suicide by intentional self-harm from 1999-2019.[167] In 2019, 11.9 per 100,000 deaths were death by intentional self-harm.

Released in September 2020, the National Vital Statistics Report and CDC published a report on suicide among adolescent and youth ages 10-24 years from 2000-2018. The average percent increase in suicide deaths among 10-24 years in the U.S. from 2007-2009 to 2016-2018 is 47.1% nationally and 53.6% in Pennsylvania.[168] After a period of stability from 2000-2007, the suicide rate among youth and adolescents increased 57.4%, which went from 6.8 deaths per 100,000 in 2007 to 10.7 per 100,000 in 2018. The northeast states had among the lowest suicide rates in the country from 2016-2018. Pennsylvania's suicide rate in 2016-2018 was 10.6 per 100,000 deaths.[169]

In response to growing suicide rates, in September 2020 Pennsylvania created a suicide prevention plan, outlining 8 specific prevention goals including prevention awareness efforts that reduce stigma and promote safety, help-seeking, and wellness; promote trauma-informed approaches to support all Pennsylvania residents as part of upstream, universal suicide prevention efforts; and provide quality training on the prevention of suicide and management of suicide risk across multiple sectors and settings.[170]

Some populations are more vulnerable than others to mental disorders, substance use, and suicide. A SAMHSA study published in June 2020 found that Hispanic populations are more likely to lack high-quality evidence-based cultural grounded treatment options and have disparities in treatment outcomes.[171] Additionally, 1 in 20 Hispanic people do not receive services from a mental health specialist due to stigma, discrimination and lack of knowledge about services. This is a population that should be targeted by providing culturally appropriate counseling and specialized outreach and services to encourage care-seeking behaviors.

Another population particularly vulnerable to suicide are Veterans. A 2019 National Veteran Suicide Prevention Report by the U.S. Veterans Affairs found that in 2017, veterans accounted for 13.5% of all deaths by suicide in the United States.[172] Additionally, an average of 16.8 veterans died by suicide each day in 2017. Suicide rates in veterans tend to be affected by economic disparities, homelessness,

---

[164] https://www.cdc.gov/nchs/products/databriefs/db398.htm
[165] https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=BF94A69A2EA7B26A79CC60EBC4B1
[166] https://www.cdc.gov/nchs/fastats/suicide.htm
[167] https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=808281E7650E525FCF44896FE0B4
[168] https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr-69-11-508.pdf
[169] https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr-69-11-508.pdf
[170] https://www.dhs.pa.gov/Services/Mental-Health-In-PA/Documents/PA%20Statewide%20Suicide%20Prevention%20Plan.pdf
[171] https://mhttcnetwork.org/sites/default/files/2020-06/Mh_Disparities_Booklet.pdf
[172] https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

unemployment, disability status, community connection, personal health, and well-being. Veterans served by the Veterans Health Administration (VHA) who die by suicide are more likely to have sleep disorders, traumatic brain injuries, or a mental health disorder diagnosis.[173] These suicide rates tend to be higher of individuals who live in rural areas and individuals who are isolated. Veterans ages 18-34 years old had the highest suicide rate in 2017 (44.5 per 100,000), which has increased 76% from 2005 to 2017.[174] Veterans are a group that require specialized services and care that addresses the needs of the population.

> *"The major needs are the stigma. Working in the mental health field, drug and alcohol, getting people talking about it and getting those people connected to services. A lot of time they do not reach out because they may not want to talk about it. Reaching that population that needs the help is difficult. We do have a lot of providers in the area, but it is still hard to get to those services."*

Substance Use

According to a 2019 U.S. Health CDC report, 11.7% of people in the United States have used an illicit drug in the past month.[175] An illicit drug is one that is highly addictive and forbidden by law. Some of these include marijuana, opioids like fentanyl and heroin, and stimulants like cocaine and methamphetamine. The Substance Use and Mental Health Services Administration (SAMHSA) defines substance use disorders as occurring "when the recurrent use of alcohol and/or drugs causes clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school, or home."[176] Substance use commonly co-occurs with mental health disorders. Please refer to the mental health section for more detailed information. Substance use is a growing concern in the United States and within our service areas, particularly related the COVID-19 pandemic. To address the concerns with alcohol, drug and tobacco use, some of Healthy People 2030's objectives are to reduce the number of adults who used drugs in the past month, increase the rate of people with a substance use disorder who got treatment in the past year, increase the proportion of adolescents who think substance use is risky, and to reduce the rate of opioid related emergency department visits.[177]

---

[173] https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf
[174] https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf
[175] https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf
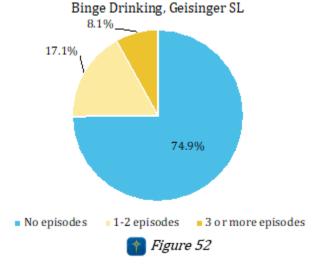[176] https://www.samhsa.gov/find-help/disorders
[177] https://health.gov/healthypeople/objectives-and-data/browse-objectives/drug-and-alcohol-use

Alcohol

A 2019 CDC alcohol use report found that 25.1% of adults 18 and older have had at least one heavy drinking day (five or more drinks for men and four or more drinks for women) in the past year.[178] The percentage for binge drinking in women is 19.8% and 30.9% for men.[179] In 2019, there were 24,110 alcoholic liver deaths in the US and 39,043 alcohol-induced deaths, which do not include accidents and homicides. Pennsylvania's crude rate for alcohol-induced deaths was 8.2 per 100,000 population. In Schuylkill county, the data was unreliable because the count was too small.[180]

Pennsylvania's Behavioral Risk Factor Surveillance System (BRFSS) surveyed binge drinking, chronic drinking, and made an assessment about how many people in each county cluster would be at risk for a drinking problem. Binge drinking is "defined as a pattern of drinking that brings a person's blood alcohol concentration (BAC) to 0.08 g/dl or above. This typically happens when men consume 5 or more drinks or women consume 4 or more drinks in about 2 hours."[181] The CDC reports that binge drinking is the most common, costly, and deadly pattern of excessive alcohol use in the United States.[182] Binge drinking can be associated with unintentional car crashes, violence, sexually transmitted diseases, fetal alcohol spectrum disorders, cancer, and more. Chronic drinking is when someone drinks more than the recommended one (women) or two (men) drinks a day, and more than seven (women) and fourteen (men) drinks in a week.[183] In 2019, the binge drinking percentage in Pennsylvania was 17% and chronic drinking was 6%. The report clustered certain counties together and reported on risk for a drinking problem. The Berks and Schuylkill cluster was reported to have 7.1% of people at risk for a drinking problem.[184]

In 2018, the Census Bureau released a County Business Patterns (CBP) report. One of the businesses assessed were liquor stores. Liquor store access reports on places primarily engaged in retailing liquor and packaged alcoholic beverages, like beer and wine. This excludes places preparing alcohol for consumption (bars and restaurants) or places that sell alcohol as a secondary retail product (gas stations and grocery stores).

Figure 52

---

[178] https://www.cdc.gov/nchs/fastats/alcohol.htm

[179] https://public.tableau.com/profile/tina.norris#!/vizhome/FIGURE9_1/Dashboard9_1

[180] https://wonder.cdc.gov/controller/saved/D76/D99F021

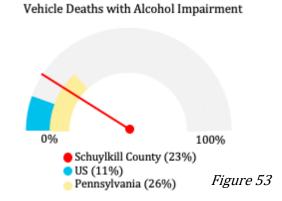[181] https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm

[182] https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm

[183] https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking

[184] https://www.health.pa.gov/topics/HealthStatistics/BehavioralStatistics/BehavioralRiskPAAdults/Pages/BehavioralRisksPAAdults.aspx

Research has found that liquor stores are disproportionately located in predominantly Black census tracts.[185] This is an issue because increased access to liquor stores gives individuals easier access and poses a higher risk of developing alcohol use and/or a substance use disorder. The number of liquor stores is reported per 10,000 population. The Geisinger St. Luke's service area has 2.23 liquor stores per 10,000 population, while Schuylkill county has 2.36 per 10,000 population.[186]

The Robert Wood Johnson Foundation also reported 2021 County Health Rankings on excessive drinking and alcohol impaired driving deaths. Excessive drinking measures the percentage of the county's adult population that reports binge or heavy drinking in the past 30 days. Pennsylvania reported 20% and Schuylkill county reported 21%. The alcohol impaired driving measure assesses the percentage of motor vehicle deaths with alcohol impairment. Alcohol reduces brain function and impairs thinking, which can hinder driving. Drivers 21-24 years old caused 27% of all alcohol impaired deaths in 2015-2019.[187] Pennsylvania reported 26% of all vehicle deaths with alcohol impairment. Schuylkill county reported 23%, the lowest of Pennsylvania service area counties.

Vehicle Deaths with Alcohol Impairment

● Schuylkill County (23%)
● US (11%)
■ Pennsylvania (26%)

Figure 53

When asked how many binge drinking episodes a respondent has had in the past month, 74.9% of respondents in the Geisinger St. Luke's service area indicated no episodes. However, 17.1% have had 1-2 episodes in the past month and 8.1% had 3 or more episodes, both the highest of all service areas.

Stimulants

The drug overdose report for 1999-2019 by the CDC indicates that the age-adjusted rate of drug overdose deaths involving cocaine increased from 1.4 per 100,000 population in 1999 to 4.9 in 2019.[188] It is also reported that the age-adjusted rate of drug overdose deaths involving psychostimulants, which include drugs such as methamphetamine and methylphenidate, increased from 0.2 per 100,000 population in 1999 to 5.0 in 2019. Stimulants are dangerous and easily abused because they increase alertness, attention, and energy. An overdose of stimulants can result in symptoms including rapid breathing, aggression, hallucinations, overactive reflexes, and more.[189] The

---

[185] DOI: 10.1016/s0277-9536(00)00004-6

[186] https://www.census.gov/programs-surveys/cbp.html

[187] https://www.countyhealthrankings.org/

[188] https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf

[189] https://www.drugabuse.gov/publications/drugfacts/prescription-stimulants

2019 Annual Surveillance Report of Drug-Related Risks and Outcomes from the CDC,[190] reported that in 2018, an estimated 5,529,000, or 2.0% of people 12 years and older, reported cocaine use in the past year. This is highest among people 26–29 years (6.0%) and people 18-25 years (5.8%). In 2018, an estimated 1,867,000, or 0.7% of people 12 years and older, reported methamphetamine use in the past year. This is highest among people 30–34 years (1.6%), 26-29 years (1.2%), and 35-39 years (1.1%). In 2018, an estimated 5,109,000, or 1.9% of people 12 years and older, reported misuse of prescription stimulants in the past year. This is highest among people 18-25 years (6.5%), followed by 26-29 years (4.4%), and 30-34 years (3.4%). Most recently according to the CDC health alert, overdose deaths involving cocaine increased by 26.5% from the 12-months ending in June 2019 to the 12-months ending in May 2020.[191]

There are an average of 510 new methamphetamine users a day 12 years and older, 70 new users a day 12 to 17 years old, 170 new users a day 18 to 25 years old, and 260 new users a day 26 years and older. SAMHSA (2018-19) reports that 27,000 people 18 years and older in New Jersey used methamphetamines in the past year. In the same time frame, 75,000 people 18 years and older in Pennsylvania used methamphetamines in the past year.[192]

Figure 54

[190] https://www.cdc.gov/drugoverdose/pubs/related-publications.html
[191] https://emergency.cdc.gov/han/2020/han00438.asp
[192]https://www.samhsa.gov/data/sites/default/files/reports/rpt32879/NSDUHsaeTotal2019/2019NSDUHsaeTotal.pdf

Tobacco

The 2019 CDC Health Report indicated that in 2018, 21.5% of the population 12 years and older used any type of tobacco product.[193] The CDC and National Health Interview Survey of 2019 reported that 14.2% of adults 18 years and older currently smoke cigarettes[194] and 8.1% of adolescents grades 9-12 smoked cigarettes in the past 30 days.[195] The Robert Wood Johnson 2021 County Health Rankings report on adult smoking using data from 2018. Cigarette smoking is an important data point to capture because it has been an identified cause of various cancers, cardiovascular disease, and other adverse health outcomes.[196]

Measuring tobacco use can help St. Luke's and other health networks to identify needs for smoking cessation and other smoking reduction programs. Adult smoking is measured as the percent of the adult population that report currently smoking every day or most days and have smoked at least 100 cigarettes in their lifetime.[197] In Pennsylvania, 18% of adults smoke every day or have smoked at least 100 cigarettes in their lifetime. In Schuylkill county, it is 23% of adults, which is the highest of all service area counties alongside Carbon county. Additionally, the CDC National Center for Health Statistics (NCHS) released a secondhand smoke exposure report among nonsmoking adults in February 2021. Using data from 2015-2018, the report showed that 20.8% of nonsmoking U.S. adults 18 and over were exposed to secondhand smoke, which was measured by cotinine (a metabolite of nicotine) in their blood.[198]

Percent of Adults who are Current Smokers RWJ 2021

Some negative effects of secondhand smoke exposure include acute respiratory effects, coronary heart disease, stroke, lung cancer, and premature death. The prevalence of secondhand exposure was highest for adults ages 18-39 (25.6%) than for adults 40-59 (19.1%) and adults 60 and over (17.6%). The highest secondhand exposure for adults by race and ethnicity were for non-Hispanic Black adults (39.7%) and lowest for Hispanic adults (17.2%). A promising finding from the report is that the prevalence of secondhand exposure declined from 27.7% in 2009 to 20.8% in 2018.

---

[193] https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf
[194] https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf
[195] https://www.cdc.gov/nchs/data/hus/hus19-508.pdf#fig09
[196] https://www.countyhealthrankings.org/
[197] https://www.countyhealthrankings.org/
[198] https://www.cdc.gov/nchs/data/databriefs/db396-H.pdf

When asked if CHNA respondents smoke, 18% from the Geisinger St. Luke's service area responded yes. Of those who do smoke, cigarettes are the most common form of tobacco (16.5%), followed by e-cigarettes (3.3%), and cigars (1.4%), 1% of respondents use chew, 1% use pipes, 0.4% use snuff, 0.2% use snus, and 0% use hookahs.
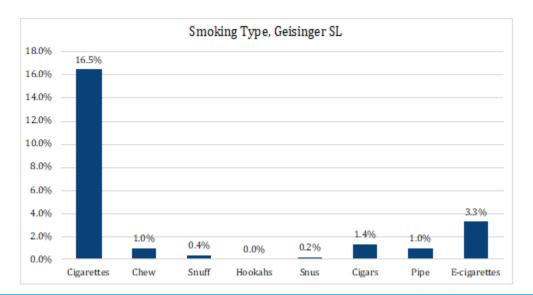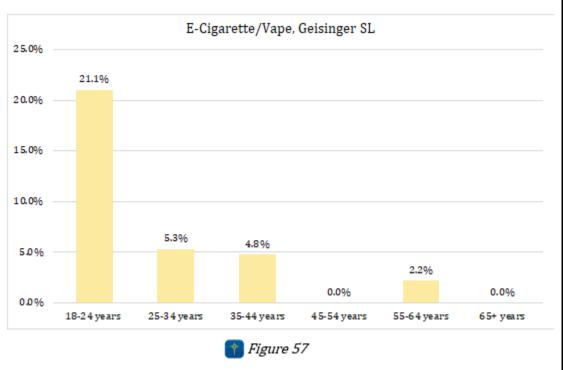
Figure 56

Smoking Type, Geisinger SL

Vape

Vaping is another form of smoking nicotine, a highly addictive substance that is especially harmful to children and adolescents. Vapes, also known as e-cigarettes or electronic cigarettes, are "electronic devices that heat a liquid and produce an aerosol or mix of small particles in the air."[199] The CDC and National Health Interview Survey in 2019 found that 4.4% of adults 18 years and older use e-cigarettes[200] and 20.8% of adolescents grades 9-12 have used e-cigarettes in the past 30 days.[201] Electronic cigarettes were introduced in the United States around 2007 and the highest percentage of use is seen in adolescents.[202] Nicotine is most harmful for children and adolescents because the substance hinders brain development, which occurs until around age 25. Particularly, nicotine impacts attention, learning, mood, and impulse control, all of which are built and refined throughout childhood.[203]

---

[199] https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html
[200] https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf
[201] https://www.cdc.gov/nchs/data/hus/hus19-508.pdf#fig09
[202] https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf
[203] https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html
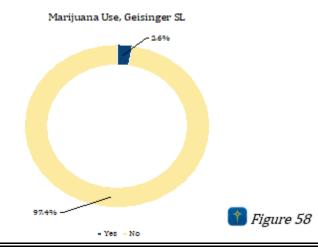
An e-cigarette study among middle and high school students in the United States was performed in accordance with the CDC in 2020. Results from this study found that 19.6% of high school students and 4.7% of middle school students reported current e-cigarette use.[204] Of the current users, 82.9% used flavored e-cigarettes, including 84.7% of high school users and 73.9% of middle school users. The introduction of flavors such as fruit, candy, and mint has increased youth initiation into the use of tobacco products.[205] Another CDC study found that 23.6% of high school students and 6.7% of middle school students reported 30-day use of any tobacco product.[206] According to PAYS data, 19% of students in Pennsylvania used an e-cigarette or vape within the last 30 days.[207] The St. Luke's survey found that the age group that uses e-cigarettes/vape most frequently are 18-24 year old (21.1%); 5.3% of respondents 25-34 years old use vapes, followed by 4.8% 35-44 years old, 0% 45-54 years old, 2.2% 55-64 years old, and 0% 65 years and older.

Figure 57

······················· Marijuana ·······················

Marijuana is a psychotropic drug that is commonly used throughout the United States. In the short-term, marijuana can alter senses, change mood, impair memory, and impair body movement. In the long-term, marijuana can affect thinking, memory, and learning functions crucial to brain development.[208]

Figure 58

[204] https://www.cdc.gov/mmwr/volumes/69/wr/mm6937e1.htm?s_cid=mm6937e1_w%20
[205] https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a1.htm
[206] https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a1.htm
[207] https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS).aspx
[208] https://www.drugabuse.gov/publications/drugfacts/marijuana

Marijuana can also have physical effects which result in breathing problems and increased heart rate. The CDC 2019 U.S. Health Report indicated that 10.1% of people 12 and older used marijuana in the past 12 months during 2018.[209] However, the 2019 Annual Surveillance Report of Drug-Related Risks and Outcomes reported that 15.9% of people in the U.S. during 2018 who are 12 years and older used marijuana in the past 12 months.[210] This usage was highest among people 18-25 (34.8%) and people 26-34 (29.6%). In the Geisinger St. Luke's service area, 2.6% of CHNA survey respondents indicated marijuana use, the lowest of all service areas.

Opioids

The CDC reports that the opioid epidemic has occurred in three phases.[211] First, prescription opioids increased in the 1990s with overdose deaths continually increasing since 1999. The second phase began around 2010 with increased overdoses involving heroin. Heroin is an alternative to prescription opioids due to its similar effect on the body. The third phase began in 2013 with the introduction of synthetic opioids, like illicitly manufactured fentanyl. The CDC provides descriptions on the most commonly used opioids: prescription opioids, fentanyl, and heroin. Prescription opioids can be used to treat pain and are often prescribed following surgery, an injury, or to manage a disease like cancer. However, there has been a dramatic increase in the prescription of opioids for chronic pain such as back pain or osteoarthritis, "despite serious risks and the lack of evidence about their long-term effectiveness."[212] Prescription opioids are highly addictive, and once addicted it is incredibly difficult to stop using. As many as one in four patients receiving long-term opioid therapy in a primary care setting struggle with an opioid addiction.[213] Common prescription opioids are Methadone, Oxycodone (OxyContin), Hydrocodone (Vicodin), and Benzodiazepines such as alprazolam (Xanax) and diazepam (Valium).

"Opioid addiction and other substance abuse is really widespread, and the pandemic has added to the problem."

Fentanyl produced pharmaceutically is a synthetic opioid used to treat severe pain. It is 50 to 100 times more potent than morphine. However, the increase in overdose has been linked to illegally made fentanyl which has a heroin-like effect.[214] The CDC reports that rates of overdose deaths involving synthetic opioids other than methadone, which includes fentanyl and fentanyl analogs, increased over 16% from

---

[209] https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf
[210] https://www.cdc.gov/drugoverdose/pubs/related-publications.html
[211] https://www.cdc.gov/drugoverdose/epidemic/index.html
[212] https://www.cdc.gov/drugoverdose/opioids/prescribed.html
[213] https://www.cdc.gov/drugoverdose/opioids/prescribed.html
[214] https://www.cdc.gov/drugoverdose/opioids/fentanyl.html

2018 to 2019. Overdose deaths involving synthetic opioids were nearly 12 times higher in 2019 than in 2013."[215] Heroin is an illegal and highly addictive drug that is typically injected, and heroin use increases the risk of serious infections like HIV, Hepatitis C, Hepatitis B, and bacterial infections. Heroin use has increased by 5 times from 2010 to 2018.[216] This is problematic because heroin is typically used with other substances, which can increase the risk of an overdose.

The CDC released a report (2020) on drug overdose in the United States from 1999-2019.[217] The age-adjusted rate of drug overdose deaths involving synthetic opioids increased from 1.0 per 100,000 population in 2013 to 11.4 in 2019. The average annual increase rate was lower from 2017-2019 (9% per year) than 2013-2017 (75% per year). The age-adjusted rate of drug overdose deaths involving natural and semisynthetic opioids, like oxycodone and hydrocodone, increased from 1.0 per 100,000 population in 1999 to 2.7 in 2011, then increasing again to 4.4 in 2016 and 2017. The rates in 2018 (3.8) and 2019 (3.6) were lower than 2017.[218]

The Pennsylvania Health Care Cost Containment Council (PHC4) collects data for each calendar year (CY) on opioid overdose hospital admissions and opioid use disorder (OUD) hospital admissions. In CY 2019, there were 23.2 hospital admissions for an opioid overdose per 100,000 people and 293.2 hospital admissions with opioid use disorder per 100,000 people in Pennsylvania.[219] In Schuylkill county, the rate of opioid overdose hospital admissions was 24.4 per 100,000 people and the rate of hospital admissions with OUD was 285.5 per 100,000 people.

Opioid use while pregnant can have severe negative outcomes for the child, potentially resulting in Neonatal Abstinence Syndrome (NAS). NAS births occur "in a newborn who was exposed to addictive substances while in the mother's womb. The most common opiate drugs that are associated with NAS are heroin, codeine, oxycodone (oxycontin), methadone and buprenorphine."[220] The effects of NAS usually occur within 48-72 hours of birth, suffering from withdrawal, low birth weight, tremors, vomiting, fever and more. In Pennsylvania, there have been 5,596 NAS births from January 1, 2018 to March 6, 2021.[221] In 2018, Schuylkill county had 28.9 NAS births per 1,000 births, 36 NAS births in total.[222]

As a result of the COVID-19 pandemic, the CDC issued a health alert on December 17, 2020 indicating an increase in fatal drug overdoses across the United States driven by synthetic opioids before and during the pandemic. The purpose of the report was to alert public health

[215] https://www.cdc.gov/drugoverdose/opioids/fentanyl.html
[216] https://www.cdc.gov/drugoverdose/opioids/heroin.html
[217] https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf
[218] https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf
[219] Phc4.org/m/Opioids/
[220] https://nj.gov/health/populationhealth/opioid/opioid_nas.shtml
[221] https://data.pa.gov/stories/s/9q45-nckt/
[222] https://data.pa.gov/Opioid-Related/Annual-Rate-of-Neonatal-Hospital-Stays-with-Withdr/drhe-nauc

departments, healthcare professionals, medical examiners, and coroners of substance use increase and drug overdoses across the U.S. with "a concerning acceleration of the increase in drug overdose deaths, with the largest increase recorded from March 2020 to May 2020, coinciding with the implementation of widespread mitigation measures for the COVID-19 pandemic."[223] The alert indicated that overdose deaths increased 18.2% from the 12-month period between June 30, 2019 and May 31, 2020. Overdose deaths went from 74,185 in February 2020 to 75,696 deaths in March 2020 to 77,842 deaths in April 2020, which is the largest monthly increases documented since January 2015 when monthly provisional estimates began.[224] The report also claims that synthetic opioids are the primary driver of the increases in overdose deaths; "the 12-month count of synthetic opioid deaths increased 38.4% from the 12-months ending in June 2019 compared with the 12-months ending in May 2020."[225] Of the 38 jurisdictions in the U.S. with available synthetic opioid data, 37 jurisdictions reported increases in synthetic opioid overdose deaths, and 18 of the jurisdictions reported increases greater than 50%. Provisional state data is available based on records that meet certain data quality criteria. They should not be considered comparable with the final data and are subject to change. The 12 month-ending provisional counts of drug overdose deaths ending August 2020 for Pennsylvania was 5,008.[226] These numbers are underreported due to incomplete data and should not be assumed to be final. To prevent against the increase in overdose deaths, the CDC recommends states expand the use of naloxone with overdose prevention education; expand access to treatment for substance use disorders; intervene early with individuals at high risk for overdose; improve detection of overdose outbreaks.

"A challenge and need prior to the pandemic was opioid abuse. I couldn't believe the amount of residents within Schuylkill County who have opioid addictions."

························· Overdose ·························

Overdose has been discussed previously, as it is a growing concern with prevalence rates increasing, especially during the pandemic.[227] Drug overdose deaths are the leading contributor to premature death and are largely preventable.[228] Since 2000, the rate of drug overdose deaths has increased by 137% across the county, which can be largely attributed to opioids, as there has been a 200% increase in opioid overdose deaths since 2000.[229] The NORC, National Opinion Research Center, reports on drug overdose deaths in the United States. From 2015-2019,

---

[223] https://emergency.cdc.gov/han/2020/han00438.asp
[224] https://emergency.cdc.gov/han/2020/han00438.asp
[225] https://emergency.cdc.gov/han/2020/han00438.asp
[226] https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm
[227] https://emergency.cdc.gov/han/2020/han00438.asp
[228] https://www.countyhealthrankings.org/
[229] https://www.countyhealthrankings.org/

there has been a rate of 28.7 drug overdose deaths per 100,000 people in the U.S. aged 15-64 years old.[230] In Pennsylvania, the rate is 53.3 per 100,000 population. In Schuylkill county, the rate is 52.5 overdose deaths per 100,000 people. The CDC also published a drug overdose death report for 1999-2019 in December 2020. They report that the age adjusted rate of drug overdose deaths in 2019 was 21.6 per 100,000, which is higher than in 2018 (20.7 per 100,000).[231] Adults 35-44 had the highest rate of drug overdose deaths of any age group in 2019, (40.5 per 100,000 population). Increasing from 2012, drug overdose deaths involving cocaine increased from 1.4 to 4.9 per 100,000 population in 2019 and those deaths involving psychostimulants with abuse potential, such as methamphetamine and amphetamine, increased from 0.8 to 5.0 per 100,000 population, more than 6-fold.[232] As of 2018, Pennsylvania ranks 4 overall for age-adjusted drug overdose deaths in the United States.[233] During this time, Pennsylvania had 4,415 drug overdose deaths. Of the total drug overdose deaths in Pennsylvania, 65% involved opioids, (2,866 deaths).[234]

Figure 59

Rural Substance Use

Substance use and misuse is commonly thought to be a city problem. However, it has been a growing problem in rural areas for many years. Rural adults have higher rates of use for tobacco and methamphetamines, while prescription drug misuse and heroin use has grown in all

---

[230] https://opioidmisusetool.norc.org/
[231] https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf
[232] https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf
[233] https://www.cdc.gov/drugoverdose/data/statedeaths/drug-overdose-death-2018.html
[234] https://www.drugabuse.gov/drug-topics/opioids/opioid-summaries-by-state

town sizes.[235] Some factors contributing to substance use in rural areas are poverty, unemployment, education, lack of access to mental healthcare, and isolation. Substance use can be especially hard to treat in rural areas as the communities often have limited resources for prevention, treatment, and recovery. SAMHSA's National Survey on Drug Use and Health (NSDUH) found four areas where substance use is higher among non-metro areas than small metro and large metro areas: binge alcohol use in past month 12-17 year old, cigarette smoking, smokeless tobacco, and methamphetamine.[236] In non-metro areas, binge alcohol use is 5.4% compared to 4.7% and 4.8% in small metro and large metro areas, respectively. Cigarette smoking is 25.2% in non-metro areas compared to 22.0% and 18.0% in small metro and large metro areas, respectively. Smokeless tobacco use is 7.7% in non-metro areas compared to 5.1% and 2.8% in small metro and large metro areas, respectfully. Lastly, methamphetamine use is 1.2% in non-metro areas compared to 0.7% and 0.6% in small metro and large metro areas, respectively. These statistics show that geography does not make anyone immune to substance use, as it is a national issue that must be addressed.

Stigma

Stigma is another important component to substance use disorder regarding usage and receiving or accessing help. Stigma is defined as "a strong feeling of disapproval that most people in a society have about something."[237] Stigma may be a barrier to seeking help for someone suffering from substance use due to fear of disapproval from family or friends. St. Luke's has worked with our own staff and other community organizations to inform people about stigma and how it can be minimized to help the most amount of people.

In the Fall of 2019, a stigma reduction survey was sent to all the campuses whose employees are directly related to substance use disorders (SUD). As part of this Opioid Stewardship Program, 2,898 of 4,500 inpatient and outpatient network providers, nurses, and support staff received and completed the confidential stigma survey and education. Stigma campaigns are being piloted with phase two involving the entire network.

Beginning in the Fall of 2020, St. Luke's Rural Community Opioid Response committee partnered to develop Community Stigma Presentations. With the presentations, we have been able to reach 286 people as of Spring 2021. The stigma education included partners such as child development organizations, business organizations, churches, first responders, and mental health service organizations.

---

[235] https://www.ruralhealthinfo.org/topics/substance-use
[236] https://www.samhsa.gov/data/report/2019-nsduh-detailed-tables
[237] https://dictionary.cambridge.org/us/dictionary/english/stigma

Naloxone

Naloxone is a drug that can quickly reduce the effects of an opioid overdose. The National Institute of Drug Abuse defines naloxone as "an opioid antagonist—meaning that it binds to opioid receptors and can reverse and block the effects of other opioids. It can very quickly restore normal respiration to a person whose breathing has slowed or stopped as a result of overdosing with heroin or prescription opioid pain medications."[238] Naloxone is safe and can be administered in three ways: injected, auto injected, or as a nasal spray. It is important for a variety of people to understand how to administer naloxone as it can quickly save someone's life. In response to opioid use and substance use, St. Luke's was awarded a Health Resource Service Administration (HRSA) Rural Community Opioid Response Planning (RCORP) grant in 2018 to work within a consortium to improve OUD prevention, treatment, and recovery response. With the grant, along with funding from Lehigh County Authority on Drugs and Alcohol to fund our Sacred Heart Initiative, St. Luke's ran an urban (St. Luke's Sacred Heart) and rural (St. Luke's Miners Campus) pilot, which has educated and distributed naloxone to 730 and 255 people, respectively.

Warm Hand Off

A warm hand off is a process that has been implemented in St. Luke's and defined as "a transfer of care between two members of the health care team, where the handoff occurs in front of the patient and family. This transparent handoff of care allows patients and families to hear what is said and engages patients and families in communication, giving them the opportunity to clarify or correct information or ask questions about their care."[239] Screening, Brief Intervention, and Referral to Treatment (SBIRT) is another approach adopted in St. Luke's care. SBIRT is used for early intervention in substance use disorders to quickly assess the severity of substance use and identify the appropriate level of care.[240] During CY 2021, a total of 2,637 patients have received full SBIRT at 11 of St. Luke's campuses. Of those SBIRT patients, 56% have been referred with warm hand off and 32% have entered substance use treatment.

Opioid Encounters

While opioid use and overdoses have been increasing, especially in relation to the COVID-19 pandemic, St. Luke's has been rising to meet the needs of the community with support services including: Stigma training, naloxone education and distribution, SBIRT, and warm hand offs.

---

[238] https://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-reversal-naloxone-narcan-evzio
[239] https://www.ahrq.gov/patient-safety/reports/engage/interventions/warmhandoff.html
[240] https://www.samhsa.gov/sbirt

From July 2019 to January 2021, St. Luke's encountered 6,319 opioid use disorder cases and 2,097 overdose encounters. Encounters have fluctuated each month for both Opioid Use Disorder (OUD) and overdose, with no significant changes.

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

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

Health Outcomes

In the 2021 Robert Wood Johnson Foundation County Health Rankings, Schuylkill county ranks 63 overall in Pennsylvania for health outcomes. It is ranked among the least healthy counties in Pennsylvania and falls in the 0-25th percentile. America's Health Rankings ranks Pennsylvania 34 out of 50 for health outcomes. For both organizations, a ranking closest to 1 indicates healthier outcomes.

Morbidity, Mortality, and Life Expectancy

Morbidity, mortality, and life expectancy are key health outcomes that help us to determine the overall health of the populations we serve. The 2021 Robert Wood Johnson Foundation County Health Rankings data reports a premature death health outcome, which measures the age-adjusted years of potential life lost before age 75 per 100,000 population. Schuylkill county has a premature death rate of 9,800 deaths per 100,000, the highest of all service area counties. This is far worse than Pennsylvania (7,500) and U.S. top performers (5,400). Since 1998, there has been a worsening trend in premature deaths within the county.[241]

According to the CDC, the average life expectancy from birth in the U.S. is 78.8 years.[242] The Robert Wood Johnson County Healthy Rankings measures life expectancy as an age-adjusted, average number of years a person can expect to live.[243] In Pennsylvania, the life expectancy is 78.4 and the range of life expectancy in the counties of Pennsylvania is 74.9-83. Life expectancy in Schuylkill county is 75.7.

---

[241] https://www.countyhealthrankings.org/
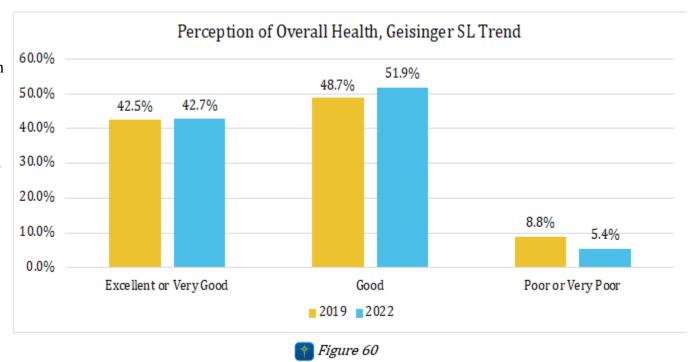[242] https://www.cdc.gov/nchs/fastats/life-expectancy.htm
[243] https://www.countyhealthrankings.org/

Finally, low birthweight is another health outcome that can contribute to life expectancy. Low birthweight is measured by the percentage of live births who are under 2,500 grams (5 pounds, 8 ounces), which can be an indicator for future health problems such as growth problems, cardiovascular disease, respiratory conditions, and visual, auditory, and intellectual impairments.[244] The overall low birthweight percentage is 8% in Pennsylvania and 6% for U.S. top performers. The low birthweight percentage is 8% in Schuylkill county.

COVID-19 has also impacted mortality rates around the world. While we have yet to understand the impact of the premature death rate due to pandemic, as of the end of December 2021 there were more than 57 million confirmed cases in the United States and more than 800,000 deaths, a mortality rate of 1.4%.[245] In Pennsylvania, there were 2,147,482 cases reported (16,774.6 per 100,000), 37,111 deaths, and a mortality rate of 1.7%.[246] In Schuylkill county, there were 26,970 cases (18,984 per 100,000), 562 deaths, and a mortality rate of 2.1%.

Perceptions of Health

It is important to assess a community's perceived sense of health status to interpret their overall well-being, as well as highlight areas where health education would benefit the community. According to the 2022 CHNA survey, most individuals in the service area reported good health (51.9%), followed by excellent or very good (42.7%), and poor or very poor (5.4%).
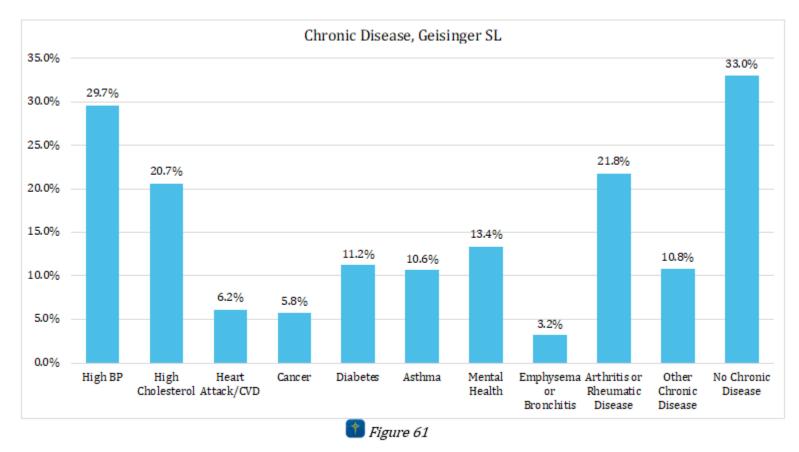

Figure 60

---

[244] https://www.countyhealthrankings.org/
[245] https://coronavirus.jhu.edu/map.html
[246] https://www.health.pa.gov/topics/disease/coronavirus/Pages/Cases.aspx

Chronic Disease

A 2020 study analyzing data from the 2018 National Health Interview Survey (NHIS) concluded that more than half of all U.S. adults have at least one chronic disease, and more than 1 in 4 have multiple chronic conditions.[247] Among the most common chronic conditions, diabetes, hypertension and hyperlipidemia frequently plague U.S. adults leading to a myriad of health complications and a heavy cost to the healthcare system. The 2022 CHNA survey results showed that the highest percentage of the Geisinger St. Luke's service area respondents have high blood pressure (29.7%), followed by arthritis or a rheumatic disease (21.8%), and high cholesterol (20.7%). While 33% of respondents do not have any chronic diseases, only 21% of respondents over 45 years old reported not having a chronic illness of any kind.

Figure 61

---

[247] https://www.cdc.gov/pcd/issues/2020/20_0130.htm

When asked about chronic diseases in Schuylkill county, a key informant responded that there are many issues:

"I think our county has significant issues looking at diabetes, heart disease, cancer, as well as COPD. That has been a problem and continues to be a problem. I think COVID probably made it worse. It all ties in to healthy living. If you are having a better diet and being more physically active, there is a correlation. Our cancer rate seems to be a little higher. [For] a lot of people it is just from the area that we live in. When you have coal as a primary heating source, that can exacerbate a respiratory disease. Being secluded in a home probably doesn't help with the current COVID impact."

Diabetes

According to the 2020 CDC National Diabetes Statistics Report, an estimated 34.2 million Americans (13.0% of all U.S. adults) have diabetes. Type 2 diabetes accounts for 90 to 95% of all diabetes is type 2 and 21.4% of adults with diabetes were undiagnosed. According to the 2017 Behavioral Risk Factor Surveillance System (BRFSS), a national, health related survey, 12.4% of adults in Schuylkill county aged 18 years and older have been diagnosed with diabetes.[248] Please see Figure 62, which compares Schuylkill county diabetes diagnosis rates to other service area counties and the U.S. overall.
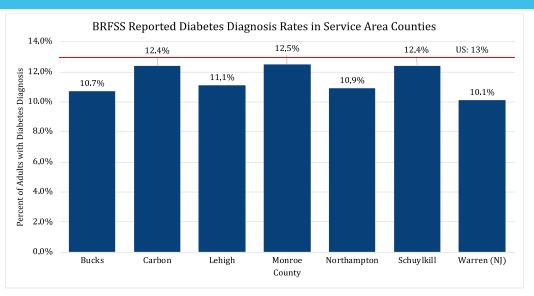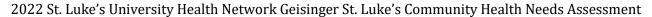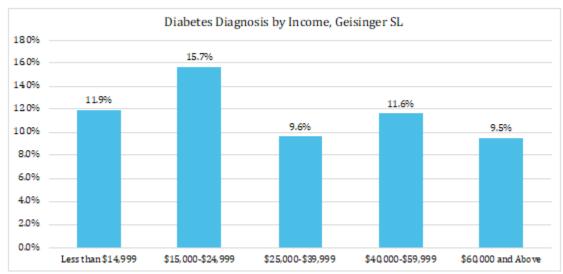

BRFSS Reported Diabetes Diagnosis Rates in Service Area Counties

- Bucks: 10.7%
- Carbon: 12.4%
- Lehigh: 11.1%
- Monroe County: 12.5%
- Northampton: 10.9%
- Schuylkill: 12.4%
- Warren (NJ): 10.1%
- US: 13%

Figure 62

---

[248] https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data

Diabetes Diagnosis by Income, Geisinger SL

Of all respondents from the Geisinger St. Luke's service area, 11.2% have diabetes. When broken down by income, respondents whose household income is $15,000-$24,999 have the highest rates of diabetes (15.7%) and respondents whose household income is $60,000 and above have the lowest rates (9.5%).

Figure 63

Hypertension

Hypertension is defined as having a blood pressure that is at or above a systolic value of 130 mm Hg, which measures the pressure in your arteries when your heart beats,[249] and a diastolic value of 80 mm Hg, which measures the pressure in your arteries when your heart rests between beats. In comparison, a normal blood pressure is less than 120/80 mmHg. Data regarding hypertension also includes individuals who are taking medications for hypertension that would otherwise be uncontrolled. According to the CDC 2019 report, the crude prevalence of hypertension in U.S. adults aged 20 and over is 49.6%. According to the 2017 Behavioral Risk Factor Surveillance System (BRFSS), a national, health related survey, 35.6% of adults in Schuylkill county aged 18
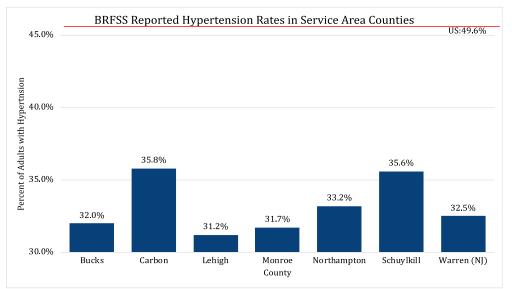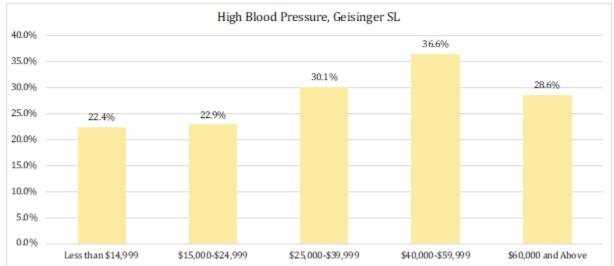

BRFSS Reported Hypertension Rates in Service Area Counties

Figure 64

[249] https://www.cdc.gov/bloodpressure/about.htm

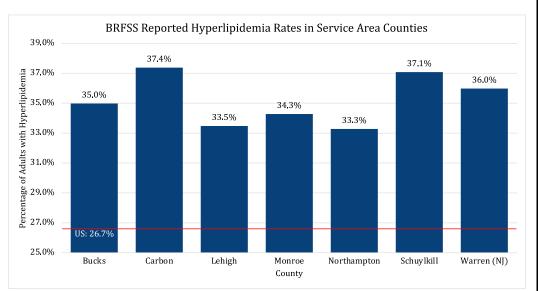years and older have been diagnosed with high blood pressure (Figure 64).

Figure 65

Of all Geisinger St. Luke's service area respondents, 29.7% have high blood pressure. When broken down by income, respondents whose household income is $40,000-$59,999 have the highest rates of high blood pressure (36.6%) while respondents whose household income is less than $14,999 have the lowest rates (22.4%). It is important to note that all of these rates are relatively high, regardless of income.
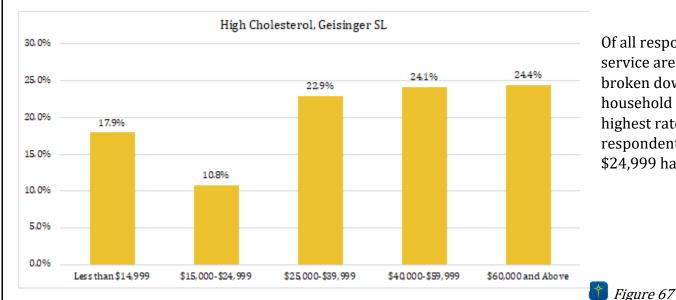

High Blood Pressure, Geisinger SL

Hyperlipidemia

Hyperlipidemia, or high cholesterol, is defined as a total serum cholesterol at or above 240 mg/dL, which stands for milligrams per deciliter and is a unit of measure that shows the concentration of a substance in a fluid. Data regarding hyperlipidemia also includes individuals who are taking medications to control their high cholesterol. According to the 2019 CDC report, 26.7% of U.S. adults aged 20 and over have been diagnosed with hyperlipidemia; that is more than 1 in 4 U.S. adults. According to the 2017 BRFSS, 37.1% of adults in Schuylkill county aged 18 years and older, who have been screened in the past 5 years have been diagnosed with high cholesterol.[250]

BRFSS Reported Hyperlipidemia Rates in Service Area Counties

[250] https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data
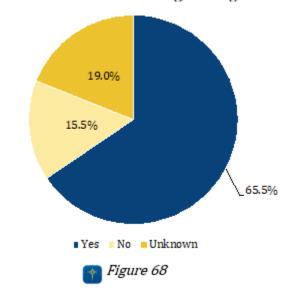
Figure 66

High Cholesterol, Geisinger SL

Of all respondents from the Geisinger St. Luke's service area, 20.7% have high cholesterol. When broken down by income, respondents whose household income is $60,000 and above have the highest rates of high cholesterol (24.4%) and respondents whose household income is $15,000-$24,999 have the lowest rates (10.8%).

Figure 67

Cancer

In the U.S., 1.7 million people are diagnosed with cancer each year and comes with an estimated healthcare cost of $174 billion.[251] Cancer is the 2nd leading cause of death nationally with over half a million deaths each year.[252] According to the National Cancer Institute, cancer incidence in the U.S. is 448.7 per 100,000.[253] Pennsylvania has a cancer incidence of 484.6 per 100,000 and Schuylkill county has a cancer incidence of 504.7 per 100,000. There are certain risk factors that increase one's chance of getting cancer, including being overweight or obese, smoking and secondhand smoke exposure, exposure to sun and tanning beds, excessive alcohol use, and some infectious diseases.

Colorectal Cancer Screening, Geisinger SL

Figure 68

[251] https://www.cdc.gov/chronicdisease/about/costs/index.htm
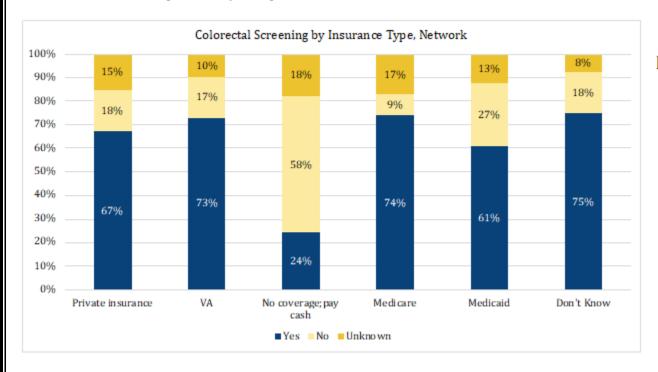[252] https://www.cdc.gov/chronicdisease/resources/publications/factsheets/cancer.htm
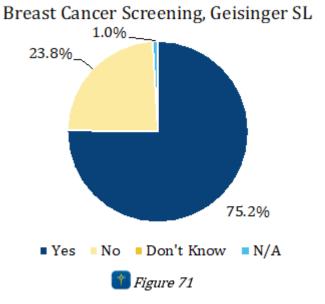[253] National Cancer Institute's State Cancer Profiles, 2013-2017

These health behaviors have been discussed in earlier sections of this document and are also discussed in detail, as they related to cancer, in the St. Luke's Cancer Needs Assessment (CNA). The CNA helps set the strategy around cancer outreach and education in our communities.

In order to be considered up to date with screenings for this analysis, respondents must have had a screening date fall in the recommended time frame for their screening type (Figure 69). If a respondent was missing an answer to one of the questions, their screening status was marked "Unknown." Our survey asked respondents ages 50-74 to indicate their most recent colon cancer screening. Of all Geisinger St. Luke's service area respondents, 65.5% have been screened, 15.5% have never been screened, and 19% are unknown. Our survey also assesses colon cancer screening by insurance type to uncover any disparities and perhaps see if insurance is a barrier to cancer screenings. A large percentage (58%) of respondents ages 50-74 who do not have insurance have never been screened for colon cancer. Since colon cancer can be prevented or caught early with screenings, this is a large gap in care. Additionally, 27% of respondents who use Medicaid have never been screened. Network data is used due to small sample size by campus.

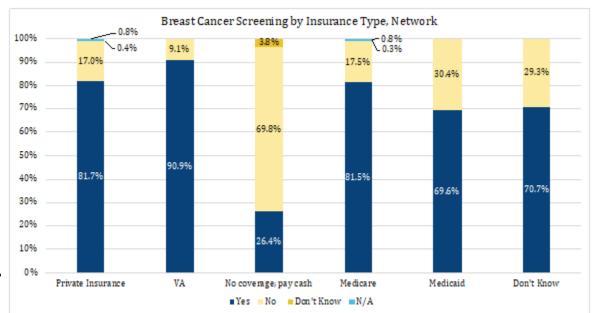| Time Frame for Colorectal Screening based on Screening Type	
Colonoscopy	Within 10 years
Sigmoidoscopy	Within 5 years
Stool Blood Test (i.e.: FIT/FOBT)	Within 1 year

Figure 69
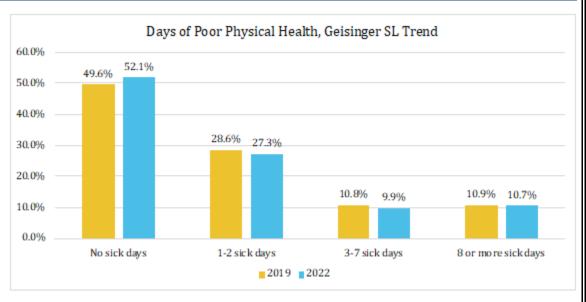

Figure 70

Figure 71

Respondents were also asked about breast cancer screening and we compared breast cancer screening rates to insurance type. Of all Geisinger St. Luke's service area respondents ages 40-74 years old, 75.2% had a mammogram, 23.8% had not, and 1% it is not applicable. When looking at breast cancer screening by insurance type, only 26.4% of respondents who do not have insurance had a mammogram, which is drastically lower than any other type of insurance. The network data is used for insurance due to small sample size in the Geisinger St. Luke's service area.

Figure 72

Days of Poor Physical Health

According to Healthy People 2030, daily physical activity can prevent disease, disability, injury, and premature death.[254] Robert Wood Johnson County Health Rankings assesses the number of poor physical health days people have because it can be a predictor for negative outcomes associated with health like unemployment, poverty, and mortality. The poor physical health days question is measured by the average number of physical unhealthy days in the past 30 days. In Pennsylvania, the average is 4.0 unhealthy days, with Schuylkill county at 4.5 unhealthy days, the highest of all service area counties.
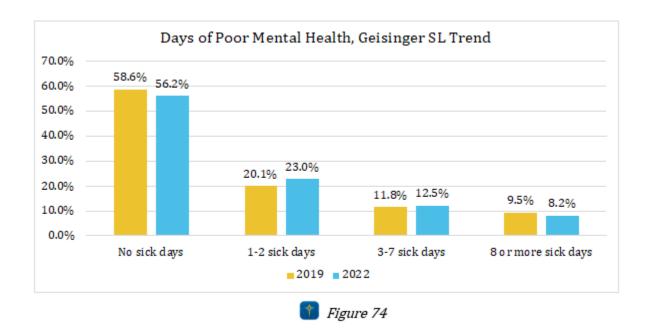

[254] https://health.gov/healthypeople/

Figure 73

The majority of respondents indicated no physical unhealthy days in the past 30 days (52.1%), 27.3% of respondents indicated 1-2 sick days, 9.9% indicated 3-7 sick days, and 10.7% indicated 8 or more sick in the past 30 days.

Days of Poor Mental Health

Poor mental health days is important to assess because it can be a good indicator for overall well-being. The Robert Wood Johnson County Health Rankings assess poor mental health days by the average number of mentally unhealthy days in the past 30 days.[255] The poor mental health days question is measured by the average number of mentally unhealthy days in the past 30 days. In Pennsylvania, the overall average is 4.7 unhealthy days, with Schuylkill county at 5.2 unhealthy days, the highest of all service area counties. The majority of survey respondents indicated no mentally unhealthy days in the past 30 days (56.2%), 23% indicated 1-2 sick days, 12.5% indicated 3-7 sick days, and 8.2% indicated 8 or more sick days in the past 30 days.

Figure 74

---

[255] https://www.countyhealthrankings.org/app/new-jersey/2021/measure/outcomes/42/description

Unintentional Injury

In 2019, the United States had 52.7 unintentional injury deaths per 100,000 population, which was the third ranked cause of death.[256] In 2018, there were 24.5 million visits to the emergency room for unintentional injuries and in 2016, there were 39.5 million visits to physician offices for unintentional injuries.[257] Unintentional injuries are unplanned and preventable when using proper safety precautions; they are also a substantial contributor to premature death. When broken down further for the United States, there were 12 per 100,000 population unintentional fall deaths, 11.5 per 100,000 population motor vehicle traffic deaths, and 20 per 100,000 population unintentional poisoning deaths.[258] In Pennsylvania, the unintentional injury death rate was 67.1 and Schuylkill county was 63.7 per 100,000 population.[259] Healthy People 2030 has set objectives for injury deaths because unintentional injury deaths are so prominent, including the reduction of unintentional injury deaths, deaths involving opioids, and emergency department visits for nonfatal injuries and unintentional injuries.

COVID-19 Impact

COVID-19

In December 2019, the SARS-CoV-2 virus (i.e., COVID-19), was discovered in Wuhan, China and quickly spread across the world. COVID-19 spreads when an infected person breathes out droplets that contain the virus, which can then be breathed in by other people or land on their eyes, nose, and mouth, resulting in quick transmission from person to person. On March 11, 2020, the World Health Organization declared COVID-19 a pandemic, resulting in worldwide shutdowns of workplaces, schools, and stores. To stop the transmission of the virus, the CDC recommended wearing a mask indoors, social distancing at least 6 feet away from other people, and to get vaccinated when they became available.[260] Many pharmaceutical companies worked on vaccines to fight the virus and multiple vaccines were approved by the Food and Drug Administration (FDA) across all age groups and were readily available to everyone in the U.S. On July 27, 2021, the CDC recommended stricter guidelines in response to the Delta variant, which showed to be more contagious and caused more severe illness compared to other strains of COVID-19. In late 2021, the Omicron variant emerged, proving to be more contagious than the original COVID-19, but not

---

[256] Wonder.cdc.gov
[257] https://www.cdc.gov/nchs/fastats/accidental-injury.htm
[258] Wonder.cdc.gov
[259] wisqars.cdc.gov/

[260] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html

necessarily deadlier.[261] The most common symptoms of COVID-19 include fever or chills, cough, shortness of breath, headache, and new loss of taste or smell.

Early on in the pandemic, Schuylkill county experienced low levels of COVID-19 community transmission. During the Fall surge of new cases, however, Schuylkill was one of the first counties to be hardest hit, reaching over 500 new cases per 100,000 in the last 14 days (10 times the recommended threshold).
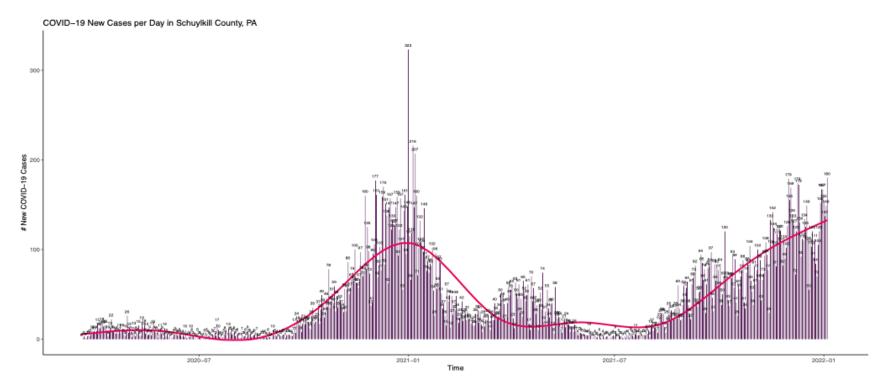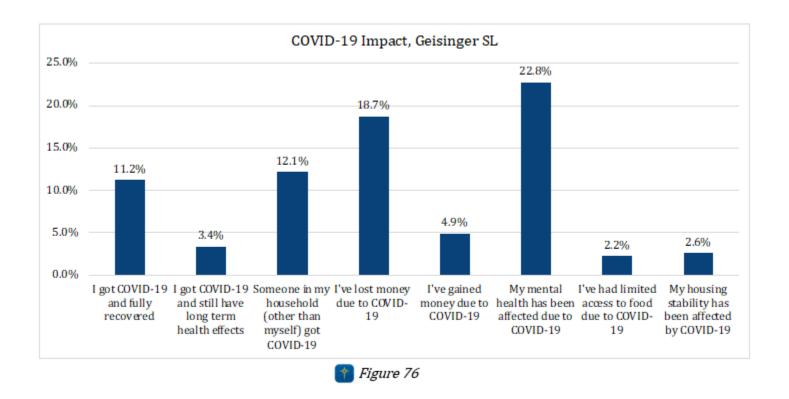

Figure 75

To get an understanding as to how COVID-19 impacted the Geisinger St. Luke's service area we asked respondents to indicate if any of the categories in Figure 76 applied to them. Of those who indicated they had been impacted by COVID-19, respondents reported that their mental health was affected (22.8%), they lost money due COVID-19 (18.7%), they had COVID-19 and fully recovered (11.2%), and 12.1%

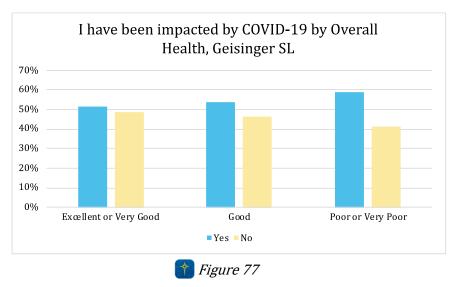[261] https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html

reported that someone else in their household had COVID-19. Additionally, 3.4% say they got COVID-19 and are still having long term effects, 2.2% have limited food access, 2.6% have had housing instability due to the pandemic., while 4.9% have gained money due to the pandemic.
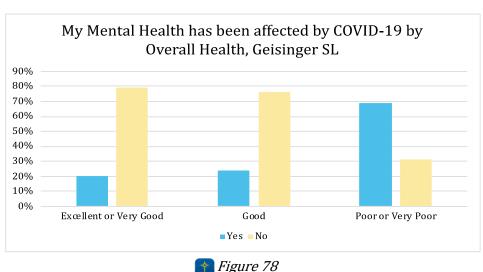
The COVID-19 pandemic is of universal concern and has far-reaching impacts in our communities. On the surface, it appears as though approximately half of the population (47%) in the Geisinger St. Luke's service area has not been affected by the pandemic. Yet, when we examine these results further, we begin to understand that this is not the case for our vulnerable populations. Results from the CHNA survey in the Geisinger St. Luke's service area shed light on some key differences among populations and highlight the impact that COVID-19 has on at-risk populations.

Figure 76

Overall Health and COVID-19

Overall health status can be an indicator of the ways COVID-19 affects individuals. Poor health, including cancer, illness, and chronic conditions, can make some individuals more susceptible to complications, hospitalization, and death compared to those in overall good health.[262] Survey respondents in the Geisinger St. Luke's service area that reported excellent/very good health were less likely (52%) to report being impacted by COVID-19 compared to respondents reporting good health (54%) or poor/very poor health (59%). This is also the case when reporting the impacts of COVID-19 on mental health, with 21% of respondents in excellent/very good health, 24% in good health, and 69% in poor/very poor health reporting mental health issues due to the pandemic. The relationship between overall perceived health and the impacts of COVID-19 must be considered when analyzing the impact of the pandemic on the health of our already vulnerable populations.

Figure 77

Figure 78

Gender and COVID-19

When assessing the impact of COVID-19 based on gender (i.e., sex assigned at birth), national findings indicate that women are more likely than men to worry about COVID-19 (e.g., if someone will get sick, financial burdens, children schooling). Almost 4 in 10 women (compared
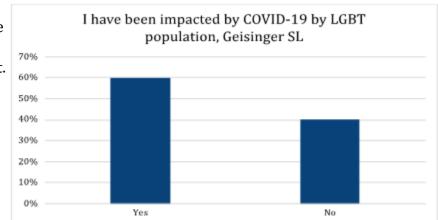
[262] https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html

to 3 in 10 men) reported anxiety and other mental health concerns because of the pandemic.[263] Findings from the CHNA survey in the Geisinger St. Luke's service area showed similar discrepancies between gender, with female respondents more likely to be impacted by COVID-19 (56%) than males (43%). These findings are further supported when looking at the impact of COVID-19 on mental health, with female respondents having their mental health impacted by COVID-19 at higher rates (25%) than males (16%).

LGBT and COVID-19

The LGBT population also faces significant challenges related to the COVID-19 pandemic, and nationally the LGBT population faces more economic hardships and mental health issues than their peers.[264]

CHNA survey results from the Geisinger St. Luke's campuses also reflect these differences, with more than 60% responding that they had been impacted by the pandemic, compared to 53% of non-LGBT respondents in the Geisinger St. Luke's service area. In addition, 45% of the LGBT respondents said their mental health had been affected by the COVID-19 pandemic, compared to 22.8% of total respondents in the service area.

Figure 79

Social Vulnerability

Figure 81 displays the CDC Social Vulnerability Index map, which takes into account factors such as socioeconomics, housing/transportation, language barriers, etc. in determining how vulnerable a population is to an unforeseen disaster, like COVID-19.
Social vulnerability is defined by the CDC as "the resilience of communities (the ability to survive and thrive) when confronted by external stresses on human health, stresses such as natural or human-caused disasters, or disease outbreaks."[265]

---

[263] https://www.kff.org/coronavirus-covid-19/issue-brief/coronavirus-a-look-at-gender-differences-in-awareness-and-actions/
[264] https://www.kff.org/coronavirus-covid-19/poll-finding/the-impact-of-the-covid-19-pandemic-on-lgbt-people/
[265] https://www.atsdr.cdc.gov/placeandhealth/svi/at-a-glance_svi.html

Reducing social vulnerability can minimize the impacts of stressors and or disasters, decreasing human suffering and economic loss. The index is scored from 0 (lowest vulnerability) to 1 (highest vulnerability). Census tracts 5, 6.01, 6.02, and 13 all have the highest overall vulnerability. Schuylkill county's overall vulnerability is .45, a moderate to high vulnerability. Several of these factors are associated with higher rates of COVID-19 infection.[266]

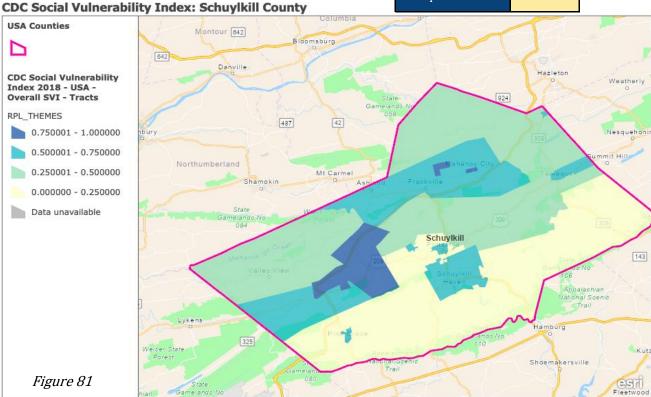| Schuylkill Social Vulnerability	
Overall	0.45
Socioeconomic	0.49
Household Composition and Disability	0.57
Minority Status and Language	0.31
Housing Type and Transportation	0.47

Figure 80

Some of the most vulnerable populations during the pandemic crisis included the homeless population, who faced challenges being exposed to COVID-19 and not having private shelter to quarantine; school-aged children and their parents who had to undertake the momentous task of virtual learning, most for the very first time; those experiencing mental/behavioral health problems or substance use disorder, as challenging times not only exacerbated these issues but exhausted the amount of resources available to deal with them.

CDC Social Vulnerability Index: Schuylkill County

Figure 81

data.pa.gov, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

---

[266] https://www.sciencedirect.com/science/article/pii/S0749379720302592

Many key informants expressed concerns during the pandemic like mental health, access to resources, and internet connection:

"[Internet Connectivity] It is a major issue state wide. I know that our local commissioners and leaders are looking into grant funding for this purpose to get more towers and connectivity. That is one of the biggest issues in the world of education because we rely on technology for students to access virtual instruction."

"During the pandemic telehealth became a much more common practice, and for many it was a great option. However, access to broadband and any internet services is a problem for seniors and lower income residents. This leaves a lot of people closed out of options."

Despite the challenges that the pandemic has brought, the Geisinger St. Luke's community has come together to help each other.

"During COVID, our community has gone above and beyond expectations to meet its needs. The overwhelming response to COVID allowed us to get additional funding dollars with no strings attached to use in this community to help those in need."
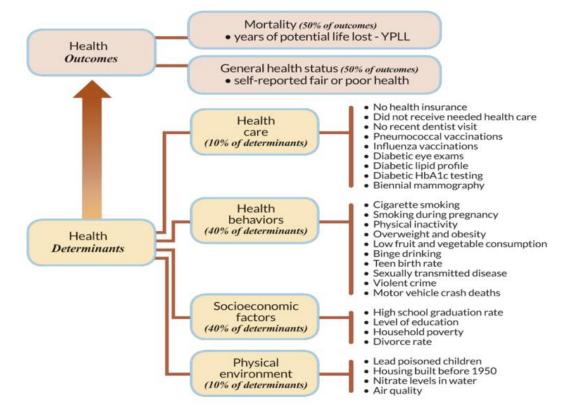
Conclusion

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

To analyze our findings in these areas, SLUHN has adopted the categorization system from the Robert Wood Johnson Foundation (Figure 82). The social determinants of health shape the status of a person's health and provide guidance for community health priorities. When addressing the priority health needs, it is crucial to consider the social determinants of health and lifestyle behaviors to effectively tackle the service area's health disparities. Some significant survey findings, which are consistent with trends seen widely, are related to health outcomes and income, access to care for minority and marginalized populations, healthy eating (i.e., fruit and vegetable consumption), diabetes and other chronic illnesses, the opioid epidemic, and other substance use.

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

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

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

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

Appendix A

2022 CHNA Key Informant Interview

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

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

1. Name:

2. Title:

3. Organization:

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

4. How long have you been a part of this community and in what capacities?

5. When thinking about others you interact with here, do you feel a sense of community?

6. How would you describe your community?

7. What are the major needs/challenges within this community?

8. What are some of the challenges specific to your organization?

9. How do you feel this community has been successful in meeting its needs?

10. What improvements in policy and community infrastructure would assist you in meeting community needs?

11. Who are some of the key players in your community and what organization do they belong to?

12. What are some of the strengths and resources of your community?

13. Do you feel these strengths are shared and evenly distributed throughout the community? Please explain.

14. What are some concrete examples of strengths and challenges across the lifespan related to the following topics in your community?

   a. Health disparities/Access to care
      (example: access to medical, mental, dental and vision care)

   b. Healthy Living (example: diet and physical activity)

   c. Chronic Disease (example: diabetes, heart disease and cancer)

   d. Mental/Behavioral Health (example: substance misuse/use disorder, depression and anxiety)

15. What are the **top three issues** that need to be addressed in your community?

16. Any additional comments?

Appendix B

2022 CHNA Community Forum Invited Organizations- Geisinger St. Luke's Campus

- Alvernia College
- Avenues of Pennsylvania
- Blue Mountain Area School District
- Clinical Outcomes Group, Inc.
- County Commissioners
- Culture2Culture
- Gillingham Charter School
- Hope and Coffee
- Interfaith Health Network
- Law Enforcement Treatment Initiative (LETI)
- Mahanoy Area School District
- Marian High School
- Mid-Penn Legal Services
- Minersville Area School District
- Nativity B.V.M. High School
- North Schuylkill Area School District
- Nurse Family Partnership
- PA Career Link Schuylkill County
- Penn State Schuylkill Campus
- Pine Grove Area School District
- Pottsville Area School District
- Pottsville Free Public Library
- Pottsville Housing Authority
- Salvation Army, Pottsville
- Schuylkill Access and Management Inc.
- Schuylkill Area Community Foundation (SACF)

- Schuylkill Chamber of Commerce
- Schuylkill Community Action
- Schuylkill County Area Agency on Aging
- Schuylkill County Child Development
- Schuylkill County Children and Youth
- Schuylkill County Cooperative Extension
- Schuylkill County Drug & Alcohol
- Schuylkill County Emergency Management
- Schuylkill County Housing Authority
- Schuylkill County IU 29
- Schuylkill County Juvenile Justice Department
- Schuylkill County Mental Health and Developmental Services
- Schuylkill County VISION
- Schuylkill Haven Area School District
- Schuylkill Transportation System
- Schuylkill United Way
- Schuylkill Veterans Clinic
- Schuylkill Women In Crisis
- Servants to All – My Father's House
- Sexual Assault Resource & Counseling Center (SARCC)
- Shenandoah Valley School District
- St. Clair Area Elementary School
- Suicide Prevention Task Force
- Tamaqua Area School
- Tri-Valley Area School District
- Williams Valley Area School District