



Quakertown and Upper Bucks Campuses Community Health Needs Assessment

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Authors

Whitney Szmodis, Ph.D., M.Ed.

Amanda Chapin, MA

Rajika E. Reed, Ph.D., MPH, M.Ed.

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



St. Luke’s Community Health Needs Assessment Data

Executive Summary

..... Key Findings

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
Obesity Reduction
Physical Activity Promotion
Mental Health
Opioids and other Substance Use
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 St. Luke’s Quakertown and Upper Bucks service areas 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. Quotes from key informants and community forum participants are noted throughout in the text and highlighted in grey boxes unless otherwise noted. Due to the COVID-19 pandemic, key informant interviews were conducted through Microsoft Teams and the community forums were conducted through Zoom. Third, 11,523 voluntary community health surveys were administered throughout our fourteen campus geographic regions, where the main priority health needs were identified for each entity, and a total of 1,522 surveys were collected from the top 80 percent zip codes in the Quakertown and Upper Bucks 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 to 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 Quakertown and Upper Bucks Community Assets

When describing the Quakertown community, key informants mentioned that it is a quaint, artistic town with great architecture, Quaker heritage, and vast parks and recreation systems. Several key informants also highlighted food access issues in Quakertown, stating that “we are a food desert. I must get complaints on a monthly basis. This is a walkable community. We have a high demographic of apartments and town homes and a lot of those people do not have cars. They need to be able to walk to get fresh fruits, vegetables, and milk and they cannot do that in our downtown.” Another mentioned “we need to have more food access points and I don’t know how to do that. I need to make sure my families get fed.” When describing community members, the consensus was that Quakertown is a very connected community with strong and lasting partnerships. During the COVID-19 pandemic, one informant mentioned that “there is some real wealth in the community. Fortunately, I have seen a number of people who have stepped up when they have not before.” A community forum member also added:



“Partnerships between schools, foundations, and governments in the area are really strong, and that allows for effective addressing of issues and challenges. For example, schools work well with law enforcement, and foundations have great relationships with community organizations.”

St. Luke's Quakertown and Upper Bucks campuses have a variety of programs and partnerships, including the Medical Career Pathways Program involving high school students from Quakertown and Palisades High School, the Summer Meal Program which served 593 meals in 2019, the Dental Van, Community Fitness Programs, the Older Adult Meal Program, and more.

During COVID-19, multiple action steps were taken to enhance food access, address housing concerns and support mental and behavioral health. Highlights include participation in the Quakertown Community Food Drive with more than 10,000 pounds of food secured; volunteering for distribution of food from Defense Logistics distributed by Fresh Connect; the Upper Bucks campus was a site for the United Way's Bucks County Knocks Out Hunger Drive, collecting 5,000 pounds of food; assistance with wash stations at food distribution sites; 400 hygiene kits provided to Upper Bucks YMCA, The Open Link and United Way of Bucks County; development of patient discharge housing protocols; thermometer distribution; virtual fitness classes and additional community programming. Throughout the pandemic, SLUHN has been able to pivot and meet the needs of the community through existing relationships built with nonprofits, businesses, schools, and community-based organizations who have assisted in events, education, and providing services in our service areas.

..... 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. The table below depicts select health indicators for 2021 for each of the counties in SLUHN's service area. 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 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, previously 23 total, since 2018 during the last CHNA cycle.

Additionally, in Bucks county, there are 20% red values, 35% yellow values, and 45% green values. Out of counties where a St. Luke's hospital is located, Bucks county has the most amount of green and yellow values and the least amount of red values. In 2018, there were 20% red values, 50% yellow values, and 30% green values. From 2018 to 2021, there is no change in red values, a 30% decrease in yellow values, and a 50% increase in green values.

In Montgomery county, there are 15% red values, 25% yellow values, and 60% green values. In 2018, there were 10% red values, 45% yellow values, and 45% green values. From 2018 to 2021, there was a 50% increase in red values, a 44.4% decrease in yellow values, and a 33.3% increase in green values.

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.

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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
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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 Quakertown and Upper Bucks campuses (i.e., service area). In the Quakertown and Upper Bucks service area (Figure 2), 50% of the patients reside in 18951 (Quakertown), 18073 (Pennsburg), and 18036 (Coopersburg). These zip codes remain the same as the previous 2019 CHNA.¹ The Quakertown and Upper Bucks service area serves patients primarily from Bucks county, Montgomery county, and Lehigh county; however, the Quakertown campus and Upper Bucks campus are both located in Bucks county. Bucks county will be primarily used as a secondary data reference with Montgomery county supplemented as needed. Due to the constraints of secondary data, Bucks county data will include the entire county without specific focus on Upper Bucks. Please refer to the Allentown, Sacred Heart, and Star Community Health CHNA for Lehigh county data.

A total of 205,680 people live in the 398.11 square mile area outlined in Figure 3. The population density for this area is estimated at 516.64 persons per square mile, compared to 285.89 persons per square mile in Pennsylvania and 91.93 persons per square mile nationally.

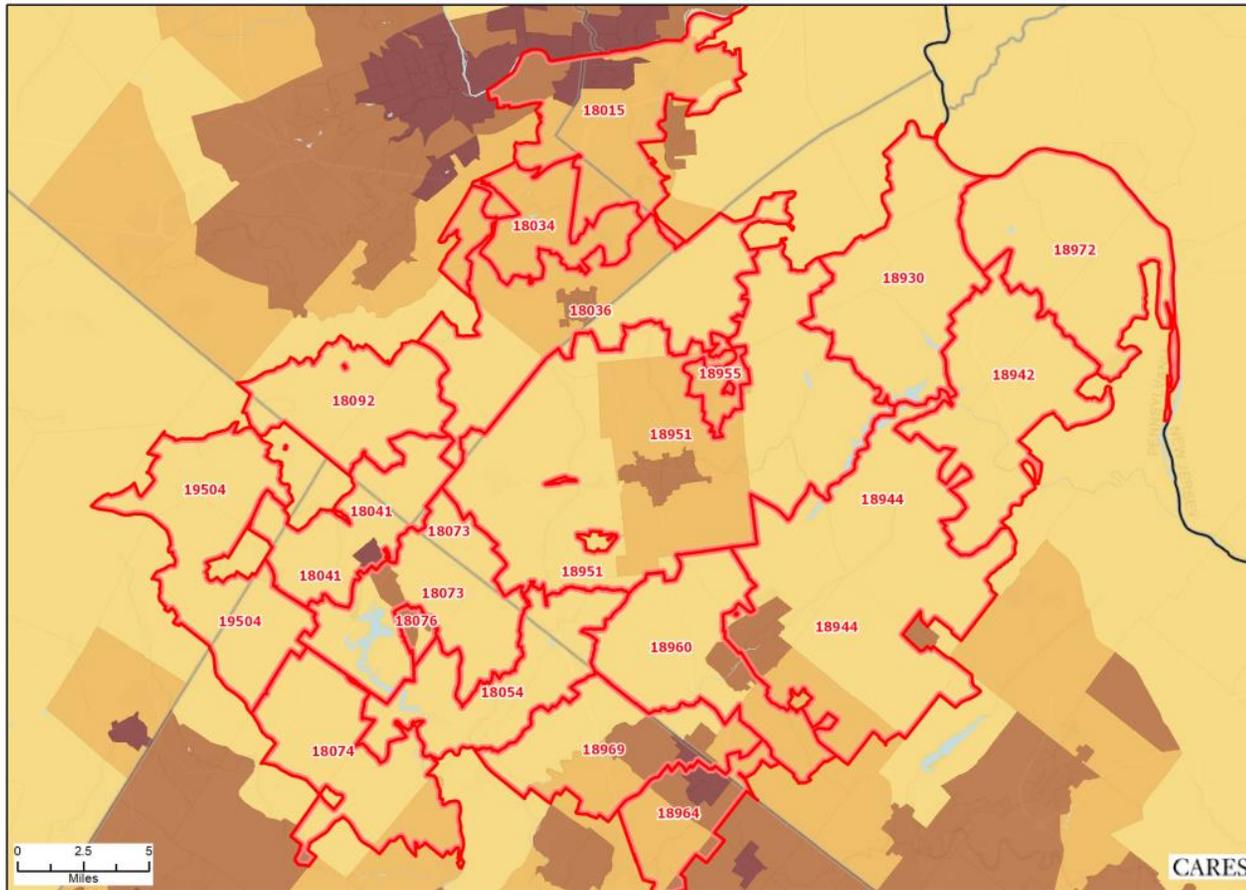
Zip Code	% SLQ & SLUB Total (n =98,179)	% Network Total (n = 1,554,201)
18951	34%	2.2%
18073	9%	0.5%
18036	7%	0.5%
18041	5%	0.3%
18944	3%	0.2%
18076	3%	0.2%
18034	2%	0.2%
18960	2%	0.1%
18054	2%	0.1%
18955	2%	0.1%
18930	2%	0.1%
19504	2%	0.1%
18015	1%	0.1%
18969	1%	0.1%
18942	1%	0.1%
18972	1%	0.1%
18074	1%	0.1%
18964	1%	0.1%
18092	1%	0.1%
Total	80%	5.05%

Figure 2

¹ <https://www.slnh.org/community-health/community-health-needs-assessment/-/media/2F29960477894B15894033FD62EBFC58.ashx>

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Population Density Quakertown & Upper Bucks



Map Legend

Population, Density (Persons per Sq Mile) by Tract, ACS 2015-19

- Over 5,000
- 1,001 - 5,000
- 501 - 1,000
- 51 - 500
- Under 51
- No Data or Data Suppressed

Report Location, ZIP code



<https://lehighvalleyhub.org/map-room/>, 2/19/2021

Figure 3

According to the 2010 Decennial Census, 73.9% of the Quakertown and Upper Bucks service area lives in an urban setting and 26.1% of the service area live 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.

The following sections give a brief overview of the populations that St. Luke's Quakertown and Upper Bucks 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 survey data unless otherwise noted.² Please refer to the Network and Campus Community Health Needs Assessment Survey Findings document for more detailed information from the survey.

² <https://data.census.gov/cedsci/>

Age

The ACS reports 21% of the service area population are people under 18 years old and 16.8% are 65 years and older (Figure 4). Combined, these groups account for 37.8% of the service area population, leaving 62.2% between the ages of 18 and 64. In Bucks county, 20.6% of people are under 18 years old and 18.1% are 65 years and older, leaving 61.3% between the ages of 18 and 64. In Montgomery county, 21.7% are under 18 years old, with 17.4% 65 years and older, leaving 60.9% between the ages of 18 and 64.

The majority of Quakertown and Upper Bucks service area survey respondents were 55 years and above; 38% 65 years and older and 21% ages 55 to 64. Only 17% were ages 45 to 55, 16% ages 35 to 44, 6% ages 25 to 34, and 2% ages 18-24. The survey was administered to people 18 years and older, therefore, younger ages are not represented in survey results. The median age of respondents was 59 years old.

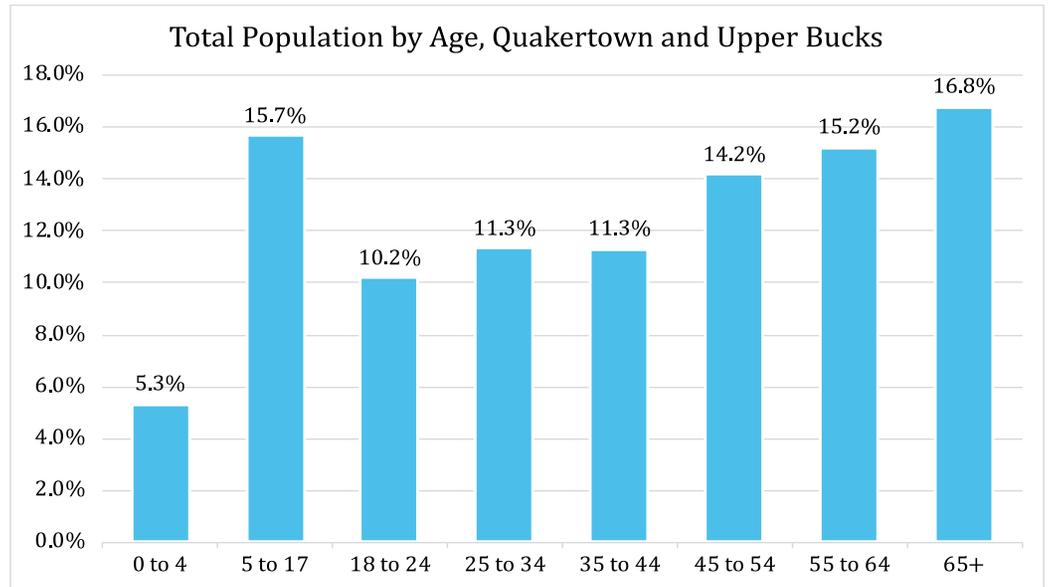


Figure 4

Sex

According to 5-year estimates by the ACS, 50.6% of people identified as female and 49.4% identified as male in the St. Luke's Quakertown and Upper Bucks service area (Figure 5). This is similar to the national average, 50.8% and 49.2%, respectively. In Bucks county, 50.9% of people identify as female and 49.1% as male. In Montgomery county, 51.4% of people identify as female and 48.6% as male.

When asked about sex assigned at birth, 66% of Quakertown and Upper Bucks service area CHNA survey respondents indicated female and 34% indicated male.

Total Population by Sex, Quakertown and Upper Bucks

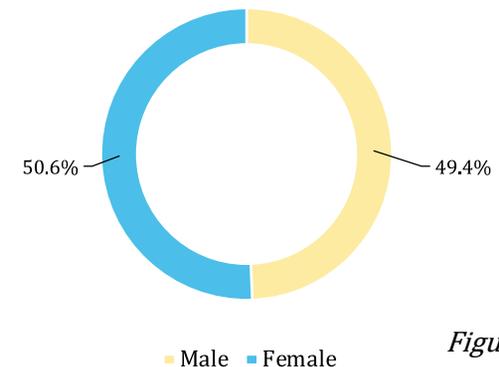


Figure 5

..... Ethnicity

Total Population by Ethnicity, Quakertown and Upper Bucks

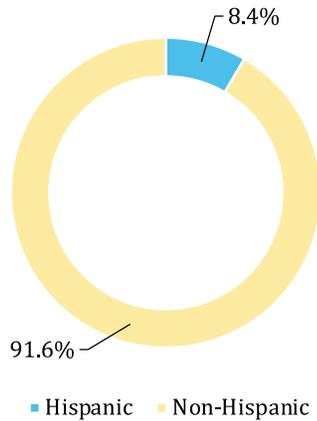


Figure 6

The ACS data indicates that 91.6% of the Quakertown and Upper Bucks service area identifies as non-Hispanic and 8.4% identifies as Hispanic (Figure 6). The population in Pennsylvania is 92.7% non-Hispanic and 7.3% Hispanic; the United States population is 82% and 18%, respectively. In Bucks county, 94.7% of people identify as non-Hispanic and 5.3% as Hispanic. In Montgomery county, 94.9% of people identify as non-Hispanic and 5.1% as Hispanic.

When asked about ethnicity, 97% of survey respondents from the Quakertown and Upper Bucks service area identify as non-Hispanic, while 3% of respondents identify as Hispanic.

..... Race

The ACS reports that 90.2% of the service area identifies as White, followed by Other Race (4.2%), Black (2.6%), and Asian (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 Bucks county, 87.6% of people identify as White, followed by Asian (4.8%), Black (4%), and Other Race (3.5%). In Montgomery county, 79.1% of people identify as White, followed by Black (9.2%), Other Race (4.6%), and Asian (2.6%).

The majority of Quakertown and Upper Bucks service area CHNA survey respondents identified as White, 92%, followed by Other Race (5%), Asian (2%), and Black (1%).

Total Population by Race, Quakertown and Upper Bucks

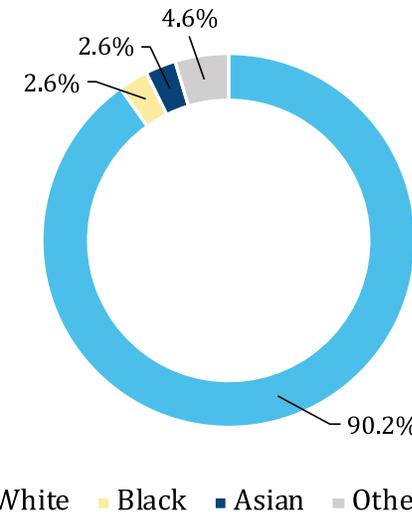


Figure 7

..... Vulnerable Populations

The following data was retrieved from the 5-year American Community Survey (2015-2019) by the Census Bureau.³

..... Black, Indigenous, People of Color (BIPOC)

It is important for St. Luke's 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.⁴ 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.^{5,6} Disparities in access to care for BIPOC communities can be detrimental to health outcomes and generate mistrust in healthcare.⁷ In the Quakertown and Upper Bucks service area, 2% of the survey respondents identifies as Black and 7% of respondents identify as Hispanic. Out of the BIPOC individuals who were surveyed for the network, 33% identified as Other Race, followed by Black (32%), Multiple Races (23%), Asian (10%), and American Indian or Alaskan Native (2%).



“Racism is a definite need to work on. Diversity, mental wellness and physical wellness...families are scared to go anywhere because of how ICE was working the last 4 years. I could not get them to come into the school”

..... 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

³ <https://www.census.gov/programs-surveys/acs/>

⁴ <https://www.bsr.org/en/our-insights/blog-view/respecting-the-rights-of-vulnerable-groups>

⁵ <https://www.bsr.org/en/our-insights/blog-view/respecting-the-rights-of-vulnerable-groups>

⁶ <https://covid.cdc.gov/covid-data-tracker/>

⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194634/>

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 Quakertown and Upper Bucks service area, only 0.4% of the 65 and older population are uninsured, 6.5% of ages 18 to 64 are uninsured, and 2.4% of children under 18 years old are uninsured. 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.

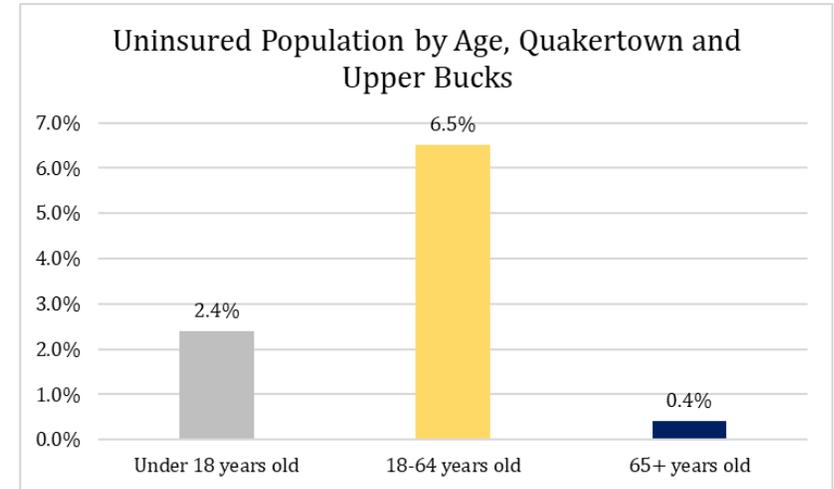


Figure 8

..... **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.⁸ Because ALICE households do not qualify for Federal assistance, they cannot always afford to 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.⁹ These areas often include housing, childcare and education, food, transportation, health care, technology, and taxes. The most recent ALICE report (2018) found that 24% of households in Bucks county were considered ALICE¹⁰, 3% lower than the Pennsylvania state average of 27%. In Bucks county, 21,629 single or cohabitating households were ALICE, 10,886 families with children were ALICE, and 25,823 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 Bucks county was \$2,611 a month and \$31,332 a year, while the average hourly wage was \$15.67.¹¹ Out of all of the cities, boroughs and townships in Bucks county, Bridgeton township, Dublin borough, and Quakertown borough all have 38% of households meeting ALICE criteria. In Montgomery county, 29,174 single or cohabitating household were ALICE, 13,863 families with children were ALICE, and 32,596 people 65 and older were ALICE. In 2018, the average cost of living for a single adult in

⁸ <https://www.unitedforalice.org/>

⁹ <https://www.unitedforalice.org/consequences>

¹⁰ <https://www.unitedforalice.org/pennsylvania>

¹¹ <https://www.unitedforalice.org/pennsylvania>

Montgomery county was \$2,682 a month and \$32,184 a month, while the average hourly wage was \$16.09. Out of all the cities, boroughs, and townships in Montgomery county, Schwenksville borough has 45% of household meeting ALICE criteria, followed by Pottstown borough and East Greenville borough each with 43% of households.

..... Children and Adolescents

According to 5-Year ACS (2015-2019) estimates, 21% of the Quakertown and Upper Bucks 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)¹² is run by the Pennsylvania Commission on Crime and Delinquency and asks questions pertaining to drug use, violence, mental health, school safety, and more. PAYS is administered (by paper and online) biennially in odd years to students in grades 6, 8, 10, and 12. According to PAYS, 40.5% of children report lifetime alcohol usage and 18.7% marijuana usage. Additionally, 24.4% children report experiencing bullying in the past 12 months when surveyed. 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 Bucks county, 7.2% of students have a lifetime usage of cigarettes and 1.9% have a 30-day usage of cigarettes, both well below the state average. In Bucks county, 16.8% of students have a 30-day vape use, which is below the state at 19% and has decreased from 19.5% in 2017. For students that vape, 62.9% report using nicotine in their vape and 37.8% report using marijuana/hash oil. Nicotine usage in vapes has increased by 54.2% from 40.8% of students in 2017. Marijuana/hash oil usage in vapes has increased by 67.3% from 22.6% of students in 2017.

..... Other Substance Use

Substance use in children and adolescents can have a significant impact on their health and well-being.¹³ 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).¹⁴ In 2019, the PAYS survey found that lifetime alcohol use

¹² [https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-\(PAYS\)-2019.aspx](https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS)-2019.aspx)

¹³ <https://www.cdc.gov/ncbddd/fasd/features/teen-substance-use.html>

¹⁴ <https://www.cdc.gov/ncbddd/fasd/features/teen-substance-use.html>

across the state was 41% and state lifetime use of marijuana was 17.3%. In Bucks county, 40.5% of students have lifetime alcohol use and 18.7% lifetime use of marijuana. In the state, lifetime use of prescription pain medication was 4.1%, and 3.9% for over-the-counter drugs. In Bucks county, lifetime prescription use was 3.4% and 3.4% 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 to adults. Small portions of the state used cocaine, methamphetamines, heroin, ecstasy, and synthetic drugs. However, the most frequent "other drug" used were hallucinogens, with a 2.7% lifetime use. Bucks county students had a 2.6% 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 students indicated driving after using marijuana in the past year. In Bucks county, 8.3% of students engaged in binge drinking in the past 2 weeks, 1.3% of students reported driving while or shortly after drinking, and 3.1% report driving after using marijuana in the past year. Finally, 34.3% of students in the state and 39.3% of students in Bucks county reported *taking without permission* as their most frequent source/method of obtaining alcohol. The next highest source was *giving someone money to buy it*, which was 26.7% of students in the state and 31.1% of students in

 ***"We have seen an increase in substance use among both parents and students...The substance issues of parents and students may be even more difficult next year as they deal with the trauma incurred during the pandemic."***

..... 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 16.4% of students in Bucks county reported having been threatened with violent behavior at school in the past year and 6.8% of Bucks county students reported having been attacked on school property, 1.1% with a weapon. Additionally, 1% of students report bringing a weapon to school in the past 30 days, which is similar to the state (0.9%).

Bullying is also a factor contributing to violence in schools, prompting some students to skip school, and potentially lowering self-esteem. In Bucks county, 24.4% of students report experiencing bullying in the past year, slightly lower than the state (25.1%) and has decreased from 27.2% of students in Bucks county in 2017. The most common way Bucks county students reported being abused was emotional abuse, insults, and name calling (60.8%), followed by physical injury (23%), and threats (21.4%). In Bucks county, 12.9% of students that experienced bullying report being bullied via text or social media. Of the students in Bucks county that indicated having been cyberbullied, 49.2% indicated feeling so sad or hopeless every day for the past 2 weeks they stopped doing usual activities; and in the past year, 35.5% of those students seriously considered suicide, 27% made a suicide plan, and 24.6% 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 Bucks county students was *at times I think I am no good at all* (33.8%) compared to 36.3% at the state level. Additionally, 38.0% of students in Pennsylvania and 34% in Bucks county reported feeling sad or depressed MOST days in the past 12 months.

PAYS also asks questions pertaining to self-harm and suicide. In Pennsylvania, 14.4% of students (12.5% in Bucks county) indicated using self-harm (cutting, scraping, burning) in the past 12 months. Across the state, 16.2% of students indicated seriously considering suicide, 12.9% planned suicide, 9.7% attempted suicide, and 2.0% needed medical treatment as a result. In Bucks county, 14.7% of students seriously considered suicide, 11.2% planned suicide, 8.1% attempted suicide, and 1.7% needed medical treatment as a result.



“Trauma and mental health issues within the school age population is extremely high. I’m very concerned that these problems have become bigger during the pandemic and will need greater attention as we transition out of this period.”

..... Risk and Protective Factors

The 2019 PAYS illustrated some concerning trends in regard to perceived importance of school with only 47.9% of students viewing the things they are learning in school to be important for their future and 38.8% of students enjoyed being in school the past year, a decrease from 41.5% in 2017. In Bucks county, 81.3% of students reported feeling safe at school, the highest of all service area counties.

Many risk and protective factors come into play when understanding observed rates of drug use and mental health issues explored 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. Among the highest risk factors were low commitment toward school, perceived risk of drug use, and parental attitudes favorable toward antisocial behavior. Among the highest protective factors were family attachment, family opportunities for prosocial involvement, and family rewards for prosocial involvement.

..... **Seniors**

According to the ACS (2015-2019), there are 34,723 people 65 years and older living in the Quakertown and Upper Bucks service area.¹⁵ In Bucks county, there are an estimated 113,718 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 2019.¹⁶ It is also estimated that the 65 and older population will outnumber children by the year 2034.¹⁷ By 2060, adults 65 and older will account for 23.4% of the population, or 94.7 million people.

In 2018, 19.4% of Medicare beneficiaries in the Quakertown and Upper Bucks service reported suffering from depression. In the same time frame, 19% of Medicare beneficiaries in Bucks county reported suffering from depression¹⁸, compared to Pennsylvania (19.3%) and the United States (18.4%).



“The senior citizens in this region are in a tough place right now. The isolation that is already a common part of life for seniors has been magnified by the pandemic, and I’m very worried that we will see the negative effects more and more as time goes on.”

Other important factors include 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 the percentage of Medicare beneficiaries within the Quakertown and Upper Bucks service area that report having these diseases.¹⁹

The Quakertown and Upper Bucks service area has the lowest diabetes percentage in the St Luke’s network service area; but, there is still room for improvement in lowering heart disease, high blood pressure and high cholesterol. Of the adults 65 and older surveyed from the Quakertown and Upper Bucks service area, 17.8% have diabetes, 10.5% have had a heart attack or

	Percent of Medicare Beneficiaries				
	St. Luke's Survey	Quakertown and Upper Bucks service area	Bucks County	Pennsylvania	United States
Diabetes	17.8%	24.1%	23.7%	25.8%	27.0%
Heart Attack and other Disease	10.5%	27.2%	28.7%	27.3%	26.8%
High Blood Pressure	53.1%	59.1%	58.2%	58.5%	57.2%
High Cholesterol	33.9%	55.8%	55.8%	52.7%	47.7%

 **Figure 9**

¹⁵ <https://www.census.gov/programs-surveys/acs/>

¹⁶ <https://www.census.gov/newsroom/press-releases/2020/65-older-popu>

¹⁷ <https://www.census.gov/library/visualizations/2018/comm/historic-first.html>

¹⁸ https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF

¹⁹ https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF

other disease, 53.1% have high blood pressure, and 33.9% have high cholesterol. While these numbers are lower than previously reported, chronic disease in seniors continues 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 senior adults in America and found that 7.3% of seniors are food insecure.²⁰ 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.

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, on a scale of 1-50 with a score of 1 as the best. Pennsylvania's best ranking appeared in clinical care (19), and worst in physical environment (46).²¹ Clinical care assesses factors like access to care, quality of services provided, and preventive services. Physical environment assesses factors like air and water quality, pollution, and housing conditions.

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.²² 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.²³ 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, preventing seniors from getting the care they need.²⁴ 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 experienced a stroke are more likely to have frequent mental distress.^{25,26} Senior mental health is a growing concern in the United States, especially with isolation during the COVID-19 pandemic.

²⁰ <https://www.feedingamerica.org/research/senior-hunger-research/senior>

²¹ https://www.americashealthrankings.org/explore/senior/measure/overall_sr_3/state/PA

²² https://www.americashealthrankings.org/explore/senior/measure/overall_sr_3/state/PA

²³ https://www.americashealthrankings.org/explore/senior/measure/mental_distress_sr/state/NJ

²⁴ <https://www.agingcare.com/articles/understanding-mental-health-issues-in-seniors-209387.htm>

²⁵ <https://www.cdc.gov/aging/publications/coronary-heart-disease-brief.html>

²⁶ <https://www.nia.nih.gov/health/diabetes-older-people>



“A growing concern within COVID times and even pre COVID is isolation as people get older. For the elderly in the community, it is the natural part of life where connections get reduced.”

Falls are the leading cause of fatal and nonfatal injuries in older Americans.²⁷ The 2020 senior health report found that 24.2% of older adults in Pennsylvania had fallen within the last 12 months.²⁸ 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.²⁹ However, the number of falls can be reduced through practical lifestyle adjustments, educational programs and community partnerships.³⁰ Of adults 65 years and older surveyed in the Quakertown and Upper Bucks service area, 17.9% have ever fallen. Of this group, 17% have fallen 1-2 times, 2% have fallen 3-4 times, and 2% have fallen 5 or more times.

Ever Fallen, Quakertown and Upper Bucks

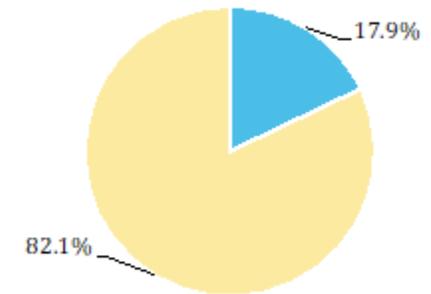


Figure 10 Yes No

Along with other health concerns that increase with aging, polypharmacy is one of the hardest to track. Polypharmacy lacks a central definition, but authors Dagle and Sharma define polypharmacy as the use of multiple medications generally referred to as five or more prescribed drugs per day.³¹ This is common among the senior population because of the need to treat various diseases and injuries that increase with age. Some symptoms of polypharmacy include tiredness, decreased alertness, incontinence, lack of appetite, falls, depression, tremors, hallucinations, and more. 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

²⁷ <https://www.ncoa.org/healthy-aging/falls-prevention/preventing-falls-tips-for-older-adults-and-caregivers/>

²⁸ https://www.americashealthrankings.org/explore/senior/measure/falls_sr/state/PA

²⁹ <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/>

³⁰ <https://www.ncoa.org/healthy-aging/falls-prevention/>

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](https://www.npjournal.org/article/S1555-4155(19)31051-7/fulltext)

³⁴ https://www.respectaging.ca/training/Participant_Manual_-_Module_08.pdf

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. Research indicates that self-efficacy in older adults 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 LGBTQ 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 did not visit the doctor for a routine check-up in a year or longer and 36% did not visit the dentist in the past year. Additionally, 1 in 3 Bradbury-Sullivan respondents feared seeking healthcare services because of past or potential negative reactions from healthcare providers. In Bucks county, 58.3% of respondents report being dissatisfied with their life and 58.3% report considering suicide at some point in their life.

In the Pennsylvania LGBT Health Needs Assessment, there were 16 respondents from Bucks county. The mean age of respondents was approximately 42 years, and the ages ranged from 19 years to 67 years old. Only 6 CHNA survey 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. Figure 11 summarizes the key health outcomes and social determinants of health of Pennsylvania LGBT Health Needs Assessment respondents in Bucks county.

Category	Outcome Measures	Bucks County PA LGBT Respondents
Mental Health	Ever Considered Suicide	58.3%
	Dissatisfied with Life	58.3%
Mental Health Access	Had a Mental Health Challenge in the last 12 months	81.8%
	Seen by a Mental Health Provider in the las 12 months	66.7%
Healthcare Barriers	Uninsured	21.4%
Discrimination and Violence	Experienced Discrimination	58.3%
	Experienced Violence	25.0%
Financial, Food and Housing Insecurity	Financially Insecure	60.0%
	Food Insecure	33.3%
	Ever Homeless	16.7%
Chronic Disease	Diabetes Diagnosis	25.0%
	Pre-Diabetes Diagnosis	16.7%
	HIV Diagnosis	8.3%
Tobacco and Drug Use	Current Cigarette Smoker (18+ years)	8.3%
	Curren E-Cigarette Smokers (all ages)	8.3%
	Ever Engaged in Chemsex	33.3%

Figure 11

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>

From the St. Luke's CHNA survey, we found that 3.9% of respondents from the Quakertown and Upper Bucks 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 CHNA 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 CHNA respondents, 9.7% and 1.6%, respectively.

LGBT Identification, Quakertown and Upper Bucks

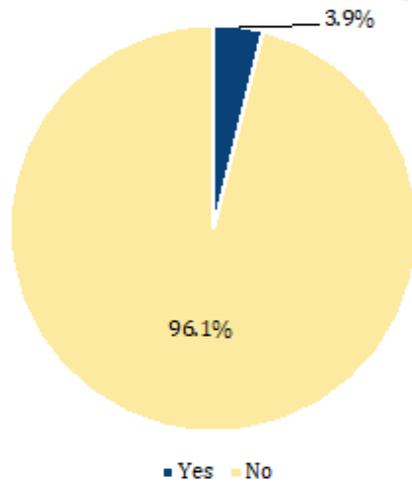


Figure 12

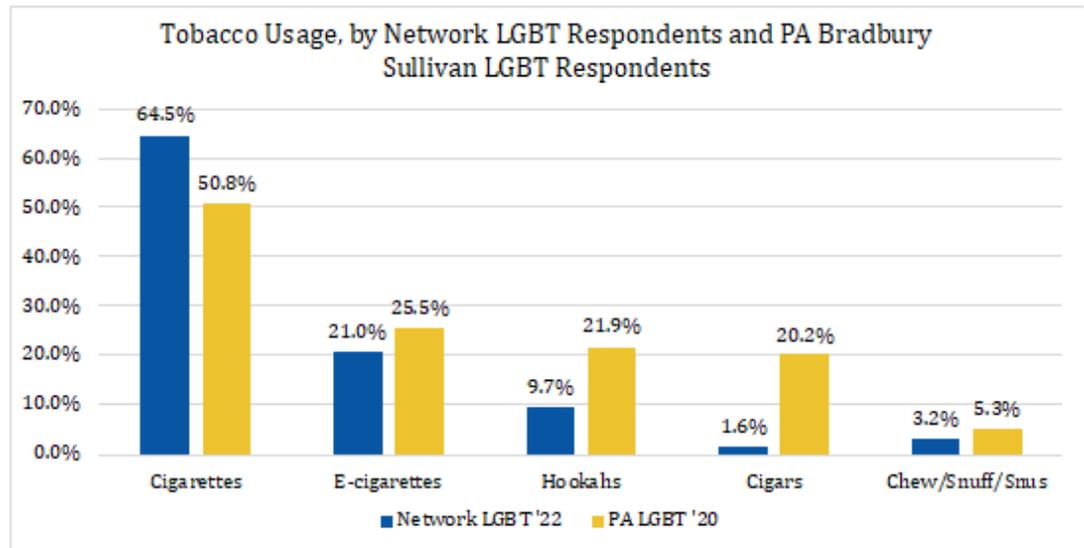


Figure 13

..... Disabled Population

In the Quakertown and Upper Bucks service area, 10.3% 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

³⁸ data.census.gov/ Table (S1810)

difficulty, and independent living difficulty.³⁹ Of those who have a disability in the Quakertown and Upper Bucks service area, 8.8% are under 18 years old, 49% are between 18 and 64 years, and 42.2% are 65 years and older.

..... Veteran Population

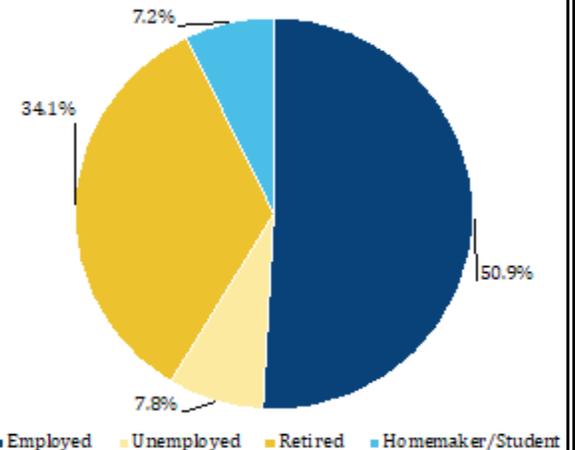
Of the Quakertown and Upper Bucks population 18 years and older, 6.8% are veterans. The Census Bureau classifies a veteran as “a person 18 years old or over who has served (even for a short time), but is not now serving, on active duty in the U.S. Army, Navy, Air Force, Marine Corps, or the Coast Guard, or who served in the U.S. Merchant Marine during World War II.”⁴⁰ Of the 6.8% of veterans in the Quakertown and Upper Bucks service area, 94.3% are male and 5.7% are female.⁴¹

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 within the year due to the COVID-19 pandemic. In January of 2020, Pennsylvania started off the year with an unemployment rate of 4.7%, but the unemployment rate sky-rocketed to 16.1% by April of 2020—the highest observed since the U.S. Great Depression.

Employment Status, Quakertown and Upper Bucks



³⁹ <https://www.census.gov/topics/health/disability/guidance/data-collection-ac.html>

⁴⁰ <https://www.census.gov/content/dam/Census/topics/population/veterans/guidance/acs-topic-information-veterans.pdf>

⁴¹ [Data.census.gov/ Table \(S2101\)](https://data.census.gov/ Table (S2101))

⁴² <https://www.countyhealthrankings.org/>

Pennsylvania reached unemployment rates below 10% by September of 2020, and 3.8% of residents of Bucks county and 3.5% of residents in Montgomery county experienced unemployment. The majority of CHNA survey respondents from the Quakertown and Upper Bucks service area are employed (50.9%) or retired (34.1%), and 7.8% of respondents are unemployed and 7.2% are either a homemaker or a student.

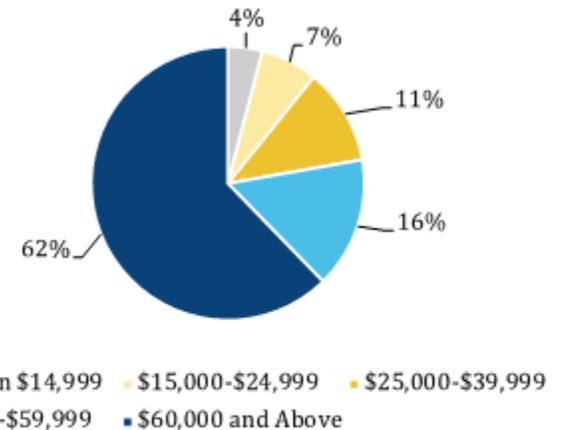
 *“There are severe shortage of EMS professionals. It’s very hard to get employees right now, as other areas are paying much more and take the employees we are trying to get. This shortage is causing strain on the employees we have who are working 60 hours a week.”*

 *“Staffing for jobs and childcare capacity are a big challenge. Individuals that could work were constrained by the childcare situation, especially women.”*

..... Household Income and Poverty

The 2021 Federal Poverty Level (FPL) poverty guideline is measured at \$12,880 a year for one person and \$26,500 for a family of four.⁴³ If one person is 200% of the Federal Poverty Level, they make up to \$25,760; if a family of four is 200% of the Federal Poverty Level, they make up to \$53,000. This is important because some government assistance programs use this percentage to determine the qualifications for receiving the benefit. For example, the Affordable Care Act provides insurance subsidies for households between 100% and 400% of the poverty level.⁴⁴ The ACS (2019) reports that 19.2% of the Quakertown and Upper Bucks service area live 200% below the FPL, well below both Pennsylvania (28.3%) and the United States (30.9%); 18015 is the zip code most affected by poverty. The ACS also reports that the median household income in Bucks county is \$89,139 and the median household income in Montgomery county is \$91,546, which are both well above the median household income in Pennsylvania (\$61,744) and the United States (\$62,843).

Household Income, Quakertown and Upper Bucks



 *Figure 15*

⁴³ <https://aspe.hhs.gov/2021-poverty-guidelines>

⁴⁴ <https://www.healthcare.gov/glossary/federal-poverty-level-fpl/>

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The majority of CHNA survey respondents surveyed in the Quakertown and Upper Bucks service area have a household income of \$60,000 and above (62%), 11% of respondents have a household income of \$24,999 and below, and 27% have a household income between \$25,000 and \$59,999. Quakertown and Upper Bucks has the greatest amount of CHNA survey respondents with a household income \$100,000 and above along with the least amount of respondents whose 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 is a need within the community for food pantries, Federally Qualified Health Centers, government assistance, rent assistance, and more to supplement income for those in need.

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 improved socioeconomic status and thus health outcomes. The Healthy People 2030 high school target graduation rate is 90.7%.⁴⁵ In Pennsylvania, 91% of people have a high school diploma or equivalent. In both Bucks and Montgomery county, 94% of people have a high school diploma or equivalent.⁴⁶ Of the Quakertown and Upper Bucks CHNA survey respondents, 98.3% of respondents have a high school education or higher, 0.4% have less than high school degree, and 1.3% have some high school.

ACS Educational Attainment (2015-2019)

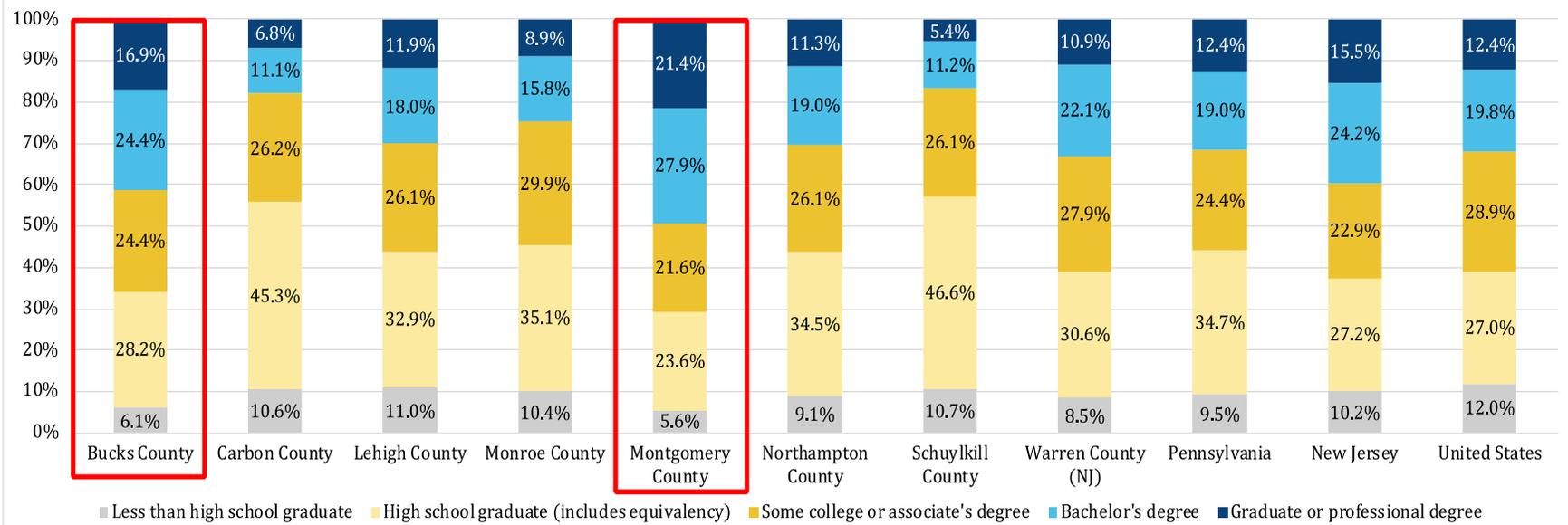


Figure 16

⁴⁵ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents/increase-proportion-high-school-students-who-graduate-4-years-ah-08>

⁴⁶ <https://www.countyhealthrankings.org>

Broken down further, 20.6% have only a high school degree, 30.5% have some college or an associate's (17.7% have some college and 12.8% have an associate's), 22.9% have a bachelor's, and 24.3% have a graduate degree. CHNA survey results indicate that respondents have much higher rates of higher education than the general public, with the exception of Montgomery county (Figure 16).

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.⁴⁷ 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 because it is crucial to identify and work with populations with lower access to education and healthcare to support 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.”⁴⁸ Speaking and understanding English is important in this service area because many 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. In the Quakertown and Upper Bucks service area, 3.8% of the population is considered to have limited English proficiency, compared to 4.3% in Pennsylvania and 8.4% in the United States (Figure 17).

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.⁴⁹ A translator typically only translates the written word while interpreters translate orally. Figure 18 shows the Quakertown and Upper Bucks service area zip codes. Columns shown in red text indicate areas that require translator or interpreter services. Two zip codes require services for Spanish and one zip code requires services for Russian, Polish or other Slavic languages. Since Russian, Polish, or other Slavic languages make up multiple languages, more than one interpreter or translator would be needed.

Population Age 5+ with Limited English Proficiency, Percent

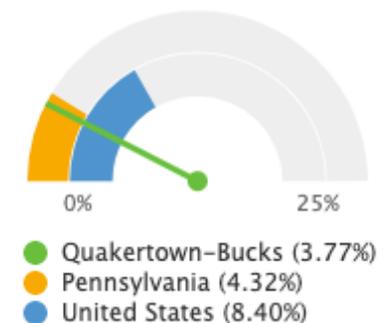


Figure 17

⁴⁷ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/education-access-and-quality>

⁴⁸ https://www2.census.gov/programs-surveys/acs/tech_docs/subject_definitions/2019_ACSSubjectDefinitions.pdf

⁴⁹ https://www.hud.gov/program_offices/fair_housing_equal_opp/promotingfh/lep-faq#q3

2022 St. Luke's University Health Network Quakertown and Upper Bucks Community Health Needs Assessment

Quakertown and Upper Bucks 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
18951	2.3% (771 people)	41.4% (319 people)	Other Indo-European languages (1.0%- 326 people)
18073	0.8% (83 people)	56.5% (47 people)	Other Indo-European languages (1.1%- 108 people)
18036	2.0% (268 people)	12.3% (33 people)	Other Indo-European languages (1.3%- 176 people)
18041	2.0% (101 people)	18.8% (19 people)	German or other West Germanic languages (0.7%- 37 people)
18944	1.9% (475 people)	32.4% (154 people)	Other Indo-European languages (1.1%- 267 people)
18076	0.6% (17 people)	47.1% (8 people)	German or other West Germanic languages (1.2%- 34 people)
18034	4.7% (414 people)	21.0% (87 people)	Other Indo-European languages (2.0%- 179 people)
18960	2.7% (301 people)	56.5% (170 people)	Other Indo-European languages (1.0%- 118 people)
18054	1.5% (67 people)	0.0% (0 people)	German or other West Germanic languages (0.4%- 19 people)
18955	0.6% (9 people)	44.4% (4 people)	Other and unspecified languages (3.3%- 51 people)
18930	0.7% (19 people)	63.2% (12 people)	Russian, Polish, or other Slavic languages (5.0%- 139 people)
19504	0.0% (0 people)	0.0% (0 people)	German or other West Germanic languages (0.4%- 19 people)
18015	21.7% (6,857 people)	48.5% (3,329 people)	Chinese (incl. Mandarin, Cantonese) (1.9%- 609 people)
18969	3.8% (543 people)	21.7% (118 people)	Vietnamese (1.8%- 260 people)
18942	0.0% (0 people)	0.0% (0 people)	French, Haitian, or Cajun (1.3%- 35 people)
18972	0.2% (8 people)	100% (8 people)	German or other West Germanic languages (1.0%- 34 people)
18074	1.2% (65 people)	43.1% (28 people)	Other Indo-European languages (1.2%- 66 people)
18964	7.0% (942 people)	51.5% (485 people)	Other Indo-European languages (3.5%- 467 people)
18092	1.6% (50 people)	0.0% (0 people)	German or other West Germanic languages (1.4%- 42 people)

Figure 18

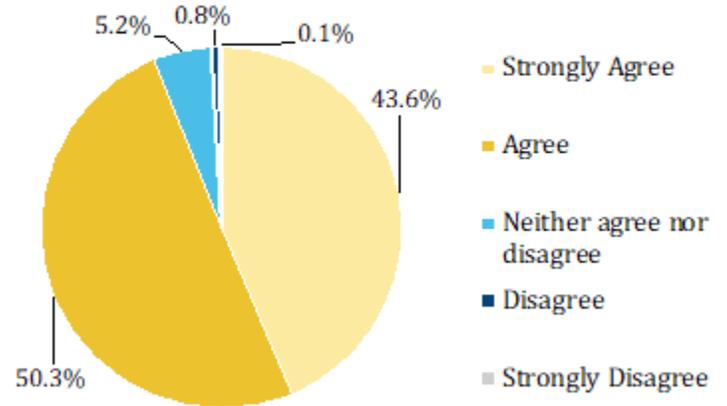
..... Safety

Perceived safety is an important component of integrating into one’s community. People who do not 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”⁵⁰, is one measure of safety.

Bucks county has a violent crime rate of 96 per 100,000 population and Montgomery county has a rate of 135 per 100,000, which are much lower than Pennsylvania’s violent crime rate of 315 per 100,000. The U.S. top performer rate at 63 per 100,000.⁵¹

When asked to rate the degree to which they agree that their community is a safe place to live, the majority of respondents agreed (50.3%) and strongly agreed (43.6%), while 5.2% neither agreed nor disagreed; 0.8% of respondents disagreed that their community is a safe place and 0.1% strongly disagreed.

My Community is a Safe Place, Quakertown and Upper Bucks



 *Figure 19*

..... 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 Bucks county is 7.7 and 11.2 in Montgomery county, both below Pennsylvania (12.2) and U.S. top performers (18.2), demonstrating isolation among residents within the county and a great need for more social associations.⁵²

⁵⁰ <https://www.countyhealthrankings.org/app/new-jersey/2021/measure/factors/43/data>

⁵¹ <https://www.countyhealthrankings.org>

⁵² <https://www.countyhealthrankings.org>

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.⁵³ 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.⁵⁴ 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.⁵⁵ In 2019, Pennsylvania had a food insecurity rate of 10.2% and VLFS rate of 4.1%.

Percent Households Receiving SNAP Benefits

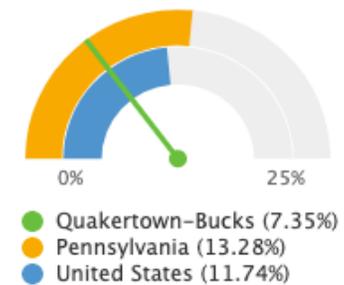


Figure 20

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.⁵⁶ 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), 7.4% of the households in the Quakertown and Upper Bucks service area received SNAP benefits.⁵⁷ This is the lowest rate in all of the SLUHN service areas. Figure 21 depicts households receiving SNAP benefits by Census tract and Figure 20 depicts Quakertown and Upper Bucks compared to Pennsylvania and the United States.

⁵³ <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx>

⁵⁴ <https://www.ers.usda.gov/webdocs/publications/99282/err-275.pdf?v=4396.4>

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>

⁵⁷ data.census.gov/

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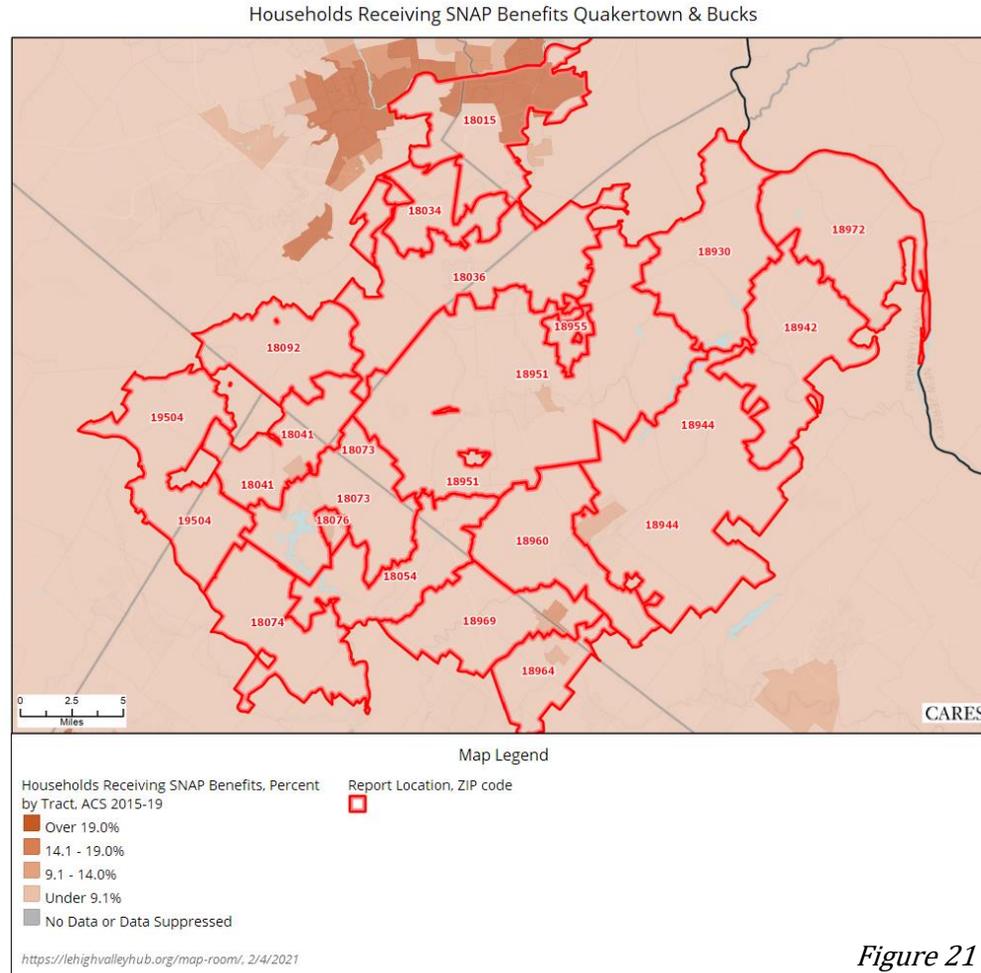


Figure 21

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.⁵⁸ 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 around 6.7% and the annual poverty rate to be 12% in 2021, which is a 0.9% increase from 2020.⁵⁹ The 2020 food insecurity rate in Bucks county was 10.4%, a 45% increase from 2019. In 2021, Bucks county is projected to have a

⁵⁸ <https://www.feedingamerica.org/research/coronavirus-hunger-research>

⁵⁹ <https://www.feedingamerica.org/research/coronavirus-hunger-research>

food insecurity rate of 8.6%, compared to the 12% projected rate in Pennsylvania. Additionally, 10.6% of children in Bucks county in 2021 are projected to be food insecure. Bucks county ranked 65 out of the 67 counties in Pennsylvania for food insecurity, with 1 ranked at the highest food insecurity rate.

Bucks County Feeding America COVID-19 Food Insecurity Projections					
Rank 2021	2021	2020	2019	Change 2019-2020	2021 Child
65/67	8.6%	10.4%	7.2%	45.0%	10.6%

Figure 22

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, with 11.7% of students across Pennsylvania and 9.9% of students in Bucks county agreeing with this statement.⁶⁰

It is also important to note that the pandemic affected people of color (BIPOC) communities hardest in terms of unemployment and food insecurity. The Hispanic/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.⁶¹

 ***“Food insecurity remains a big issue here, and while efforts were stepped-up to get food to those in need during the pandemic, this problem remains.”***

Research studies have found that stress from inconsistent access to food can play an active role in fat accumulation and chronic disease.⁶² In non-senior adults, food insecurity is associated with decreased nutrient intake, increased rates of mental health problems, hypertension, and poor sleep outcomes.⁶³ In children, food insecurity is associated with increased risks of asthma, lower nutrient intake, cognitive problems, aggression, and anxiety. Food insecure children may also have higher risks of hospitalization, poor overall health, asthma, depression, and worsened oral health.⁶⁴ Food deserts also play a role in food insecurity and chronic disease. A food desert is an area that has limited or

⁶⁰ [https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-\(PAYS\)-2019.aspx](https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS)-2019.aspx)

⁶¹ <https://www.feedingamerica.org/research/coronavirus-hunger-research>

⁶² <https://doi.org/10.3945/an.112.002543>

⁶³ <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0645>

⁶⁴ <https://www.healthaffairs.org/doi/10.1377/hlthaff.2015.0645>

nonexistent access to affordable and healthy grocery stores.⁶⁵ 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.⁶⁶ 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.⁶⁷ One key informant mentioned that Quakertown is a food desert:



“We need to have more food access points and I don’t know how to do that.”

Another key informant mentioned they do not know how to get more access points, which is an important issue that needs to be resolved.



“We are a food desert. I must get complaints on a monthly basis. This is a walkable community. We have a high demographic of apartments and town homes and a lot of those people do not have cars. They need to be able to walk to get fresh fruits, vegetables and milk and they cannot do that in our downtown.”

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.”⁶⁸ Bucks county scored 9.1 out of 10, with 10 as the best.⁶⁹

..... 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 had equal opportunity to homeownership. Decades of discriminatory practices and inability to

⁶⁵ <https://foodispower.org/access-health/food-deserts/>

⁶⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708005/>

⁶⁷ <https://foodispower.org/access-health/food-deserts/>

⁶⁸ <https://www.countyhealthrankings.org/app/pennsylvania/2020/measure/factors/133/description>

⁶⁹ <https://www.countyhealthrankings.org/app/pennsylvania/2021/rankings/bucks/county/outcomes/overall/snapshot>

⁷⁰ <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

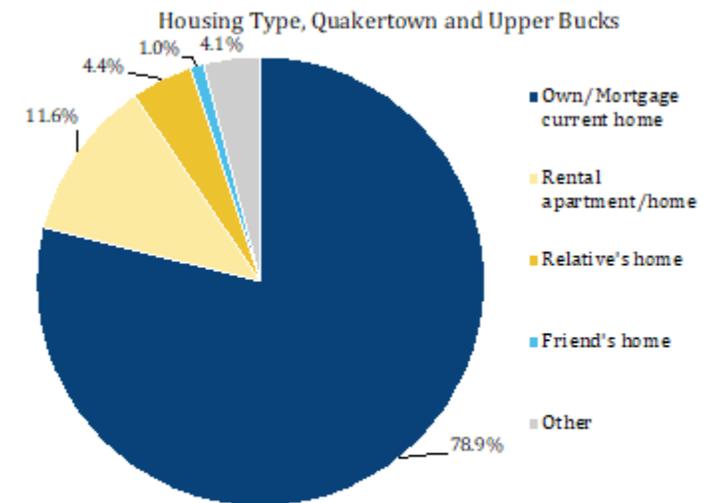
⁷¹ <https://www.opportunityhome.org/related-sectors/>

benefit 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 availability of quality affordable housing options in Upper Bucks is [a] problem [that] has been growing for years and it’s getting deeper and more challenging.”***

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 temporary solution, people facing eviction are likely to experience depression, anxiety, and psychological distress.⁷⁵

To get an understanding of how the Quakertown and Upper Bucks service area lives, we asked respondents to indicate their housing type. Due to small sample size, “Other” consists of individuals living in a shelter (.07%), group home (0.91%), senior living (0.98%), homeless (0.33%), or Other (1.76%). The majority of respondents own or have a mortgage on their home (78.9%), followed by renting their home (11.6%), living at a relative’s home (4.4%), living at a friend’s home (1%), and Other (4.1%).



 **Figure 23**

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>

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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) 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.⁷⁸ 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.⁷⁹ Cost-burdened housing is a significant problem in the St. Luke's service area as wages and housing costs are not always aligned.

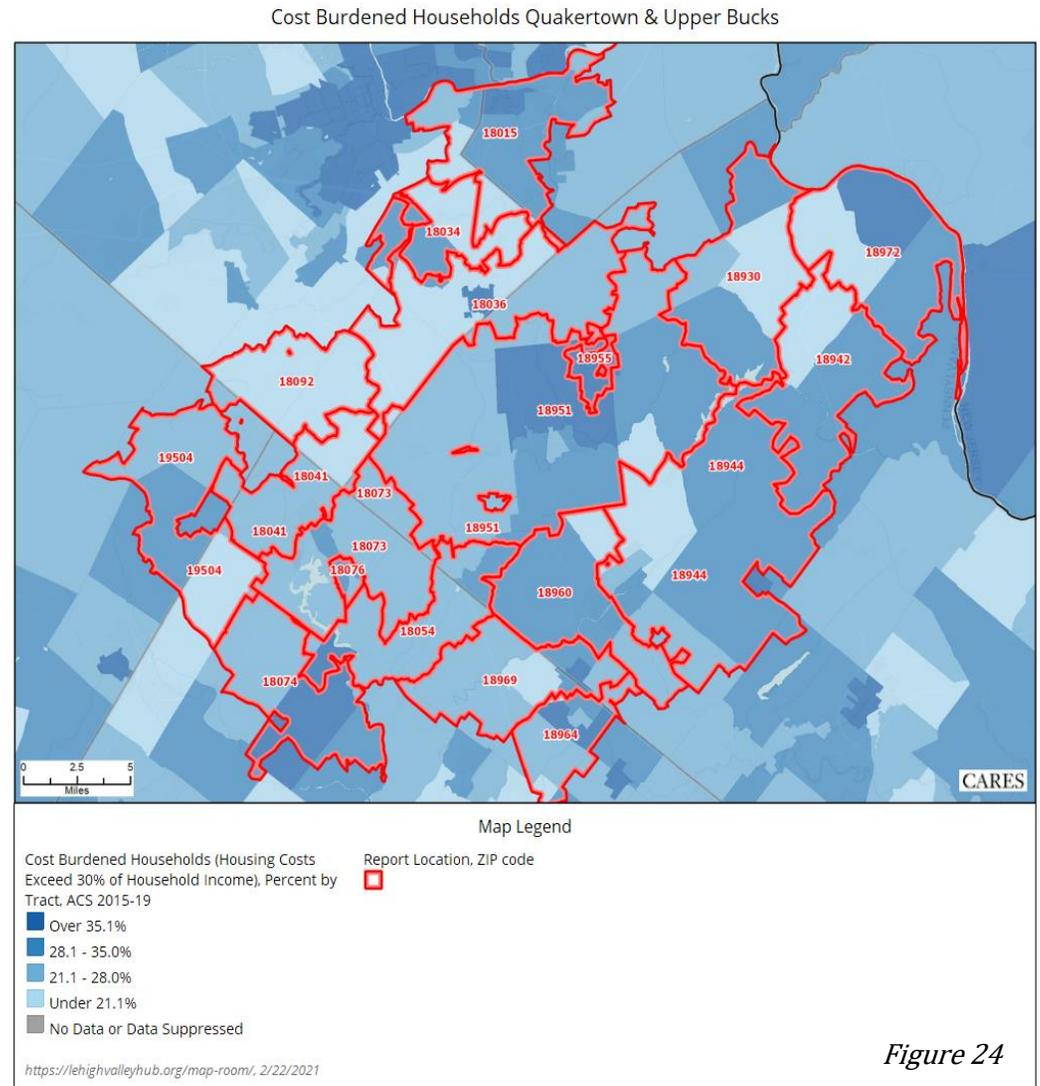


Figure 24

⁷⁶ https://www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html

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://www.countyhealthrankings.org/reports/2019-county-health-rankings-key-findings-report>

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Further assessing the wage disparities, the National Low Income Housing Coalition (NLIHC) released a report on fiscal year 2020 housing costs and wage. Out of all states, Pennsylvania ranks 26 with the highest housing costs.⁸⁰ 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.⁸¹ 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 Bucks county, the fair market rent for a two-bedroom apartment is \$1,226 a month, requiring \$23.58 an hour or \$49,040 annually. This is the highest of all service area counties. Based on the 2020 estimated hourly mean wage for renters in Bucks county, which is \$13.58, an individual would need to work 1.7 full time jobs to afford an apartment.⁸²

The average cost-burdened rate of the 10 lowest income census tracts is 45.0%, which is well above the Pennsylvania and national percentages. Every census tract above has 30% or more households who are cost-burdened, with two census tracts reporting over 50% of households as cost-burdened. Over half of households in tracts 1002.07 and 1047.01 pay 30% or more of their income towards mortgage or rent. Figure 25 depicts the cost-burdened households in the Quakertown and Upper Bucks service area.

Quakertown and Upper Bucks (Bucks)		
Geographic Area Name (Zip Code)	Median household income (lowest first)	% Cost Burdened
Census Tract 1002.07, Bucks County, PA (19020)	\$ 43,099	50.3%
Census Tract 1007, Bucks County, PA (19007)	\$ 46,283	44.0%
Census Tract 1016.05, Bucks County, PA (18974 & 19040)	\$ 46,377	39.8%
Census Tract 1002.08, Bucks County, PA (19020 & 19053)	\$ 46,768	43.9%
Census Tract 1001.04, Bucks County, PA (19020)	\$ 47,821	44.0%
Census Tract 1047.01, Bucks County, PA (18901)	\$ 51,765	54.5%
Census Tract 1003.04, Bucks County, PA (19007 & 19056)	\$ 51,905	47.2%
Census Tract 1026, Bucks County, PA (18969)	\$ 52,109	44.4%
Census Tract 1003.07, Bucks County, PA (19007 & 19021)	\$ 53,269	49.8%
Census Tract 1004.03, Bucks County, PA (19007 & 19057)	\$ 53,472	32.0%
Average 10 Census Tracts	\$ 49,287	45.0%
Pennsylvania	\$ 61,744	28.9%
National	\$ 62,843	31.8%

Figure 25: 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. 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. If a household lacks one or both facilities, the house is considered to lack complete plumbing. Without a complete kitchen, families are unable to cook nutritious

⁸⁰ <https://reports.nlihc.org/oor>

⁸¹ <https://reports.nlihc.org/sites/default/files/oor/files/reports/state/PA-2020-OOR.pdf>

⁸² <https://reports.nlihc.org/sites/default/files/oor/files/reports/state/PA-2020-OOR.pdf>

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

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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 census tracts of Bucks county is 1.5%, which is slightly lower than both the Pennsylvania and national percentages. Census tracts 1047.01 and 1026 report the highest percentages of households that lack complete plumbing, 5.8% and 4.0%, respectively. The average percent of households lacking complete plumbing in the 10 lowest income census tracts of Bucks county is 1.2%, which is slightly lower than both the Pennsylvania and national percentages. Census tracts 1003.04 reports the highest percentage of households that lack complete plumbing (4.8%).

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.⁸⁴ 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.⁸⁵

⁸⁴ <https://www.usich.gov/homelessness-statistics/pa/>

⁸⁵ <https://files.hudexchange.info/reports/published/>

Quakertown and Upper Bucks (Bucks)		
Geographic Area Name (Zip Code)	Median household income (lowest first)	% Lacking complete kitchen
Census Tract 1002.07, Bucks County, PA (19020)	\$ 43,099	0.0%
Census Tract 1007, Bucks County, PA (19007)	\$ 46,283	0.0%
Census Tract 1016.05, Bucks County, PA (18974 & 19040)	\$ 46,377	1.1%
Census Tract 1002.08, Bucks County, PA (19020 & 19053)	\$ 46,768	0.0%
Census Tract 1001.04, Bucks County, PA (19020)	\$ 47,821	0.0%
Census Tract 1047.01, Bucks County, PA (18901)	\$ 51,765	5.8%
Census Tract 1003.04, Bucks County, PA (19007 & 19056)	\$ 51,905	2.7%
Census Tract 1026, Bucks County, PA (18969)	\$ 52,109	4.0%
Census Tract 1003.07, Bucks County, PA (19007 & 19021)	\$ 53,269	0.0%
Census Tract 1004.03, Bucks County, PA (19007 & 19057)	\$ 53,472	0.9%
Average 10 Census Tracts	\$ 49,287	1.5%
Pennsylvania	\$ 61,744	3.4%
National	\$ 62,843	2.8%

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

Quakertown and Upper Bucks (Bucks)		
Geographic Area Name (Zip Code)	Median household income (lowest first)	% Lacking complete plumbing
Census Tract 1002.07, Bucks County, PA (19020)	\$ 43,099	0.6%
Census Tract 1007, Bucks County, PA (19007)	\$ 46,283	2.7%
Census Tract 1016.05, Bucks County, PA (18974 & 19040)	\$ 46,377	0.6%
Census Tract 1002.08, Bucks County, PA (19020 & 19053)	\$ 46,768	1.6%
Census Tract 1001.04, Bucks County, PA (19020)	\$ 47,821	0.0%
Census Tract 1047.01, Bucks County, PA (18901)	\$ 51,765	0.0%
Census Tract 1003.04, Bucks County, PA (19007 & 19056)	\$ 51,905	4.8%
Census Tract 1026, Bucks County, PA (18969)	\$ 52,109	0.0%
Census Tract 1003.07, Bucks County, PA (19007 & 19021)	\$ 53,269	0.0%
Census Tract 1004.03, Bucks County, PA (19007 & 19057)	\$ 53,472	2.0%
Average 10 Census Tracts	\$ 49,287	1.2%
Pennsylvania	\$ 61,744	2.6%
National	\$ 62,843	2.1%

Figure 27: 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.⁸⁶ The unique count is based on where the child was identified as homeless and attributed to the local education agency.⁸⁷ 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, Bucks county reported 1,050 homeless students, which is significantly higher than the previous school year of 788 homeless students.⁸⁸

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 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.⁸⁹ Bucks county ranks 56 out of 67 Pennsylvania counties for severe housing problems, with 1 ranked as the least amount of problems. In Bucks county, 15% of residents have one or more of the housing problems listed above; which is equivalent to 15% of households in Pennsylvania.⁹⁰

..... 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 can also cause long term health effects.⁹¹ Air quality is typically assessed by two components, ozone (O₃) and Particulate Matter (PM). Ozone is a gas molecule that is harmful to breathe and aggressively attacks lung tissue.

Quakertown and Upper Bucks (Bucks)				
	Weight average	Orange days	Red days	Purple days
High Ozone	11.5	30	3	0
High PM	DNC	DNC	DNC	DNC

Figure 28: Orange- unhealthy for sensitive groups, Red- unhealthy, Purple- very unhealthy, DNC- Did Not Collect

CoC_PopSub_State_PA_2019.pdf

⁸⁶ <https://www.education.pa.gov/Documents/K-12/Homeless%20Education/Reports/2018-19%20Pennsylvania%20ECYEH%20Counts%20by%20Region%20County%20State.pdf>

⁸⁷ <https://www.education.pa.gov/Documents/K-12/Homeless%20Education/Reports/2018-19%20Pennsylvania%20ECYEH%20Counts%20by%20Region%20County%20State.pdf>

⁸⁸ <https://www.education.pa.gov/Documents/K-12/Homeless%20Education/Reports/2017-18%20Unique%20and%20Duplicate%20Counts%20by%20County.pdf>

⁸⁹ <https://www.countyhealthrankings.org/app/pennsylvania/2020/measure/factors/136/description>

⁹⁰ <https://www.countyhealthrankings.org/app/pennsylvania/2021/measure/factors/136/data?sort=sc-2>

⁹¹ <https://www.sparetheair.org/understanding-air-quality/air-pollutants-and-health-effects/whos-at-risk>

Ozone is dangerous because it can be carried by wind far downstream, causing harm to people in multiple areas. Ozone can also cause premature death, immediate breathing problems, long term exposure risks, and potential cardiovascular harm.⁹² 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.⁹³ 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.⁹⁴

According to the American Lung Association, Bucks county earned a rating of ‘F’ for high ozone days between 2016-2018. The weighted average of O₃ was 11.5 and the county had a total of 30 orange days and 3 red days. Orange days are characterized as unhealthy days for sensitive groups. Red days are characterized as unhealthy for everyone. Bucks scored the worst out of all of the St. Luke’s service area counties for O₃.

Bucks county did not record PM for 2016-2018. Additionally, the CHNA survey asked respondents to indicate if they have ever been diagnosed with asthma. When distributed by income, 17.2% of respondents in the Quakertown and Upper Bucks service area who make less than \$14,999 have asthma. While there is no consistent trend by income and asthma, those whose household income is lower than \$40,000 have somewhat higher rates of asthma than above \$40,000.

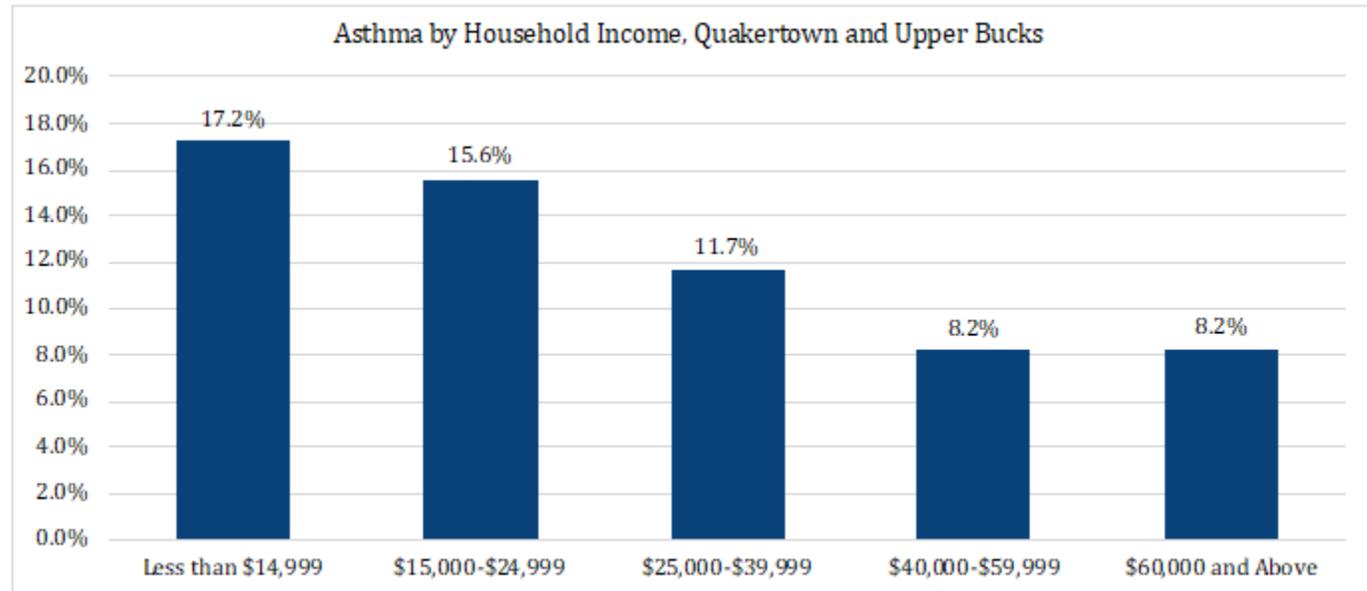


Figure 29

⁹² <https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/ozone>

⁹³ <https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/particle-pollution>

⁹⁴ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/environmental-health>

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 monitored by the state. From Pennsylvania's Department of Environmental Protection (DEP) water report in 2019, 11% of Pennsylvania households use well water and 89% of households use community water systems.⁹⁵ 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 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.⁹⁶ Some of the typical contaminants tested are chlorine, fluoride, radium, turbidity, organic carbon, lead and copper.⁹⁷ 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).⁹⁸ The effects can also be short term or long term, while also going unseen, potentially worsening the effects over time.

Bucks county services resident water through the Bucks County Water and Sewage Authority (BCWSA).⁹⁹ The BCWSA splits their report into five sections. Three of the sections had violations. Main Lower South and St. Stephen's Greene were the two sections that did not have any violations for the 2019 report. The Fox Run section had the chlorine level drop below the permitted minimum level on three occasions, the New Hope section dropped below on two occasions and the Solebury section dropped below on several occasions. Chlorine was the only contaminant that violated the water quality standards. 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 contaminates drinking water from the source, lead pipes, faucets, and other risks of lead poisoning may exist in homes. Higher prevalence for lead poisoning is found in low income homes.¹⁰⁰

..... 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.¹⁰¹

⁹⁵ http://files.dep.state.pa.us/Water/BSDW/DrinkingWaterManagement/PublicDrinkingWater/PA_DEP_2019_Annual_Compliance_Report.pdf

⁹⁶ <https://www.state.nj.us/dep/watersupply/pdf/violations2019.pdf>

⁹⁷ http://files.dep.state.pa.us/Water/BSDW/DrinkingWaterManagement/PublicDrinkingWater/PA_DEP_2019_Annual_Compliance_Report.pdf

⁹⁸ <https://www.epa.gov/report-environment/drinking-water>

⁹⁹ <https://www.bcwsa.net/water-quality-reports/>

¹⁰⁰ https://www.cdc.gov/nceh/lead/prevention/populations.htm?CDC_AA_refVal=https%3A%2F%2F

¹⁰¹ <https://ephtracking.cdc.gov/showCommunityDesignAddLinkTypesOfTransportationToWork>

A goal of Healthy People 2030 is to increase the amount of people using public transportation to get to work.¹⁰²

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.¹⁰³ 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 30 depicts the percentage of people by each mode of transportation in Bucks county Montgomery county, Pennsylvania, and the United States. In all three geographies, driving alone is the most common mode of transportation to work, with Bucks county reporting the highest percentage (81.9%). Bucks county is well below the Pennsylvania and United States percentages for people who use public transportation to go to work; however, Montgomery county is on par with Pennsylvania and the U.S. for public transportation use.

Quakertown and Upper Bucks (Bucks & Montgomery)				
Mode of Transportation to Work	Bucks %	Montgomery %	PA %	US %
Drive Alone (Car, Truck or Van)	81.9%	78.5%	75.9%	76.3%
Carpool	6.4%	6.4%	8.5%	9.0%
Use Public Transportation	3.3%	5.3%	5.6%	5.0%
Taxi	0.1%	0.1%	0.1%	0.2%
Motorcycle	0.0%	0.1%	0.1%	0.2%
Bike	0.2%	0.2%	0.5%	0.5%
Walk	1.7%	2.2%	3.6%	2.7%
Other	0.5%	0.5%	0.8%	0.9%
Work From Home	6.0%	6.8%	4.9%	5.2%

Figure 30

This could be an area of improvement as public transportation use can increase physical activity and improve air quality. Though many people drive to work in Bucks county, there is a portion of people who do not have access to a car. According to the ACS (2015-2019), 4.9% of people in Bucks county and 5.9% of people in Montgomery county do not have access to a car. This is much lower than Pennsylvania (10.9%) and United States (8.6%).¹⁰⁴ People who do not have access to a car must then rely on public transportation, 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.

Because of its proximity to Philadelphia, the southeastern side of Bucks county has many public transportation options. However, public transportation is not equally accessible to all parts of the county. Towns like Quakertown and Perkasie are left with minimal options. The Bucks County Transport offers bus routes with the options for people with disabilities, medical assistance and senior ride share programs, all of which can travel to more locations in comparison to the normal bus routes.¹⁰⁵ Other options in Bucks county include the Dart busses,

¹⁰² <https://health.gov/healthypeople/objectives-and-data/browse-objectives/transportation>

¹⁰³ <https://ephtracking.cdc.gov/showCommunityDesignAddLinkTypesOfTransportationToWork>

¹⁰⁴ Data.census.gov (Table B25044)

¹⁰⁵ <https://www.bctransport.org/>

Bristol Rush Bus, Amtrak Northeast Corridor, SEPTA Regional Rail Lines, and the Greyhound bus to Philadelphia.¹⁰⁶ For Montgomery county, residents can use SEPTA busses and regional lines to move around the county and to Philadelphia.¹⁰⁷

One community forum attendee expressed their concern for Quakertown's lack of public transportation:

 ***“There is a major transportation divide in our community. If you have a car, it is a different world than if you don't. Public transportation is limited in terms of funding, so getting access to jobs, healthy food and recreation is really hard.”***

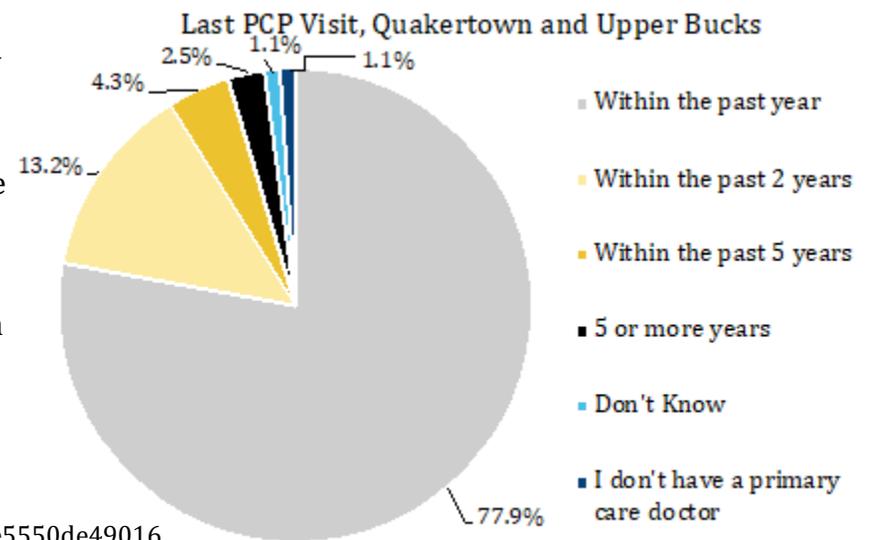
Clinical Care

..... Access to Care

..... 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. Bucks county has a ratio of individuals in the population to a primary care provider of 1,180:1 and Montgomery county has a ratio of 730:1, which both outperform Pennsylvania (1,230:1), but Bucks fares worse than U.S. top performers (1,030:1).¹⁰⁸

To assess the frequency of visits, the CHNA survey asks how long it has been since the respondent last visited their PCP. The majority of respondents from the Quakertown and Upper Bucks service area have seen a PCP within the past year (77.9%), followed by within the past 2 years (13.2%), within the



¹⁰⁶ <https://www.arcgis.com/apps/webappviewer/index.html?id=66a7d25de91647bfab0de5550de49016>

¹⁰⁷ <https://iseptaphilly.com/montco/>

¹⁰⁸ <https://www.countyhealthrankings.org/>

 **Figure 31**

past 5 years (4.3%), 5 or more years (2.5%), and 2.2% do not know the last time they saw a PCP (1.1%) or do not have a PCP (1.1%).

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, lack of insurance does hinder the frequency of doctor's visits (Figure 32). For respondents who do not have insurance coverage, only 60% have seen a PCP within the past year; respondents who use Veteran's Administration, only 55% have seen a PCP within in the past year. Additionally, 5% of respondents who do not have insurance coverage do not have a PCP, which is higher than any other insurance type. These findings reinforce the need for doctors who take multiple types of insurance along with Federally Qualified Health Centers, which offer services on a sliding pay scale.

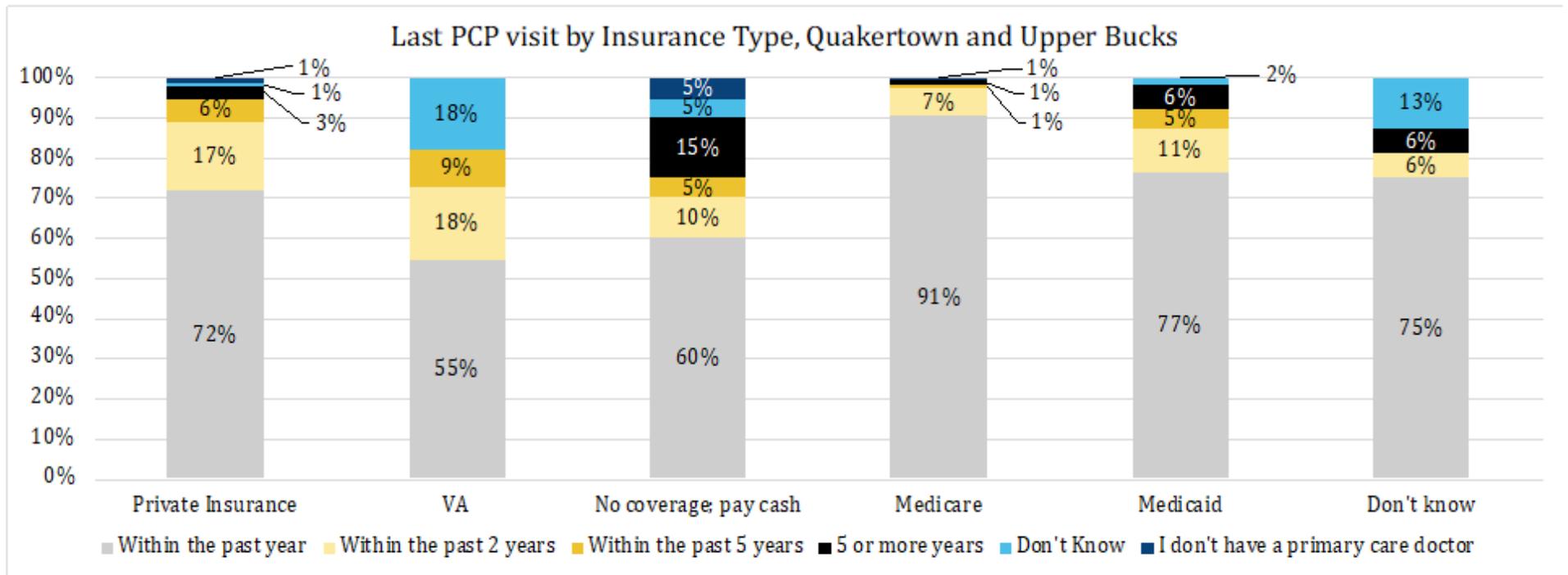


Figure 32

Finally, our survey asks respondents where they go most often when they are sick or in need of medical advice to get and understanding of their use of service providers. The majority of respondents go to a doctor's office (84.6%), followed by an urgent care center (6.1%), using the Internet (6%), and other (1.9%). 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 rather than on the Internet.

Last Location of Medical Advice or Care, Quakertown and Upper Bucks

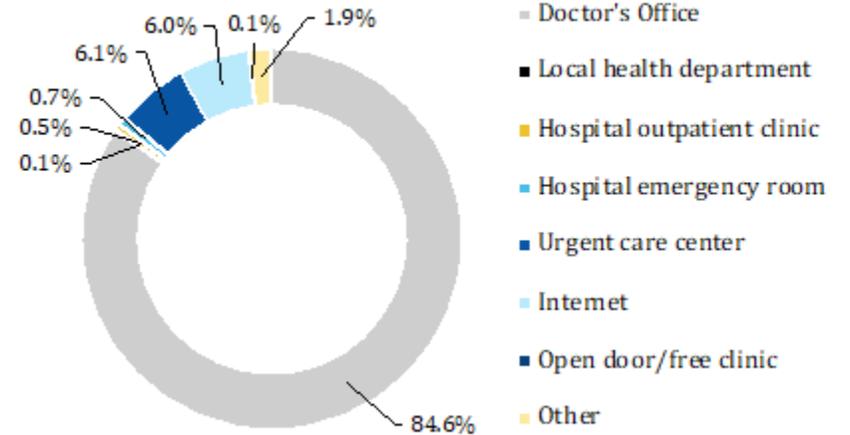


Figure 33

Dentists

Last Dental Visit, Quakertown and Upper Bucks

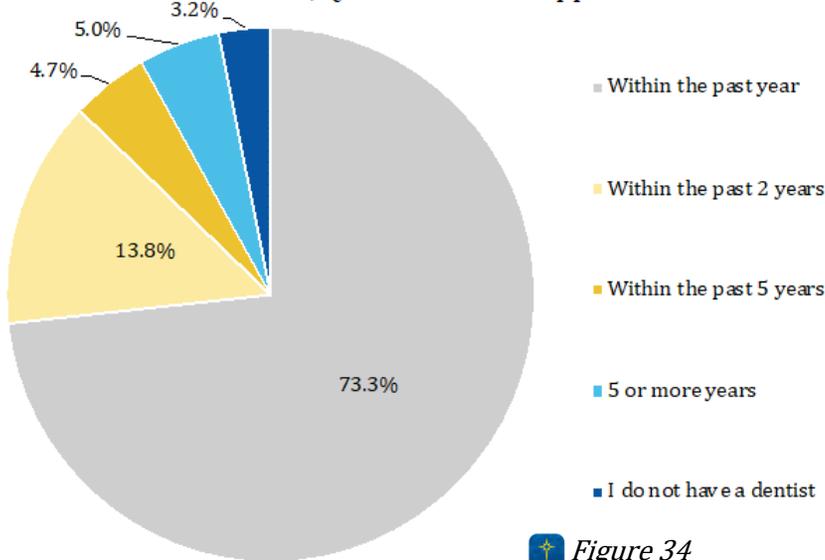


Figure 34

The Mayo Clinic refers to dental health as “a window to your overall health.”¹⁰⁹ Oral pain can be debilitating in some circumstances and 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.

Bucks county has a ratio of individuals in the population to dentists of 1,150:1 and Montgomery county has a ratio of 920:1, which both score better than Pennsylvania overall (1,410:1) and U.S. top performers (1,210:1).¹¹⁰

¹⁰⁹ <https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475>

¹¹⁰ <https://www.countyhealthrankings.org/>

In the Quakertown and Upper Bucks service area, 73.3% of CHNA survey respondents have seen a dentist within the past year, 13.8% have seen a dentist within the past 2 years, 4.7% have seen a dentist within the past 5 years, 5% have seen a dentist 5 or more years ago, and 3.2% of respondents do not have a dentist. Additionally, 64.3% of respondents use private insurance for dental care, followed by no insurance (30.2%), Medicaid (4.9%), and Veteran's Administration (0.7%).

..... 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 healthcare providers and access in the county, Bucks has an overall ratio of population to mental healthcare providers of 390:1 and Montgomery county has a ratio of 280:1, which are both better than Pennsylvania (450:1), but below U.S. top performers (270:1).¹¹¹

..... 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.¹¹² 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."¹¹³ 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.

Uninsured rates are 4% in Bucks county and 5% in Montgomery county, compared to 4.6% in the Quakertown and Upper Bucks service area.

¹¹¹ <https://www.countyhealthrankings.org/>

¹¹² <https://www.hrsa.gov/opa/eligibility-and-registration/health-centers/fqhc/index.html>

¹¹³ <https://www.apha.org/apha-communities/member-sections/community-health-workers>

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When breaking down by age, 2.4% of those uninsured are under 18 years old, 6.5% are 18-64 years, and 0.4% are 65 years and older.¹¹⁴ In Pennsylvania, 5.7% of people are uninsured and 8.8% are uninsured in the United States.¹¹⁵

Of the survey respondents from the Quakertown and Upper Bucks service area, those whose household income is less than \$14,999 primarily use Medicaid (41.4%), do not know their primary insurance (26.7%), or use cash (21.1%) as their primary form of insurance. Conversely, those whose household income is above \$60,000 primarily use private insurance (76.9%), Veterans Administration (72.7%), and Medicare (43.1%). These findings reinforce the need for FQHCs the 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 CHNA survey respondents in the Quakertown and Upper Bucks service area with private insurance, 5.7% are Hispanic, with no coverage 30% are Hispanic, with Medicare 4.2% are Hispanic, with Medicaid 27% are Hispanic, and of those who do not know 37.5% are Hispanic.

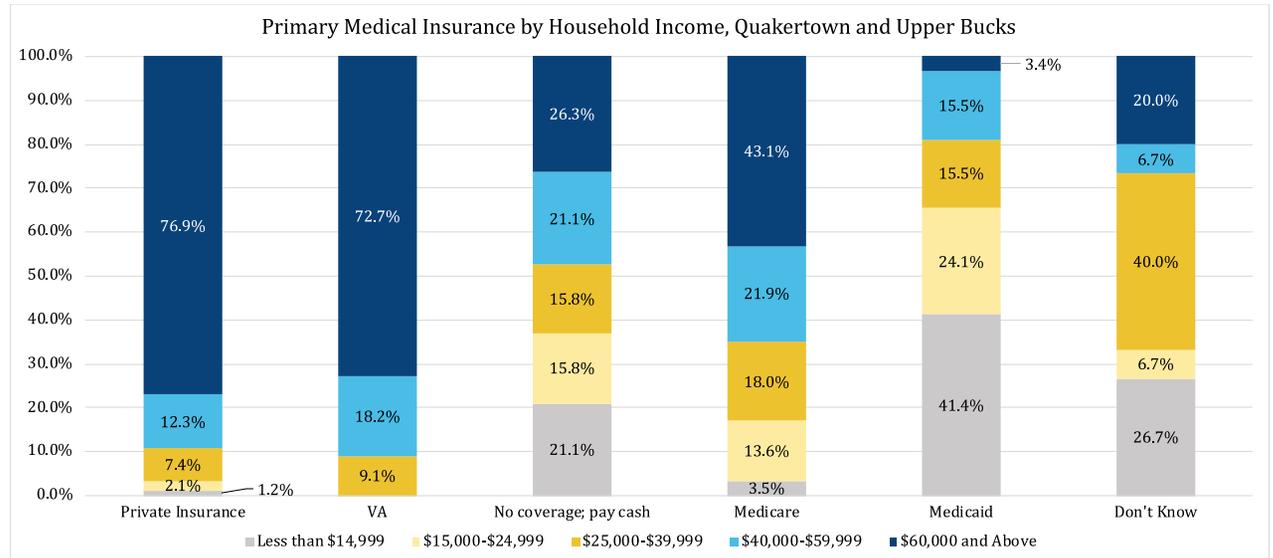


Figure 35

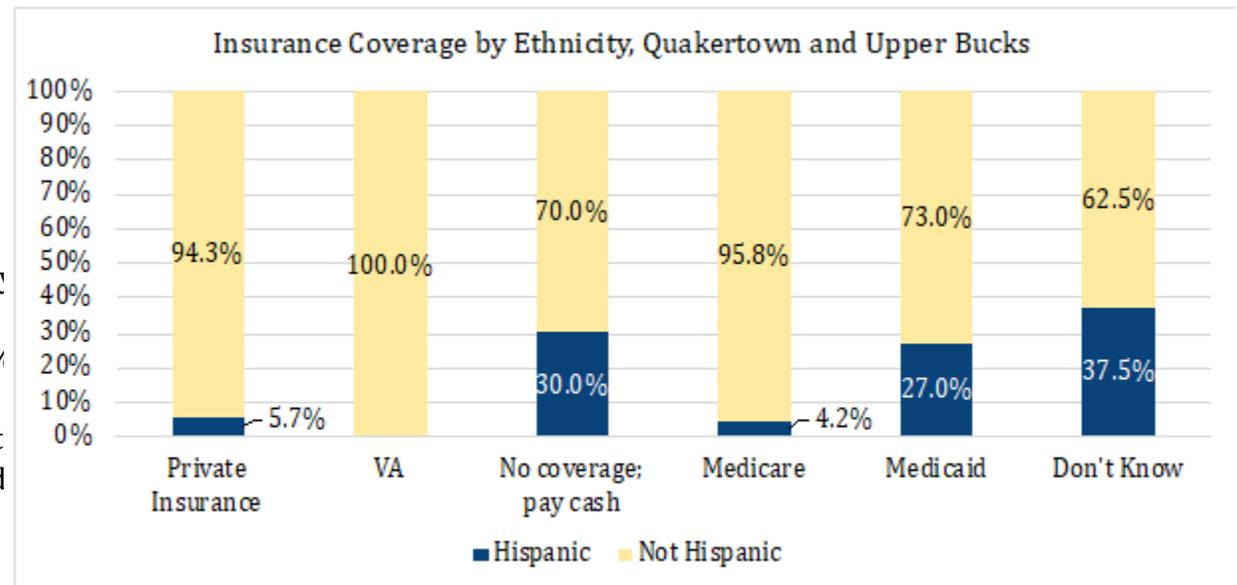


Figure 36

¹¹⁴ <https://www.countyhealthrankings.org/>

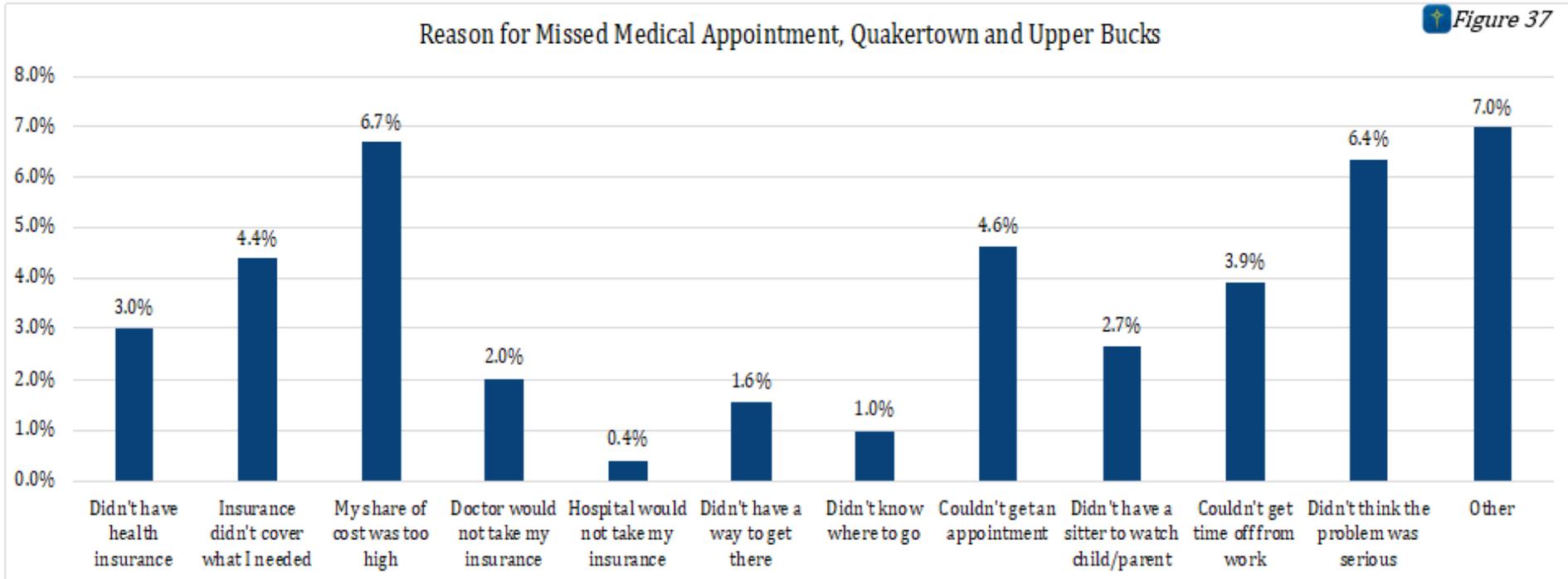
¹¹⁵ <https://data.census.gov/cedsci/>

..... 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 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 Quakertown and Upper Bucks service area were: Other (7%), the copay was too high (6.7%), and did not think the problem was serious enough (6.4%). Only 0.4% 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 healthcare.

In order to better support our service area population, St. Luke's provides charity care to help alleviate some of the financial burden. During the 2020 fiscal year, St. Luke's provided \$287.3 million dollars in charity care throughout the network.



..... 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 St. Luke’s Quakertown and Upper Bucks campuses are listed in Figure 38. Sepsis is the most common diagnosis during an inpatient encounter, accounting for 6% Quakertown and Upper Bucks campuses total inpatient encounters.

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
Major depressive disorder, recurrent severe without psychotic features	5
Sepsis due to Escherichia coli [E. coli]	6
COVID-19	7
Other specified sepsis	8
Hypertensive urgency	9
Unspecified atrial fibrillation	10

Figure 38

..... Emergency Department Encounters

In fiscal year 2020, the average number of emergency department (ED) encounters per ED patient seen at St. Luke’s Quakertown and Upper Bucks campuses was 1.45, which is far below the network average of 1.75 and the second lowest number of average ED encounters per patient in the network. Note that multiple service areas contain multiple hospitals and therefore multiple EDs. The ED encounters are an average of the encounters at those hospitals.

2022 St. Luke's University Health Network Quakertown and Upper Bucks Community Health Needs Assessment

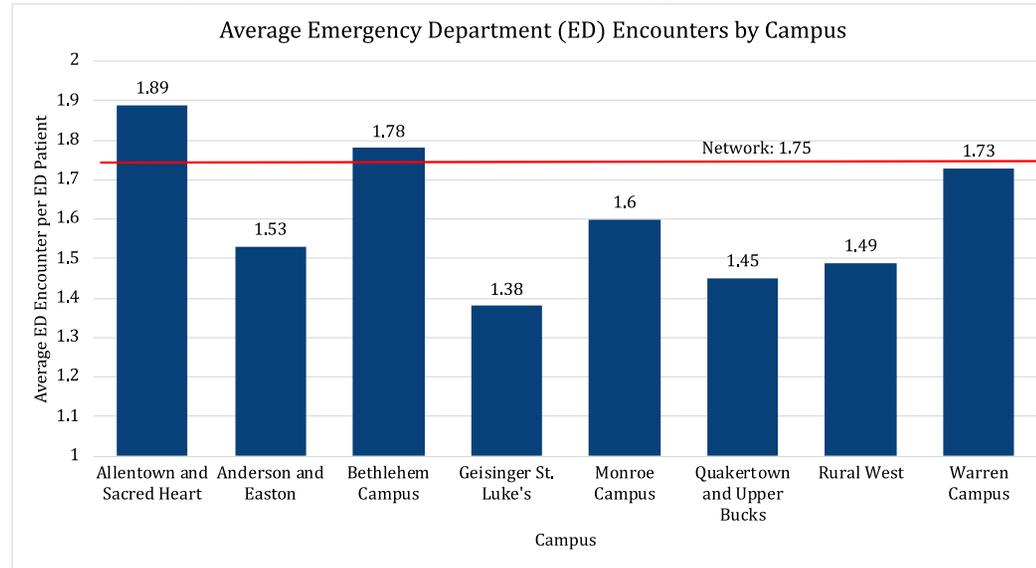


Figure 39

Emergency department utilization can be used as an indicator to gauge lack of PCP coverage. When comparing ED visits by household income, a clear finding emerges: those who make less than \$14,999 frequent the ED most frequently; 53.8% of those who have been to the ED 5 or more times in the past year make less than \$14,999. Additionally, of those who have not been to the ED in the past year, 65.9% 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.

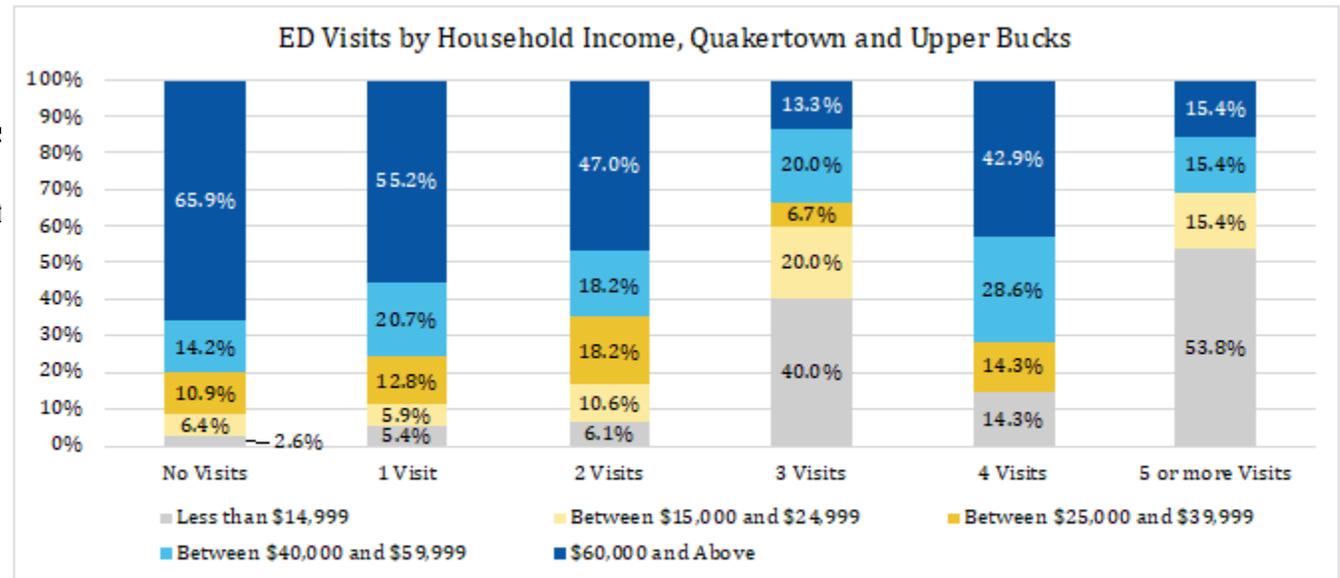


Figure 40

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.¹¹⁶ 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 2000.¹¹⁷ 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%.”¹¹⁸ 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.¹¹⁹

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.¹²⁰ Additionally, 41.5% of Black adults, 30.9% of Hispanic/Latino adults and 31.3% of White adults in Pennsylvania are obese. The age bracket with the most 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 most recent TFAH report found that 12.8% of children ages 2-4 and 17.4% of children ages 10-17 in Pennsylvania are obese.



“We have long seen an issue with obesity and that continues to be an issue. Diet is an issue... Access to healthy food is huge. Still people do not really understand what healthy eating is all about. Some people do not want to hear the message”

¹¹⁶ <https://www.cdc.gov/obesity/adult/causes.html>

¹¹⁷ <https://www.cdc.gov/obesity/data/adult.html>

¹¹⁸ <https://www.tfah.org/report-details/state-of-obesity-2020/>

¹¹⁹ <https://www.tfah.org/report-details/state-of-obesity-2020/>

¹²⁰ 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 fat or health of an individual."¹²¹ 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. Bucks county also reports that 28% of adults in the county are obese along with 25% of adults in Montgomery county, both of which are the lowest of all service area counties.

Findings from the 2022 CHNA survey show that in the Quakertown and Upper Bucks service area, 1.4% of respondents are underweight, 27.6% are healthy, 32.1% are overweight, and 38.9% are obese, according to BMI. The number of respondents who are healthy has increased by almost 2 percentage points since 2019.

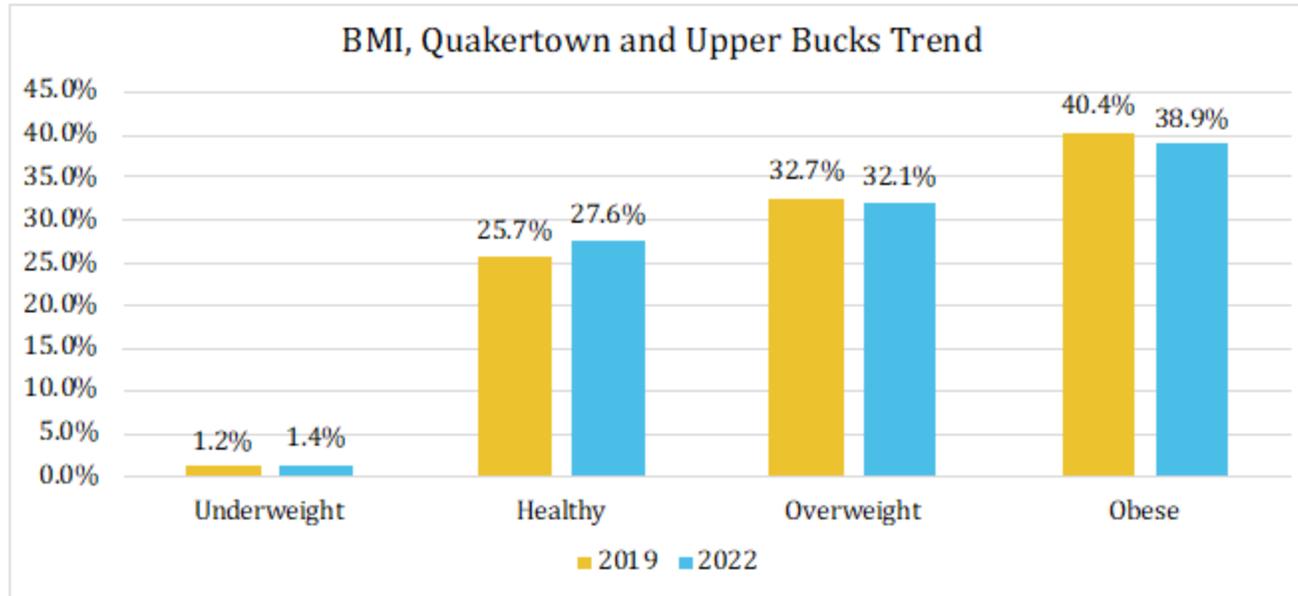


Figure 41

¹²¹ <https://www.cdc.gov/healthyweight/assessing/bmi/index.html>

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.¹²² 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 for 5 days a week.¹²³

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 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.”¹²⁴ In Pennsylvania, 22% of adults have no leisure-time physical activity along with 18% of adults in both Bucks county and Montgomery 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.”¹²⁵ In Pennsylvania, 84% of individuals have access to exercise opportunities along with 89% of individuals in Bucks county and 95% of individuals in Montgomery county.

When asked how many days a CHNA survey respondent exercises 30 minutes, 22.6% of respondents from the Quakertown and Upper Bucks service area indicated 0 days. However, 31% of respondents indicated exercising 1-2 days a week, 26.1% exercising 3-4 days a week, and 20.3% exercising 5 or more days a week- the Healthy People 2030 recommendation. The number of respondents that exercise 5 or more days has increased almost 6 percentage points and the number of respondents who do not exercise has decreased 6.4 percentage points since 2019.

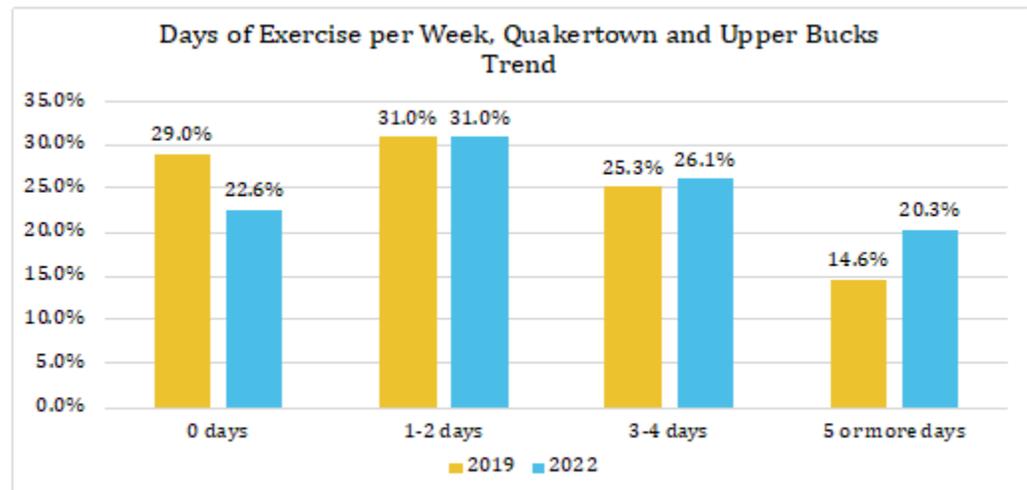


 Figure 42

¹²² <https://www.cdc.gov/physicalactivity/data/index.html>

¹²³ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/physical-activity/>

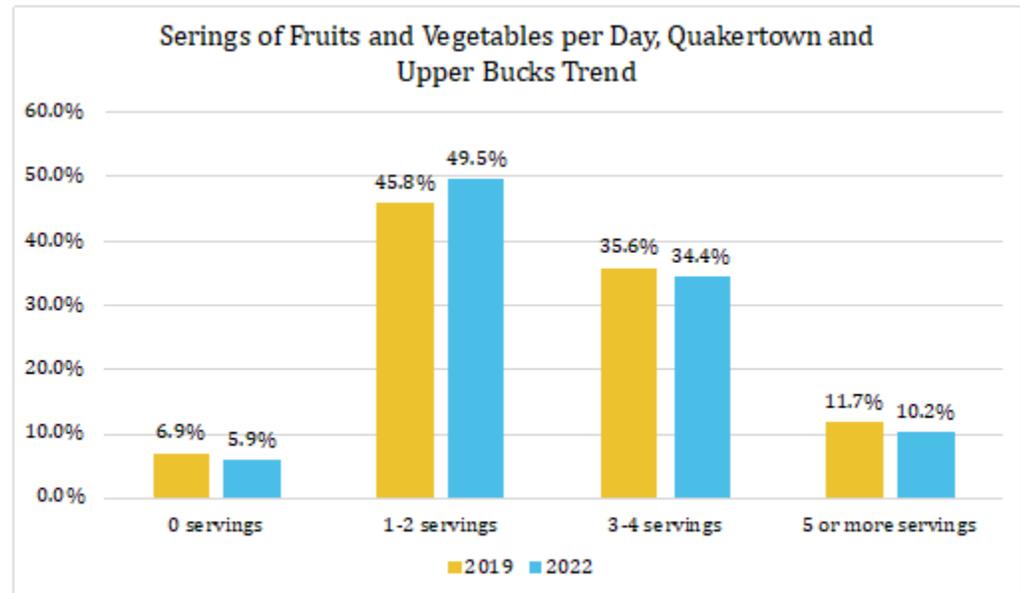
¹²⁴ <https://www.countyhealthrankings.org/>

¹²⁵ <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,¹²⁶ all of 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.¹²⁷ Compared to CHNA survey results, 93.3% of network survey respondents and 95.1% of Quakertown and Upper Bucks service area respondents report eating at least one serving of 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).¹²⁸ 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 U.S.

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.¹²⁹ It is recommended to limit this consumption and emphasize a diet with nutrient-dense foods. The surveyed was asked to adults 20 and older, finding that 61% of adults ate



 **Figure 43**

¹²⁶ <https://www.cdc.gov/nccdphp/dnpao/division-information/media-tools/adults-fruits-vegetables.html>

¹²⁷ <https://www.cdc.gov/nchs/data/databriefs/db397-H.pdf>

¹²⁸ <https://www.americashealthrankings.org/explore/annual/measure/fvcombo/state/U.S.>

¹²⁹ https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/34_Sweet_foods_children_1518.pdf

sweet foods on any given day, with the percentage increasing among adults 60 years or older.¹³⁰ Sweet food consumption was also highest among the middle and highest income groups compared to the lowest income group.

In our 2022 survey, we found that 10.2% of respondents from the Quakertown and Upper Bucks service area eat 5 or more servings of fruits and vegetables per day. The majority of respondents (49.5%) eat 1-2 servings per day and 5.9% do not eat any servings. The amount of respondents who eat 1-2 servings per day has increased almost 4 percentage points since 2019 and the amount of respondents who do not eat any fruits and vegetables decreased one percentage point. Furthermore, looking at fruit and vegetable consumption by income shows that serving size increases with income. Of respondents who make less than \$14,999, 17.5% do not consume any fruits or vegetables.

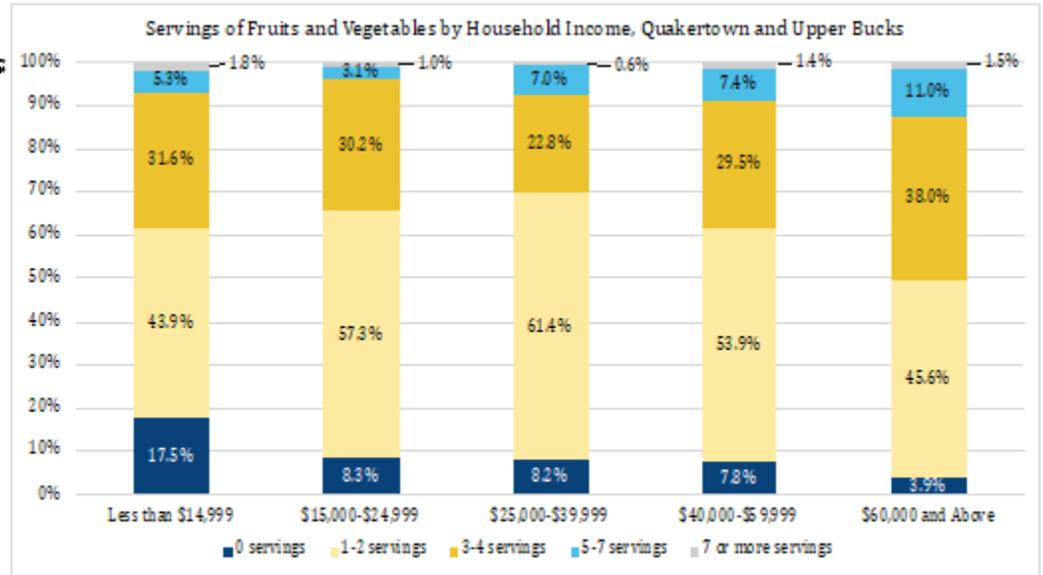


Figure 44

The majority of CHNA survey respondents in each income bracket consume 1-2 servings of fruits and vegetables a day, followed by 3-4 servings a day. Respondents who make \$60,000 and above have the highest percentage of respondents who eat 5 or more servings a day (12.5%).

..... Free or Reduced Lunch

During the 2018-2019 school year, 53.3% of students in Pennsylvania were eligible for free or reduced lunch.¹³¹ 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.¹³² 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.

¹³⁰ https://www.ars.usda.gov/ARSUserFiles/80400530/pdf/DBrief/33_Sweet_foods_adults_1518.pdf

¹³¹ <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>

¹³² <https://www.fns.usda.gov/nslp>

In Bucks county, an average of 37.7% of all students qualify for free or reduced lunch, the lowest of all service area counties. Center for Student Learning reports the highest percentage of their students as eligible for free or reduced lunches and New Hope-Solebury reports the lowest number of children eligible 7.7%.¹³³

Percent of Children During 2018-2019 School Year with Free or Reduced Lunch Eligibility	
Bucks--New Hope-Solebury (Suburban)	7.7%
Bucks--Council Rock (Suburban)	9.1%
Bucks--Central Bucks (Suburban)	10.9%
Bucks--Palisades (Suburban)	20.2%
Bucks--Pennsbury (Suburban)	25.7%
Bucks--Pennridge (Rural)	26.8%
Bucks--Neshaminy (Suburban)	30.0%
Bucks--Quakertown Community (Suburban)	32.8%
Bucks--Upper Bucks County AVTS	38.0%
Bucks--Centennial (Suburban)	39.1%
Bucks--School Lane CS (Suburban)	39.4%
Bucks--Bucks County Technical High School	41.8%
Bucks--Bensalem Township (Suburban)	57.1%
Bucks--Bristol Township (Suburban)	59.2%
Bucks--Morrisville Borough (Suburban)	62.6%
Bucks--Bristol Borough (Suburban)	69.2%
Bucks--Center for Student Learning CS Pennsbury (Suburban)	71.7%
Average	37.7%

Figure 45

..... 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.¹³⁴ 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 effect 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 18.¹³⁵

¹³³ <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>

¹³⁴ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/sexually-transmitted-infections>

¹³⁵ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/adolescents>

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; 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."¹³⁶ Chlamydia also disproportionately impacts adolescent women with 1 in 20 sexually active women ages 14-24 diagnosed with chlamydia.¹³⁷ In Pennsylvania, the rate is 463.4 per 100,000 population. The rate in Bucks county is 245.1 per 100,000 population and 295.1 in Montgomery county.

There are also strong connections between teen birth, poor socioeconomic status, 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.¹³⁸ The measure is represented by the number of births per 1,000 female population ages 15-19 years. In Pennsylvania, the rate is 17. The rate in Bucks county is 6, the lowest of all service area counties, and 7 in Montgomery county. 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 (8%) 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 weight.¹³⁹ Teen mothers (and mothers over 40) are highly likely to have a low birthweight child. Between 2015-2019, 7.7% of births in Bucks and 7.3% in Montgomery counties were low birthweight.

..... 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.¹⁴⁰ Healthy People 2030 also reports that approximately 1 in 3 adults do not get enough sleep.¹⁴¹ 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 are to reduce the number of motor vehicle crashes due to exhaustion and to increase the proportion 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

¹³⁶ <https://www.countyhealthrankings.org/>

¹³⁷ <https://www.cdc.gov/std/chlamydia/stdfact-chlamydia-detailed.htm>

¹³⁸ <https://www.countyhealthrankings.org/>

¹³⁹ <https://www.marchofdimes.org/complications/low-birthweight.aspx#>

¹⁴⁰ <https://www.countyhealthrankings.org/>

¹⁴¹ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/sleep>

sleep on average. In Pennsylvania, 39% of adults report less than 7 hours of sleep and 35% of adults in Bucks county do not get enough sleep, which is the lowest percentage of all service area counties.

The 2019 PAYS survey asked students to indicate if on average, they get less than 7 hours of sleep a night.¹⁴² In Pennsylvania, 37.9% of students reported averaging less than 7 hours of sleep a night and 38.6% of students do not get enough sleep in Bucks county. The survey also asked if students "felt tired or sleepy during the day," "every day," or "several times" during the past two weeks, and 64.7% of students across Pennsylvania indicated consistent sleepiness during the past 2 weeks; 66.8% of students agreed with this statement in Bucks county.

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 Quakertown and Upper Bucks service area (84%), get 6-8 hours of sleep per night, 5.5% of respondents get more than the recommended 8 hours per night, and 10.5% only get 5 hours or less per night.

Hours of Sleep, Quakertown and Upper Bucks

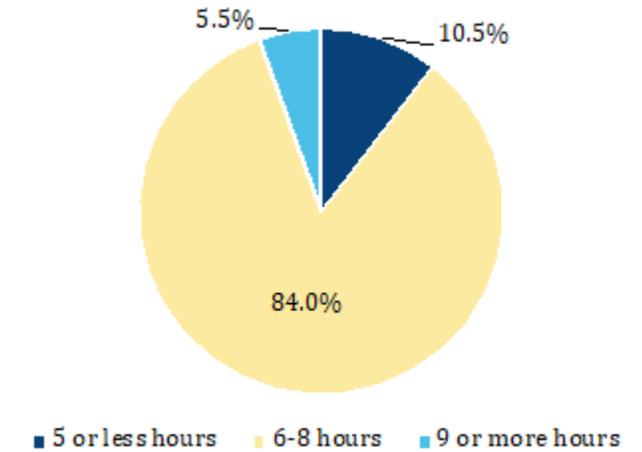


Figure 46

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.¹⁴³ 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 disorders.¹⁴⁴ 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 counselor, social worker, 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 service area. In Bucks, there is the NAMI Bucks county.¹⁴⁵

¹⁴² [https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-\(PAYS\)-2019.aspx](https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS)-2019.aspx)

¹⁴³ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/mental-health-and-mental-disorders>

¹⁴⁴ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/mental-health-and-mental-disorders>

¹⁴⁵ <https://namibuckspa.org/>

 ***“[M]ental health is a huge issue in the Valley...We lost this chunk of in-Valley services that has never come back.”***

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.¹⁴⁶ The report ranks states 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 (including The District of Columbia) 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 higher access to care.¹⁴⁷ 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. See Figure 47 for more information on questions covered in the report.

The 2021 Report also ranked states by youth measures. 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

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 47

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 48

¹⁴⁶ <https://www.mhanational.org/issues/state-mental-health-america>

¹⁴⁷ <https://mhanational.org/issues/2021/ranking-states>

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.”¹⁴⁸ Additionally, 9.7% of youth cope with severe major depression. See Figure 48 for more information.

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.¹⁴⁹ 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, ranks 13 out of 51. Lastly, when asked together, 33.8% of people in Pennsylvania report experiencing an anxiety disorder or depressive disorder, ranked 14 out of 51.

Starting in Phase 2, the 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. 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.



“Mental health is a huge concern in this community, both in the schools and among the broader adult population. Isolation brought on by the pandemic seems to be greatly exacerbating an already challenging situation.”

¹⁴⁸ <https://www.bridgestorecovery.com/major-depression/what-is-a-major-depressive-episode/>

¹⁴⁹ <https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm>

Prior to COVID-19, depression was a growing issue facing the U.S. and the residents of our service area. 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.”¹⁵⁰ 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. In midlife or older adults, depression can co-occur with other serious medical illnesses like diabetes, cancer, heart disease, and Parkinson’s disease.¹⁵¹ Risk factors include personal or family history of depression, major life changes, trauma, or stress, and 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, along with 13% of Bucks county and 14.3% of Montgomery county.¹⁵²

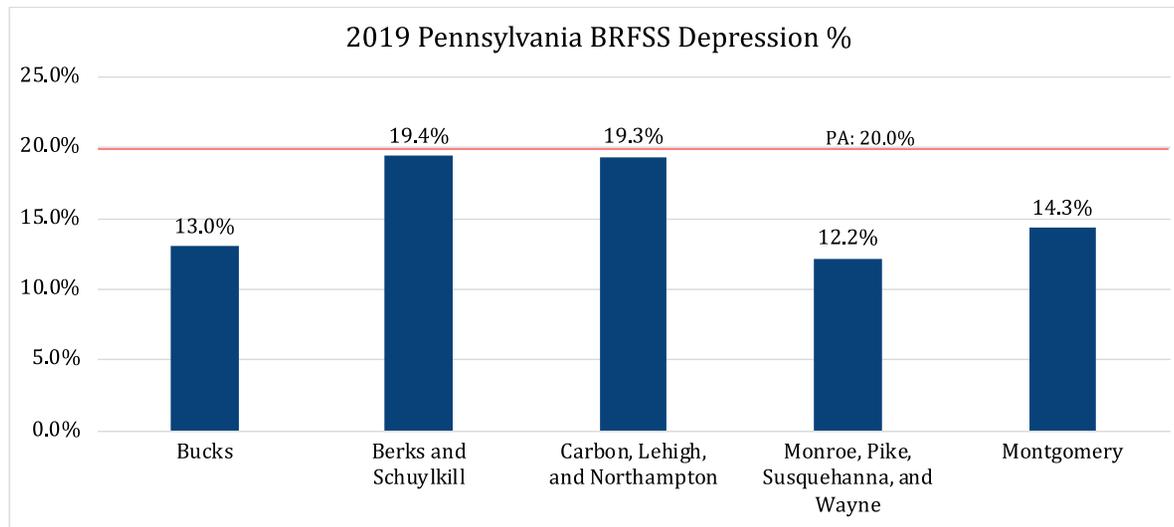


Figure 50

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

¹⁵⁰ <https://www.nimh.nih.gov/health/topics/depression/index.shtml>

¹⁵¹ <https://www.nimh.nih.gov/health/topics/depression/index.shtml>

¹⁵² <https://www.health.pa.gov/topics/HealthStatistics/BehavioralStatistics/BehavioralRiskPAAdults/Pages/BehavioralRisksPAAdults.aspx>

over time. The symptoms can interfere with daily activities such as job performance, schoolwork, and relationships.”¹⁵³ 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.¹⁵⁴ However, anxiety disorders can be treated with psychotherapy, medication, or a combination. Surveyed in 2019 but released in 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.¹⁵⁵ 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.¹⁵⁶ 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.

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.¹⁵⁷ 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.¹⁵⁸

Substance use disorders also co-occur at high prevalence rates with anxiety disorders, depression disorders, bipolar disorders, and attention-deficit disorder (ADHD).¹⁵⁹ Additionally, people with schizophrenia have higher rates of alcohol, tobacco, and drug use disorders than the general population. Approximately 1 in 4 individuals with a serious mental illness (diagnosable mental, behavioral, or emotional

2019 CDC Percent of Adults in US Experiencing Anxiety Symptoms

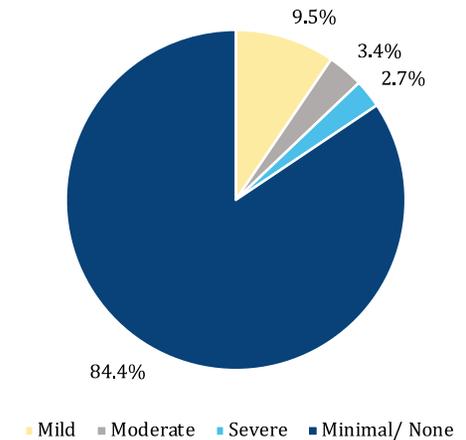


Figure 51

¹⁵³ <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>

¹⁵⁴ <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>

¹⁵⁵ <https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml>

¹⁵⁶ <https://www.cdc.gov/nchs/products/databriefs/db378.htm>

¹⁵⁷ <https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4935.pdf>

¹⁵⁸ <https://www.nimh.nih.gov/health/topics/substance-use-and-mental-health/index.shtml>

¹⁵⁹ <https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>

disorders that cause serious functional impairment interfering with one or more major life activities) also have a substance use disorder.¹⁶⁰ 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.¹⁶¹

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.¹⁶²

Suicide involves dynamic interactions between national issues, community issues, families and relationships, and individual health and or well-being.¹⁶³ 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.¹⁶⁴ 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.¹⁶⁵ Therefore, responses to suicide should target the whole population, focusing on particular risk factors like financial stressors, alcohol consumption, isolation, and access to care.¹⁶⁶

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).¹⁶⁷ The 2019 crude rate is 24.5 per 100,000 people.¹⁶⁸ In 2018, the National Hospital Ambulatory Medical Care Survey (NHAMCS) reported 312,000 emergency visits for self-injury.¹⁶⁹ CDC WONDER data shows the 2019 crude rate of suicide by intentional self-harm from 1999-2019.¹⁷⁰ In 2019, 11.9 per 100,000 deaths were death by intentional self-harm.

¹⁶⁰ <https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/part-1-connection-between-substance-use-disorders-mental-illness>

¹⁶¹ <https://mhanational.org/issues/2021/ranking-states>

¹⁶² <https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4935.pdf>

¹⁶³ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁶⁴ <https://www.cdc.gov/nchs/products/databriefs/db398.htm>

¹⁶⁵ [https://doi.org/10.1016/S2215-0366\(20\)30171-1](https://doi.org/10.1016/S2215-0366(20)30171-1)

¹⁶⁶ [https://doi.org/10.1016/S2215-0366\(20\)30171-1](https://doi.org/10.1016/S2215-0366(20)30171-1)

¹⁶⁷ <https://www.cdc.gov/nchs/products/databriefs/db398.htm>

¹⁶⁸ <https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=BF94A69A2EA7B26A79CC60EBC4B1>

¹⁶⁹ <https://www.cdc.gov/nchs/fastats/suicide.htm>

¹⁷⁰ <https://wonder.cdc.gov/controller/datarequest/D76;jsessionid=808281E7650E525FCF44896FE0B4>

Released in September 2020, the National Vital Statistics Report and CDC published a report of 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.¹⁷¹ 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.¹⁷²

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.¹⁷³

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.¹⁷⁴ 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 U.S.¹⁷⁵ 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, unemployment, disability status, community connection, and 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 disorder diagnosis.¹⁷⁶ 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 2017.¹⁷⁷ Veterans are a group that require specialized services and care that addresses the needs of the population.

¹⁷¹ <https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr-69-11-508.pdf>

¹⁷² <https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr-69-11-508.pdf>

¹⁷³ <https://www.dhs.pa.gov/Services/Mental-Health-In-PA/Documents/PA%20Statewide%20Suicide%20Prevention%20Plan.pdf>

¹⁷⁴ https://mhccnetwork.org/sites/default/files/2020-06/Mh_Disparities_Booklet.pdf

¹⁷⁵ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁷⁶ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

¹⁷⁷ https://www.mentalhealth.va.gov/docs/data-sheets/2019/2019_National_Veteran_Suicide_Prevention_Annual_Report_508.pdf

..... 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.¹⁷⁸ 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.”¹⁷⁹ 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 to 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.¹⁸⁰



“Volume has significantly increased in substance abuse care requests over the last year. This is the case both in employment assistance and outpatient care.”

..... 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.¹⁸¹ The percentage for binge drinking in women is 19.8% and for men, 30.9%.¹⁸² Nationally, 1 in 4 adults heavily drank in the past year. In 2019, there were 24,110 alcoholic liver deaths in the U.S. and 39,043 alcohol-

¹⁷⁸ <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf>

¹⁷⁹ <https://www.samhsa.gov/find-help/disorders>

¹⁸⁰ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/drug-and-alcohol-use>

¹⁸¹ <https://www.cdc.gov/nchs/fastats/alcohol.htm>

¹⁸² https://public.tableau.com/profile/tina.norris#!/vizhome/FIGURE9_1/Dashboard9_1

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 Bucks county there were 7.6 alcohol-induced deaths per 100,000 population.¹⁸³

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."¹⁸⁴ The CDC reports that binge drinking is the most common, costly, and deadly pattern of excessive alcohol use in the United States.¹⁸⁵ 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.¹⁸⁶ In 2019, the binge drinking percentage in Pennsylvania was 17% of adults and chronic drinking was 6% of adults. The report clustered certain counties together and reported on risk for a drinking problem. Bucks was reported to have 4.7% of people at risk for a drinking problem.¹⁸⁷

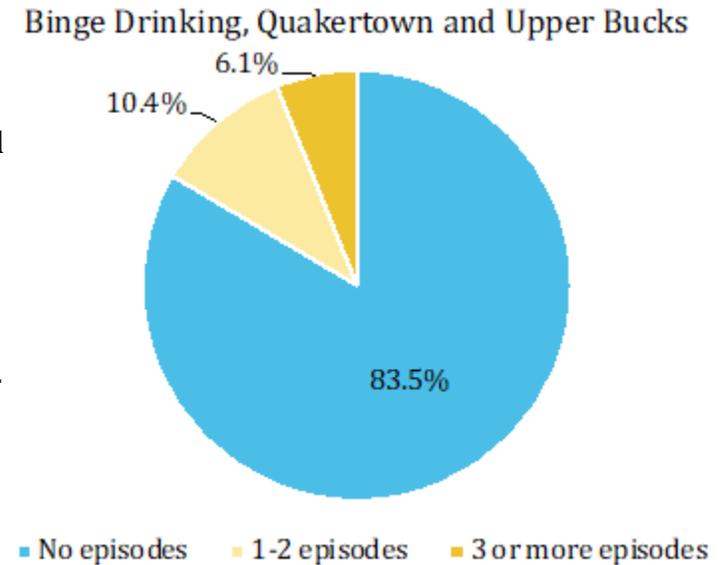


Figure 52

When asked how many binge drinking episodes a CHNA survey respondent has had in the past month, 83.5% of respondents in the Quakertown and Upper Bucks service area indicated no episodes. However, 10.4% have had 1-2 episodes in the past month and 6.1% had 3 or more episodes.

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

Vehicle Deaths with Alcohol Impairment

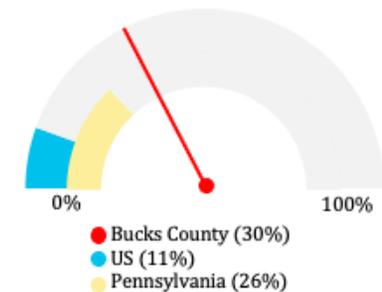


Figure 53

¹⁸³ <https://wonder.cdc.gov/controller/saved/D76/D99F021>

¹⁸⁴ <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>

¹⁸⁵ <https://www.cdc.gov/alcohol/fact-sheets/binge-drinking.htm>

¹⁸⁶ <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking>

¹⁸⁷ <https://www.health.pa.gov/topics/HealthStatistics/BehavioralStatistics/BehavioralRiskPAAAdults/Pages/BehavioralRisksPAAAdults.aspx>

Research has found that liquor stores are disproportionately located in predominantly Black census tracts.¹⁸⁸ This is an issue because increased access to liquor stores 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 Quakertown and Upper Bucks service area has 1.22 liquor stores per 10,000 population, while Bucks county has 1.2 per 10,000 population.¹⁸⁹

The Robert Wood Johnson Foundation also put out 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 Bucks county reported 23%, the highest of all service area counties. 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 2015-2019.¹⁹⁰ Pennsylvania reported 26% of all vehicle deaths with alcohol impairment. Bucks county reported 30%, the highest of all service area counties.

..... 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 2019.¹⁹¹ 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.¹⁹² The 2019 Annual Surveillance Report of Drug-Related Risks and Outcomes from the CDC,¹⁹³ 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%) 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%), and people 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

¹⁸⁸ DOI: 10.1016/s0277-9536(00)00004-6

¹⁸⁹ <https://www.census.gov/programs-surveys/cbp.html>

¹⁹⁰ <https://www.countyhealthrankings.org/>

¹⁹¹ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

¹⁹² <https://www.drugabuse.gov/publications/drugfacts/prescription-stimulants>

¹⁹³ <https://www.cdc.gov/drugoverdose/pubs/related-publications.html>

(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 2020.¹⁹⁴

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. Using data from 2018 and 2019, SAMHSA reports that 75,000 people 18 years and older in Pennsylvania used methamphetamines in the past year.¹⁹⁵

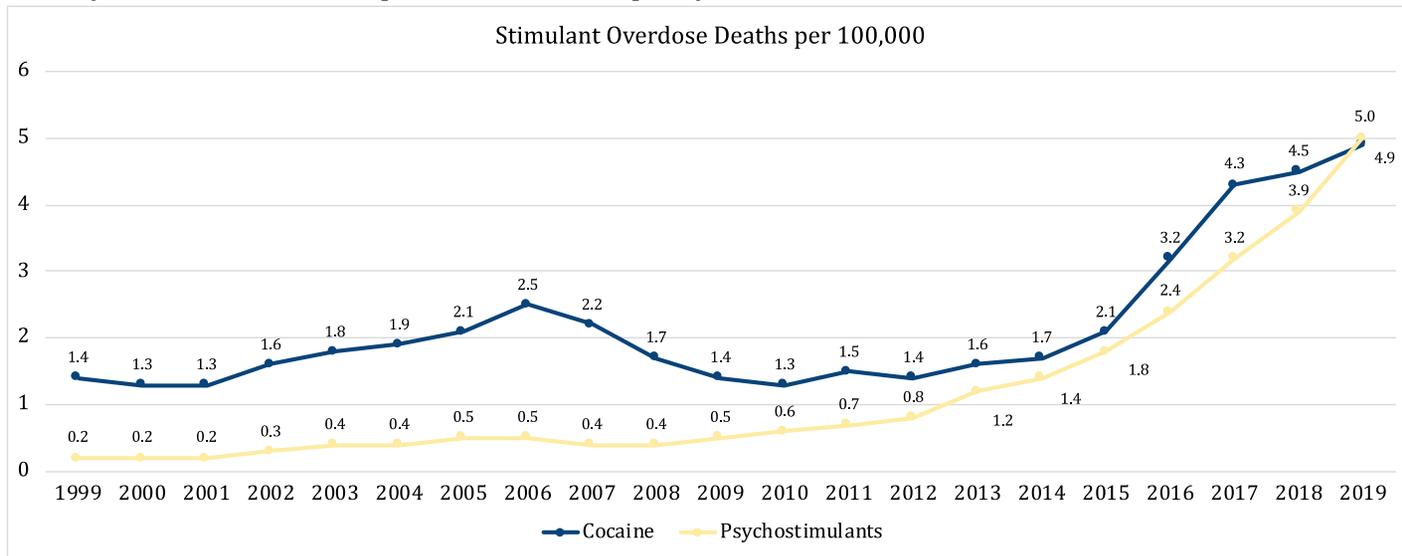


Figure 54

..... 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.¹⁹⁶ The CDC and National Health Interview Survey of 2019 reported that 14.2% of adults 18 years and older currently smoke cigarettes¹⁹⁷ and 8.1%

¹⁹⁴ <https://emergency.cdc.gov/han/2020/han00438.asp>

¹⁹⁵ <https://www.samhsa.gov/data/sites/default/files/reports/rpt32879/NSDUHsaeTotal2019/2019NSDUHsaeTotal.pdf>

¹⁹⁶ <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf>

¹⁹⁷ <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf>

of adolescents in grades 9-12 smoked cigarettes in the past 30 days.¹⁹⁸ 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.¹⁹⁹ 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.²⁰⁰ In Pennsylvania, 18% of adults smoke every day or have smoked at least 100 cigarettes in their lifetime. In Bucks county, it is 16% of adults, the lowest of all service area counties.

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 indicated that 20.8% of nonsmoking U.S. adults 18 and over were exposed to secondhand smoke, which was measured by cotinine in their blood, a metabolite of nicotine.²⁰¹

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 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

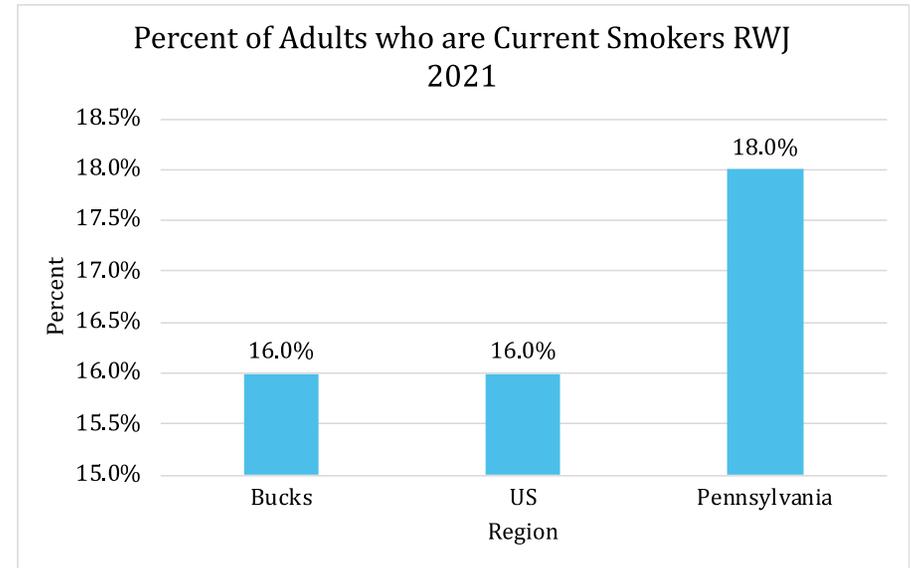


Figure 55

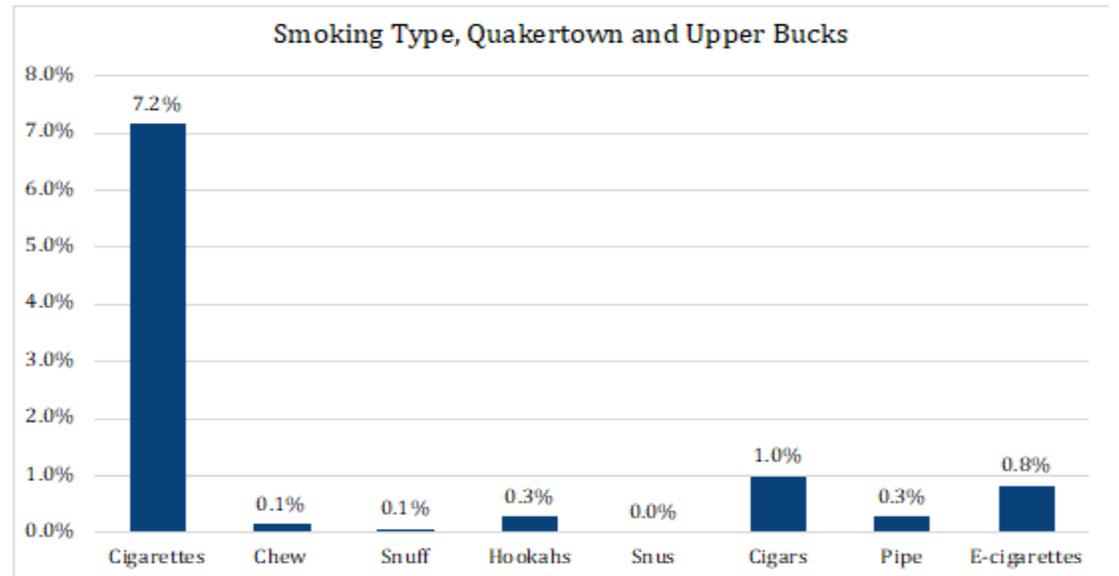


Figure 56

¹⁹⁸ <https://www.cdc.gov/nchs/data/hus/hus19-508.pdf#fig09>

¹⁹⁹ <https://www.countyhealthrankings.org/>

²⁰⁰ <https://www.countyhealthrankings.org/>

²⁰¹ <https://www.cdc.gov/nchs/data/databriefs/db396-H.pdf>

secondhand exposure declined from 27.7% in 2009 to 20.8% in 2018. When asked if CHNA survey respondents smoke, 8.2% of respondents from the Quakertown and Upper Bucks service area responded yes. Of those who do smoke, cigarettes are the most common form of tobacco (7.2%), followed by cigars (1%), and e-cigarettes (0.8%). Additionally, 0.3% of respondents use hookahs, 0.3% use pipes, 0.1% use snuff, 0.1% use chew, and 0% use snus.

..... 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.”²⁰² The CDC and National Health Interview Survey in 2019 found that 4.4% of adults 18 years and older use e-cigarettes²⁰³ and 20.8% of adolescents grades 9-12 have used e-cigarettes in the past 30 days.²⁰⁴ Electronic cigarettes were introduced in the United States around 2007 and the highest percentage of use is seen in adolescents.²⁰⁵ 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 through childhood.²⁰⁶ 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.²⁰⁷ 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

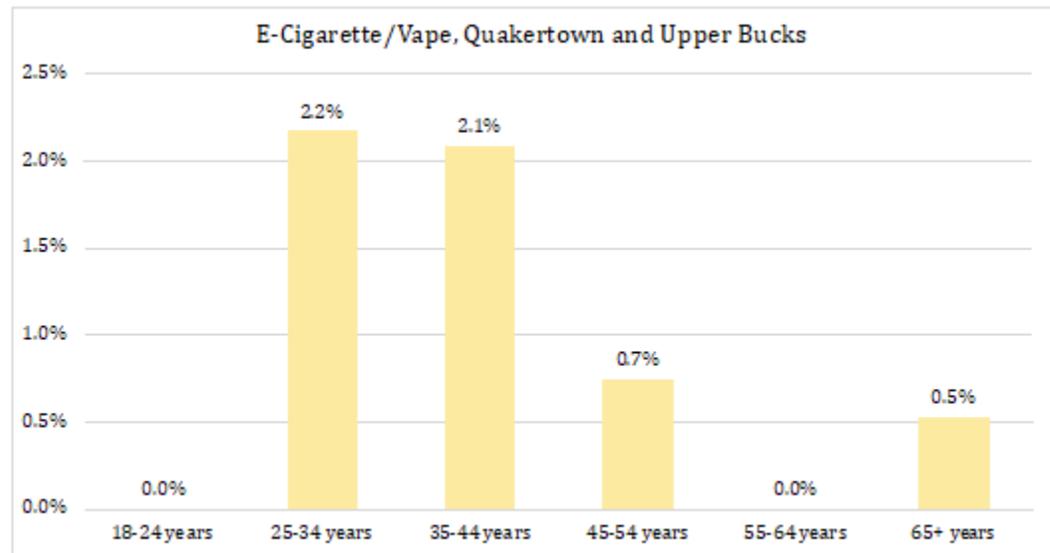


Figure 57

²⁰² https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html
²⁰³ <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf>
²⁰⁴ <https://www.cdc.gov/nchs/data/hus/19-508.pdf#fig09>
²⁰⁵ <https://www.cdc.gov/nchs/data/nhis/earlyrelease/EarlyRelease202009-508.pdf>
²⁰⁶ https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html
²⁰⁷ https://www.cdc.gov/mmwr/volumes/69/wr/mm6937e1.htm?s_cid=mm6937e1_w%20

introduction of flavors such as fruit, candy, and mint has helped to increase youth initiation into the use of tobacco products.²⁰⁸ 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.²⁰⁹ According to PAYS data, 19% of students in Pennsylvania used an e-cigarette or vape within the last 30 days.²¹⁰

When asked about e-cigarette use, only a small number of CHNA survey respondents from the Quakertown and Upper Bucks service area indicate usage; 0% of 18-24 year old respondents use e-cigarettes, 2.2% of respondents 25-34 years old, 2.1% of respondents 35-44 years old, 0.7% of 45-54 year old, 0% of 55-64 year old and 0.5% of respondents 65 years and older.

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.²¹¹ 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 2018.²¹²

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.²¹³ This usage was highest among people 18-25 (34.8%) and people 26-34 (29.6%). A much smaller percentage (4.5%) of CHNA survey respondents from the Quakertown and Upper Bucks service area indicate use of marijuana.

Marijuana Use, Quakertown and Upper Bucks

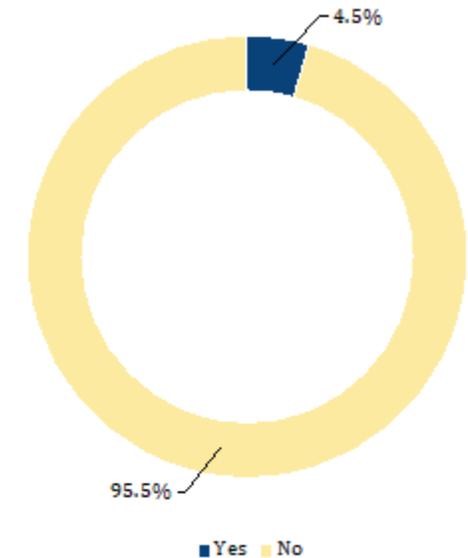


Figure 58

²⁰⁸ <https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a1.htm>

²⁰⁹ <https://www.cdc.gov/mmwr/volumes/69/wr/mm6950a1.htm>

²¹⁰ [https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-\(PAYS\).aspx](https://www.pccd.pa.gov/Juvenile-Justice/Pages/Pennsylvania-Youth-Survey-(PAYS).aspx)

²¹¹ <https://www.drugabuse.gov/publications/drugfacts/marijuana>

²¹² <https://www.cdc.gov/nchs/data/hus/2019/020-508.pdf>

²¹³ <https://www.cdc.gov/drugoverdose/pubs/related-publications.html>

..... Opioids

The CDC reports that the opioid epidemic has occurred in three phases.²¹⁴ 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.”²¹⁵ 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.²¹⁶ Common prescription opioids are Methadone, Oxycodone (OxyContin), Hydrocodone (Vicodin), and Benzodiazepines such as alprazolam (Xanax) and diazepam (Valium).

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.²¹⁷ The CDC reports that rates of overdose deaths involving synthetic opioids other than methadone, which includes fentanyl and fentanyl analogs, increased over 16% from 2018 to 2019. Overdose deaths involving synthetic opioids were nearly 12 times higher in 2019 than in 2013.”²¹⁸ 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 2018.²¹⁹ 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 1999-2019.²²⁰ 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

²¹⁴ <https://www.cdc.gov/drugoverdose/epidemic/index.html>

²¹⁵ <https://www.cdc.gov/drugoverdose/opioids/prescribed.html>

²¹⁶ <https://www.cdc.gov/drugoverdose/opioids/prescribed.html>

²¹⁷ <https://www.cdc.gov/drugoverdose/opioids/fentanyl.html>

²¹⁸ <https://www.cdc.gov/drugoverdose/opioids/fentanyl.html>

²¹⁹ <https://www.cdc.gov/drugoverdose/opioids/heroin.html>

²²⁰ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

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 2017.²²¹

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.²²² In Bucks county, the rate of opioid overdose hospital admissions is 26.4 per 100,000 people and the rate of hospital admissions with OUD is 271.3 per 100,000 people, the lowest of all service area counties.

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.”²²³ 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, 2021.²²⁴ In 2018, Bucks county had 24.5 NAS births per 1,000 births, 112 NAS births in total.²²⁵

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 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.”²²⁶ 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.²²⁷ 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.”²²⁸ Of the 38 jurisdictions in the U.S. with available synthetic opioid data, 37 jurisdictions

²²¹ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

²²² [Phc4.org/m/Opioids/](https://phc4.org/m/Opioids/)

²²³ https://nj.gov/health/populationhealth/opioid/opioid_nas.shtml

²²⁴ <https://data.pa.gov/stories/s/9q45-nckt/>

²²⁵ <https://data.pa.gov/Opioid-Related/Annual-Rate-of-Neonatal-Hospital-Stays-with-Withdr/drhe-nauc>

²²⁶ <https://emergency.cdc.gov/han/2020/han00438.asp>

²²⁷ <https://emergency.cdc.gov/han/2020/han00438.asp>

²²⁸ <https://emergency.cdc.gov/han/2020/han00438.asp>

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 is 5,008.²²⁹ 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.

..... Overdose

Overdose has been discussed previously, as it is a growing concern with prevalence rates increasing, especially during the pandemic.²³⁰ Drug overdose deaths are the leading contributor to premature death and are largely preventable.²³¹ 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 2000.²³² The NORC, National Opinion Research Center, reports on drug overdose deaths in the United States. From 2015-2019, there has been a rate of 28.7 drug overdose deaths per 100,000 people in the U.S. aged 15-64 years old.²³³ In Pennsylvania, the rate is 53.3 per 100,000 population. In Bucks county, the rate is 57.3 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).²³⁴ Adults 35-44 had the highest rate of drug overdose deaths of any age group in 2019 (40.5 per 100,000

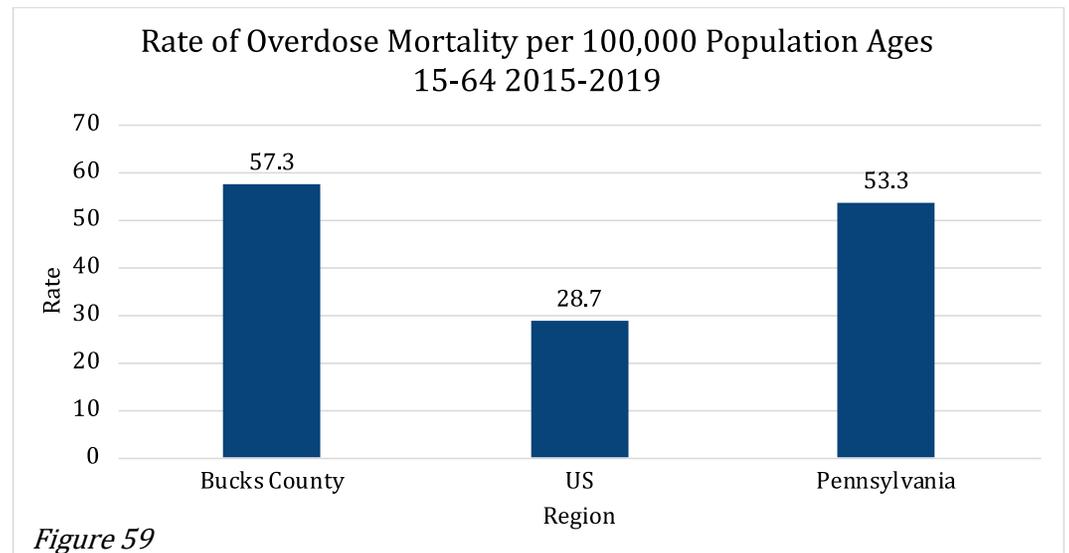


Figure 59

²²⁹ <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

²³⁰ <https://emergency.cdc.gov/han/2020/han00438.asp>

²³¹ <https://www.countyhealthrankings.org/>

²³² <https://www.countyhealthrankings.org/>

²³³ <https://opioidmisusetool.norc.org/>

²³⁴ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

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 amphetamine and methamphetamine, increased from 0.8 to 5.0 per 100,000 population, more than 6-fold.²³⁵ As of 2018, Pennsylvania ranks 4 overall for age-adjusted drug overdose deaths in the United States.²³⁶ During this time, Pennsylvania had 4,415 drug overdose deaths. Of the total drug overdose deaths in Pennsylvania, 65% of which involved opioids, a total of 2,866 deaths.²³⁷

..... 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.”²³⁸ Stigma may be a barrier to seeking help for someone suffering from substance use due to fear of disapproval toward the substance use 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 the 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.

..... 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.”²³⁹ Naloxone is safe and can be administered in three ways: injected, auto injected, or as a nasal spray. It is important for a

²³⁵ <https://www.cdc.gov/nchs/data/databriefs/db394-H.pdf>

²³⁶ <https://www.cdc.gov/drugoverdose/data/statedeaths/drug-overdose-death-2018.html>

²³⁷ <https://www.drugabuse.gov/drug-topics/opioids/opioid-summaries-by-state>

²³⁸ <https://dictionary.cambridge.org/us/dictionary/english/stigma>

²³⁹ <https://www.drugabuse.gov/drug-topics/opioids/opioid-overdose-reversal-naloxone-narcan-evzio>

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."²⁴⁰ 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.²⁴¹ 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. From July 2019 to January 2021, St. Luke's has 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

²⁴⁰ <https://www.ahrq.gov/patient-safety/reports/engage/interventions/warmhandoff.html>

²⁴¹ <https://www.samhsa.gov/sbirt>

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 County Health Rankings, Bucks county ranks 5 and Montgomery ranks 4 overall in Pennsylvania for health outcomes. Both are ranked among the healthiest counties in Pennsylvania, falling within the 75-100th percentile. America's Health Ranking 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. 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. Bucks has a premature death of 6,300 deaths per 100,000 which is better than Pennsylvania (7,500) but worse than top U.S. performers (5,400). The premature death rate in Montgomery county is 5,200 per 100,000, which is better than Pennsylvania and U.S. top performers.²⁴²

According to the CDC, the average life expectancy from birth in the U.S. is 78.8 years.²⁴³ The Robert Wood Johnson County Healthy Rankings measures life expectancy as an age-adjusted, average number of years a person can expect to live.²⁴⁴ 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 Bucks county is 79.9 and 80.9 in Montgomery county.

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.²⁴⁵ The overall low birthweight percentage is 8% in Pennsylvania and 6% for U.S. top performers. The low birthweight percentage is 7.7% in Bucks county and 7.3% in Montgomery county.

²⁴² <https://www.countyhealthrankings.org/>

²⁴³ <https://www.cdc.gov/nchs/fastats/life-expectancy.htm>

²⁴⁴ <https://www.countyhealthrankings.org/>

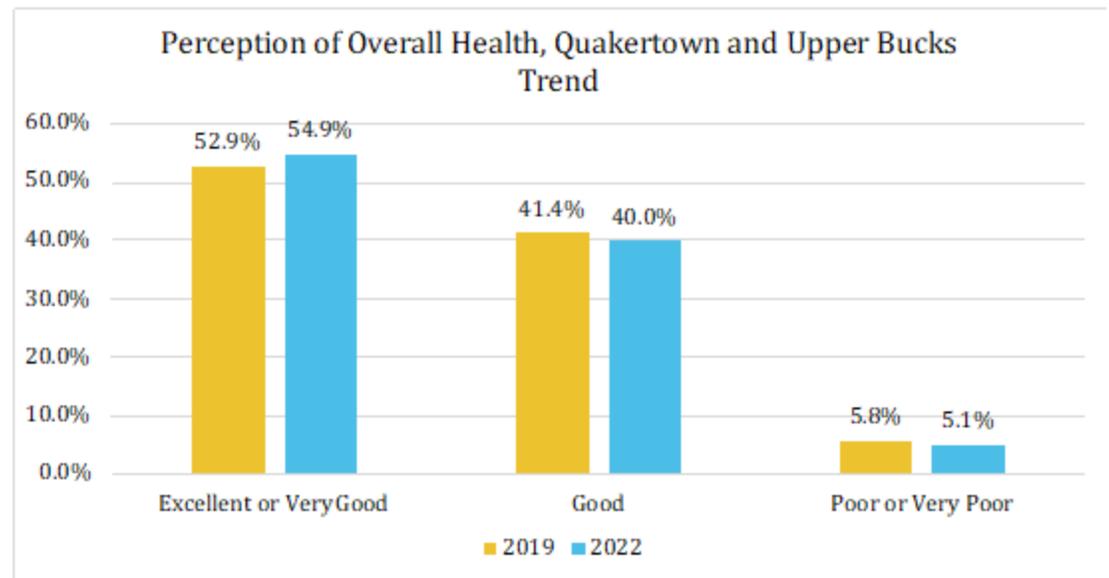
²⁴⁵ <https://www.countyhealthrankings.org/>

COVID-19 has also impacted mortality rates around the world. While we have yet to understand the impact 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%.²⁴⁶ 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%.²⁴⁷ In Bucks county, there were 96,801 cases (15,409.4 per 100,000), 1,566 deaths, and a mortality rate of 1.6%. In Montgomery county, there were 118,199 cases (14,264.8 per 100,000), 2,006 deaths, and a mortality rate of 1.7%.

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 excellent or very good health (54.9%), followed by good (40%), and poor or very poor (5.1%).

 *Figure 60*



Chronic Disease

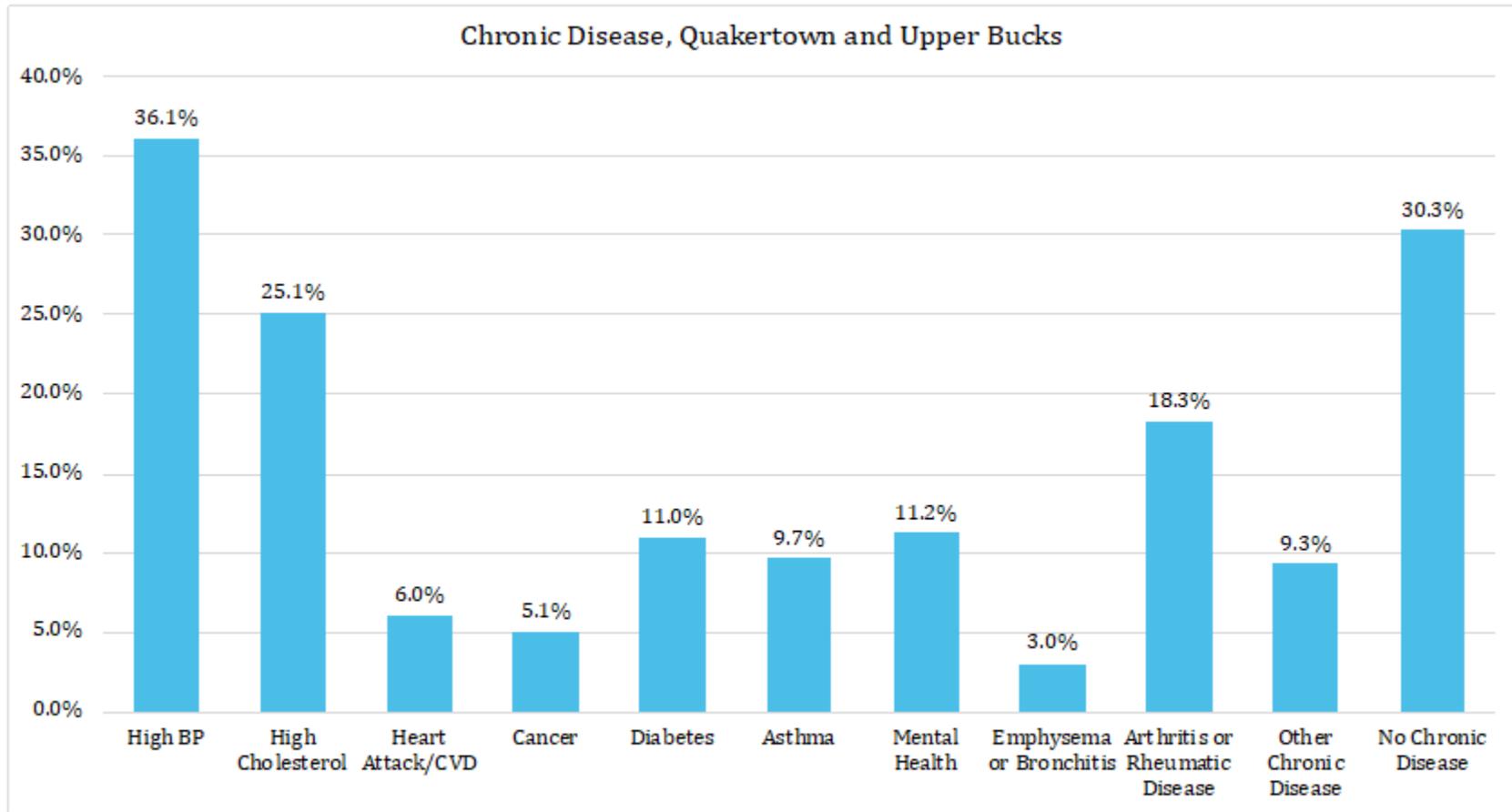
A 2020 study analyzing data from the 2018 National Health Interview Survey (NHIS) concluded that more than half of all U.S. adults have at least one chronic disease, and more than 1 in 4 have multiple chronic conditions.²⁴⁸ Among the most common chronic conditions, diabetes,

²⁴⁶ <https://coronavirus.jhu.edu/map.html>

²⁴⁷ <https://www.health.pa.gov/topics/disease/coronavirus/Pages/Cases.aspx>

²⁴⁸ https://www.cdc.gov/pcd/issues/2020/20_0130.htm

hypertension and hyperlipidemia frequently plague U.S. adults leading to a myriad of health complications and a heavy cost to the healthcare system. CHNA survey results conveyed that the highest percentage of Quakertown and Upper Bucks service area respondents have high blood pressure (36.1%), followed by high cholesterol (21.1%), and arthritis or a rheumatic disease (18.3%). While 30.3% of respondents do not have any chronic disease, 25.5% of respondents over 45 years of age reported not having a chronic disease of any kind.



 *Figure 61*

..... 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; 90 to 95% of all diabetes is type 2. Additionally, 21.4% of adults with diabetes were not aware they had diabetes and thus it went undiagnosed. According to the 2017 Behavioral Risk Factor Surveillance System (BRFSS), a national, health related survey, 10.7% of adults in Bucks county aged 18 years and older have been diagnosed with diabetes.²⁴⁹ See Figure 62, which compares Bucks county diabetes diagnosis rates to other service area counties and the U.S. overall.

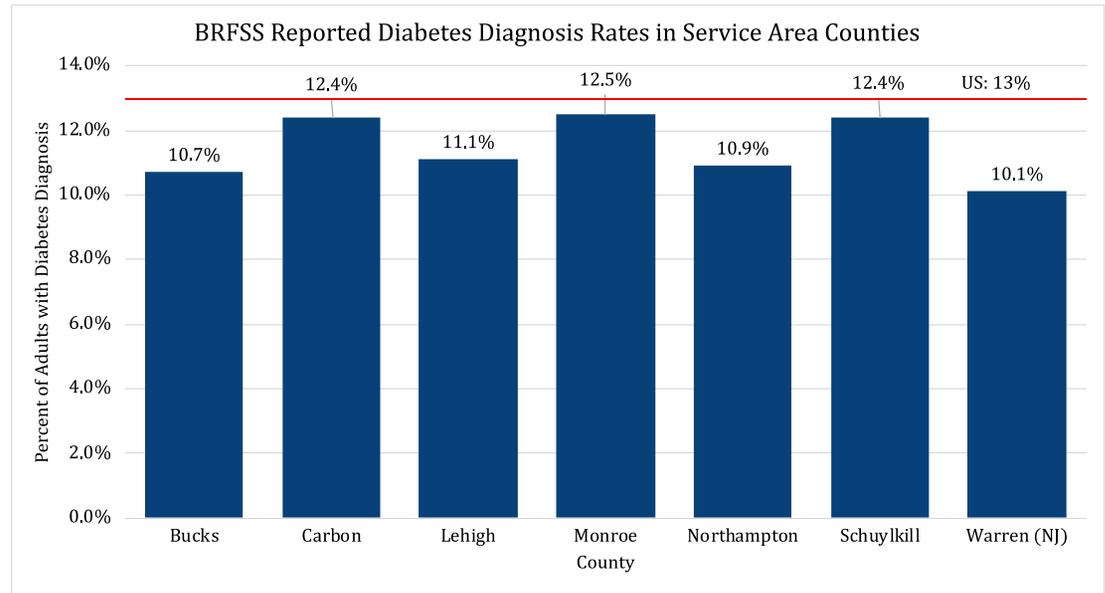


Figure 62

Of CHNA survey respondents in the Quakertown and Upper Bucks service area, 11% have diabetes. When broken down by income, respondents whose household income is \$25,000-\$34,999 have the highest rates of diabetes (15.4%) and respondents whose household income is less than \$14,999 have the lowest rates (8.6%).

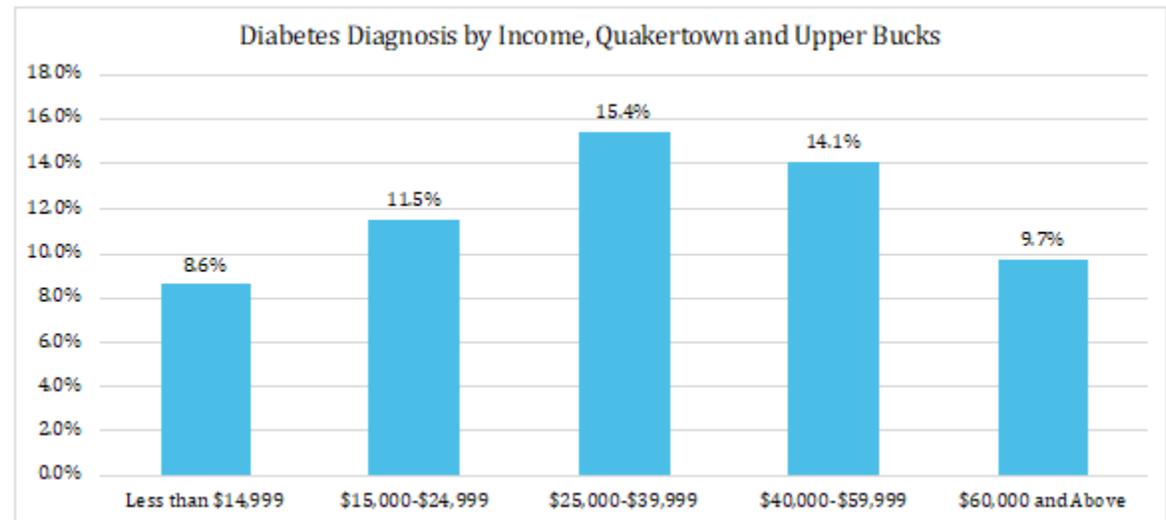


 Figure 63

²⁴⁹ <https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data>

..... 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,²⁵⁰ 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, 32.0% of adults in Bucks county aged 18 years and older have been diagnosed with high blood pressure.²⁵¹ See Figure 64, which compares Bucks county hypertension diagnosis rates to other service area counties and the U.S. overall.

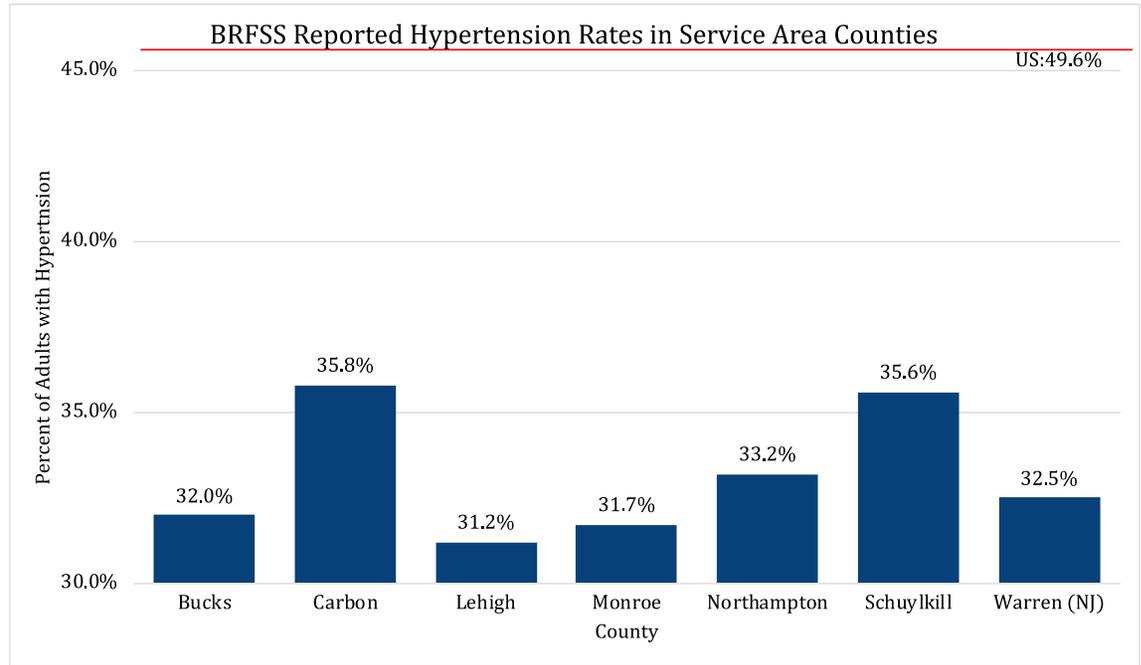
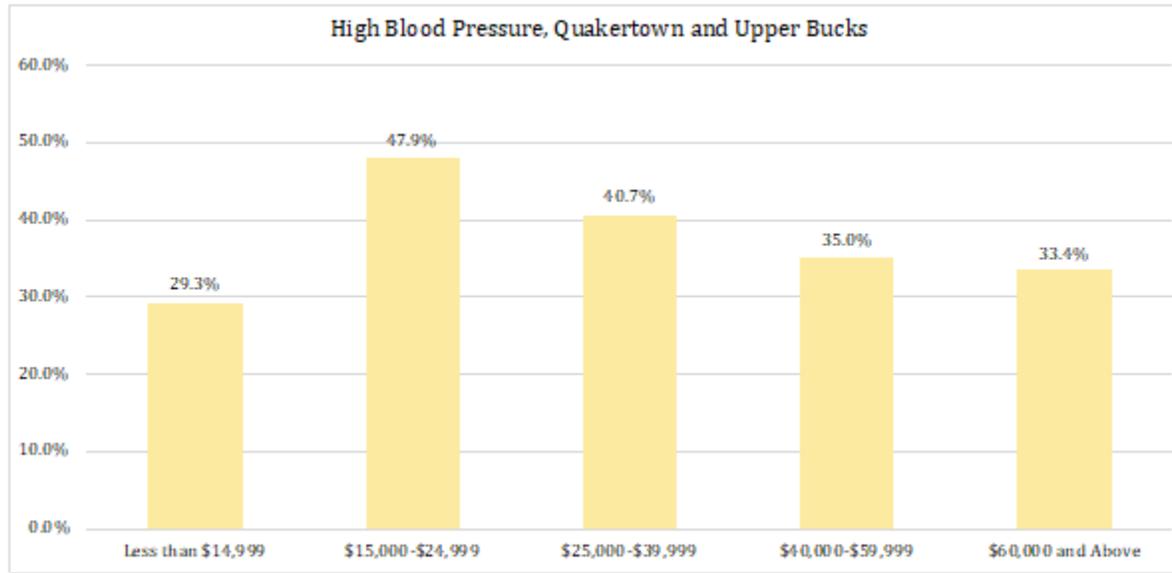


Figure 64

Of all Quakertown and Upper Bucks service area CHNA survey respondents, 36.1% have high blood pressure. When broken down by income, respondents whose household income is \$15,000-\$24,999 have the highest rates of high blood pressure (47.9%) while respondents whose household income is less than \$14,999 have the lowest rates (29.3%). It is important to note that all of these rates are relatively high, regardless of income.

²⁵⁰ <https://www.cdc.gov/bloodpressure/about.htm>

²⁵¹ <https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data>



 *Figure 65*

..... 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, 35.0% of adults in Bucks county aged 18 years and older, who have been screened in the past 5 years have been diagnosed with high

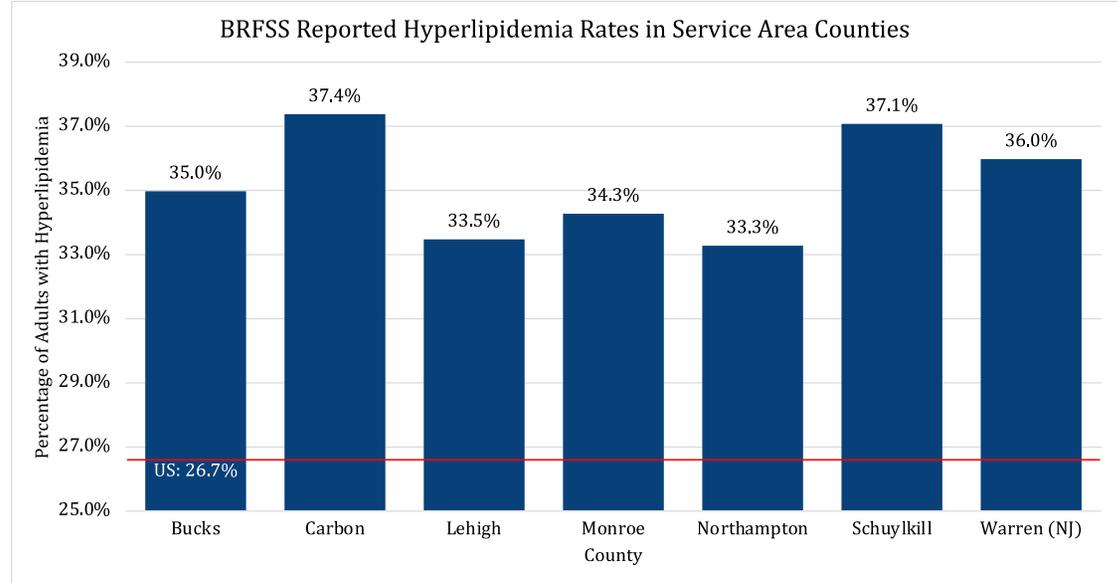


Figure 66

cholesterol.²⁵² Please see figure 66, which compares Bucks county hyperlipidemia diagnosis rates to other service area counties and the U.S. overall.

Of all CHNA survey respondents from the Quakertown and Upper Bucks service area, 25.1% have high cholesterol. When broken down by income, respondents whose household income is less than \$14,999 have the highest rates of high cholesterol (27.6%) and respondents whose household income is \$60,000 and above have the lowest rates (24.4%).

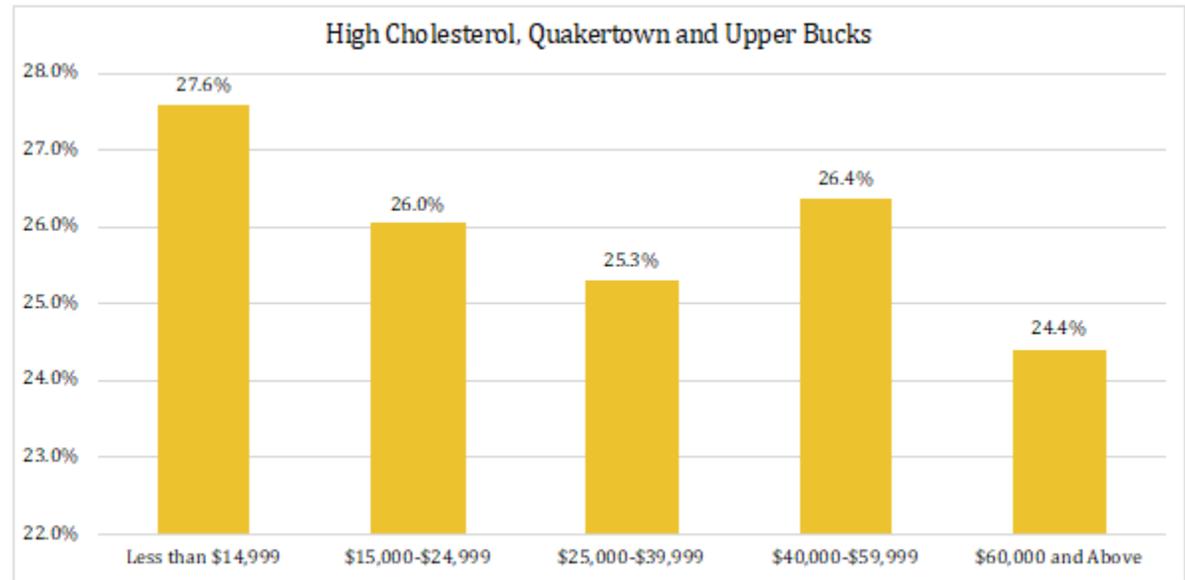


Figure 67

..... Cancer

In the U.S., 1.7 million people are diagnosed with cancer each year which comes with an estimated healthcare cost of \$174 billion.²⁵³ Cancer is the 2nd leading cause of death nationally with over half a million deaths each year.²⁵⁴ According to the National Cancer Institute, cancer incidence in the U.S. is 448.7 per 100,000.²⁵⁵ Pennsylvania has a cancer incidence of 484.6 per 100,000, which falls higher than the U.S. overall. Bucks county has a cancer incidence of 490.9 per 100,000 which is about the same, only slightly higher, than the state’s cancer incidence overall. There are certain risk factors that increase one’s chance of getting cancer. Among them, include being overweight or obese, smoking and secondhand smoke exposure, exposure to sun and tanning beds, excessive alcohol use and some infectious diseases. 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.

²⁵² <https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data>

²⁵³ <https://www.cdc.gov/chronicdisease/about/costs/index.htm>

²⁵⁴ <https://www.cdc.gov/chronicdisease/resources/publications/factsheets/cancer.htm>

²⁵⁵ National Cancer Institute’s State Cancer Profiles, 2013-2017

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." The CHNA survey asked respondents ages 50-74 to indicate their most recent colon cancer screening. Of all Quakertown and Upper Bucks service area respondents, 59% have been screened, 17.9% have not been screened, and 23.1% 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.

Colorectal Cancer Screening, Quakertown and Upper Bucks

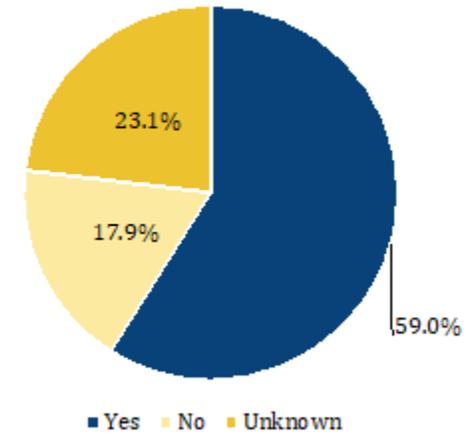


Figure 68

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

Colorectal Screening by Insurance Type, Network

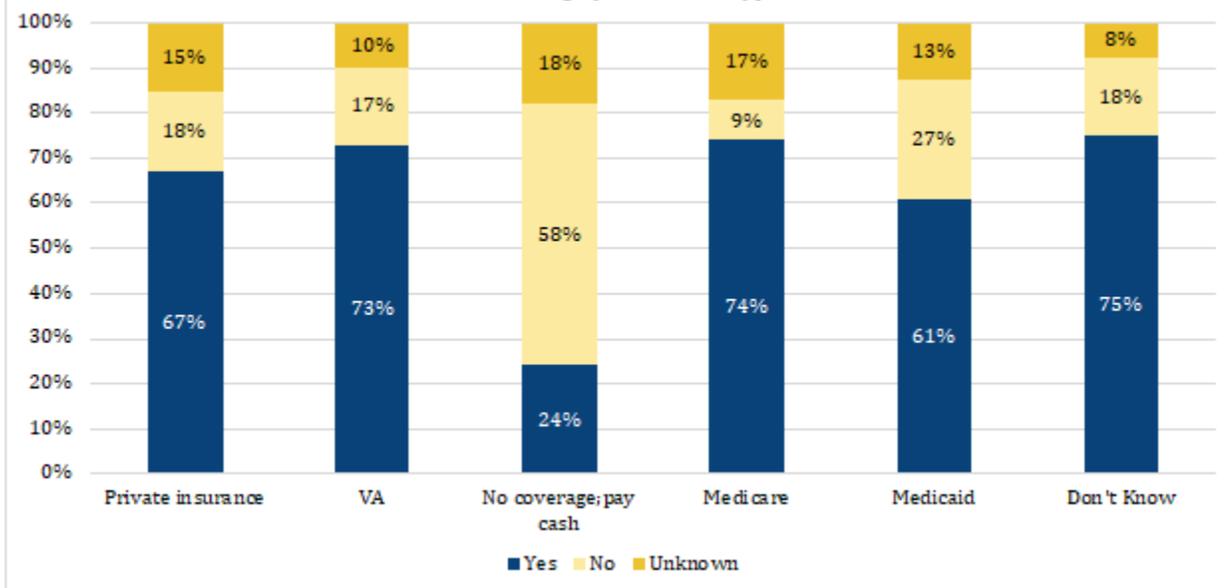


Figure 70

CHNA survey respondents were also asked about breast cancer screening and we compared breast cancer screening rates to insurance. Of all Quakertown and Upper Bucks service area respondents ages 40-74 years old, 77.2% had a mammogram, 21.4% have not, 1% do not know, and 0.4% was not applicable. When looking at breast cancer screening by insurance, 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.

Breast Cancer Screening, Quakertown and Upper Bucks

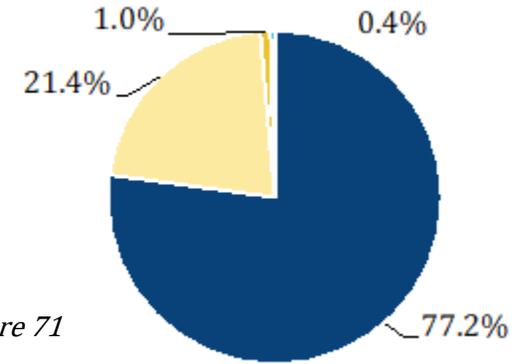


Figure 71

■ Yes ■ No ■ Don't Know ■ N/A

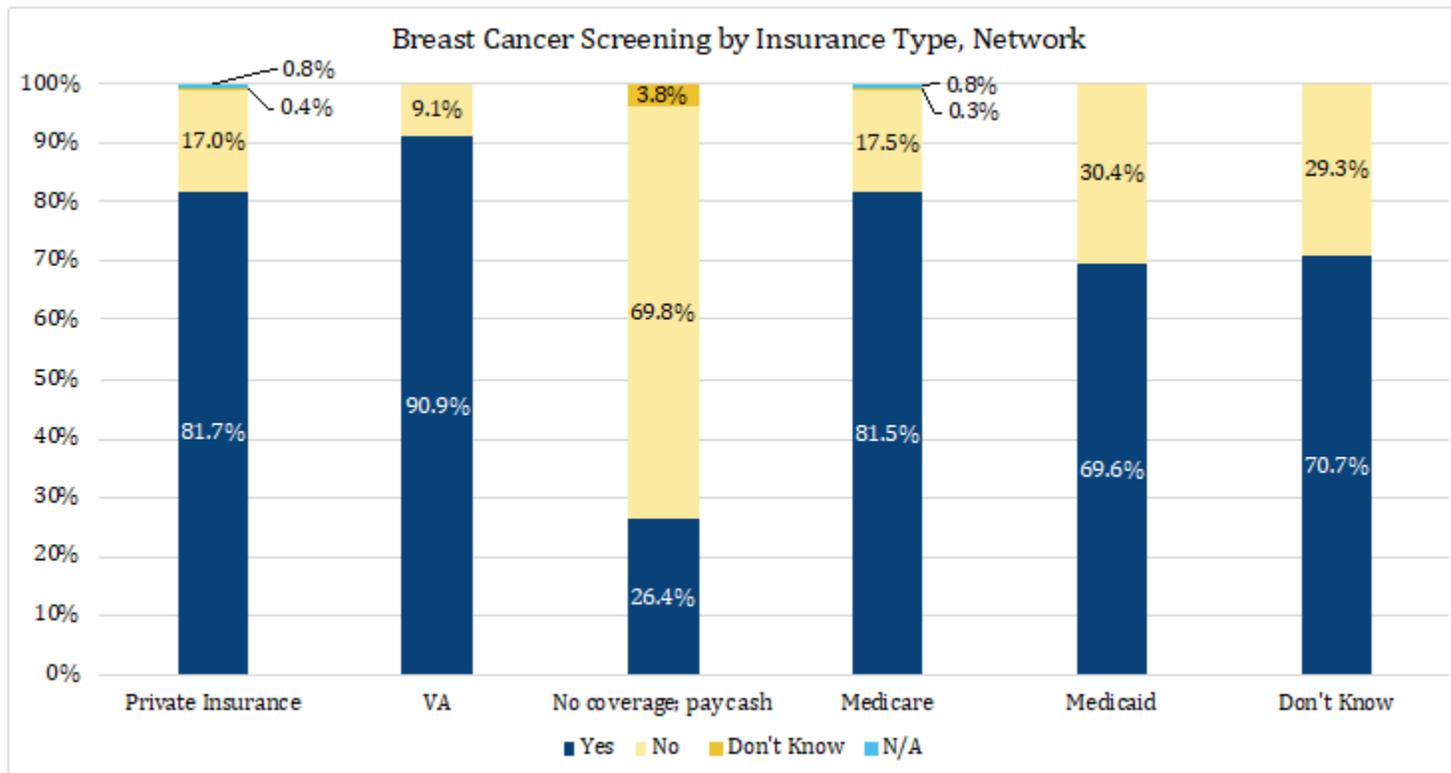
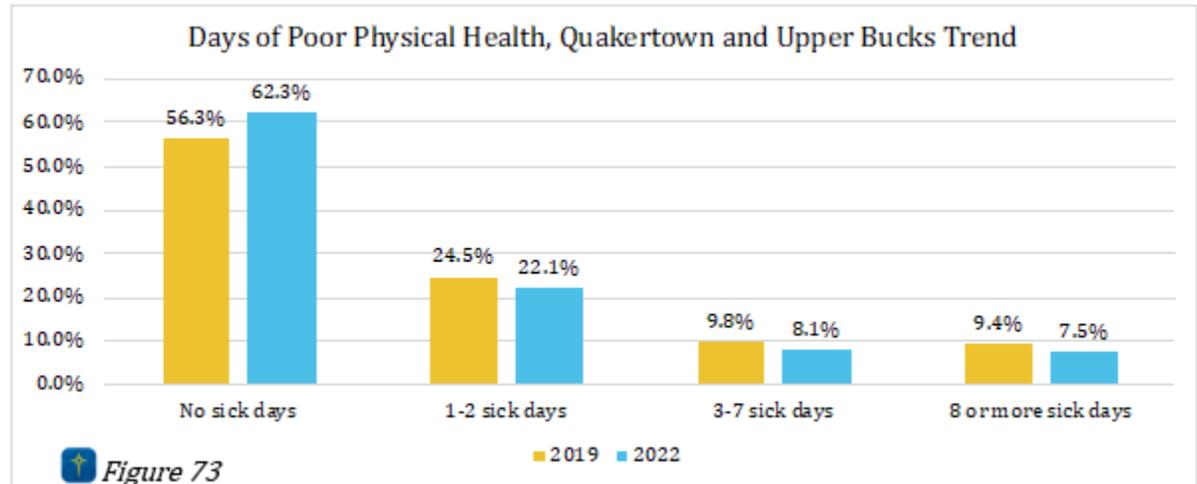


Figure 72

..... Days of Poor Physical Health

According to Healthy People 2030, daily physical activity can prevent disease, disability, injury, and premature death.²⁵⁶ 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 Bucks county at 3.1



unhealthy days, the lowest of all service area counties. Montgomery county had an average of 3.3 unhealthy days. The majority of survey respondents indicated no physically unhealthy days in the past 30 days (62.3%), 22.1% of respondents indicated 1-2 sick days, 8.1% indicated 3-7 sick days, and 7.5% indicated 8 or more sick 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. The poor mental health days question is measured by the average number of mentally unhealthy days in the past 30 days.²⁵⁷ In Pennsylvania, the overall average is 4.7 unhealthy days, with Bucks and Montgomery county both with 4.4 unhealthy days, the lowest of all service area counties. The majority of survey respondents indicated no mentally unhealthy days in the past 30 days (62.1%), 20.9% of respondents indicated 1-2 sick days, 9.2% indicated 3-7 sick days, and 7.8% indicated 8 or more sick days in the past 30 days.

²⁵⁶ <https://health.gov/healthypeople/objectives-and-data/browse-objectives/physical-activity>

²⁵⁷ <https://www.countyhealthrankings.org/app/new-jersey/2021/measure/outcomes/42/description>

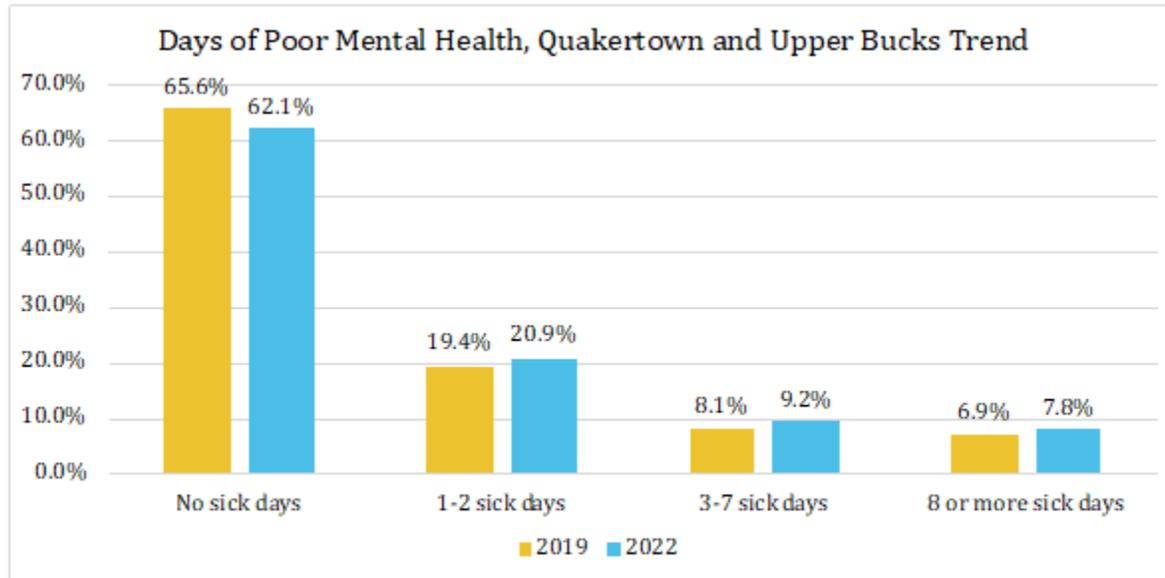


Figure 74

..... 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.²⁵⁸ 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.²⁵⁹ 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 U.S., 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.²⁶⁰ In 2019, the crude unintentional injury death rate was 67.1 per 100,000 population in Pennsylvania. The unintentional injury death rate in Bucks county was 62.2 and 52.4 per 100,000 population in Montgomery county. Healthy People 2030 has set objectives for

²⁵⁸ Wonder.cdc.gov

²⁵⁹ <https://www.cdc.gov/nchs/fastats/accidental-injury.htm>

²⁶⁰ Wonder.cdc.gov

injury deaths because unintentional injury deaths are so prominent, some of which are to reduce unintentional injury deaths, reduce deaths involving opioids, and to reduce emergency department visits for nonfatal injuries and unintentional injuries.²⁶¹

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 vaccines became available.²⁶² 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 the other COVID-19 variants. In late 2021, the Omicron variant emerged, proving to be more contagious than other COVID-19 variants, but not necessarily more deadly.²⁶³ The most common symptoms of COVID-19 include fever or chills, cough, shortness of breath, headache, and new loss of taste or smell.

During the first wave, Bucks county peaked at 185 new cases in a single day. By the second wave, that number had sky rocketed to 308 new cases in one day. Bucks county and Montgomery county had more substantial community transmission of COVID-19 during the second wave of the pandemic as illustrated in Figures 75-76 . By the beginning of 2022, with the new Omicron variant and high levels of transmission, the highest number of new cases in one day was 1,129 in Bucks county and 1,853 in Montgomery county.

²⁶¹ [wisqars.cdc.gov/](https://www.wisqars.cdc.gov/)

²⁶² <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html>

²⁶³ <https://www.cdc.gov/coronavirus/2019-ncov/variants/omicron-variant.html>

2022 St. Luke's University Health Network Quakertown and Upper Bucks Community Health Needs Assessment

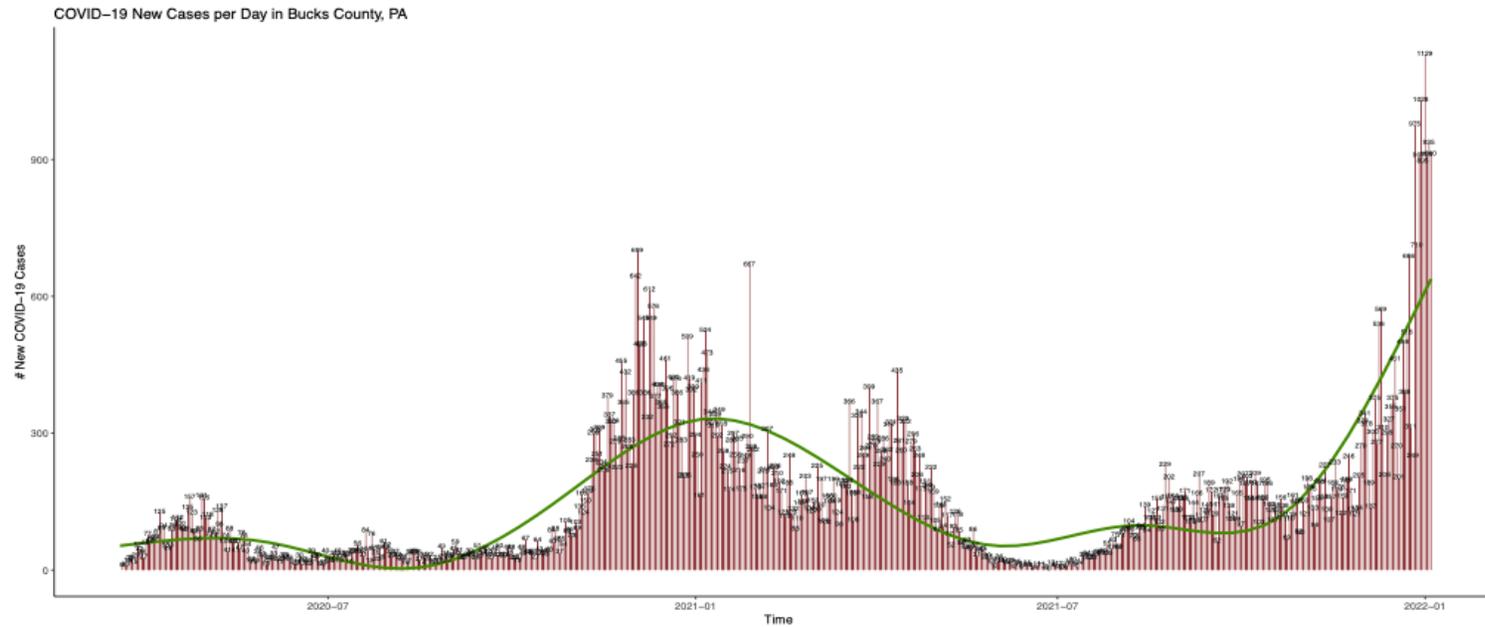


Figure 75

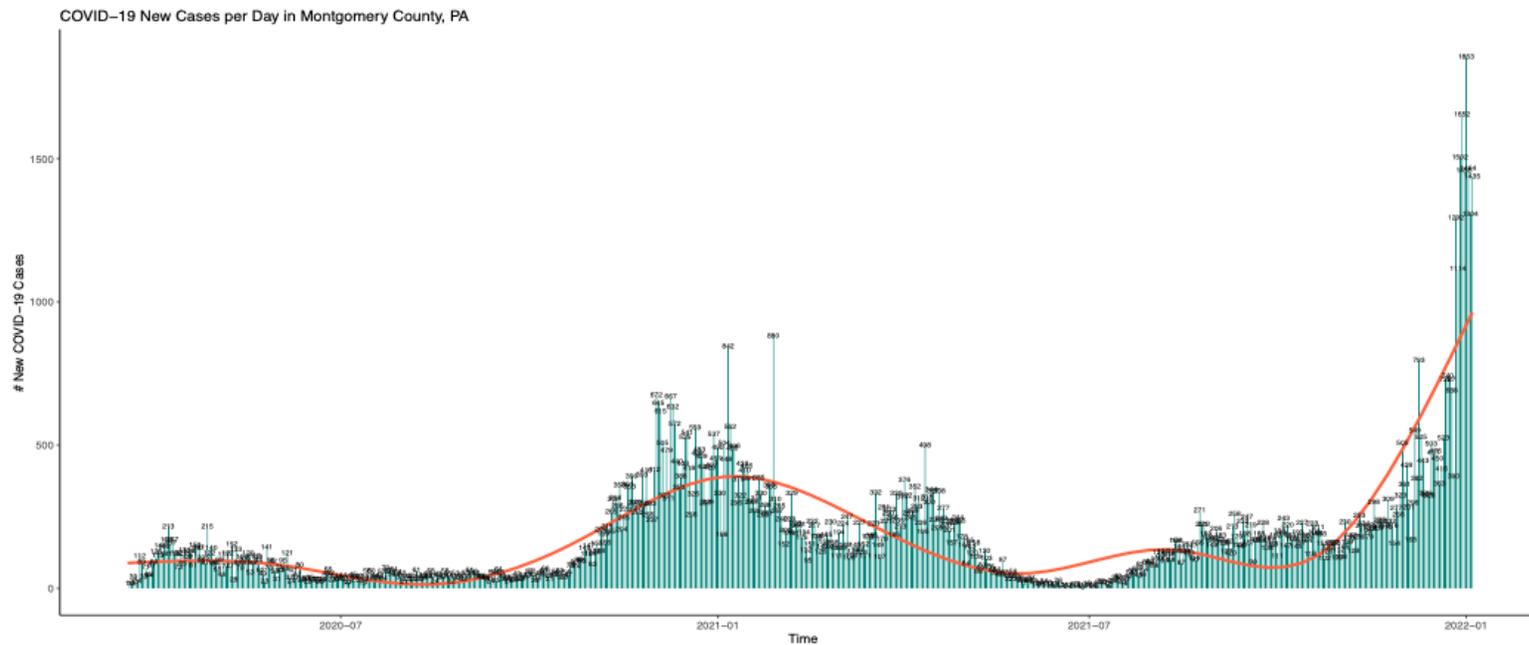
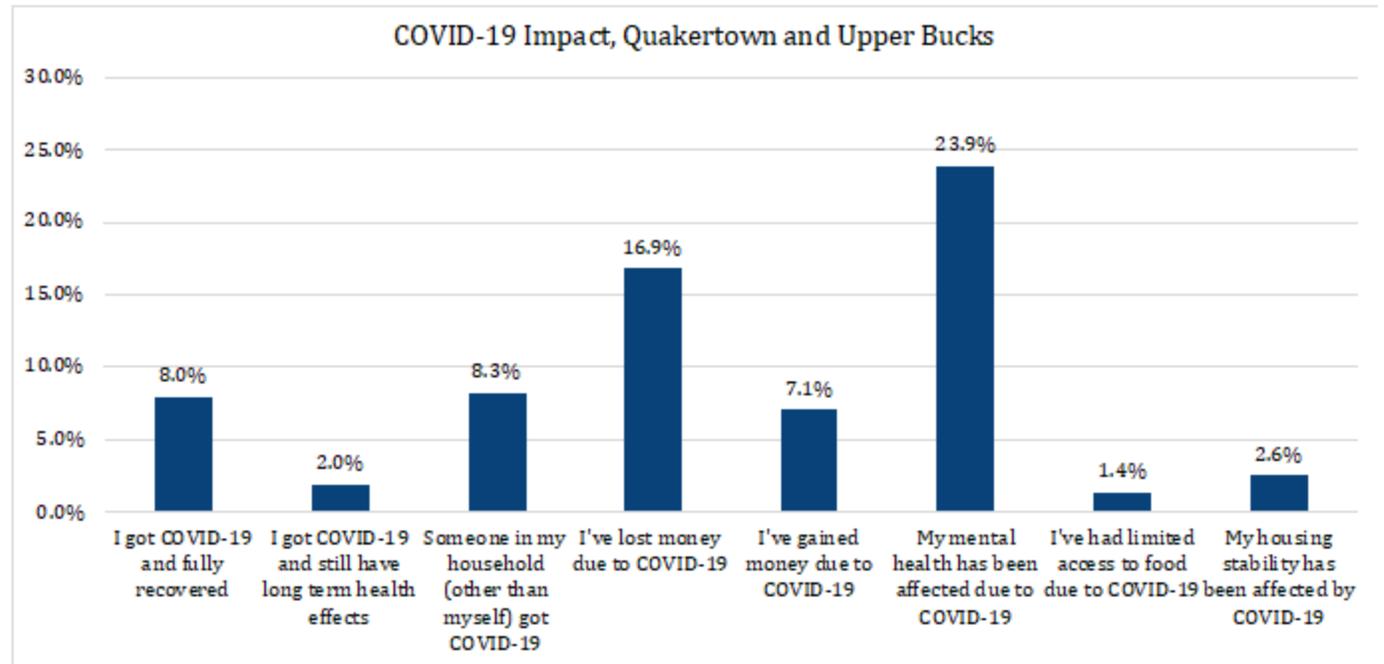


Figure 76

To get an understanding as to how COVID-19 impacted the Quakertown and Upper Bucks service area we asked respondents to indicate if any of the categories in Figure 77 applied to them. Of those who indicated they had been impacted by COVID-19, the greatest number of respondents said their mental health has been affected (23.9%), 16.9% of respondents said they lost money due COVID-19, 8% said they had COVID-19 and fully recovered, while 8.3% say someone else in their household got COVID-19.

However, 2% say they got COVID-19 and are still having long term effects, 1.4% had limited food access, and 2.6% have had housing instability due to the pandemic, while 7.1% have gained money due to the pandemic.



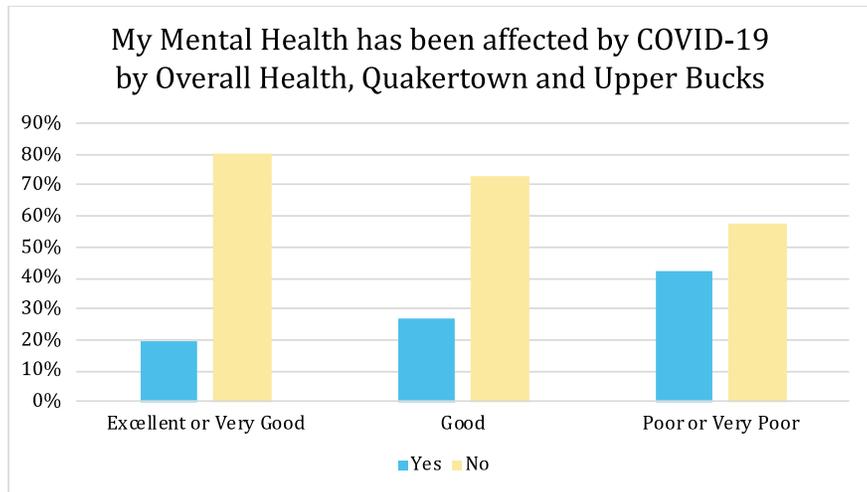
 *Figure 77*

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 (50.9%) in the Quakertown and Upper Bucks 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 community health survey in the Quakertown and Upper Bucks service area shed light on some key differences among populations and highlight the impact that COVID-19 has on at-risk populations

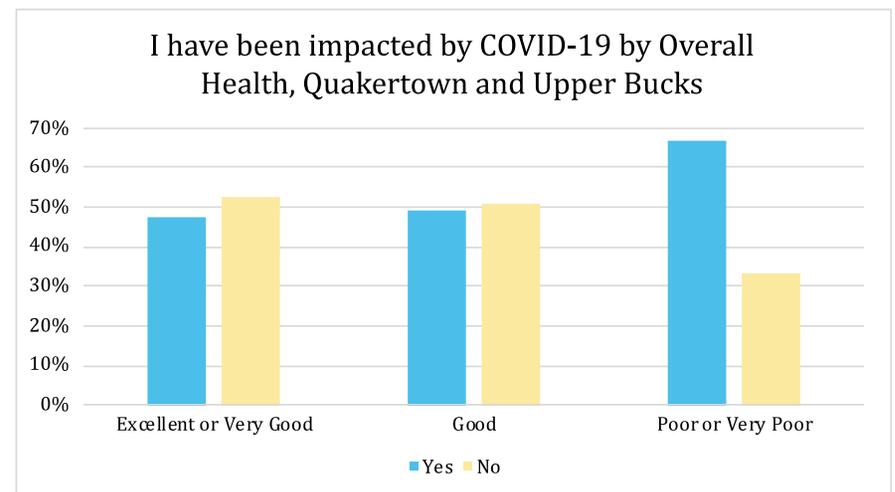
..... **Overall Health and COVID-19**

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.²⁶⁴ CHNA survey respondents in the Quakertown and Upper Bucks service area that reported excellent/very good health were less likely (48%) to report being impacted by COVID-19 compared to respondents reporting good health (49%) or poor/very poor health (67%). This is also the case when reporting the impacts of COVID-19 on mental health, with 20% of respondents in excellent/very good health, 27% in good health, and 42% 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 78*



 *Figure 79*

..... 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 to 3 in 10 men) reported anxiety and other mental health concerns because of the pandemic.²⁶⁵ Findings from the CHNA survey in the Quakertown and Upper Bucks service area showed similar discrepancies between gender, with female respondents more likely to be

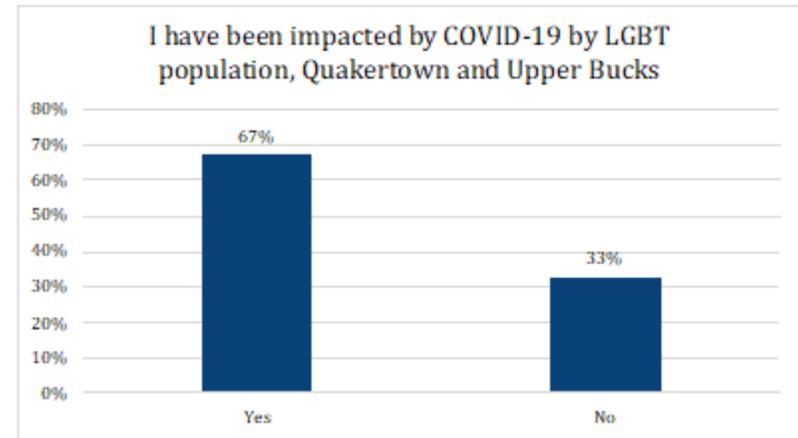
²⁶⁴ <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>

²⁶⁵ <https://www.kff.org/coronavirus-covid-19/issue-brief/coronavirus-a-look-at-gender-differences-in-awareness-and-actions>

impacted by COVID-19 (51%) than males (45%). 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 (26%) than males (19%).

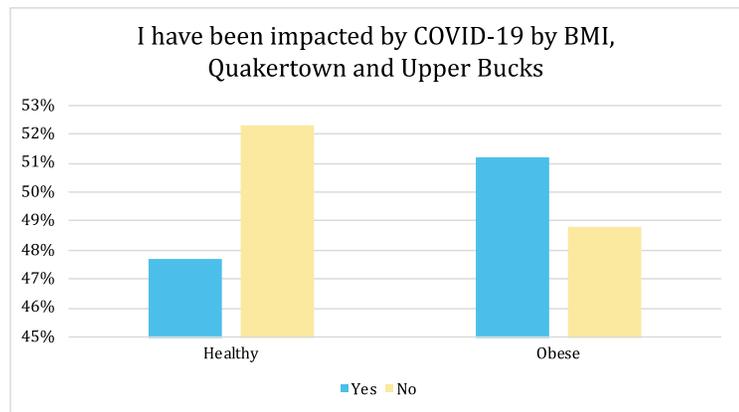
..... LGBT and COVID-19

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.²⁶⁶ Survey results from the Quakertown and Upper Bucks Campuses also reflect these differences, with more than 67% responding that they had been impacted by the pandemic, compared to 49.1% of non-LGBT CHNA respondents in the Quakertown and Upper Bucks service area. In addition, 53% of the LGBT respondents said their mental health had been affected by the COVID-19 pandemic, compared to 23.9% of total respondents in the service area.



 *Figure 80*

..... Obesity and COVID-19



Obesity puts people at risk for having serious complications and illness from COVID-19 and triples the risk of hospitalization when infected.²⁶⁷ Obesity is shown to have negative impacts on COVID-19 recovery and outcomes. With a large population of the Quakertown and Upper Bucks service area struggling with obesity (38.9%), the CHNA survey results reflect the correlation between obesity and COVID-19, with only 48% of respondents with a healthy weight being impacted compared to 51% of people living with obesity.

 *Figure 81*

²⁶⁶ <https://www.kff.org/coronavirus-covid-19/poll-finding/the-impact-of-the-covid-19-pandemic-on-lgbt-people/>

²⁶⁷ <https://www.cdc.gov/obesity/data/obesity-and-covid-19.html>

..... Ethnicity and COVID-19

The COVID-19 pandemic highlights the systemic issues of inequity in the public health sector, and the rates of illness and death are significantly higher for minority populations. While social determinants of health and health equity historically illustrate the marginalization of minority populations, issues such as discrimination, employment, education, and housing all contribute to the discrepancies in rates of illness and access to care during the pandemic.²⁶⁸ When asked if the COVID-19 pandemic had impacted their lives, 59% of CHNA Hispanic respondents in the Quakertown and Upper Bucks service area said yes, compared to 49% of non-Hispanic respondents.

..... Income and COVID-19

Income is often seen as one of the most significant social determinants of health, as financial status either provides or denies access and opportunity to everything from housing to education to healthcare. Income also correlates with the impact of COVID-19 on individuals, and a recent study in the Journal of the American Medical Association found that income and COVID-19 illness and mortality rates are correlated with income.²⁶⁹ These findings were also seen in the CHNA survey in the Quakertown and Upper Bucks service area, with 67% of respondents earning \$14,999 or less responding that they were impacted by COVID-19, compared to 50% of respondents making \$60,000 and above.

..... Social Vulnerability

Figure 83 displays the CDC Social Vulnerability Index map, which takes into account factors such as socioeconomic, 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.”²⁷⁰ 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). Bucks county has the lowest overall vulnerability is all of the St. Luke's service area counties with 0.08. Several of these factors are associated with higher rates of COVID-19 infection.²⁷¹ Some of the most vulnerable populations during the

²⁶⁸ <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>

²⁶⁹ <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2779417>

²⁷⁰ https://www.atsdr.cdc.gov/placeandhealth/svi/at-a-glance_svi.html

²⁷¹ <https://www.sciencedirect.com/science/article/pii/S0749379720302592>

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.

Bucks Social Vulnerability	
Overall	0.08
Socioeconomic	0.04
Household Composition and Disability	0.05
Minority Status and Language	0.63
Housing Type and Transportation	0.2

Figure 82

CDC Social Vulnerability Index: Bucks County

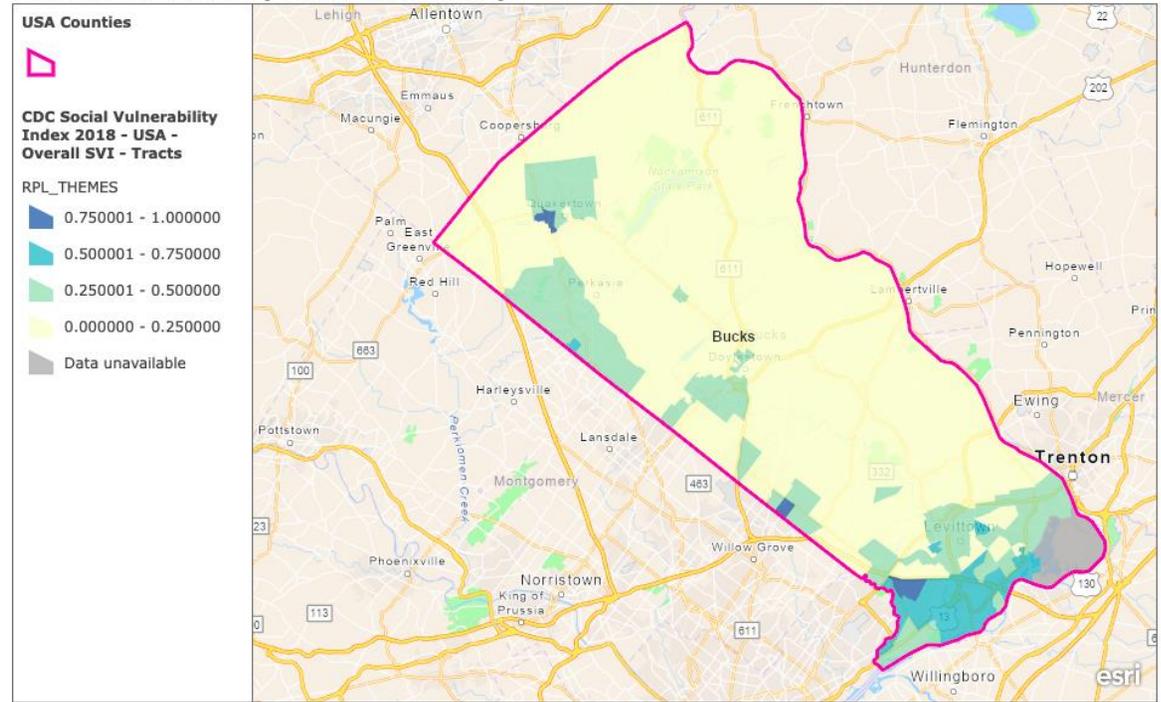


Figure 83

Bucks County, PA, data.pa.gov, New Jersey Office of GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Through key informant interviews, we learned that many pre-COVID-19 problems, especially regarding economic inequities and psychological health, have been exacerbated and new challenges, such as virtual learning for students, have created new issues to address. One key informant expressed their concern that the COVID-19 pandemic exacerbates some hidden issues:



“I am concerned in COVID times with domestic violence...People in the area say that with kids no longer in front of their teachers on a regular basis and with folks forced to stay at home, domestic violence that was previously in front of us is now hidden.”

Despite these vulnerabilities, some of the responses to COVID-19 in Quakertown have shown a resilient community.



“One of the things I am delighted with is the expansion of the summer meals program. It was twelve times the previous year. I just want to keep looking at ways that we can serve families with kids because those are the folks who are struggling a little more on average.”



“The borough helped us with the plexi glass for our businesses. We worked with Home Depot, they actually gave it to us for free. The borough helped us pick up supplies. They made the curbside signs for our businesses and dropped the codes and zoning so we could have tents outside.”

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 84). 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.

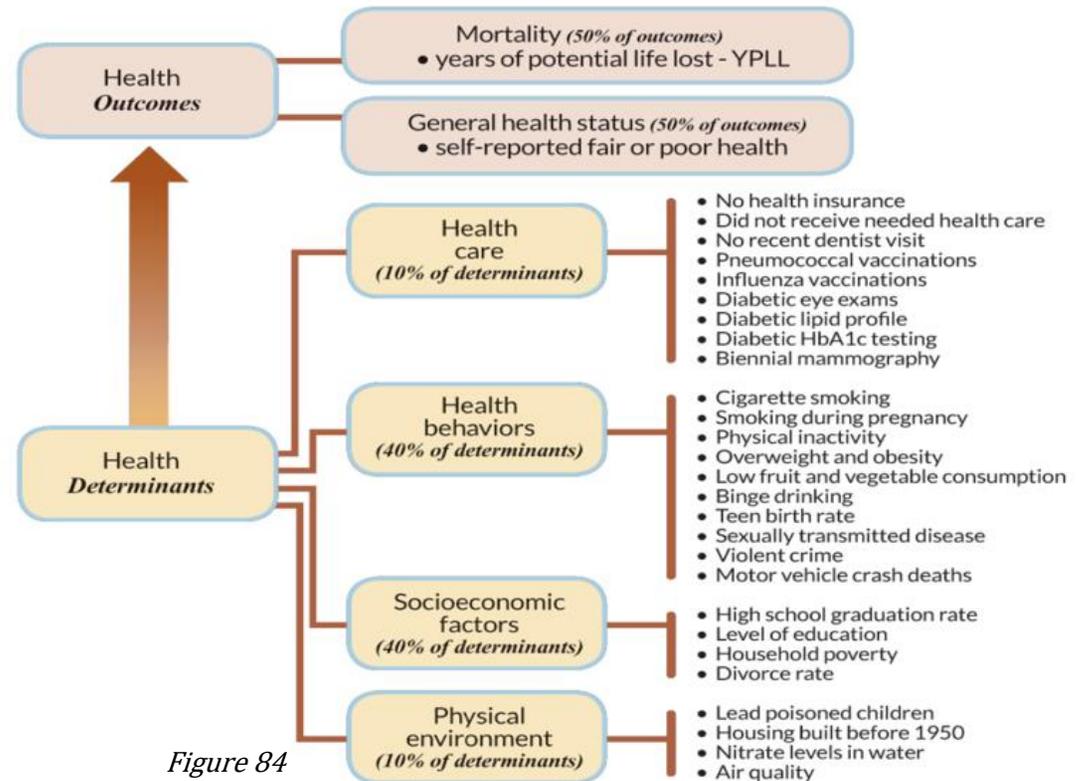


Figure 84

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 Quakertown and Upper Bucks 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- Quakertown and Upper Bucks Campuses

- AHUB
- BCOC (Housing Location)
- Bucks Career Link
- Bucks County Drug and Alcohol
- Code Blue Shelter
- DeSales University
- Family Services Assoc of Bucks
- HUBBUB
- Indian Valley Chamber
- Palisades School District
- Penn Community bank
- Penn Foundation
- Quakertown Community School District
- QNB Bank
- Quakertown Alive
- Quakertown Borough
- Quakertown Food Pantry
- Quakertown Trolley Market
- Representative Craig Staat's Office
- Representative Machenzie's Office
- Representative Pennycuick's office
- Richland Township Parks & Rec
- Senator Bob Mensch's Office
- St. Isodore's Parish
- Swamp Mennonite Church/ Energy Center
- The Open Link
- The Perkiomen School
- United Friends School
- United Way Bucks County
- Upper Bucks Chamber of Commerce
- Upper Bucks YMCA
- Upper Perk Valley Chamber of Commerce
- Upper Perk YMCA
- Upper Perkiomen Ambulance
- Upper Perkiomen School District