

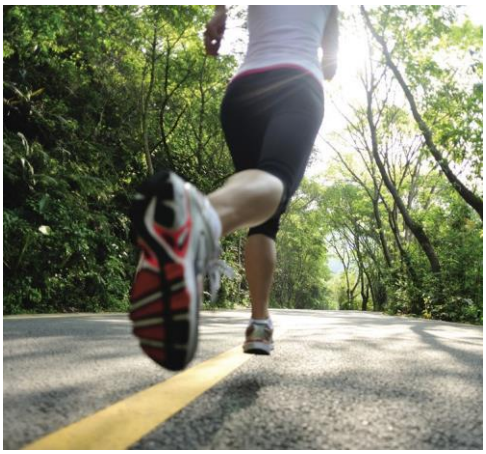

A FIVE-COUNTY REGIONAL **COMMUNITY HEALTH NEEDS ASSESSMENT** SOUTH CENTRAL PENNSYLVANIA

Carlisle Regional Medical Center • Hamilton Health Center
Holy Spirit–A Geisinger Affiliate • Penn State Milton S. Hershey Medical Center
Pennsylvania Psychiatric Institute • PinnacleHealth System
October 2015



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Introduction

To better serve the needs of community residents in South Central Pennsylvania, PinnacleHealth System partnered with Carlisle Regional Medical Center, Hamilton Health Center, Holy Spirit–A Geisinger Affiliate, Penn State Milton S. Hershey Medical Center, and the Pennsylvania Psychiatric Institute to form a community group, collectively known as The Collaborative. PinnacleHealth System, as a member of this Collaborative, completed a comprehensive community health needs assessment (CHNA) to fulfill its mission and goals.

The Patient Protection and Affordable Care Act (PPACA) has changed how individuals are obtaining care and has modified how healthcare is delivered. Reducing healthcare costs, greater care coordination, and better care/services are some goals of the PPACA. Healthcare organizations and systems are striving to improve the health of the community they serve. Collaborating with local, state and national partners, and government officials can provide opportunities for continued high-quality programs and services in the region.

In 2012, PinnacleHealth System completed a CHNA on Cumberland, Dauphin, Lebanon, Perry, and York counties, (particularly, Northern York).[1] These counties were specifically identified as regions that fell under PinnacleHealth System's service area.[2] The 2015 assessment focused on the same counties. In addition, the same project component pieces were completed with the exception of a new federal requirement to collect public feedback on the 2012 CHNA and implementation plan (this project piece was known as public commentary). With the completion of two CHNA cycles, Tripp Umbach provided trending data (when applicable) to view movements and changes in community respondents' behaviors.

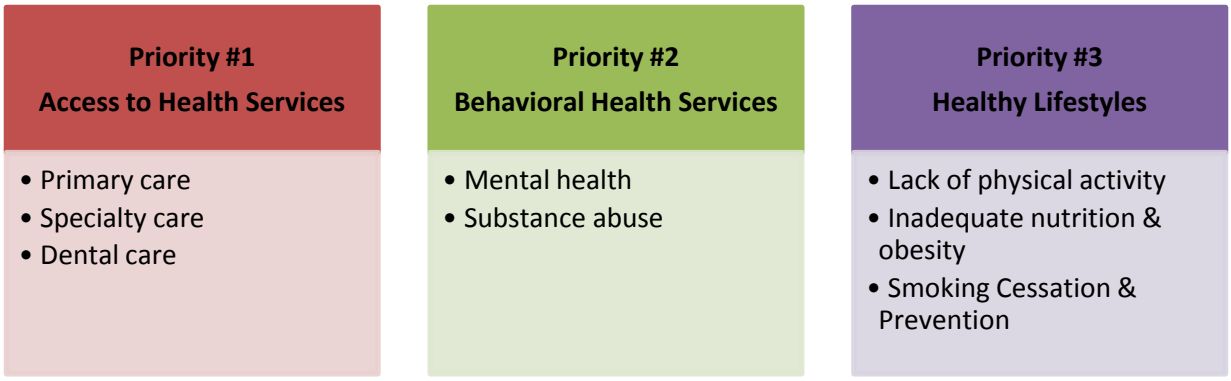
The comprehensive CHNA identified and prioritized community health needs. The project component pieces involved to reach the regional community health needs included the collection of secondary data from local, state, and national resources, community stakeholder interviews, hand-distributed surveys, health provider surveys, and community forums. A provider resource inventory was also part of the CHNA. The resource inventory highlights programs and services within the five-county focus area. The inventory identifies the range of organizations and agencies in the community that are serving the various target populations within each of the priority needs. It provides program descriptions, contact information, and the potential for coordinating community activities by creating linkages among agencies.

[1] The Collaborative identified Northern York County as their area of focus within York County. The Community Needs Index (CNI) provided zip code level data which were representative of the northern tier of York County. Additional data obtained for York County typically encompassed the whole county overall, unless otherwise noted.
[2] The overall study area encompassed five counties: Cumberland, Dauphin, Lebanon, Perry and York. PinnacleHealth's service area within the report denotes the counties and zip codes which were identified as PinnacleHealth's service region. The counties that fall under PinnacleHealth's service area include: Cumberland, Dauphin, Lebanon, Perry, and York counties. The 42 zip codes that fall under PinnacleHealth's service area can be found in Appendix D.

(Information regarding the CHNA process and each of the individual project pieces can be found in Appendix B.)

Tripp Umbach facilitated two public input and feedback events involving community organization leaders, government stakeholders, religious leaders, and members of the sponsoring health institutions. The events identified top areas of need, based upon the data collected and presented. Subsequently, a prioritization meeting was held with members of The Collaborative to pinpoint, isolate, and further refine the top three priority areas the health organizations and institutions will tackle. The identified community needs are listed in priority, based on qualitative and quantitative data collected. An implementation phase will be employed by PinnacleHealth System to explore and strategize ways to meet the needs of the community. The regional community health needs based upon results of the 2015 CHNA are illustrated in Figure 1 on the following page.

Figure 1: Regional Community Health Needs



In reviewing the demographic profile for PinnacleHealth System's service area, the region is expected to have a 1.6 percent increase in population from 2014 through 2019; these findings are consistent with the 2012 study. Cumberland County has the highest rate of individuals earning a bachelor's degree or greater (31.4 percent). On the other hand, Perry County has the highest percentage of individuals without a high school diploma (15.1 percent). The PinnacleHealth System study area has 17.8 percent of households earning less than $25,000 in 2014. This is significantly lower than the rate in Pennsylvania (24.0 percent) and the nation (24.5 percent).[3,4] Education is an important investment that can reduce a life of poverty and inequality, and provide a gateway to additional social and environment stabilities.

Community stakeholders reported that education is essential. Individuals who are educated tend to lead healthier lifestyles, understand preventive health measures, and have few barriers to access. While health education materials and information are available, the materials presented to community residents must be clear and conveyed at a reading comprehension level easily understood by all residents.

In reviewing the population of The Collaborative's overall study area, all of the counties are expected to have population growth from 2014 to 2019, with the exception of Perry County. Perry County is expected to have a decrease in population of -0.8 percent (See Table 1).

[3] Truven Health Analytics
[4] The population, household income, and education level demographics data are consistent with the 2012 CHNA study.

Table 1: The Collaborative Overall Study-Area Population

	Cumberland County	Dauphin County	Lebanon County	Perry County	York County	Overall Study Area	Pennsylvania
2014 Total Population	263,257	265,985	139,474	47,018	436,434	1,053,438	12,791,290
2019 Projected Population	269,715	268,856	142,540	46,662	441,367	1,067,668	12,899,019
# Change	+ 6,458	+ 2,871	+ 3,066	- 356	+ 4,933	+ 14,230	+ 107,729
% Change	+ 2.5%	+ 1.1%	+ 2.2%	- 0.8%	+ 1.1%	+ 1.3%	+ 0.8%

The Collaborative's overall study area for the 2015 CHNA showed Dauphin County has the highest percentage of individuals earning less than $15,000 in 2014 (10.7 percent) and also showed Dauphin County as being the most racially diverse of the study-area counties, with 17.1 percent of the population identified as Black, Non-Hispanic and 8.1 percent identified as Hispanic.[5] The demand for care will increase as PinnacleHealth System's population grows and the Baby Boomer generation retires and requires additional health services.

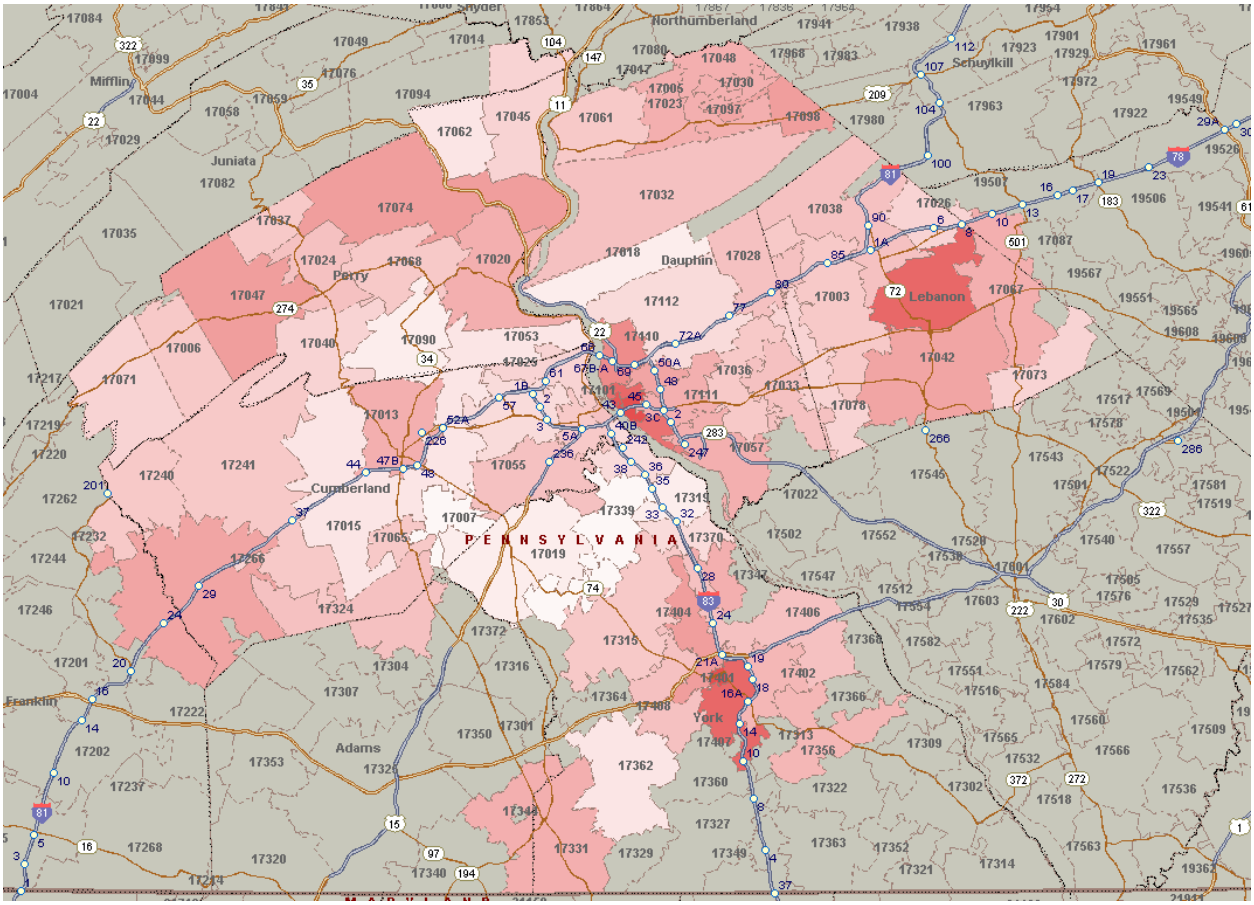
It is important to review the Community Needs Index (CNI) scores obtained by Truven Health Analytics.[6] The CNI zip code summary provides valuable background information to begin addressing and planning for the community's current and future needs. The CNI provides greater ability to diagnose community needs as it explores zip code areas with significant barriers to healthcare access.

In reviewing the CNI scores for The Collaborative's overall study area, the top six zip codes that face barriers to healthcare are: 17104 (Harrisburg), 17401 (York), 17101 (Harrisburg), 17046 (Lebanon), 17103 (Harrisburg), and 17403 (York). The CNI scores within these zip codes ranged from 5.0 to 4.4 which represent significant socioeconomic barriers to accessing healthcare (See Map 1). On the opposing spectrum, zip codes 17090 (Shermans Dale), 17319 (Etters), 17009 (Boiling Springs), 17339 (Lewisberry), and 17365 (Wellsville) have CNI scores that ranged from 1.4 to 1.2 indicating a low level of healthcare access issues. The CNI scores for The Collaborative's overall study area are mapped out (See Map 1) below, providing a geographic representation of the socioeconomic barriers to healthcare access of specific zip codes; and indicating an at-risk population in regards to community health.

[5] This finding is consistent with the 2012 CHNA.
[6] See Appendix H for additional information regarding CNI.

Map 1: The Collaborative's Overall Study Area 2015 (Community Needs Index Map)

4.00 to 5.00	Significant socioeconomic barriers
3.00 to 3.99	
2.00 to 2.99	
1.00 to 1.99	Lowest level of socioeconomic barriers

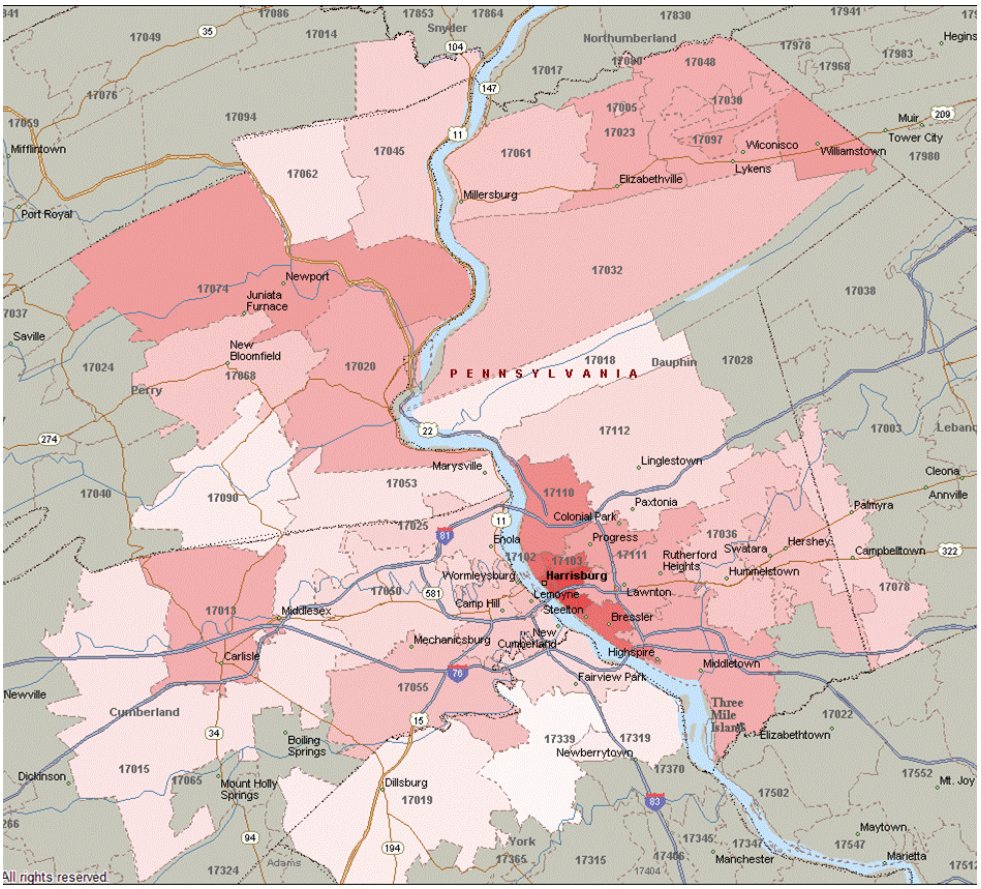


For the current study, PinnacleHealth System examined 42 zip codes which represented the community it served. This also represented 80.0 percent of inpatient discharges for the health system.

The CNI map below shows areas of significant to lowest socioeconomic barriers within PinnacleHealth System's study area. The map visually shows zip codes (all in Harrisburg): 17104, 17101, 17103, 17102, and 17113 as regions that face additional barriers to healthcare when compared to the remaining 37 zip codes in PinnacleHealth System's study area. Conversely, the zip codes that face the least amount of barriers to accessing healthcare are zip codes: 17018 (Dauphin), 17019 (Dillsburg), 17090 (Shermans Dale), 17319 (Etters), and 17339 (Lewisberry) (See Map 2).[7]

Map 2: PinnacleHealth System Study Area 2015 (Community Needs Index Map)

4.00 to 5.00 Significant socioeconomic barriers
3.00 to 3.99
2.00 to 2.99
1.00 to 1.99 Lowest level of socioeconomic barriers



[7] There are five prominent socioeconomic barriers to community health quantified in the CNI they are: Income Barriers, Cultural/Language Barriers, Educational Barriers, Insurance Barriers, and Housing Barriers. Each zip code is assigned a score on a scale of 5.0 to 1.0. A score of 1.0 indicates a zip code with the least need, while a score of 5.0 represents a zip code with the most need.

A CHNA was conducted with mutual interests from healthcare institutions and organizations to ultimately address the needs of community residents in Central Pennsylvania. The region faces challenges that will limit the growth and expansion of new programs. Thus, continued collaboration and partnerships with healthcare organizations are vital to PinnacleHealth System's providing high-quality services and programs to all in the region.

This report fulfills the requirements of the Internal Revenue Code 501(r)(3), a statute established within the Patient Protection and Affordable Care Act requiring that nonprofit hospitals conduct CHNAs every three years. The CHNA process undertaken by PinnacleHealth System, with project management and consultation by Tripp Umbach, included extensive input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of public health issues, data related to underserved, hard-to-reach, vulnerable populations and representatives of vulnerable populations served by the hospital. Tripp Umbach worked closely with members of The Collaborative to oversee and accomplish the assessment and its goals.

Regional Community Health Needs

Priority #1: Access to Health Services

Access to healthcare typically refers to the ability and ease in which people can obtain healthcare; it can also refer to utilization or having healthcare coverage. Health services should be effective and pertinent if the population is able to obtain them.

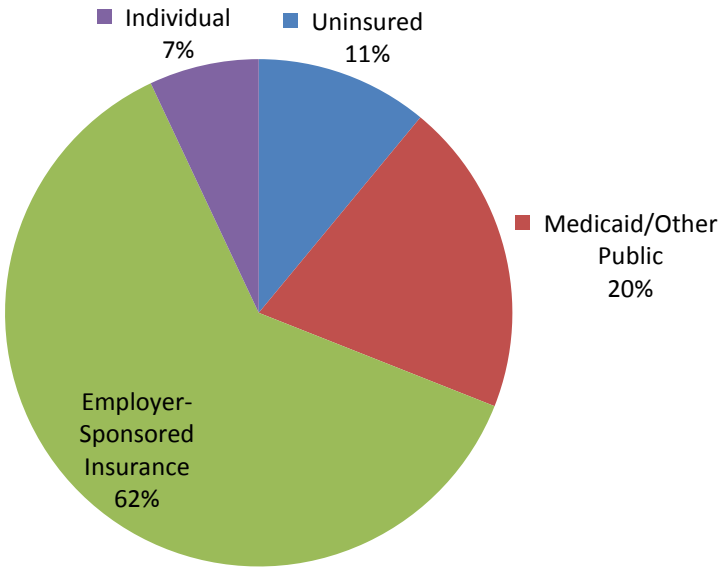
Overall access to health services is a challenge for many in the community. Health insurance coverage, affordability, health literacy, navigation through the healthcare system, the availability of physicians, and transportation are issues that prohibit residents from obtaining care and services. However, there are additional layers that affect community residents from gaining access to services that are readily available in South Central Pennsylvania. The collection and analysis of primary and secondary data confirms the difficulties community residents face when trying to obtain healthcare services.

Primary Care

Health insurance coverage is an essential and critical component to receiving and obtaining primary care. Individuals who lack health insurance do not receive the same amount of services and care and tend to have poor health outcomes and more severe illnesses. High deductibles, out-of-pockets costs, and providers accepting only certain types of insurance impact the frequency of residents obtaining services. The populations most affected by limitations in health coverage are low-income/economically challenged individuals and the vulnerable populations. Prior to the implementation of the PPACA coverage expansion in 2013, over 1.2 million people were uninsured: 11.0 percent for Pennsylvania with a national uninsured average of 15.0 percent. Among the 89.0 percent of Pennsylvanians with insurance in 2013, over six in 10 (62.0 percent) were covered under an employer plan. One in five Pennsylvanians (20.0 percent) were enrolled in Medicaid or the Children's Health Insurance Program (CHIP) (See Chart 1).[8]

[8] The Henry J. Kaiser Family Foundation: http://kff.org/health-reform/fact-sheet/the-pennsylvania-health-care-landscape/

Chart 1: Pennsylvania Health Insurance Coverage 2013



Examining county level data, County Health Rankings reported 13.0 percent of Perry County residents are uninsured, which is higher than the other counties in the study area (See Table 2).[9] Perry County specifically, will face additional disparities and gaps in services due to its rural geography. Cumberland County's uninsured rate is 10.0 percent, a low percentage when compared to Dauphin, Lebanon, Perry, and York.

The hand-distributed survey findings from the study area reported that 20.0 percent of survey respondents do not have health insurance. Of those who do not have health insurance, 70.3 percent of respondents stated that they do not qualify or cannot afford healthcare coverage; with 13.4 percent having had insurance, but lost coverage. In addition, 64.3 percent stated that not having health insurance affected their ability to acquire services and 65.6 percent did not seek care due to lack of coverage. These findings solidify statements made by community stakeholders that out-of-pocket costs are a detriment to community residents seeking care.

[9] County Health Rankings: www.countyhealthrankings.org/app/pennsylvania/2015/measure/factors/85/data

Table 2: Pennsylvania County Health Insurance Coverage 2013

Pennsylvania Counties	Percent Uninsured
Cumberland	10%
Dauphin	12%
Lebanon	12%
Perry	13%
York	11%

Secondary data collected from the County Health Rankings database provided a snapshot and benchmark data on how each county ranks in comparison to one another on multiple measures. Pennsylvania has 67 counties; thus, each county is ranked one through 67. Obtaining a one or two ranking is considered to be the healthiest of all of the counties in Pennsylvania.

Exploring clinical care rankings within the study area, Cumberland County improved their clinical care score in 2011 from a 10 to a ranking of four in 2014. Dauphin, Lebanon, Perry, and York counties had increased scores from 2011 to 2014, which indicated that a specific measurement affected the ranking negatively. The increased ranking scores indicated that specific measures such as the uninsured, primary care physicians, dentists, mental health providers, preventable hospital stays, diabetic monitoring, and mammography screening rates have been impacted; thus, altering the overall ranking outcome (See Table 3). It is important to further examine what specifically affected the higher ranking scores as a community group.

Table 3: County Health Rankings; Clinical Care

	Cumberland	Dauphin	Lebanon	Perry	York
2014	4	13	8	54	7
2011	10	6	5	52	4

Tripp Umbach utilized a socioeconomic database from Truven Health Analytics called Community Needs Index (CNI) to understand socioeconomic factors within specific neighborhoods and communities that have access issues and barriers to care. Based on a wide array of demographic and economic statistics, CNI provides a score on a scale of 1.0 to 5.0. A score of 1.0 indicates a zip code with the least need, while a score of 5.0 represents a zip code with the most need.[10]

The CNI insurance rankings for The Collaborative's overall study area shows Lebanon County had a score of 3, which indicates that community residents in Lebanon County have more insurance access issues

[10] Truven Health Analytics, formally known as Thomson Reuters is a multinational healthcare company that delivers information, analytic tools, benchmarks, research, and services to a variety of organizations and companies. Truven Health Analytics uses: Demographic Data, poverty data (from The Nielsen Company), and insurance coverage estimates (from Truven Health Analytics) to provide Community Needs Index (CNI) scores at the zip code level. Additional information on Truven Health Analytics can be found in Appendix H.

when compared to the remaining four counties. It is also interesting to note that Lebanon County ranked a 4 under income ranking; thus, purchasing health insurance will be difficult for residents in that particular county (See Table 4).

In reviewing information from Table 4, CNI data revealed York (10.0 percent) and Dauphin counties (9.0 percent) had higher percentages of unemployment when compared to the remaining counties in the overall study area. Overall, Dauphin and Lebanon's CNI scores (3.0) reflect some socioeconomic issues community residents face. Higher unemployment rates in Dauphin County add greater accessibility issues to health, social, and daily living factors.

Table 4: The Collaborative Overall Study Area County CNI Scores

County	2014 Total Population	Poverty 65+	Married w/ children Poverty	Single w/ Children Poverty	Limit English	Minority %	No High School Diploma	Unemployment %	Uninsured %	Rental %	Income Rank	Cultural Rank	Education Rank	Insurance Rank	House Rank	2014 CNI Score	2010 CNI Score
Cumber-land	263,257	6%	9%	16%	1%	12%	9%	6%	5%	27%	1	3	2	2	3	2.2	2.2
Dauphin	263,264	8%	16%	33%	2%	31%	11%	9%	8%	34%	3	4	2	2	4	3.0	2.9
Lebanon	136,658	7%	14%	38%	2%	15%	14%	8%	7%	28%	4	3	3	3	2	3.0	2.6
Perry	47,018	7%	12%	35%	0%	5%	15%	7%	5%	20%	3	1	3	2	2	2.3	2.1
York	341,009	6%	14%	33%	1%	18%	12%	10%	7%	26%	2	3	2	2	3	2.8	2.4

(*weighted average of total market)

Reviewing the CNI rankings for PinnacleHealth System's service area, particularly the insurance ranking in Table 5 (examining only the Top 5 Zip Code Scores and Bottom 5 Zip Code Scores) zip codes (all in Harrisburg) 17104, 17101, 17103, 17102, and 17113 have scores of 5 which indicates these zip codes face significant barriers to accessing care based on their insurance needs.

Overall, PinnacleHealth System's weighted average for the study area was 2.5 from the 2014 data, an increase from 2.4 in 2010. This shows that the zip codes that make up PinnacleHealth System's service areas face more barriers to accessing care (See Table 5). The increased CNI score is a negative sign for PinnacleHealth System's overall study region.

(For a complete listing of PinnacleHealth System's 2015 zip codes please refer to Appendix D)

Table 5: PinnacleHealth System's CNI -Top 5 Zip Code Scores and Bottom 5 Zip Code Scores[11]

Zip	City	County	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
17104	Harrisburg	Dauphin	5	5	5	5	5	5.0
17101	Harrisburg	Dauphin	5	5	4	5	5	4.8
17103	Harrisburg	Dauphin	4	5	4	4	5	4.4
17102	Harrisburg	Dauphin	4	5	3	4	5	4.2
17113	Harrisburg	Dauphin	4	5	3	4	5	4.2
17018	Dauphin	Dauphin	1	1	3	1	1	1.4
17019	Dillsburg	York	1	2	1	1	2	1.4
17090	Shermans Dale	Perry	1	1	3	1	1	1.4
17319	Etters	York	2	2	1	1	1	1.4
17339	Lewisberry	York	1	2	1	1	1	1.2
PinnacleHealth System Study Area			2	2	2	3	4	2.5*

(*weighted average of total market)

[11] There are factors that must be taken into consideration when examining the increased/decreased CNI scores from 2014 and 2010 data. Zip codes that were once identified and examined in the current study may not have been examined and included in the previous; thus altering the scores. A zip code which may have had a positive score/negative score may not have been included or may have been excluded and additional zip codes were also added to the current study year; thus, potentially impacting the ranking. In total, 66 zip codes were analyzed from the previous assessment, while 76 zip codes were analyzed for 2015.

The Collaborative's overall study area in Table 6 shows decreased CNI score changes in zip codes: 17006 (Blain), 17061 (Millersburg), 17026 (Fredericksburg), and 17071 (New Germantown). The decreased score changes indicate that individuals in these specific zip codes have fewer barriers to accessing care.

Of the 76 zip codes in The Collaborative's overall study area, 17 zip codes declined in CNI score (going to fewer barriers to healthcare), 16 zip codes remained the same, 43 zip codes increased in CNI score (now having more barriers to healthcare).

Table 6: The Collaborative Overall Study Area CNI; Largest CNI Score Change

Zip	City	County	2014 Population	2014 CNI Score	2010 CNI Score	CNI Score Change
17074	Newport	Perry	7,909	3.2	2.2	-1.0
17403	York	York	38,873	4.4	3.6	-0.8
17097	Wiconisco	Dauphin	112	3.0	2.2	-0.8
17006	Blain	Perry	1,021	2.2	3.0	+0.8
17061	Millersburg	Dauphin	6,868	2.2	3.0	+0.8
17026	Fredericksburg	Lebanon	3,558	2.0	2.8	+0.8
17071	New Germantown	Perry	229	2.0	3.0	+1.0
The Collaborative Overall Study Area			1,053,438	2.7*	2.5*	+0.2

(*weighted average of total market)

Tripp Umbach examined changes in PinnacleHealth System's CNI scores from 2010 and 2014 data. The decreased CNI score changes are in zip codes: 17061 (Millersburg), 17045 (Liverpool), 17019 (Dillsburg), and 17102 (Harrisburg), 17011 (Camp Hill), and 17025 (Enola). The decreased score range differences indicate community residents have fewer barriers to accessing care within those zip codes. These noteworthy changes are encouraging. Based upon the improved score changes, residents in those communities have fewer barriers to obtaining care in their region (See Table 7).

In reviewing information from the 42 zip codes in PinnacleHealth System's study area, 10 saw declines in CNI score signifying they improved, 12 zip code areas remained the same, and 20 increased in CNI scores.

Newport (17074) saw the largest CNI increase, from 2.2 to 3.2. This increase of 1.0 indicates more access to barriers. Millersburg (17061) saw the largest decline in CNI score going from 3.0 to 2.2. A decrease of 0.8 indicates fewer barriers to care for those in the community (See Table 7).

Table 7: PinnacleHealth System Study Area CNI: Largest CNI Score Change

Zip	City	County	2014 Population	2014 CNI Score	2010 CNI Score	CNI Score Change
17074	Newport	Perry	7,909	3.2	2.2	-1.0
17097	Wiconisco	Dauphin	112	3.0	2.2	-0.8
17055	Mechanicsburg	Cumberland	37,473	2.4	1.8	-0.6
17034	Highspire	Dauphin	2,192	3.8	3.2	-0.6
17020	Duncannon	Perry	8,385	2.8	2.2	-0.6
17113	Harrisburg	Dauphin	11,273	4.2	3.8	-0.4
17098	Williamstown	Dauphin	2,433	3.2	2.8	-0.4
17110	Harrisburg	Dauphin	25,481	3.6	3.2	-0.4
17030	Gratz	Dauphin	973	2.8	2.4	-0.4
17061	Millersburg	Dauphin	6,868	2.2	3.0	+0.8
17045	Liverpool	Perry	3,682	2.0	2.6	+0.6
17019	Dillsburg	York	17,999	1.4	2.0	+0.6
17102	Harrisburg	Dauphin	7,750	4.2	4.8	+0.6
17011	Camp Hill	Cumberland	34,593	2.2	2.6	+0.4
17025	Enola	Cumberland	18,205	2.0	2.4	+0.4
PinnacleHealth System Study Area			561,020	2.5*	2.4*	-0.1

(*weighted average of total market)

Disparities and gaps in services plague communities throughout Pennsylvania. Primary and secondary data figures collected from community stakeholder interviews, hand-distributed surveys, CNI scores, and the review of national, state, and local data, provided in-depth information to address and pinpoint areas of concern for improvement.

One area affecting community residents' access to care is transportation. Transportation is vital for those who do not have reliable options. The failure to adequately secure transportation impacts the individual's ability to purchase food, maintain employment, access care, and meet the needs of everyday life. Transportation barriers can lead to missed health appointments and the delay of healthcare services making health management difficult for the individual and for the health provider.

In examining the hand-distributed survey results, slightly more than half of survey respondents reported having a car as their primary mode of transportation (51.7 percent), while 48.3 percent relied on public transportation, family/friend, taxi/cab, walking, biking, or other modes as their main form of transportation. Community leaders reported transportation as a significant challenge to many community residents residing in rural sections within the study area.

Findings from community stakeholders interviewed as a part of the 2012 CHNA, echoed the same sentiments regarding transportation and the difficulties in securing adequate transportation options. Residents living in rural regions have limited access to needed health and social services due to their

inability to obtain and secure transportation. Community leaders indicated that rural residents are the most at risk to "falling through the cracks" when seeking healthcare. Missed or canceled health appointments are frequent due to residents' inability to secure reliable transportation even though residents rely on family, friends, and community organizations to help address their transportation needs.

Access to health services is a key community need and healthcare providers and organizations must be ready to face and tackle these demands; in particular, addressing transportation barriers for their patient/client population.

Physician Shortages: A National View

Primary care is often referred to as the initial contact a patient has with a trained healthcare provider and is a continued mechanism for comprehensive care. Health providers will diagnosis, check for symptoms and health concerns of their patients, and identify the best methods to treat their ailments. Collaboration between primary care physicians and other healthcare providers, referred to as care coordination, is often employed in order to provide quality treatment and care for the patient in an effective manner.

Primary care also includes a variety of methods that educate, monitor, promote, and counsel patients on diseases and illnesses which can be obtained in a healthcare setting or other non-traditional healthcare locations. The CHNA identified the availability of primary care physicians as a top need for South Central Pennsylvania as well as access to primary care services.

The U.S. is facing the largest physician shortage in its history with the population both growing and aging. Many believe it will be difficult to close the gap between the number of physicians and healthcare providers who will provide care to the population.

As the physician shortages continue to grow, more physicians will retire and fewer will enter practice. The aging U.S. population and implementation of federal healthcare reform–resulting in approximately 41 million Americans gaining access to health insurance–will make the physician shortage more pronounced. "The nation's goal of having the very best physician workforce in the world faces challenges. The healthcare delivery system is changing. Even as healthcare systems face these new problems, past problems remain unsolved – physicians are poorly distributed geographically in relation to population needs and have become increasingly specialized, while primary care remains under-resourced."[12]

[12] Council of Graduate Medical Education (COGME): Twenty-First Report: Improving Value in Graduate Medical Education (August 2013).

Physician shortages have gained national attention due to the demand for care. Approximately one in five Americans already live in a region designated as having a shortage of primary care physicians; the number of doctors entering the field is not expected to keep pace with demand.[13]

A report by the Pennsylvania Medical Society presents a number of trends that raise concerns regarding the future supply of physicians. The physician workforce in Pennsylvania is aging, with 50.0 percent of physicians over the age of 50 and less than 8.0 percent of physicians under the age of 35.[14] Specialists have been on the decline since 1997, particularly in the areas of family medicine, internal medicine, and obstetrics.

According to The Association of American Medical Colleges (AAMC), in 2012 Pennsylvania had 12,626 practicing primary care physicians (PCPs) and was ranked 18 out of 50 states in active PCPs per 100,000 population (See Table 8). The percentage of active physicians who are aged 60 years and older in Pennsylvania is 27.3 percent, slightly higher than the state median of 26.5 percent. There were 98.8 active primary care physicians per 100,000 population in 2012 compared to the state median of 90.3 per 100,000 population (See Table 9).

Unfortunately, the current primary care physician shortages will likely worsen as thousands are insured under the PPACA, subsequently increasing the demand for healthcare services.

Table 8: Pennsylvania Physician Workforce Snapshot

	Population:	12,763,536
2	Population ≤ age 18:	2,921,417
0	Total Active Physicians:	38,565
1	Primary Care Physicians:	12,626
2	Total Medical or Osteopathic Students	7,949
	Total Residents:	7,661

Table 9: Pennsylvania Physician Workforce Profile

Physician Supply	Pennsylvania	State Median
Active Primary Care Physicians per 100,000 Population, 2012	98.9	90.3
Percentage of Active Physicians Who Are Age 60 or Older, 2012	27.3%	26.5%

State Median: The value directly in the middle of the 50 states, so 25 are above the median and 25 are below and excludes the District of Columbia and Puerto Rico.

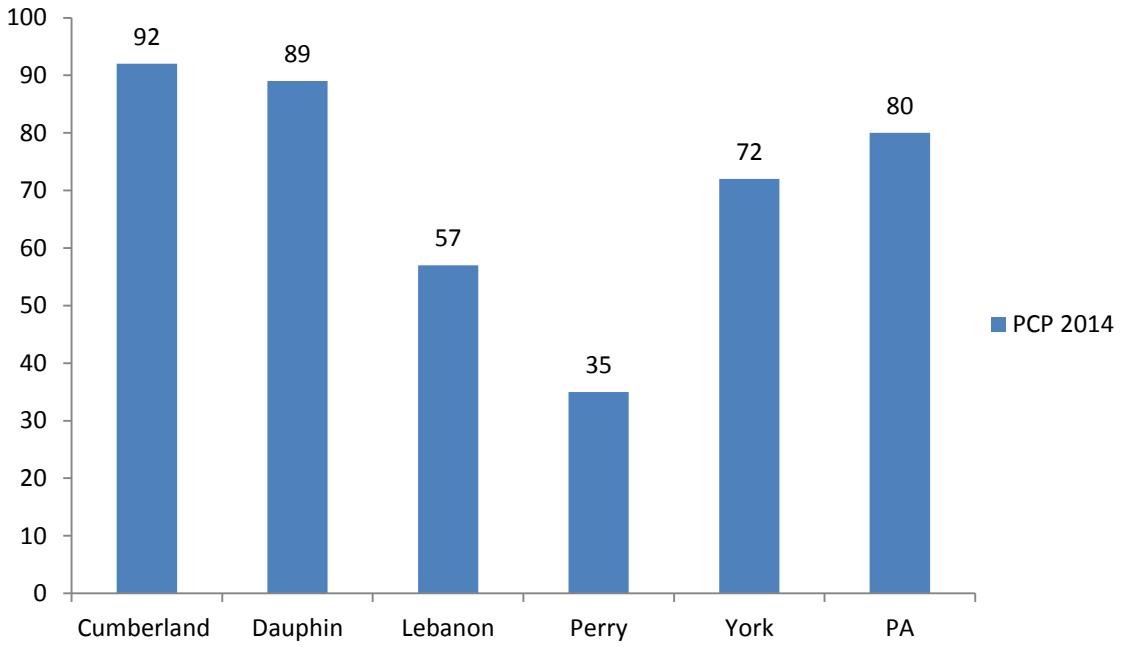
Data reviewed from County Health Rankings shows Lebanon, Perry, and York counties having the fewest primary care physicians (PCP) when compared to the state. Perry County reported the fewest within the

[13] Newly Insured to Deepen Primary-Care Doctor Gap (June 2013).

[14] Recent Studies and Reports on Physician Shortages in the US: https://www.aamc.org/download/100598/data/

five-county study area with 35 PCPs per 100,000 population (See Chart 2).[15] It is often difficult to recruit and retain physicians to rural regions. Social, environmental attractions (e.g. cultural events, school systems), and other urban amenities are more attractive to many physicians.

Chart 2: Pennsylvania Physician Rates Per 100,000: Population 2014



The hand-distributed survey results from 2015 revealed that 23.2 percent of participants do not have a primary care physician (PCP). Of those who do not have a PCP, 75.5 percent indicated that they cannot afford one, cannot find a primary care physician, and cannot find a physician who accepts their insurance. Over one-third of respondents receive their primary care services from a clinic, urgent care, or emergency room. More than three-fourths of survey respondents (81.2 percent) reported going to a doctor or primary care physician within the past year.

Information collected from the hand-distributed survey provides personal information regarding the health and social behaviors of community residents. Understanding the perspectives and the viewpoints of survey respondents can identify issues and subject matters that make access problematic for many in the community.

Primary care physicians are important to community residents for multiple reasons. Physicians assist with the health, wellness, care and care coordination of patients. Having care coordination and obtaining care through the same healthcare provider and facility creates relationships and interactions that contribute to high-quality care between provider and patients.

[15] County Health Rankings 2014

Community interview results from 2015 reported that health professional shortages, the aging physician population, and issues related to the recruitment and the retention of physician shortages have affected individuals from obtaining care in South Central Pennsylvania.

Despite differences in the types of stakeholders interviewed from the 2012 CHNA, the information collected revealed similar themes. In 2012, community leaders agreed there are gaps in the continuity of care among the uninsured and underinsured populations due to the dwindling numbers of primary care and specialty physicians available to address the growing health concerns in the community. They reported that the aging "Baby Boomer" generation will tap into an already exhausted physician supply network, making the ability to secure timely appointments more difficult and healthcare costs and services more expensive.

It is important to evaluate and implement grassroots efforts and strategies to assist and help each community provide adequate healthcare services dedicated to the overall well-being of its citizens.

Specialty Care

It has been well documented that the United States is facing a large physician shortage; however, these shortages are not limited to just primary care physicians but also include specialists. Rural Pennsylvania will be more adversely affected with specialty shortages. Physicians tend to practice in more populated communities (e.g., urban and suburban communities) based on a variety of factors. Rural residents will be forced to travel further for care, making access to services more difficult due to transportation barriers. Community organizations, healthcare institutions, and human and social services groups will need innovative methods to address and fill gaps left by specialty care providers.

By 2020, the AAMC's Center for Workforce Studies estimated that the United States will face a shortage of 46,100 surgeons and medical specialists. The estimates were calculated by taking into account the millions of patients who became eligible for Medicare, the 32 million patients who will become newly insured through the PPACA, and an aging physician workforce.[16]

The demand for physicians has grown significantly and the supply cannot match its pace. The AAMC reported that by 2025 a shortfall of between 28,200 and 63,700 non-primary care physicians will occur. Specifically, there will be an estimated specialty shortage of 5,100 to 12,300 medical specialists, 23,100 to 31,600 surgical specialists, and 2,400 to 20,200 other specialists in the U.S.[17]

With the growing obesity epidemic, increased lifespan, and a population of Americans who are becoming slightly more active, the demand for orthopedic surgeons has grown in order to address the health and social factors of those in the community. The demand for total knee arthroplasty is expected

[16] Association of American Medical Colleges: www.aamc.org/newsroom/reporter/february2014/370350/physician-shortage.html
[17] Association of American Medical Colleges: waww.aamc.org/download/426260/data/physiciansupplyanddemandthrough2025keyfindings.pdf

to increase significantly for patients aged 45 to 54 years old by 2030 according to a report presented at the 2008 American Association for Hip and Knee Surgeons. The demand for primary total hip arthroplasty in the same age category is projected to grow nearly six-fold by 2030.[18]

By 2025, the country's need for oncologists will nearly double and lead to a shortfall of 1,500 cancer specialists. It was reported that more than 70.0 percent of U.S. counties do not have oncologists and the growth of new cancer cases will increase the need dramatically. According to the AAMC, general surgery is predicted to be among the hardest hit, with a shortage of 21,400 surgeons by 2020. The number of practicing general surgeons is expected to fall to 30,800 by 2020 from 39,100 in 2000.[19]

Information collected from the 2012 and 2015 CHNA highlighted the need for more specialists in South Central Pennsylvania. The health provider survey data in 2015 reported that health providers would like to see timely access to specialty care (11.3 percent) and primary care (9.7 percent) as areas of improvement needed in the healthcare system.

Focus group participants from 2012 reported the lack of specialty physicians in the region greatly impacted the healthcare services they received. Attendees stated that the absence of public transportation limited the accessibility to regional healthcare services, and along with the unavailability of specialists, impacted how rural residents obtained care.

The overall need for health professionals to provide care will grow. The overall goal is to support individuals to lead healthier lives. Understanding and providing avenues to assist community residents with obtaining care in order to reduce and close disparities and gaps will be the charge of regional and local healthcare providers, organizations, and agencies.

It is important to take into account health disparities and social determinants that adversely impact accessibility to healthcare and specialty care services. Home life, education levels, income, and employment are key social determinants, which affect how community residents live.

Dental Care

There are multiple factors, which make dental care a great need for many Americans. While many families and individuals are able to obtain dental care on a regular basis through dental insurance, the remaining individuals who are economically challenged, of a certain age, of different cultural and racial backgrounds, and those who have overall transportation issues face significant challenges in obtaining dental care.

Millions of Americans struggle to access basic primary and preventive oral healthcare services. Many will prioritize basic living necessities such as food, housing, and basic healthcare needs over the needs of

[18] Association of American Medical Colleges: www.aamc.org/newsroom/reporter/february2014/370350/physician-shortage.html

[19] Becker Hospital Review: www.beckershospitalreview.com/hospital-physician-relationships/15-things-to-know-about-the-physician-shortage.html

dental care. An additional barrier that affects and limits individuals from obtaining dental care is the lack of awareness or need for oral care.

Understanding or being aware of the importance of good oral hygiene and its relationship to physical well-being is not commonly connected among the population. The maintenance of good oral hygiene is essential to overall good health. The lack of brushing, flossing, and poor oral care will likely increase tooth decay, gum disease, and can lead to severe forms of diseases.

Studies have suggested certain diseases, such as diabetes and HIV/AIDS, can lower the body's resistance to infection, making oral health problems more severe.[20] Oral health might affect, be affected by, or contribute to various diseases and conditions, such as: endocarditis, cardiovascular disease, premature birth, low birth weight, diabetes, HIV/AIDS, osteoporosis, Alzheimer's disease, and other conditions.[21]

While the PPACA has provided children and adults with improved access to dental coverage, much more needs to be done to address this growing issue. In 2012, 14.2 percent of Pennsylvanians compared to 15.4 percent of the U.S. population lived in a Dental Health Provider Shortage Area (HPSA); with nearly half of the states not meeting federal guidelines for fluoridation of drinking water, an effective method to preventing tooth decay.[22]

While Pennsylvania is home to three dental schools, accessibility to dental providers is also problematic for many in the community. In 2015, Pennsylvania reported having 8,466 practicing dentists; including all professionally practicing dentists (See Table 10) (See Map 3).[23] The Pennsylvania Department of Health specifically reports that rural counties have very few dentists practicing in the region. In 2013, approximately one out of every five dentists (1,243 or 20.0 percent) who provided direct patient care in Pennsylvania practiced in rural counties. The rate of dentists who provided direct patient care in Pennsylvania was 36 per 100,000 population in rural counties and 55 per 100,000 in urban counties.[24]

The growing need for dental services along with the need for dental care providers will create additional gaps in care and regional organizations will need to tackle and address these issues. The Center for Rural Pennsylvania reported that Perry County had a total of 11 dentists in 2013 that have direct patient care, the lowest within the study area; while York County had 171 dentists. This figure is dramatic in the number of available dentists in the overall study area (See Table 11).

[20] Mayo Clinic: www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475
[21] Mayo Clinic: www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/dental/art-20047475
[22] The Henry J. Kaiser Family Foundation: Kaiser Commission on Key Facts
[23] The Henry J. Kaiser Family Foundation: www//kff.org/other/state-indicator/total-dentists/#map
[24] Pennsylvania Department of Health: www.health.pa.gov/Your-Department-of-Health/Offices percent20and percent20Bureaus/Health percent20Planning/Healthcare percent20Workforce percent20Reports/Documents/2013 percent20Dentist percent20and percent20Dental percent20Hygienist percent20Final.pdf

Map 3: Professional Active Dentists; 2015

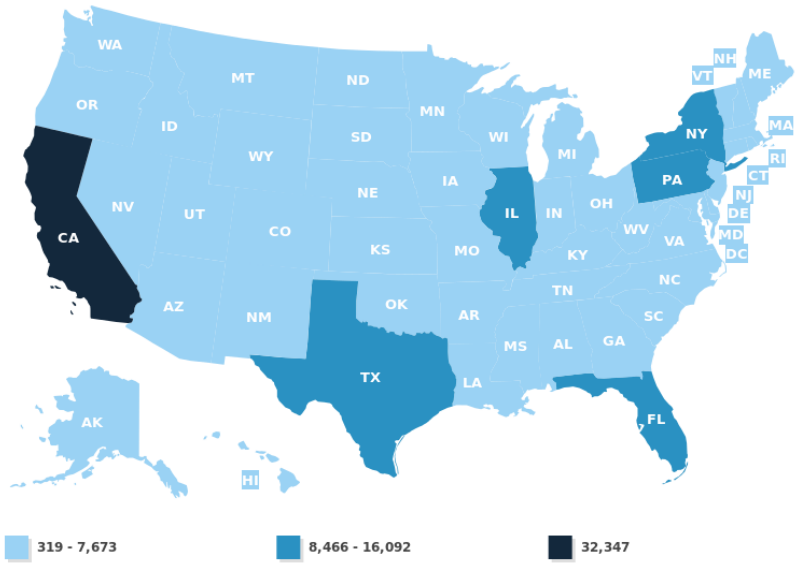


Table 10: Professional Active Dentists; 2015

Location	Dentists; 2015
USA	204,846
Pennsylvania	8,466

Table 11: Total Number of Dental Providers Providing Direct Dental Care in Pennsylvania [25]

	Total # Dentists Providing Direct Patient Care, 2013
Cumberland	116
Dauphin	141
Lebanon	51
Perry	11
York	171

[25] Center for Rural Pennsylvania: www.portal.state.pa.us/portal/server.pt/community/newsroom,_publications_and_reports/11602/dentist_dental_hygienist_report/607066

The need for dental care in the U.S. is growing and the need for dental care in South Central Pennsylvania is no exception. As a top prioritized need in the community, one factor that blocks community residents from oral healthcare is the lack of dental coverage, access, and the out-of-pocket costs associated with dental services. Community leaders interviewed in the overall study area reported oral health as an area of concern specifically, reporting dental provider shortages, limited dental providers accepting entitlement programs such as Medicare and Medicaid, high cost for dental services, and the need for dental information regarding prevention, disease treatment, and education on oral hygiene. Dental education and information that is easy to understand and communicates oral health information is an important element in addressing the community's dental needs.

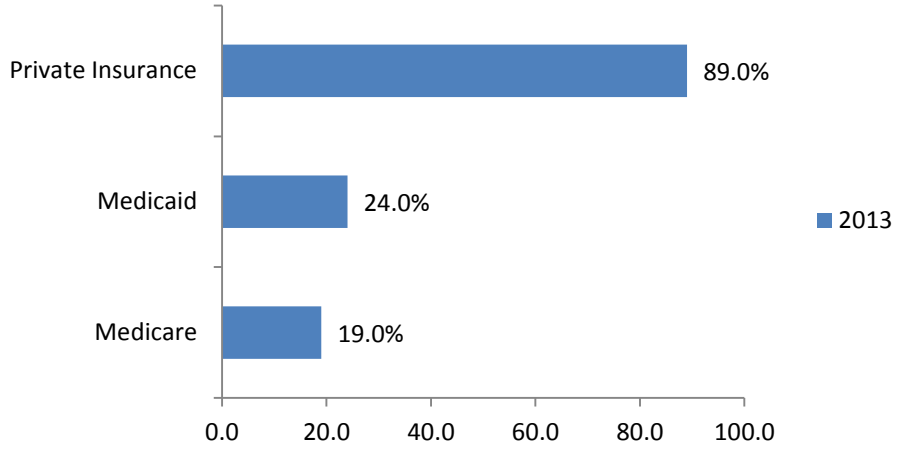
When examining the 2015 hand-distributed survey results, more than half of survey respondents (59.3 percent) go to a dentist's office when seeking dental care. However, roughly one out of five survey respondents (22.4 percent) reported that they do not go to the dentist. Half of survey respondents (50.6 percent) reported going within the past year. A combined 18.0 percent indicated that they have not seen a dentist in five or more years.

The American Dental Association (ADA) recommends regular dental visits. However, individuals who are more prone to or are high-risk for dental diseases (i.e., smokers, diabetics, people with gum disease, etc.) may need frequent visits to a dental care provider.

Financial barriers pose significant dental access challenges to many and results from the CHNA hand-distributed survey echo that statement. Close to a quarter of survey respondents (24.4 percent) reported having to pay out-of-pocket costs for their dental services, while another 9.7 percent did not pay for their services. The Pennsylvania Rural Health report on "Raising Awareness about Oral Health: Crucial for Rural Communities", reported the acceptance of Medicaid by dentists who provided direct patient care in Pennsylvania rose from 19.0 percent in 2007 to 24.0 percent in 2013 (See Chart 3).[26] This increased acceptance of Medical Assistance is a growing indication that oral health providers see the need for low cost affordable dental care services in their communities.

[26] Pennsylvania Rural Health: www.pennsylvaniaoralhealth.org/educational-material-pages/2015/4/15/raising-awareness-about-oral-health-crucial-for-rural-communities

Chart 3: Respondents Who Provided Direct Patient Care in Pennsylvania by Accepted Dental Coverage: 2013 Survey



Findings from community stakeholders interviewed from the 2012 CHNA, resonate the same feelings regarding the need for dental and oral care. Community leaders reported that uninsured community residents do not have the accessibility to obtain healthcare and dental services. Free or reduced-cost dental services are limited in the region with many dentists not accepting entitlement programs. It was also reported in 2012, that the working poor are the most at risk for having dental problems. Many do not qualify for free or reduced dental services and many cannot afford the out-of-pocket costs for dental services. Preventive dental check-ups are seen as a luxury according to community stakeholders in 2012. It was mentioned that health clinics and mobile vans are able to address some of the dental needs of children, but adults needing dental services are often overlooked and underserved.

Gaps in oral care and overall access issues can reduce long-term community dental needs. Evidence-based programs such as school-based dental sealants and community water fluoridation programs are leading examples of intervention programs, which are effective in the prevention of tooth decay.[27] The Surgeon General's report on oral health indicates that sealants can reduce tooth decay in school-aged children by more than 70.0 percent, while fluorinated water can reduce decay in children and adults by 25.0 percent.[28] It is important to explore and evaluate different avenues and national programs on how to provide dental care access while including organizations that are already active in providing oral health and education in the community. It is also imperative to include organizations whose populations are in need of dental and oral services, in particular, children, the underserved, underinsured, and the vulnerable populations.

[27] Centers for Disease Control and Prevention: www.cdc.gov/fluoridation/
[28] Centers for Disease Control and Prevention: www.cdc.gov/oralhealth/dental_sealant_program/

Priority #2: Behavioral Health Services

Behavioral health, which includes mental health and substance abuse, is a major issue across the nation and is one of the main health concerns in the five-county study area as well as the PinnacleHealth System service area. Findings from community interviews, provider and community surveys, and secondary data demonstrate the growing effects of behavioral health on the region.

Behavioral health issues affect not only the mental well-being of an individual, but also a person's spiritual, emotional, and physical health. For example, mental illness is generally associated with increased occurrences of chronic diseases such as diabetes, cardiovascular disease, and cancer, as well as an overall decrease in accessing medical care, which increases the likelihood of adverse health outcomes. Behavioral health issues often co-occur with mental illness; if a person is struggling with mental illness, he or she is also likely to be abusing drugs, tobacco, and alcohol.

The shortage of physicians and providers play a major role in preventing individuals who struggle with behavioral health issues and other associated problems, from receiving the care they need. There is a physician shortage nationwide. The physician shortage is felt in South Central Pennsylvania, specifically in terms of specialty physicians and psychiatrists. Community leaders revealed that patients often deal with lengthy waiting periods, traveling long distances, and the inability to secure appointments for behavioral health specialty care. As identified by community leaders, shortages of physicians and psychiatrists, coupled with overall access issues in the South Central Pennsylvania region, a lack of funding for mental and behavioral health services, and rates of mental health and substance abuse all come together to create growing concerns about the current and future state of mental health and substance abuse in the region and the growing need for additional focus on providing adequate behavioral health services.

According to The Substance Abuse and Mental Health Services Administration (SAMHSA), "behavioral health is essential to overall health, prevention works, treatment is effective, and people can and do recover."[29] Those with mental illness need to have access to providers and health services to be able to receive proper care and treatment that will allow them to lead healthier lives.

Mental Health

Mental illness is defined as "collectively, all diagnosable mental disorders" or "health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning."[30] Mental illness is a major issue across the U.S. While the percentage of individuals with mental illness in the U.S. decreased from 2008-2009 to 2010-2012 from 19.7 percent to 18.2 percent, approximately 61.5 million Americans, or one in four adults, are still

[29] Substance Abuse and Mental Health Services Administration (SAMSHA) National Survey on Drug Use and Health. www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf.
[30] Centers for Disease Control and Prevention: CDC U.S. Adult Mental Illness Surveillance Report. http://www.cdc.gov/Features/MentalHealthSurveillance/

affected by mental illness in a given year.[31] The majority of adults with mental illness, or 60.0 percent, received no mental health treatment in the last year, indicating a nationwide issue with individuals being able to receive proper mental health services and treatment.[32] This is due in part to the lack of mental health providers across the U.S. According to the U.S. Department of Health and Human Services, almost 91 million adults live in areas where shortages of mental health professionals made obtaining treatment difficult. A departmental report to Congress in 2014 said 55.0 percent of the nation's 3,100 counties have no practicing psychiatrists, psychologists or social workers.[33]

The percentage of individuals aged 18 or older with mental illness in the U.S. has decreased from 2008-2009 to 2010-2012, yet the percentage of those with any mental illness in Pennsylvania has increased from 17.7 percent in 2008-2009 to 17.9 percent in 2010-2012.[34] The percentage of individuals in the state of Pennsylvania with mental illness is on the lower side compared to other states in the U.S. (See Map 4), but the issue is still prevalent across the state with over 118,000 state residents being seen for mental illness in 2013.[35] Mental illness rates are also increasing among children in Pennsylvania, with 17.0 percent of children having a mental illness in 2007, compared to 19.0 percent in 2012.[36]

[31] Centers for Disease Control and Prevention: CDC U.S. Adult Mental Illness Surveillance Report www.cdc.gov/Features/MentalHealthSurveillance/

[32] National Alliance on Mental Illness, Mental Illness Facts and Numbers. www2.nami.org/factsheets/mentalillness_factsheet.pdf.

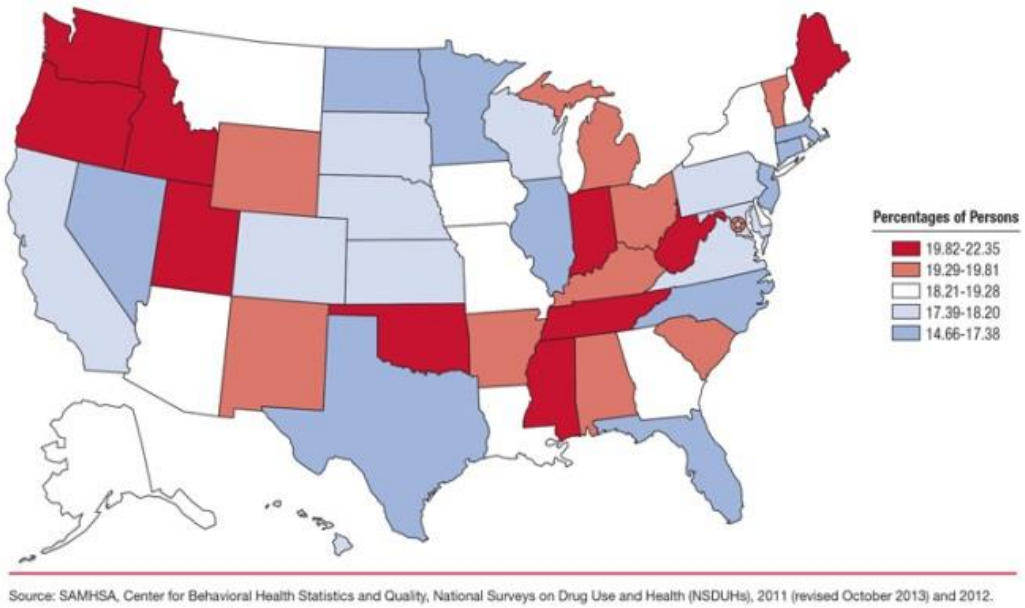
[33] The Wall Street Journal, "For the Mentally Ill, Finding Treatment Grows Harder." www.wsj.com/articles/

[34] SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health. www.samhsa.gov/data/sites/default/files/substate2k12-NationalMaps/NSDUHsubstateNationalMaps2012.pdf. 2010, 2011, and 2012

[35] Pennsylvania Healthcare Cost Containment Council. Hospital Readmissions in Pennsylvania. www.phc4.org/reports/readmissions/10/

[36] National Kids Count: www.aecf.org/resources/the-2012-kids-count-data-book/.

Map 4: Any Mental Illness in the Past Year among Persons 18 and Older by State; 2011-2012



Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2011 (revised October 2013) and 2012.

Looking at the overall five-county study area, the sub-state region[37] of Cumberland and Perry counties has the highest rate of mental illness with 18.4 percent of residents affected with some form of mental illness. This is an increase from 17.9 percent of residents having a mental illness in 2008-2010. In the sub-state region with Dauphin, Lebanon, and York counties, 17.2 percent of residents have some form of mental illness, a decline from 17.9 percent in 2008-2010. 4.0 percent of residents in Cumberland and Perry counties have a serious mental illness, while 3.7 percent of residents in Dauphin, Lebanon, and York have a serious mental illness. Both of these percentages have declined from 2008-2010 to 2010-2012.[38]

Perry County also reports the highest suicide rate of the region (15.2 per 100,000 population). Suicide rates for the other counties are 12.9 in York, 12.8 in Dauphin, 12.0 in Cumberland, and 11.0 in Lebanon (all per 100,000 population).[39] At the same time, Perry County has the lowest mental health provider rate in the region with only 15 providers per 100,000 population, compared to 119 per 100,000 population in Pennsylvania. York County also has fewer mental health providers per 100,000 populations than the state, while Cumberland, Dauphin, and Lebanon counties have more providers

[37] Every state is parceled into regions defined by SAMHSA. The regions are defined in the 'Sub-state Estimates from the 2010-2012 National Surveys on Drug Use and Health'.
[38] SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health. www.samhsa.gov/data/sites/default/files/substate2k12-NationalMaps/NSDUHsubstateNationalMaps2012.pdf. 2010, 2011, and 2012
[39] Healthy People 2020, Mental Health and Mental Disorders – Pennsylvania Counties. www.healthypeople.gov/2020/topics-objectives/topic/mental-health-and-mental-disorders.

(See Table 12).[40] [41] 29.8 percent of hand-distributed survey respondents said they can find mental healthcare services in the region.

Table 12: Number of Mental Health Providers (per 100,000 population)

County	Number of MH Providers (per 100,000 population)
Cumberland	130
Dauphin	144
Lebanon	166
Perry	15
York	63
Pennsylvania	***119***

The shortage of mental health providers in Perry and York counties, both of which are specific to PinnacleHealth System's study area, makes it difficult for those with mental health issues to get the necessary services for treatment in these areas. Health providers in the overall five-county study area and the PinnacleHealth System study area themselves realize that mental health services are lacking in the region; a majority of health providers (13.1 percent) list "access to mental healthcare" as the top improvement they would like to see in the current healthcare system as part of the provider survey. 11.7 percent of nurses would like to see "access to mental healthcare" as an improvement to the healthcare system, compared to 14.2 percent of other providers, which includes primary care physicians, dentists, physician assistants, and mental health therapists.

Hand-distributed survey results show that residents in the study area are dealing with mental health issues as reported in the secondary data. Among survey respondents, 15.2 percent reported a mental limitation in their daily lives, which is an increase from 14.5 percent in 2012. 35.9 percent of respondents indicated that they have been told they have a mental health concern, with Cumberland and York counties reporting the highest rate among survey respondents as 47.6 percent indicated they have mental health concerns. The most common mental health concerns were depression or bipolar disorders with 39.0 percent of respondents citing these conditions.

Additional information collected from the hand-distributed survey revealed 29.8 percent of respondents with a mental health concern reported that they have needed treatment in the past year but did not receive mental health services. When asked why they did not receive services, the majority said they "could make it on their own (20.3 percent)." The second highest response was that individuals "felt overwhelmed or confused by the system" (11.3 percent), followed by "they did not know where to go for treatment" (10.5 percent). For patients who have received mental health services, the majority did so via a mental health counselor (33.1 percent).

[40] County Health Rankings: www.countyhealthrankings.org/
[41] Cumberland, Dauphin, Lebanon, Perry and York counties comprise the overall study area, as well as PinnacleHealth's study area.

In the current study year, community leaders cited mental illness, on its own, is a barrier to receiving treatment in that an individual with mental illness may not necessarily recognize the need to seek treatment. Treatment, if any, is often reactive in the form of crisis intervention through hospital emergency rooms.

Community leaders stated that shortages in mental health providers, lack of access, and lack of knowledge and awareness of mental health treatment services are preventing residents in the region from obtaining the care they need. Community leaders cited this as a reason for the rise in mental health in 2012, stating that the demand for mental health services is growing and the supply is unavailable to treat those affected with mental health problems. Focus group participants in 2012 also reported long wait times and the lack of available mental health providers as being problematic to receiving mental health services. According to community leaders interviewed for the current CHNA, this is an issue that is still pressing and yet to be resolved.

Additional barriers include out-of-pocket costs/insurance coverage, negative social stigmas, and lack of health education also prevents individuals from seeking care. Many residents who have mental health issues tend to also have multiple behavioral diagnoses, making it even more essential for those in need to have access to and receive continuous treatment.

Substance Abuse

Along with mental illness, substance abuse is a major and growing issue across the United States, in the state of Pennsylvania, and the five-county study area. 24.6 million individuals 12 years or older were current illicit drug users during the time of the Substance Abuse and Mental Health Services Administration (SAMSHA) 2013 National Survey of Drug Use and Health. Specifically, marijuana usage is on the rise. Marijuana is the most commonly used illicit drug in the U.S., with 19.8 million users in 2013 compared to 14.5 in 2007. More than half of Americans aged 12 or older were current alcohol users in 2013 - approximately 137 million individuals. Of the 22.7 million individuals 12 or older in 2013 who needed treatment for an illicit drug or alcohol problem, only 2.5 million received treatment in a specialty facility.[42]

Rates of marijuana usage are prevalent in the overall study area and the PinnacleHealth System study area, specifically in the sub-state region that includes Cumberland and Perry counties. Marijuana usage has increased in this region from 4.7 percent of individuals using marijuana in 2002-2004 to 5.6 percent in 2010-2012. Marijuana usage has remained at 4.7 percent in Dauphin, Lebanon and York counties from 2002-2004 to 2010-2012. In addition to marijuana, alcohol usage is increasing. The sub-state region that includes Cumberland and Perry counties saw an increase in the percentage of individuals who drank alcohol in the past month from 2002-2004 to 2010-2012 (44.0 percent to 50.6 percent); the same can be

[42] SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health. www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf.

seen in the sub-state region that includes Dauphin, Perry, and York counties (49.2 percent to 52.3 percent).

It is interesting to note that the counties with the highest percentage of individuals using marijuana and alcohol also have the highest perceptions of the risks of these substances.[43] One would expect to see that with higher perceptions of risk, there would be lower usage; unfortunately, this is not the case in the five-county study area.

Residents and health service providers in the five-county study area recognize the dangers of drugs and alcohol. Hand-distributed survey data shows drug and alcohol use as the most cited top health concern for the region, with respondents marking this 13.2 percent of the time. 23.9 percent of hand-distributed survey respondents said they can find services for people who drink too much and 25.1 percent said they can find services for people who use drugs in the region. In the provider survey, health providers listed alcohol abuse (11.4 percent) and substance abuse (11.2 percent) as two of the most pressing risky behaviors in the region.

Community leaders also understand the severity of substance abuse in the region. Community leaders cited that poor social economic factors in the region tend to evoke residents to use/abuse drugs, especially among those with preexisting mental health issues. If young people begin using drugs, the issue usually carries into adulthood.

Behavioral health is a major concern across the U.S., in the overall five-county study area, and the PinnacleHealth System study area. Undiagnosed and untreated behavioral health issues, including mental health and substance abuse, can lead to physical, emotional, and spiritual issues that generate into greater health problems. Individuals dealing with these issues need to have proper access to care and knowledge of where to receive care. A lack of behavioral health providers is an issue that is plaguing the nation. Continued failure to provide the necessary behavioral health services and treatment to those who need it could have detrimental effects on communities.

Priority #3: Healthy Lifestyles

A person's behaviors and lifestyle choices can affect one's health. Health behaviors, such as smoking or lack of physical activity, are risky health behaviors that can lead to chronic diseases. Oftentimes, people can control their health lifestyles. In some cases, though, socioeconomic factors and lack of education are reasons why people do not lead healthy lifestyles. It is important for health providers to begin teaching healthy behaviors and their benefits to their patients and community.

[43] SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health. www.samhsa.gov/data/sites/default/files/substate2k12-NationalMaps/NSDUHsubstateNationalMaps2012.pdf. 2010, 2011, and 2012

Lack of Physical Activity

Physical activity plays a large role in a person's overall health. Just like other health behaviors, such as smoking and alcohol usage, one's level of physical activity is a determinant of health. Failing to be physically active can increase a person's chance for chronic diseases and can have a negative effect on one's overall health. A study conducted by Stanford University School of Medicine found that inactivity plays a large role in the surge of obesity in the U.S.[44]

The Office of Disease Prevention and Health Promotion created the Physical Activity Guidelines for Americans to provide recommendations on how to improve health through physical activity with the ultimate goal of increasing levels of physical activity in the U.S. According to the guide, regular physical activity includes participation in moderate and vigorous physical activities and muscle-strengthening activities.[45] Across the U.S., the majority of adults do not meet the Physical Activity Guidelines (See Table 13). The majority of youth, in Pennsylvania, also do not meet the Physical Activity Guidelines with over 70.0 percent failing to do enough aerobic physical activity to meet guidelines for youth.[46,47]

Table 13: Percentage of Adults 18 and Older in the U.S. Who Met the Physical Activity Guidelines (2014)

Physical Activity Guideline	Percentage Who Met Guideline
Aerobic Physical Activity[48]	51.6%
Muscle-Strengthening Activity[49]	29.3%
Both Aerobic and Muscle-Strengthening Activity	20.6%

[44] Stanford Medicine. "Lack of exercise, not diet, linked to rise in obesity, Stanford research shows." https://med.stanford.edu/news/all-news/2014/07/lack-of-exercise--not-diet--linked-to-rise-in-obesity--stanford-.html.

[45] Centers for Disease Control and Prevention: State Indicator Report on Physical Activity. www.cdc.gov/physicalactivity/downloads/pa_state_indicator_report_2014.pdf.

[46] Centers for Disease Control and Prevention: State Indicator Report on Physical Activity. www.cdc.gov/physicalactivity/downloads/pa_state_indicator_report_2014.pdf.

[47] Centers for Disease Control and Prevention. Youth Guidelines. http://www.cdc.gov/healthyyouth/physicalactivity/guidelines.htm. 2014. 60 minutes of aerobic activity per day, muscle strengthening three days per week, and bone strengthening three days per week.

[48] The Office of Disease Prevention and Health Promotion: Physical Activity Guide. http://health.gov/paguidelines At least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week.

[49] The Office of Disease Prevention and Health Promotion: Physical Activity Guide. http://health.gov/paguidelines/. Adults should also do muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits.

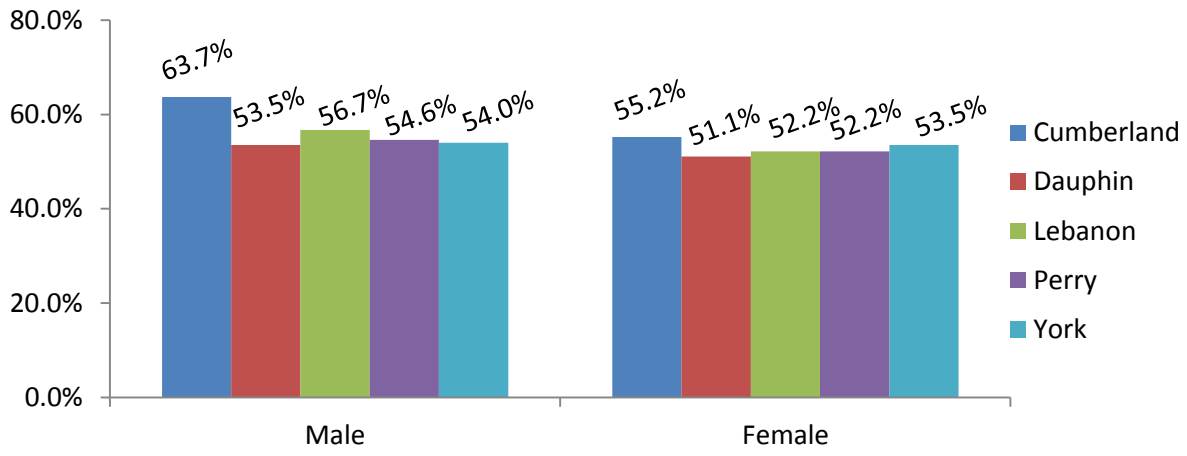
The majority of adults and youth in Pennsylvania also fail to meet Physical Activity Guidelines (See Table 2).[50] Rates fall slightly below U.S. national averages.

Table 14: Percentage of Adults 18 and Older in Pennsylvania Who Met the Physical Activity Guidelines (2014)

Physical Activity Guideline	Percentage Who Met Guideline
Aerobic Physical Activity	49.4%
Muscle-Strengthening Activity	27.8%
Both Aerobic and Muscle-Strengthening Activity	18.8%

In addition to the physical guideline percentages, 26.3 percent of adults in Pennsylvania engage in no leisure time physical activity and only 27.7 percent of adolescents in Pennsylvania are physically active daily. Aerobic physical activity percentages in the five-county study area fall between 50.0-60.0 percent for both males and females (See Chart 4). Health information and education in schools, community organizations, and media outlets need to reinforce the importance of daily physical activities and the overall health benefits of exercising.

Chart 4: Percentages of Adults 18 and Older Who Meet Aerobic Physical Activity Requirements, by Gender and County (2011)[51,52]



[50] Centers for Disease Control and Prevention: Adult Obesity Facts. www.cdc.gov/obesity/data/adult.html.
[51] Institute for Health Metrics and Evaluation. County Profiles. www.healthdata.org/sites/default/files/files/county_profiles/US. 2011.
[52] The five-counties that make up The Collaborative overall study areas are also the counties in the PinnacleHealth study area.

In 2011, the aerobic physical activity rates in the PinnacleHealth System study area, which also has the same counties as the overall five-county study area, were higher than the 2014 rates in the state and nation almost across the board; primary data results show that physical inactivity is an issue in the region. According to the health provider survey, 20.6 percent of respondents listed "lack of exercise" as a top risky behavior in the communities they serve. Community leader interviews also revealed that physical inactivity is an issue in the overall five-county study area and the PinnacleHealth System study area.

Community leaders cite poor socioeconomic factors as one of the reasons for poor lifestyle habits, including a lack of physical activity. Studies show that people living in rural locations are more likely to be physically inactive, overweight, and obese compared to those living in more urban locations. Many of the resources available in urban communities for promotion of physical activity are not available in more rural locations.[53] The study area is predominantly rural and this may account for the physical inactivity in the region.

Education also plays a role in the lack of physical activity in the region. In 2012, focus group participants and community leaders discussed a lack of education on the importance of regular physical activity as a reason for the lack of physical activity in the region. In 2015, community leaders once again cited this as a main reason for physical inactivity in the region, stating that education and intervention needs to start early in a person's life as a way to prevent larger health concerns in the long-run and prevent unhealthy lifestyles from being passed on through generations.

Hand-distributed survey results revealed an increase in physical activity levels despite the continued concern over physical activity in the region. In 2012, more than half of survey participants (68.1 percent) reported engaging in regular physical activity. In 2015, 75.2 percent of survey respondents reported partaking in regular physical activity, an increase of 7.1 percent between study years. This increase is an encouraging sign that community residents are aware that physical activity is necessary.

Inadequate Nutrition and Obesity

Obesity is a major issue across the U.S. and is prevalent among adults and youth in the nation. A number of lifestyle behaviors attribute to obesity rates, especially inadequate nutrition. Obesity can lead to a number of serious health conditions, such as heart disease, diabetes, and stroke. More than one-third of U.S. adults, or 78 million Americans, are obese.[54] Childhood obesity is also an issue in the U.S. where

[53] Schwantes, Timothy. "Using Active Living Principles to Promote Physical Activity in Rural Communities." http://activelivingresearch.org/using-active-living-principles-promote-physical-activity-rural-communities.
[54] Centers for Disease Control and Prevention. "Adult Obesity Facts." www.cdc.gov/obesity/data/adult.html.

17.0 percent or 12.7 million children aged 2 to 19 are obese.[55] Obesity affects some groups more than others, particularly non-Hispanic blacks and Hispanics (See Table 15).[56]

Table 15: Age-Adjusted Rates of Obesity by Race

Race	Percentage of Obese
Non-Hispanic Black	47.8%
Hispanic	42.5%
Non-Hispanic White	32.6%
Non-Hispanic Asian	10.8%

Obesity is also highest among middle-age adults (age 49-59) than any other age group with 39.5 percent of middle-age adults being obese.

Obesity rates also fare poorly in the state, having the 19th highest adult obesity rate in the nation at 30.0 percent. This was an increase from 24.0 percent in 2004 and 13.7 percent in 1990.[57] 11.7 percent of adolescents in Pennsylvania are obese.[58] Families, schools, and community organizations need to address and understand ways to combat the regional obesity problem specifically targeted towards youth.

The overall five-county study area and the PinnacleHealth System study area have high rates of obesity; almost one-third of all residents in the counties of the study areas are obese. In addition, obesity rates in these counties have either stayed the same or increased from 2010 to 2014; none have decreased (See Table 16).[59]

Table 16: Percentage of Obese Adults by County

County	Adult Obesity Percent 2014	Adult Obesity Percent 2010
Cumberland	26%	26%
Dauphin	32%	32%
Lebanon	32%	29%
Perry	31%	30%
York	33%	31%

[55] Centers for Disease Control and Prevention. "Childhood Obesity Facts." Jhttp://www.cdc.gov/healthyyouth/obesity/facts.htm
[56] Centers for Disease Control and Prevention. "Adult Obesity Facts." www.cdc.gov/obesity/data/adult.html
[57] The State of Obesity: Better Policies for a Healthier America. "The State of Obesity in Pennsylvania." http://stateofobesity.org/states/pa/.
[58] Centers for Disease Control and Prevention: "Obesity Prevalence." www.cdc.gov/obesity/data/prevalence-maps.html.
[59] County Health Rankings

Looking specifically at childhood obesity, Lebanon County has the highest obesity rate among children in grades K-6 out of the five counties with 17.4 percent of children being obese. Among children in grades 7-12, Perry County has the highest obesity rate at 22.8 percent.[60]

Poor nutrition is a top reason for obesity rates in the region. Community leaders, health providers, and community residents all recognize that obesity is an issue in the region and that poor nutrition leads to obesity. Community leaders interviewed for the current CHNA cite obesity and poor nutrition as top health issues. Health providers list obesity (17.5 percent) as "the most pressing health problem in the community they serve," and heart disease/stroke (12.9 percent) and diabetes (12.7 percent) as the second and third most pressing health problems, both of which can stem from obesity. Health providers also listed poor eating habits as the riskiest behavior in the community, with 23.4 percent of health providers giving this response. 42.3 percent of hand-distributed survey respondents said they had been told that they were overweight or obese by a healthcare professional. Perry County had the highest rate of survey respondents being told they were overweight or obese with 54.7 percent reporting this.

Similar to the reasons for physical inactivity in the five-county study area, socioeconomics and education are the top reasons for inadequate nutrition in the region and subsequent obesity rates. In 2012, community leaders and focus group participants discussed the promotion of health education and access to healthy foods as two issues that are adding to the obesity issue in the region. The same sentiments are shared in 2015. Foremost, some residents are unable to afford and obtain fresh and healthy foods. 10.5 percent of residents in Perry County and 10.3 percent of residents in Cumberland County reported not being able to get healthy foods in the hand-distributed survey, both of which are the highest rates in the overall study area. Cumberland County also had the highest rate of residents who are unable to get healthy foods according to the 2012 hand-distributed survey. Many times, healthier, fresh foods are more expensive. This makes it difficult for some residents to obtain these types of foods and makes it more likely for poorer residents to purchase processed foods. Some leaders also said that some residents did not have a supermarket in the neighborhood. Some only had a "corner market" with little fresh food available. Community leaders see this as a major issue that adds to the obesity problem; healthy foods need to be more accessible.

Education also plays a role in the obesity problem. In 2012, focus group participants stressed the importance of teaching residents how to eat properly and healthy, especially for those on a budget. Community leaders also shared these sentiments in their interviews in 2012, stating that parents need to be taught how to eat nutritious meals and the importance of having a balanced nutritious diet so they instill these behaviors in their children. In 2015, community leaders once again stressed the need to provide health information and education on proper eating habits and the health issues that come from an improper diet and poor nutrition. Health information and education needs to be taught in schools to children as a means to pass on good and healthy eating habits.

[60] Pennsylvania Department of Health, Division of School Health Services 2012-2013

Smoking

Tobacco is still a leading cause of death in the world according to the World Health Organization's published analysis (2000 and 2012). It is projected that lung cancers (along with trachea and bronchus cancers) caused 1.6 million (2.9 percent) deaths in 2012, up from 1.2 million (2.2 percent) deaths in 2000.[61] Nearly one in five deaths is caused by smoking, equating to more than 480,000 deaths yearly in the United States (including deaths from secondhand smoke).[62]

Remarkably, the rates of U.S. adult smokers have decreased from 20.3 percent in 2005 to 17.8 percent in 2013 representing the lowest rate since the Centers for Disease Control and Prevention (CDC) began tracking these figures.[63] The onset of more public awareness on the harmful effects of tobacco, the cost to smoke, strict work policies, and public policies banning and restricting smoking areas are examples that have reduced individuals from beginning to smoke or have influenced them to quit.

Americans of multiple race, American Indians/Alaska Natives, males, those who live in the South or Midwest, those who have a disability or limitation, those who are lesbian/gay/bisexual, the economically challenged, and those who have low education levels continue to have high rates of smokers.[64] Thus, work to inform the public on the dangers of smoking still needs to be completed in order to assist those in need.

Smoking harms nearly every organ in the human body and causes many diseases, and negatively affects the overall health of the user. People who are regularly around environmental tobacco smoke (secondhand smoke) have an increased risk of cancer because tobacco products and secondhand smoke have many chemicals that damage DNA.[65] Due to this risk, non-smokers should be more cognitive to where secondhand smoke is tolerated (e.g., public spaces, the home, the work environment, and other locations where smoking is enclosed.

When analyzing the 2015 hand-distributed surveys, more than one-third of survey respondents smoked (39.5 percent), while 22.4 percent smoked at some time in the past. Health providers who responded to the 2015 survey reported "tobacco use (14.3 percent)" as being a risky behavior in their community. Out of 13 risky behavior options to select from the survey, "tobacco use" was in the top third of responses.

Community leaders who were interviewed also specified smoking as a health-risk behavior due to stress, depression, cultural lifestyles, environmental factors, and the weak economy as contributors to residents engaging in tobacco use. Based upon these findings, it is clear that access to smoking cessation programs and preventative measures must be promoted and easily obtainable for community residents.

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[61] World Health Organization: http://www.who.int/mediacentre/factsheets/fs310/en/

[62] Centers for Disease Control and Prevention: www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/

[63] Centers for Disease Control and Prevention: http://www.cdc.gov/media/releases/2014/p1126-adult-smoking.html

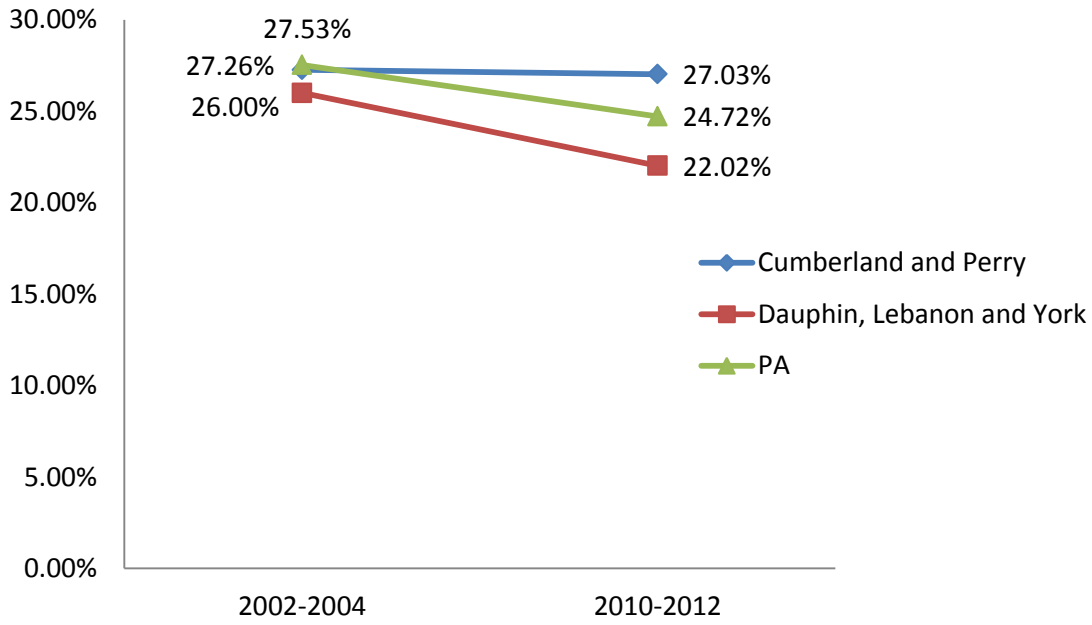
[64] Centers for Disease Control and Prevention: www.cdc.gov/media/releases/2014/p1126-adult-smoking.html

[65] National Cancer Institute: www.cancer.gov/about-cancer/causes-prevention/risk/tobacco

Organizations and health providers with available resources need to collaborate and identify ways to eliminate and reduce smoking in the community.

The National Survey on Drug Use and Health conducted by Substance Abuse and Mental Health Services Administration (SAMSHA; study years 2010, 2011, and 2012) reported that Cumberland and Perry counties have the highest rates of cigarette use and tobacco use within the study area at 27.0 percent and 34.0 percent, respectively. These rates are also higher than the Pennsylvania rate of 24.7 percent. However, all of the counties in the study area had decreased rates of cigarette use. Dauphin, Lebanon, and York counties went from 26.0 percent down to 22.0 percent and Cumberland and Perry counties went from 27.5 percent down to 27.0 percent (See Chart 5). The decreased percentages are encouraging signs that community members understand the long-term detrimental health effects of smoking; however, there is still a need for continued outreach regarding smoking cessation and the risks of smoking.

Chart 5: Cigarette Use (aged 12 years and older)



Smoking Cessation

Smoking is a preventable habit and quitting is not an easy feat for even the most committed individual. There are programs, information, and support units in the community that make quitting easier. Studies have shown that individuals who are young and are able to quit could be as healthy as those who are non-smokers.[66] According to the CDC, strategies such as the implementation of smoke free laws, raising tobacco prices, and increased funding for tobacco control programs can effectively put an end to tobacco use.[67]

The information below, obtained from the CDC, highlights smokers who attempted to quit.[68] It is important to understand that smokers who attempt to quit smoking often fail within their first several attempts. Having a plan and being mentally and physically ready can assist individuals in overcoming hurdles that make quitting difficult.

- Among all current U.S. adult cigarette smokers, nearly 7 out of every 10 (68.8 percent) reported in 2010 that they wanted to quit completely.
    - Since 2002, the number of former smokers has been greater than the number of current smokers.
- Percentage of adult daily cigarette smokers who stopped smoking for more than 1 day in 2012 because they were trying to quit:
    - More than four out of 10 (42.7 percent) of all adult smokers
    - Nearly five out of 10 (48.5 percent) smokers aged 18–24 years
    - More than four out of 10 (46.8 percent) smokers aged 25–44 years
    - Nearly four out of 10 (38.8 percent) smokers aged 45–64 years
    - More than three out of 10 (34.6 percent) smokers aged 65 years or older
- Percentage of high school cigarette smokers who tried to stop smoking in the past 12 months:
    - Nearly five out of 10 (48 percent) high school students smoke

There are ample national and local support programs to assist those in need. Community residents must be able to utilize existing resources. Most programs have fundamental steps individuals should observe: being prepared, obtaining support and encouragement from family, friends, and healthcare providers, learning new skills and behaviors (changing daily routines), using medication correctly (nicotine patches, gum, etc.), and preparing for relapse and difficult situations.[69] Understanding why quitting smoking is important and having outlets to turn to is an essential channel for individuals to utilize within the first

[66] The Real Cost: http://therealcost.betobaccofree.hhs.gov/costs/health-costs/index.html
[67] Centers for Disease Control and Prevention: www.cdc.gov/media/pdf/releases/2014/p1126-adult-smoking.pdf
[68] Centers for Disease Control and Prevention: www.cdc.gov/tobacco/data_statistics/fact_sheets/cessation/quitting/index.htm#overview
[69] Agency for Healthcare Research and Quality: www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/clinicians/tearsheets/tearsheet.html

several weeks. Cigarette cravings along with temptation and withdrawal symptoms are daily struggles. Many programs encourage quitting smoking support options to be readily available and within reach.

Modifying and changing negative behaviors is challenging however, success is the ultimate reward. Information and the promotion of available resources are vital to encourage and support positive changes in behavior. Community residents must set goals and develop coping mechanisms and methods in order to accomplish small steps which will lead to noteworthy behavioral changes.

Smoking Prevention

Smoking prevention was seen as an important component under health behaviors. Smoking cigarettes has gained national attention over the last several decades and the negative health risks have been well-advertised. It is important to health and social services providers that smoking cigarettes does not begin for many in the community. Smoking prevention can be successful with combined efforts from families, schools, community, and government leaders' involvement.

It is alarming that a majority of today's smokers begin smoking before they are 18 years old. According to the American Lung Association, parents can set positive examples by not smoking and keeping their homes smoke-free. It was also noted that schools can provide tobacco prevention programs to educate students about the dangers of smoking. Government leaders can pass legislation to increase taxes on tobacco products, pass and implement comprehensive smoke free indoor air laws, and limit minors' access to tobacco products.[70]

Media campaigns and social influences are factors that mold and influence children to want to try smoking. Unfortunately, many kids try smoking and ultimately become addicted. Studies reported that only 5.0 percent of high school-age smokers believe they will still be smoking five years after graduation, and many do not understand how difficult it is to quit smoking. Research shows that after eight years, 75.0 percent of those smokers will still be using some form of tobacco.[71]

Prevention programs are essential to the community's well-being and advocating for continued programs and involving strong local organizations and government leaders can produce robust public health partnerships.

Tobacco companies are bombarding media outlets in the hopes that new consumers use their products. The CDC reported that the tobacco industry spends about $9.94 billion each year, or $27 million every day, on cigarette advertising and promotion—72.0 percent of these dollars are spent on discounts to offset tobacco taxation and other tobacco control policies.[72] It is clear further work is needed in schools,

[70] American Lung Association: www.lung.org/stop-smoking/about-smoking/preventing-smoking/
[71] American Lung Association: www.lung.org/stop-smoking/about-smoking/preventing-smoking/why-kids-start.html
[72] Centers for Disease Control and Prevention: www.cdc.gov/vitalsigns/adultsmoking/index.html

community organizations, agencies, and healthcare systems to educate and inform youth on the dangers of smoking and the long-term negative health effects of tobacco use.

Conclusions & Recommendations

PinnacleHealth System, partnering with community organizations and regional partners, understands that the community health needs assessment document is not the last step in the assessment phase but rather the first step in an ongoing evaluation process. Communication and continuous planning efforts are vital throughout the next phase of the CHNA. Information regarding the CHNA findings will be important to residents, community groups, leaders, and organizations that seek information.

In the assessment process, common themes and issues rose to the top as each project component was completed. The data collected from the overall assessment included feedback and input from community leaders, and hard-to-reach, underserved, and vulnerable populations. The information collected provides The Collaborative with a framework to begin evaluating, identifying, and addressing gaps in services and care, which will ultimately alleviate challenges for individuals living in the community.

Solidifying and reinforcing existing relationships and creating new relationships must be paramount in order to address the needs of community residents. Expanding and creating new partnerships with multiple regional entities is vital to developing community-based strategies to tackle the region's key community health needs.

The regional community health needs identified by The Collaborative include access to health services (which includes primary care, specialty care, and dental care), behavioral health services (focusing on mental health and substance abuse), and healthy lifestyles (concentrating on lack of physical activity, inadequate nutrition, obesity, and smoking cessation and prevention). The collection and analysis of primary and secondary data provided working group members with an abundance of information which enabled the group to identify regional health services gaps. Collaborating with local, regional, statewide, and national partners, PinnacleHealth System understands the CHNA is one component to creating strategies to improve the health and well-being of community residents.

Implementation strategies should take into consideration the higher need areas that exist in regions that are poorer and have greater difficulties in obtaining and accessing services. Tripp Umbach recommends the following actions be taken by PinnacleHealth System in close partnership with community organizations over the next several months.

Recommended Action Steps:

- Communicate the results of the CHNA document to PinnacleHealth staff, providers, leadership, boards, community stakeholders, and the community as a whole.
- Utilize the inventory of available resources in the community in order to explore further partnerships and collaborations.

- Implement a comprehensive grassroots, community engagement strategy to build upon the resources that already exist in the community including committed community leaders that have been engaged in the CHNA process.
- Develop working groups to focus on specific strategies to address the top identified needs of the health system and develop a comprehensive implementation plan.

APPENDICES

Appendix A: Project Mission

- Understand and plan for the current and future health needs of the communities in Cumberland, Dauphin, Lebanon, Perry, and Northern York counties.
- Identify the health needs of the communities served by The Collaborative, develop a deeper understanding of these needs, and identify community health priorities.
- Identify resources and system opportunities to increase access and utilization of services and improve the health and well-being of the population.

Appendix B: Process Overview

In the spring of 2015, PinnacleHealth System along with Carlisle Regional Medical Center, Hamilton Health Center, Holy Spirit–A Geisinger Affiliate, Penn State Milton S. Hershey Medical Center, and the Pennsylvania Psychiatric Institute, formed a collective workgroup to identify and address the needs of community residents living in Dauphin, Cumberland, Perry, Lebanon, and the northern tier of York County. The group, collectively known as The Collaborative, was established to evaluate and understand the region's community health needs based upon their collective interests in the health and well-being of residents; in particular, addressing those needs in their service region.

A comprehensive community-wide CHNA process linked a wide-range of public and private organizations, such as health and human service entities, government officials, faith-based organizations, and educational institutions to evaluate the needs of the community. The 2015 assessment included primary and secondary data collection, which included: community stakeholder interviews, a hand-distributed survey, a health provider survey, public commentary surveys, and community forums. Trending information was provided to The Collaborative to provide additional insights into areas that the region improved upon and/or fell short.

An in-depth review of all primary and secondary data collected brought about the identification of key community health needs in the region. The Collaborative will explore and develop actions through an implementation phase, which will highlight, discuss, and identify ways each individual health system will meet the needs of the communities they serve.

Tripp Umbach directed, managed, and worked closely with members of The Collaborative to collect, analyze, review, and discuss the results of the CHNA, culminating in the identification and prioritization of community's needs at the regional level.

The flow chart below depicts and outlines the process of each project component piece in the CHNA (See Chart 6).

Chart 6: Assessment Process Methods

Secondary Data

The health of a community is largely related to the characteristics of its residents. An individual's age, race, gender, education and ethnicity often directly or indirectly impact health status and access to care. Tripp Umbach completed a comprehensive analysis of health status and socioeconomic environmental factors related to the health and well-being of residents in the community from existing data sources such as: state and county public health agencies, The Centers for Disease Control and Prevention (CDC), County Health Rankings, The Substance Abuse and Mental Health Services Administration (SAMHSA), Healthy People 2020, Capital Area Coalition on Homelessness, Truven Health Analytics, and other additional data sources. Tripp Umbach benchmarked data against state and national trends and from the 2012 CHNA results, where applicable.

Tripp Umbach obtained data through Truven Health Analytics to quantify the severity of health disparities for every zip code in the needs assessment area, based on specific barriers to healthcare access. Truven Health Analytics provides data and analytics to hospitals, health systems, and health-supported agencies. The data resource, commonly referred to as Community Need Index (CNI), was used in the health assessment.

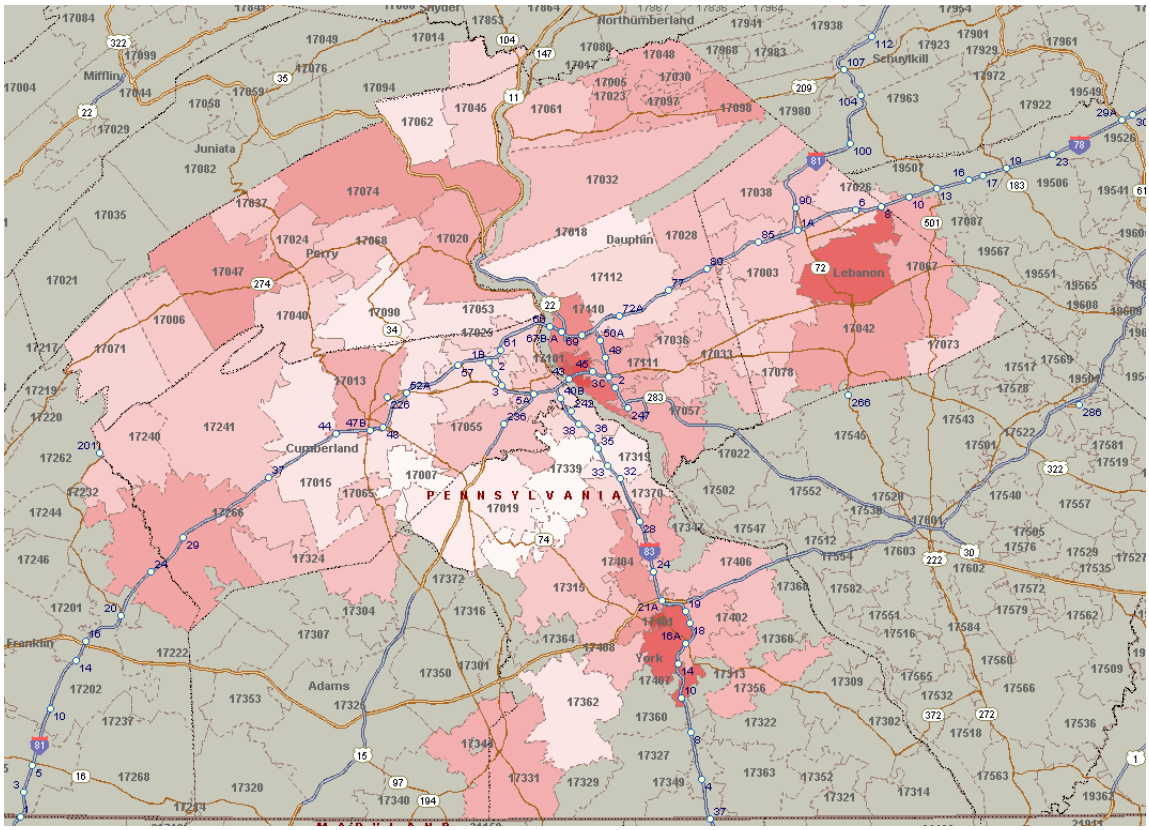
CNI considers multiple factors that are known to limit healthcare access; the tool is useful in identifying and addressing the disproportionate unmet health-related needs of neighborhoods. Five prominent

socioeconomic barriers to community health quantified in the CNI are: Income Barriers, Cultural/Language Barriers, Educational Barriers, Insurance Barriers, and Housing Barriers.

For 2015, The Collaborative's overall project study area was composed of 76 populated zip codes, while the PinnacleHealth System study area consisted of 42 populated zip codes. The collection and analysis of secondary data began March 2015 until April 2015.

For reporting purposes, The Collaborative's overall study area or region refers to the 76 zip codes that were analyzed (See Map 5), while the PinnacleHealth System study area refers to the 42 zip codes (See Map 6).

Map 5: The Collaborative Overall Study Area 2015 (76 Zip Codes-Community Needs Index Map)

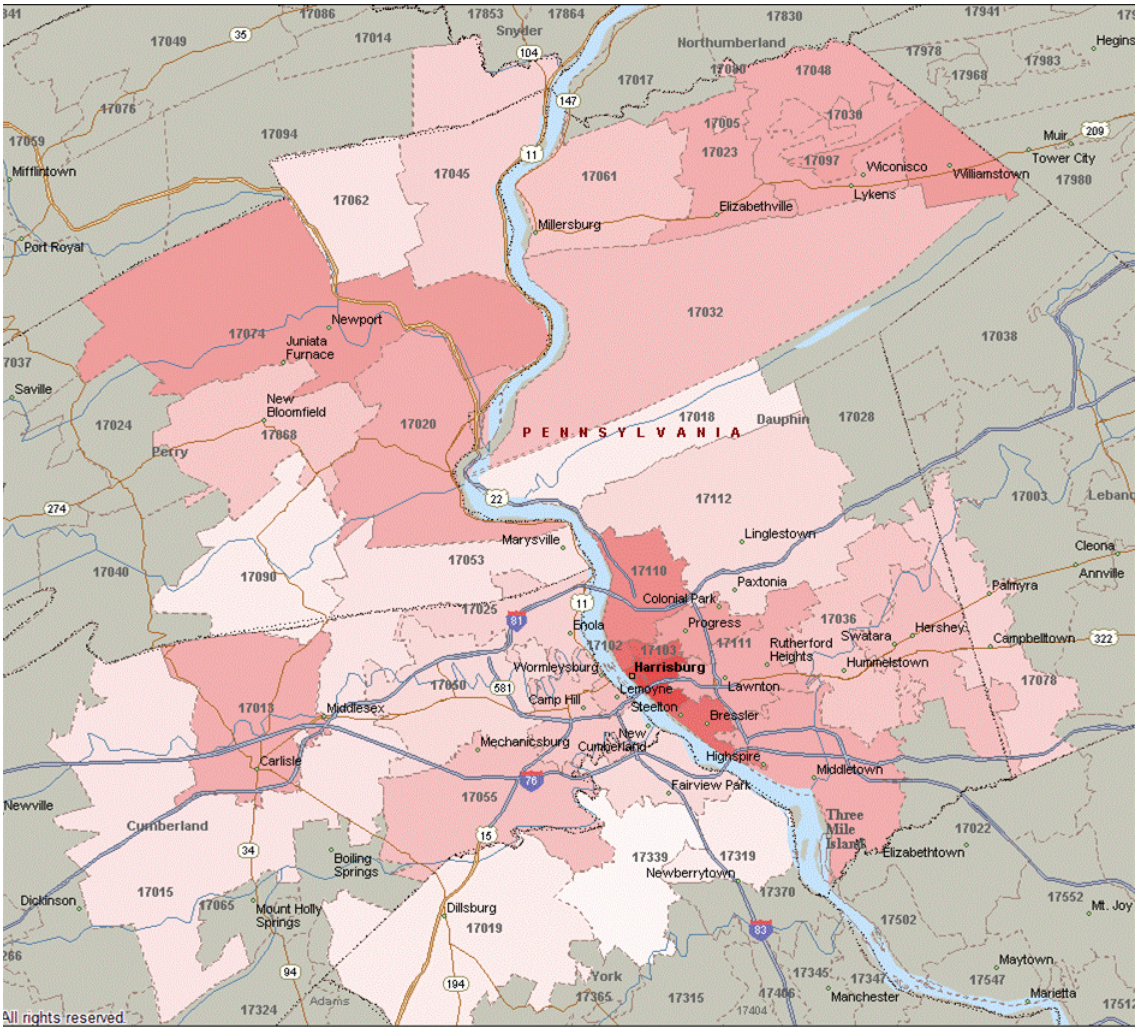


(*The darker shading indicates greater barriers to healthcare access)

CNI Score by Zip Code

- 4.00 to 5.00 Significant socioeconomic barriers
- 3.00 to 3.99
- 2.00 to 2.99
- 1.00 to 1.99 Lowest level of socioeconomic barriers

Map 6: PinnacleHealth System Study Area 2015 (42 Zip Codes-Community Needs Index Map)



(*The darker shading indicates greater barriers to healthcare access)

CNI Score by Zip Code

4.00 to 5.00	Significant socioeconomic barriers
3.00 to 3.99	
2.00 to 2.99	
1.00 to 1.99	Lowest level of socioeconomic barriers

The information below reflects key information collected from CNI.

The Collaborative's Overall Study Area CNI Results

- The 2015 weighted CNI average for The Collaborative's overall study area is 2.7. The weighted CNI average score in the previous assessment year was 2.5.
    - At the zip code level, the highest CNI score in the study area is 5.0 in the zip code areas of Harrisburg in Dauphin County (17104) and York in York County (17401). This indicates that these two zip code areas have the most barriers to accessing health care across the overall study area.
    - Harrisburg (17104) shows the highest rates across the overall study area for:
        - Children in poverty to married parents (52%)
        - Limited English proficiency(7%)
        - Minority population (82%)
        - Uninsured (18%)
    - York (17401) shows the highest rates across the overall study area for:
        - Unemployment (26%)
        - Rentals (70%)
        - Five of the eight zip codes with a CNI score between 5.0 and 4.0 are in Harrisburg, Dauphin County.
- On the other end, the lowest CNI score in the study area is 1.2 in the zip code areas of Boiling Springs in Cumberland County (17007) and Lewisberry (17339) and Wellsville (17365) in York County. These zip codes have the least barriers to health care access in the study area, but this does not mean that these areas require no attention.

Table 17: The Collaborative Overall Study Area CNI -Top 6 Zip Code Scores and Bottom 3 Zip Code Scores

Zip	City	County	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
17104	Harrisburg	Dauphin	5	5	5	5	5	5.0
17401	York	York	5	5	5	5	5	5.0
17101	Harrisburg	Dauphin	5	5	4	5	5	4.8
17046	Lebanon	Lebanon	5	4	4	4	5	4.4
17103	Harrisburg	Dauphin	4	5	4	4	5	4.4
17403	York	York	5	4	4	4	5	4.4
17007	Boiling Springs	Cumberland	1	2	1	1	1	1.2
17339	Lewisberry	York	1	2	1	1	1	1.2
17365	Wellsville	York	1	1	2	1	1	1.2
The Collaborative's Overall Study Area			**2**	**3**	**2**	**2**	**4**	**2.7***

(*weighted average of total market)

- Of the 76 current zip code areas in The Collaborative study area:
    - 17 saw declines in CNI score (going to fewer barriers to health care)
    - 16 zip code areas maintain the same CNI score
    - 43 experienced rises in CNI score (now having more barriers to health care)
- Zip code area 17074 (Newport, Perry County) saw the largest increase in CNI score (a rise of 1.0 CNI); going from 2.2 to 3.2.

- Of the five counties in The Collaborative's overall study area, Dauphin and Lebanon counties have the highest CNI score, or most barriers to healthcare access, with a score of 3.0. This score indicates a specific socioeconomic factor is impacting the community's access to care (See Table 18; the below information also refers to Table 18).
    - This echoes findings from the 2012 study in which Dauphin and Lebanon counties reported the highest CNI score of 2.9 and 2.6.
    - Four of the five counties reported rises in their CNI scores, including Dauphin and Lebanon counties as well as Perry and York counties.
    - Lebanon and York counties experienced the largest rises in CNI scores from 2010 to 2014, each showing a 0.4 score rise.
- Unlike the previous study, Cumberland County now reports the fewest barriers to accessing care with a CNI score of 2.2 (the lowest across the counties in the study area).
    - Previously, it was Perry County that reported the lowest county level CNI score; for the current study, Perry County reports the second lowest CNI score.

Table 18: The Collaborative Overall Study Area County CNI Scores

County	2014 Total Population	Poverty 65+	Married w/ children Poverty	Single w/ Children Poverty	Limit English	Minority %	No High School Diploma	Unemployment %	Uninsured %	Rental %	Income Rank	Cultural Rank	Education Rank	Insurance Rank	House Rank	2014 CNI Score*	2010 CNI Score*
Cumberland	263,257	6%	9%	16%	1%	12%	9%	6%	5%	27%	1	3	2	2	3	2.2	2.2
Dauphin	263,264	8%	16%	33%	2%	31%	11%	9%	8%	34%	3	4	2	2	4	3.0	2.9
Lebanon	136,658	7%	14%	38%	2%	15%	14%	8%	7%	28%	4	3	3	3	2	3.0	2.6
Perry	47,018	7%	12%	35%	0%	5%	15%	7%	5%	20%	3	1	3	2	2	2.3	2.1
York	341,009	6%	14%	33%	1%	18%	12%	10%	7%	26%	2	3	2	2	3	2.8	2.4

(*weighted average of total market)

- The weighted CNI average score for the PinnacleHealth System study area is 2.5.
- The highest CNI score in the study area is 5.0 in zip code area Harrisburg (17104) in Dauphin County.
- Zip code 17339 Lewisberry, York County has the lowest CNI score with a score of 1.2.
- Of the 42 zip code areas in The PinnacleHealth study area for 2014:
    - 10 saw declines in CNI score (going to fewer barriers to health care)
    - 12 zip code areas maintained the same CNI score
    - 20 experienced rises in CNI score (now having more barriers to health care)

Table 19: PinnacleHealth System CNI -Top 5 Zip Code Scores and Bottom 5 Zip Code Scores

Zip	City	County	Income Rank	Insurance Rank	Education Rank	Culture Rank	Housing Rank	2014 CNI Score
17104	Harrisburg	Dauphin	5	5	5	5	5	5.0
17101	Harrisburg	Dauphin	5	5	4	5	5	4.8
17103	Harrisburg	Dauphin	4	5	4	4	5	4.4
17102	Harrisburg	Dauphin	4	5	3	4	5	4.2
17113	Harrisburg	Dauphin	4	5	3	4	5	4.2
17018	Dauphin	Dauphin	1	1	3	1	1	1.4
17019	Dillsburg	York	1	2	1	1	2	1.4
17090	Shermans Dale	Perry	1	1	3	1	1	1.4
17319	Etters	York	2	2	1	1	1	1.4
17339	Lewisberry	York	1	2	1	1	1	1.2
PinnacleHealth System Study Area			2	2	2	3	4	2.5*

(*weighted average of total market)

- Zip code 17074 in Newport, Perry County had the largest CNI score change going from a 2.2 to a 3.2; which indicates that residents in this zip code face barriers to health care.
- The PinnacleHealth System's weighted CNI average went from 2.4 in 2010 to 2.5 in 2014. This increase indicates more health care barriers for community residents in PinnacleHealth's study area.

Table 20: PinnacleHealth System's Study Area CNI: Largest CNI Score Change

Zip	City	County	2014 Population	2014 CNI Score	2010 CNI Score	CNI Score Change
17074	Newport	Perry	7,909	3.2	2.2	-1.0
17097	Wiconisco	Dauphin	112	3.0	2.2	-0.8
17055	Mechanicsburg	Cumberland	37,473	2.4	1.8	-0.6
17034	Highspire	Dauphin	2,192	3.8	3.2	-0.6
17020	Duncannon	Perry	8,385	2.8	2.2	-0.6
17113	Harrisburg	Dauphin	11,273	4.2	3.8	-0.4
17098	Williamstown	Dauphin	2,433	3.2	2.8	-0.4
17110	Harrisburg	Dauphin	25,481	3.6	3.2	-0.4
17030	Gratz	Dauphin	973	2.8	2.4	-0.4
17061	Millersburg	Dauphin	6,868	2.2	3.0	+0.8
17045	Liverpool	Perry	3,682	2.0	2.6	+0.6
17019	Dillsburg	York	17,999	1.4	2.0	+0.6
17102	Harrisburg	Dauphin	7,750	4.2	4.8	+0.6
17011	Camp Hill	Cumberland	34,593	2.2	2.6	+0.4
17025	Enola	Cumberland	18,205	2.0	2.4	+0.4
PinnacleHealth System's Study Area			561,020	2.5*	2.4*	-0.1

Community Stakeholder Interviews

Community stakeholder interviews were conducted throughout the region to gain a deep understanding of the community's health needs from professionals, organizations, and agencies that have in-depth knowledge of the populations in need. The information collected provided committee members with knowledge and information regarding community resources, service gaps, risk utilization, and the community's health status.

Leaders from organizations that had public health expertise; were professionals with access to community health related data; and were representatives of underserved and vulnerable populations were invited to participate in the interviews. A list of community stakeholders was provided to Tripp Umbach to conduct interviews. An introduction letter was mailed announcing the reassessment and the importance of securing input from the community leaders. A total of 21 stakeholder interviews were conducted specifically in the PinnacleHealth System community; while 56 completed interviews in total were completed in the overall five-county service area.

A complete listing of organizations that were interviewed in the overall study area as part of the community stakeholder interviews process can be found in Appendix E. The community stakeholder interview process lasted from March 2015 until April 2015.

The overarching themes collected from community stakeholder interviews in the overall study area were (in chronological order of needs reported):

1. Health services
2. Behavioral & mental health
3. Access to care
4. Organizations
5. Environment
6. Health issues (obesity, diabetes, heart disease, respiratory problems, and cancer)
7. Health risk behaviors (alcohol & drug use, nutrition, exercise, smoking, and sexually transmitted diseases)
8. Dental health
9. Physician issues (insurance acceptance, availability, and physician shortages)
10. Language Issues (non-English languages)

The main themes collected from community stakeholder interviews in PinnacleHealth System's service area were (in chronological order of needs reported):

1. Mental and Behavioral Health
2. Health Services
3. Knowledge, Awareness, and Information
4. Access to care
5. Children and Families

Hand-Distributed Surveys

Tripp Umbach worked closely with The Collaborative to ensure that community residents, including underrepresented, underserved, low-income, vulnerable, and minority populations, or individuals/organizations representing those populations were included in the needs assessment through a survey process. A hand-distributed survey methodology was disseminated to hard-to-reach and vulnerable populations within the study area. The 2012 hand-distributed survey was revised to include additional mental and behavioral health questions.

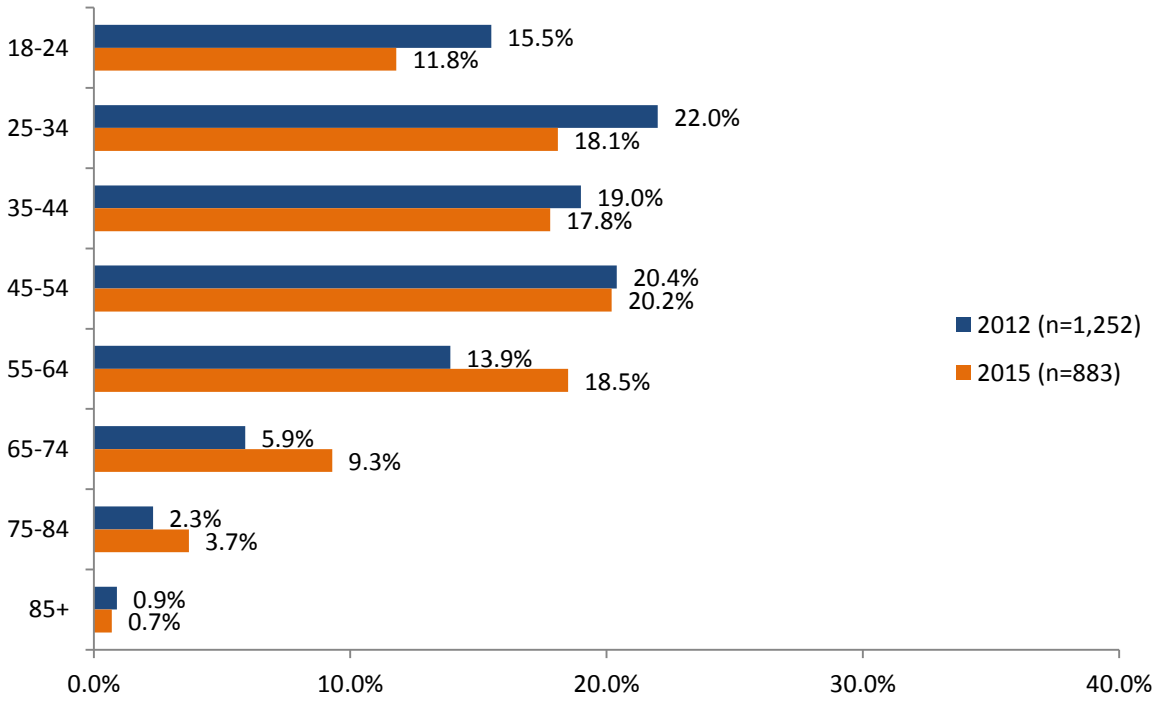
Working through community-based organizations, Tripp Umbach distributed the hand-distributed surveys to end-users in hard-to-reach, underserved, and vulnerable populations. Populations that were important to collect data from included: mental health individuals, seniors (fragile), homeless residents, substance abusers, non-English speaking populations, veterans, ex-offenders, victims of domestic violence, the uneducated/illiterate, and the working poor. Surveys were analyzed using SPSS software.

Partnering with community-based organizations was vital to the success and distribution of the hand-distributed surveys. Available in both English and in Spanish, 883 surveys were used for analysis in 2015 (where applicable Tripp Umbach provided trending information from the 2012 hand-distributed survey). 790 surveys were collected in English and 93 surveys were collected in Spanish. A total of 40 community organizations were involved in the dissemination and collection of the community hand-distributed survey in 2015. Key survey findings collected from the hand-distributed survey are outlined in the following sections.

Demographics:

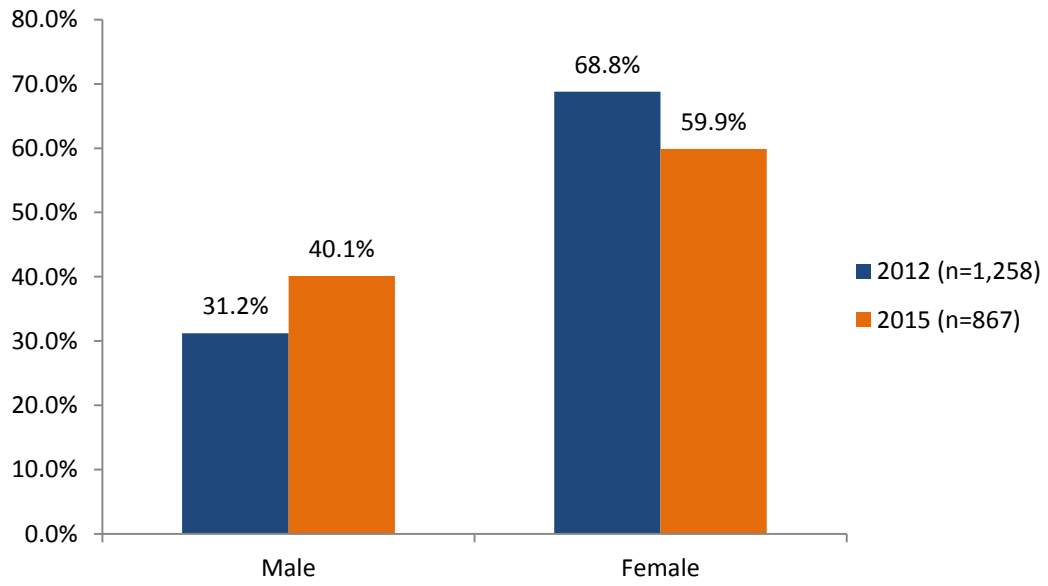
- The age break-out of survey respondents for the 2015 study was a standard distribution of ages, the largest age group being those aged 45-54 (20.2 percent), 0.7 percent aged 85+, and 11.8 percent aged 18-24 (See Chart 7).

Chart 7: Age



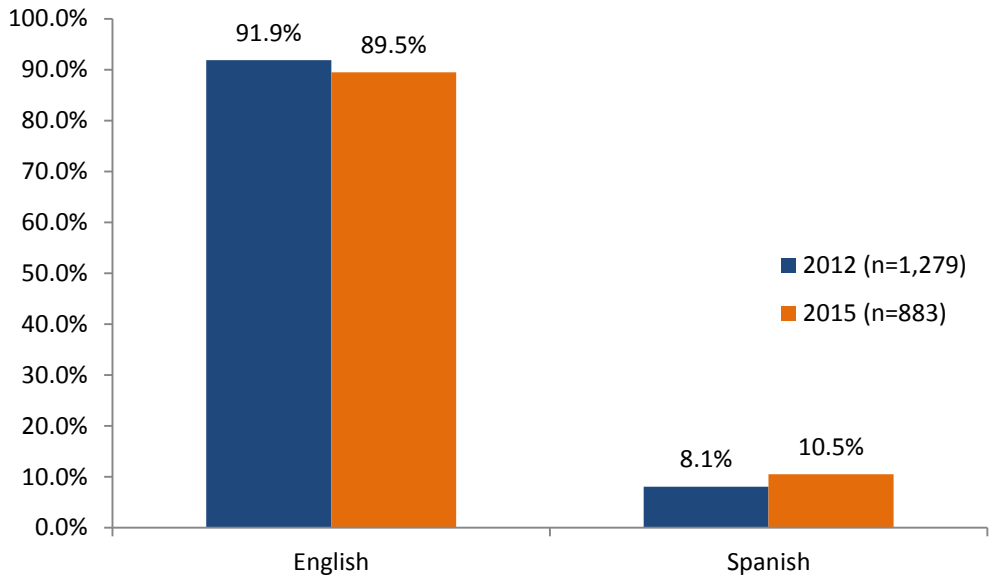
- The gender breakdown of survey respondents was closer to the area population (50.0 percent male/50.0 percent female) for the 2015 survey than the 2012 survey. For the current study, 59.9 percent of the survey respondents were female and 40.1 percent of the respondents were male (compared to 68.8 percent female and 31.2 percent male in the 2012 study) (See Chart 8).

Chart 8: Gender



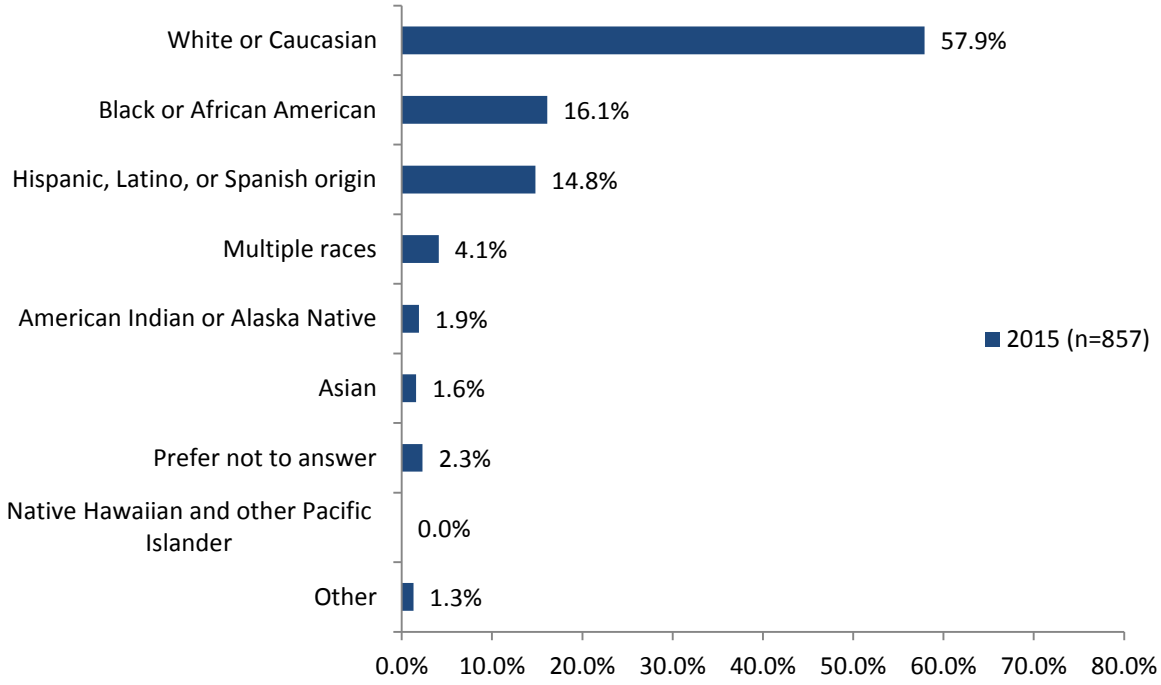
- In 2012, a total of 8.1 percent of the surveys were completed in Spanish. In the current study (2015), a higher percentage of the surveys were completed in Spanish (10.6 percent) indicating that this population was accessed to a greater degree in the current study (See Chart 9).

Chart 9: Survey Language



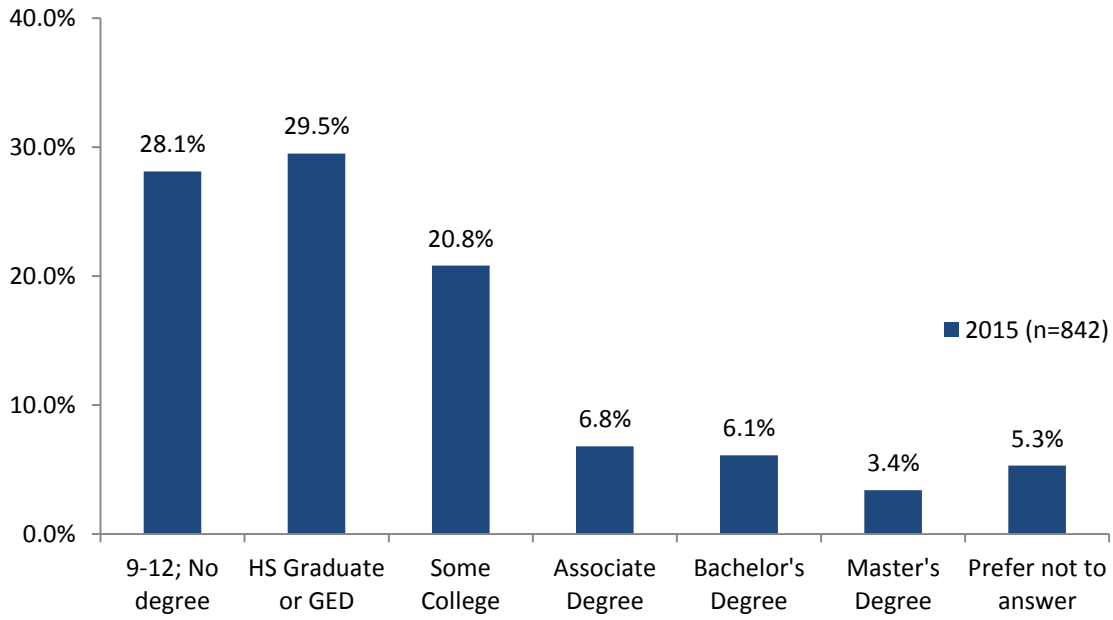
- White/Caucasian was the majority race of survey respondents at 57.9 percent; 14.8 percent of the survey population was Hispanic/Latino/Spanish; 16.1 percent was Black or African-American (See Chart 10).
    - Dauphin County reported the most diversity among the five study area counties where 39.8 percent of the survey respondents identified as White/Caucasian, 26.1 percent as Hispanic/Latino/Spanish, and 22.2 percent as Black/African-American.
    - Perry County reported the least diversity among the counties where 95.7 percent of the survey respondents identified as White/Caucasian, 2.1 percent as Hispanic/Latino/Spanish, and the final 2.1 percent as American Indian or Alaska Native.

Chart 10: Race and Ethnicity



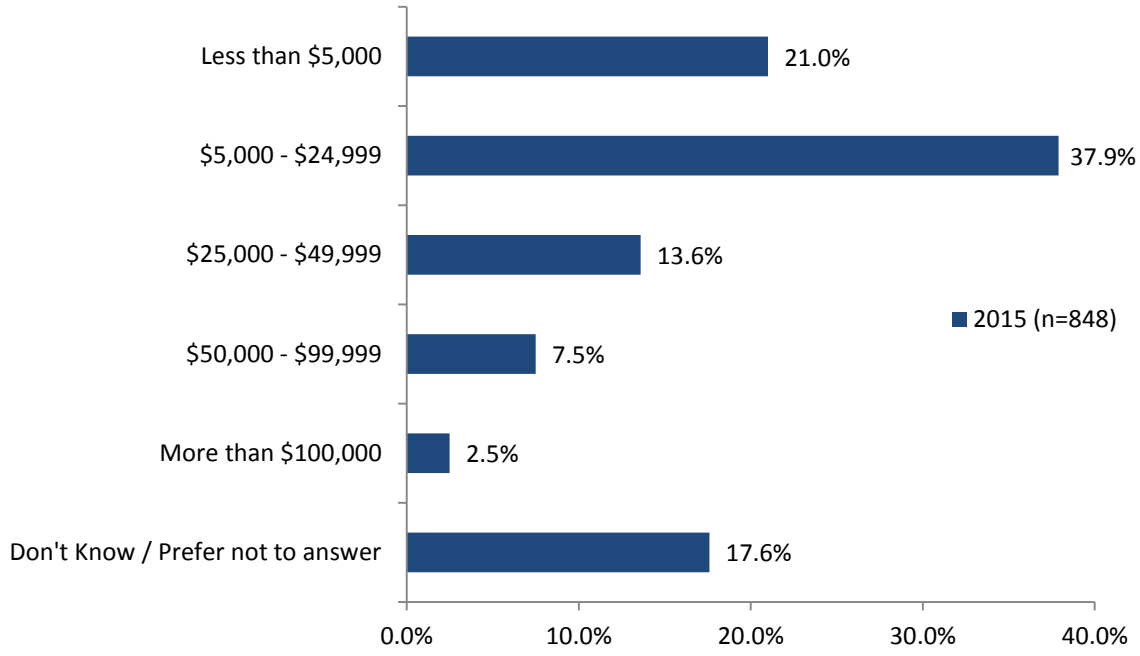
- Survey respondents reported having a high school diploma or GED at the highest rate (29.5 percent); 28.1 percent of the survey population had less than a high school diploma; 9.5 percent of the survey respondents had a Bachelor's degree or higher (See Chart 11).
    - All five of the study area counties reported the highest proportions of education levels falling in the high school graduate/GED and lower (no high school diploma or GED).

Chart 11: Education



- Survey respondents reported being in the $5,000 - $24,999 annual household income bracket at the highest rate (37.9 percent). This was important to gather input on community health needs of the area from those in lower-income brackets to understand the health needs of those needing services and care (See Chart 12).

Chart 12: Household Income



Overall Survey Response:

- In 2012, a total of 1,279 surveys were collected and analyzed.
- For the current 2015 study, a total of 883 surveys were analyzed (from a total of 978 surveys returned, surveys were omitted from analysis if respondents were under the age of 18 and/or their permanent residence was outside of the five-county study area: Cumberland, Dauphin, Lebanon, Perry, or York.
- A total of 40 community organizations were involved in the dissemination and collection of the hand-distributed survey in 2015.

Primary Healthcare

- 76.7 percent of survey respondents reported having a primary care provider (PCP).
    - This rate has declined slightly since the last study in which 78.1 percent of the survey respondents reported having a PCP.

- In 2015, survey respondents from Lebanon County reported the lowest rate of those having a doctor or PCP with only 63.1 percent.

- From both the previous study to the current study, the most common reason for respondents not having a primary care provider remained that they "cannot afford one" (66.3 percent in 2012, 51.9 percent in 2015).
  - Cannot afford was the top reason across the five-county study area.
  - For those in Cumberland and Dauphin counties, the next most common reason for not having a doctor/PCP was that they "cannot find one" (19.4 percent and 14.3 percent, respectively).
  - For Lebanon County, the second most common reason cited for not having a doctor/PCP was that respondents feel that they "don't need one" (30.8 percent).
- Similar to the past study, survey respondents indicated that they seek care most often from the doctor's office (60.0 percent for 2015).
  - The rate of survey respondents reporting going to the ER for care increased from the previous study (9.8 percent in 2012 to 10.0 percent in 2015).
  - The rate of respondents seeking care at urgent care centers rose from 2.0 percent in 2012 to 2.8 percent in 2015.
  - For Cumberland, Dauphin, Lebanon, and Perry counties; the second most common place that survey respondents went for primary care was a free or reduced cost clinic. For York County, the second most common place that survey respondents sought care was the emergency room (13.6 percent).
- 81.2 percent of survey respondents reported having seen their PCP within the past year. 3.4 percent reported seeing their doctor 5 or more years ago.
  - Due to the differences in number of surveys collected in each county (Dauphin=486, York=22), conclusions for how often respondents see their doctor by county was uneven. York County reported the highest rates of individuals seeing their doctor more than 5 years ago at 4.5 percent, but this was only one respondent; while Dauphin County reported 3.8 percent of the respondents seeing their doctor more than 5 years ago (this being 18 respondents).

<u>Health Insurance</u>

- 80.0 percent of survey respondents reported having health insurance (20.0 percent of respondents did not have health insurance).
  - This rate increased since the 2012 study in which 71.1 percent of the survey respondents reported having health insurance. It can be assumed that the PCA has a close relationship to

this rise in those reporting having health insurance; however, it is still noteworthy that this many new residents are taking advantage of and eligible for the PPACA.

    - Lebanon and Dauphin counties reported the highest rates of residents without health insurance (24.5 percent and 24.4 percent, respectively); approximately one in every four residents did not have health insurance in these counties. York and Perry counties reported the lowest rates of residents not having health insurance (4.5 percent and 7.4 percent, respectively).

- Of respondents without health insurance, the most common reason for not having it was that they "cannot afford it" (51.0 percent); this is consistent with the 2012 study (49.2 percent could not afford it in 2012).
    - Not being able to afford it was the top response across the study area for residents not having health insurance.
- A shift in questions occurred from 2012 to 2015 for those without health insurance. In 2015, only those without health insurance were asked to respond to the following items; in the previous round, all respondents answered.
    - 64.3 percent of those without health insurance reported that not having insurance affected their ability to get services.
    - 65.6 percent reported not seeking care due to their lack of insurance.
        - Cumberland and Dauphin counties reported higher rates of respondents feeling that not having health insurance caused them to not seek care (71.4 percent and 68.6 percent, respectively). On the other hand, Perry and Lebanon counties reported higher rates of residents reporting that not having health insurance did not impact whether or not they sought care (60.0 percent and 52.6 percent, respectively).

<u>Dental Care</u>

- Understandably, the majority of survey respondents said they go to a dentist's office when seeking dental care (58.4 percent in 2015).
    - However, a large number of respondents indicated that they do not go to the dentist (22.4 percent). Survey respondents of Cumberland County reported the highest rate of not going to the dentist (29.7 percent).
    - York County reported the highest rate of residents who go to a dentist's office for dental care across the five-county study area (72.7 percent); however, they also had the highest rate of residents who seek dental care at the emergency room (9.1 percent, again, this can be related to the small sample size, 9.1 percent = 2 respondents).

- The majority of respondents reported going for dental care within the past year (50.6 percent).
    - A combined 18.0 percent of the respondents indicated that they have not seen a dentist in five or more years (10.1 percent) or they are not sure when the last time they saw a dentist (7.9 percent).
    - Lebanon County reported the highest rate of survey respondents indicating that the last time that they went to the dentist was five or more years ago (11.9 percent = 12 respondents).
- The majority of respondents reported paying for their dental services with dental insurance coverage (57.2 percent). Close to one-quarter of survey respondents (24.4 percent) reported having to pay out-of-pocket for their dental services while another 9.7 percent did not pay for their services.
    - Perry County reported the highest rate of survey respondents indicating that they had to pay out-of-pocket for their dental services (35.2 percent = 31 respondents).

General Health

- 75.2 percent of the survey respondents reported doing regular physical activity to stay healthy.
    - This rate increased since the last study in which 68.1 percent of the survey respondents reported doing physical activity.
    - Survey respondents from Perry County reported not doing physical activity to stay healthy at the highest rate (28.7 percent).
- Slightly more respondents reported being able to get healthy foods in 2015 (90.6 percent) than in 2012 (90.4 percent). Identical to the 2012 study, 90.9 percent of survey respondents reported that they ate fresh, healthy foods.
    - Survey respondents from Perry and Cumberland counties reported the highest rates of not being able to get fresh, healthy foods (10.5 percent and 10.3 percent, respectively).
    - Survey respondents from Cumberland County reported not eating fresh, healthy foods at the highest rate (15.3 percent).
- Close to half (42.3 percent) of the survey population reported being told that they are overweight or obese by a healthcare professional.
    - Perry County reported the highest rate of survey respondents being told that they are overweight or obese at 54.7 percent.
- In 2012, 28.9 percent of respondents indicated that they have high blood pressure; in 2015, this rate rose to 40.0 percent.
    - Perry County reported the highest rate of survey respondents that report having high blood pressure (45.3 percent).

- 18.7 percent of the survey population reported having diabetes.
    - Perry County reported the highest rate of survey respondents that report having diabetes (28.4 percent).
- In 2012 the rate of respondents reporting heart problems was 16.1 percent; in 2015 it rose to 18.9 percent.
    - Perry County reported the highest rate of survey respondents with heart problems (27.4 percent).
- 39.5 percent of survey respondents reported that they currently smoke, 22.4 percent smoked in the past, and 38.1 percent never smoked.
    - Lebanon County reported the highest rate of survey respondents who "currently smoke" at 58.3 percent.
- Of the respondents who indicated limitations to their daily activities, the most common limitation was physical at 26.4 percent, followed by mental (15.2 percent), emotional (13.2 percent), and spiritual (2.1 percent).
    - The rates of respondents reporting limitations declined from 2012 to 2015 for physical, spiritual, and emotional limitations.
    - The rate of respondents reporting mental limitations to their daily life rose from 14.5 percent in 2012 to 15.2 percent in 2015.
    - Survey respondents from Perry County reported physical limitations to their daily activities at the highest rate (35.5 percent) as compared with the other counties in the study area.
    - Cumberland County saw the highest rate, across the five-county study area, where respondents indicated that mental limitations affected their daily activities (22.2 percent).
- The rate of respondents indicating that they received a flu shot or flu nasal spray within the previous year rose from 48.7 percent in 2012 to 51.8 percent in 2015.
    - The majority of survey respondents from Cumberland, Dauphin, and Perry counties reported receiving the flu shot in the previous year.
    - However, a majority of survey respondents in Lebanon and York counties reported that they did not receive the flu shot or flu nasal spray within the previous year (61.6 percent and 68.2 percent, respectively).
- The rate of respondents reporting children or grandchildren (only those with children or grandchildren) with current immunizations fell from 83.0 percent in 2012 to 80.4 percent in 2015.
    - Perry and Cumberland counties reported the lowest rates of survey respondents indicating that their children/grandchildren's immunizations were current (70.0 percent and 73.2 percent, respectively).

Community

- In 2012 and in 2015, the most common method from which respondents got information about their community was TV (21.4 percent).
    - The next most common methods were: Word-of-Mouth (20.7 percent), Newspaper (16.7 percent), and Internet (16.1 percent).
    - The Internet saw the largest rise in usage for respondents getting information about their communities (going from 12.7 percent in 2012 to 16.1 percent in 2015).
- The most common form of transportation for respondents was their car (51.7 percent).
- 71.5 percent of respondents indicated that they wear their seatbelt every time that they ride in a car.
    - Lebanon County survey respondents report “never” wearing a seatbelt at the highest rate (12.0 percent) compared to the other counties in the study area.
- Respondents reported feeling “somewhat safe” in their neighborhood/community at the highest rate (46.4 percent).
    - Respondents in Dauphin County reported feeling "Not at all safe" at the highest rate (17.4 percent or 82 respondents).
    - The top reasons why respondents did not feel safe in their community were crime (25.6 percent) and drug use or sales (22.9 percent).

Services

- For no very clear reason, in 2015, survey respondents reported being able to find or use services in their community at lower rates than they did in 2012.
    - Respondents reported being able to “find” services for people who use drugs, people who drink too much, and people over 60 years old at higher rates in 2015 verses 2012, but these are the only services that saw rises. Services for dental, vision, mental health, children, wellness education, employment assistance, housing assistance, pregnancy care, people with STDs, and people with HIV/AIDS all saw declines in the rates of respondents reporting they can “find” these services.
    - Respondents reported being able to “use” more services than they did in 2012. Survey respondents indicated the following services as being able to “use” at higher rates than they indicated in 2012: employment assistance, wellness education programs, mental health services, services for people over 60 years, services for people who drink too much, people who use drugs, and people with HIV/AIDS.
- In both 2012 and 2015, services for people with HIV/AIDS were the “hardest” services to find (reporting the lowest rate of “I can find” at only 14.2 percent in 2015).

- In 2012 and 2015, dental and eye care services were the "easiest" services for respondents to find.

- Respondents indicated the lowest rate of "I can use" for services for people with HIV/AIDS (3.5 percent).
- When asked to indicate the top five community health issues in their community, survey respondents indicated "Drug and Alcohol Use" at the highest rate (13.2 percent of respondents indicating this as a health concern).
    - The next top health concerns in the region were: Cancer (7.4 percent), Mental health (7.4 percent), Tobacco use (6.9 percent), and Diabetes (6.7 percent).
    - After drug and alcohol use, mental health was the second most mentioned health need for Cumberland, Dauphin and York counties with 9.1 percent, 7.4 percent, and 11.4 percent (respectively) of respondents indicating this. The second most mentioned health need in Lebanon County was Tobacco use with 8.5 percent of respondents reporting this. Finally, Cancer was the second most mentioned health need for Perry County with 10.9 percent of respondents indicating this.

<u>Mental Health</u>

- 35.9 percent of survey respondents indicated that they have been told that they have a mental health concern.
    - Cumberland and York counties report the highest rates of survey respondents indicating they have mental health concerns with 47.6 percent reporting this in each county.
- The most commonly reported mental health concerns were depression or bipolar disorders (39.0 percent reporting) and panic attacks, anxiety or PTSD (35.3 percent); the next highest being OCD at 9.3 percent.
- Of those reporting a mental health concern, 82.6 percent reported that they received services for their mental health concern in the past year; 17.4 percent reported that they did not receive services for their mental health concern in the past year.
    - Survey respondents from Perry County reported the highest rate of not receiving services for their mental health concern in the past year (24.1 percent).
- Those with mental health concerns obtained services from a mental health counselor at the highest rate (33.1 percent), followed by the county mental health system (21.1 percent).
- 60.1 percent of respondents with a mental health concern reported that their mental health concern has impacted their physical health.
    - The most commonly reported physical concern, as a result of a mental health concern, was chronic pain (27.3 percent) followed by high blood pressure (18.4 percent).

- 29.8 percent of respondents with a mental health concern reported that they have needed but did not receive mental health services in the past year; this rate was highest in York (55.6 percent) and Lebanon (39.3 percent) counties.
    - The top reason why respondents who reported not getting the mental health services they needed was because they report feeling as though they want to "make it on their own" without treatment (20.3 percent). This finding is consistent for Dauphin and Lebanon counties. For Cumberland County, the top reason that survey respondents with a mental health concern did not receive services in the past year was that their insurance did not cover it (29.2 percent).
    - 11.3 percent of survey respondents indicated that they felt overwhelmed or confused by the system.
    - Other top reasons included: not knowing where to go (10.5 percent), not having insurance coverage for mental health services (10.5 percent), and being afraid to seek services (9.8 percent).

Provider Health Surveys

A provider health survey was created to collect thoughts and opinions of the health providers' community regarding the care and services they provide. A work session was held to create a provider health survey with members of The Collaborative. The Collaborative sent emails to their health providers requesting survey participation. An additional avenue used by Penn State Milton S. Hershey Medical Center was the posting of the provider health survey link in their internal company email to increase the response rate.

Survey data were collected from Survey Monkey from April 2015 – May 2015. In total, 654 surveys were collected.

Demographics:

- The rate of female respondents (72.1 percent) was much higher than male respondents (24.4 percent).
- More than three-fourths of survey respondents (82.9 percent) reported that they practice in Dauphin County, while 13.7 percent practice in Cumberland, 2.1 percent in Lebanon, 1.1 percent in Perry and 0.2 percent in York.
- More than one-half of respondents (61.9 percent) were 26-54 years old, while more than one-quarter (29.4 percent) were 55 years old and older.
- Slightly less than half of survey respondents (46.0 percent) planned on retiring in 15 or more years. 11.6 percent planned on retiring in less than five years.

- A majority of health providers are White/Caucasian (83.4 percent) while 6.5 percent reported being Asian, Black/African American, Hispanic/Latino/Spanish, Native Hawaiian/Pacific Islander, or American Indian/Alaska Native.
- More than three-fourths of respondents indicated that they are married (75.2 percent).
- 10.0 percent indicated that they have a GED/high school diploma or an associate degree, with 30.8 percent having a college degree, close to one-quarter having a post graduate degree (24.8 percent), and 26.7 percent reported having a medical degree.
- 30.7 percent of health providers reported having a household income of $150,000 or more, 31.9 percent indicated having an income of $75,000-$149,999, and 11.9 percent stated having an income of $74,999 and under.

Overall Survey Results:

- Slightly less than half of all survey respondents (48.2 percent) reported themselves as nurses – while one quarter (25.0 percent) reported that they were a physician specialist or a primary care physician.
- 77.6 percent of survey respondents indicated that they work in a hospital (55.4 percent) or a health clinic/hospital outpatient clinic (22.2 percent); with 13.5 percent practicing from a doctor's office.
- On average, 107 patients were seen at survey respondents' main facility per week. 42.1 percent of survey respondents reported seeing one to 40 patients, while 25.7 percent saw 41-80 patients and 30.2 percent saw 81 and more patients per week.
- Slightly more than one-third of survey respondents (33.8 percent) stated that they volunteer health services to people in the community. Of those volunteers, 82.1 percent volunteered 1-5 hours of health services per month.
- A vast majority of respondents (92.2 percent) rated the care that is provided at their main facility as "very good" and "good."
- Slightly more than half of respondents (51.5 percent) reported that the community where they provide care or services was "somewhat healthy"; while 10.5 percent reported the same community as "unhealthy."
- More than three-fourths of health providers (79.7 percent) indicated that they "strongly agree" and "agree" that there are high-quality healthcare programs and services in the community where they provide care. 16.3 percent reported a "neutral" agreement regarding high quality healthcare programs and services in the community.
- 63.1 percent "strongly agree" and "agree" that there are ample employment opportunities in the community where they provide care. More than one third (43.5 percent) "strongly agree" and "agree" there are ample human and social programs in the community.

- A majority of health professionals (83.5 percent) “strongly agree” and “agree” that the community where they provide care and services is a safe place to live.
- Barriers such as “out of pocket costs/high deductibles” and “no insurance coverage” (37.0 percent) prevent people from receiving care, according to health providers. The inability to “navigate the healthcare system” (14.5 percent) was another perceived barrier that has restricted people from receiving care.
- The top five most pressing health problems in the community, according to health providers, are: obesity (17.5 percent), heart disease and stroke (12.9 percent), diabetes (12.7 percent), mental health problems (11.5 percent), and aging problems (hearing/vision loss, arthritis etc.) (9.5 percent).
- Poor eating habits (23.4 percent), lack of exercise (20.6 percent), tobacco use (14.3 percent), alcohol abuse (11.4 percent), and substance abuse (11.2 percent) are the top five most pressing risky behaviors reported by health providers.
- The top five types of improvements that health providers would like to see in the current healthcare system were: affordable medication (13.1 percent), access to mental healthcare (13.1 percent), affordable healthcare (13.0 percent), timely access to specialty care (11.3 percent), and coordination of care (10.9 percent).
- It was reported that only 8.8 percent of health providers’ patients are 81-100 percent compliant with their treatment plan after they are seen.
- High cost of healthcare or medications (14.6 percent), personal reasons (11.9 percent), lack of insurance coverage (11.2 percent), lack of understanding treatment plan (10.6 percent), and difficulty “getting around” (8.6 percent) were reasons survey respondents believed their patients may be noncompliant to treatment/medication plans.
- More than three-fourths (80.4 percent) of health providers have adequate access to interpreter services.
- More than three-fourths of survey respondents (88.2 percent) require interpreter services one to five times per week.
- If interpreter services were needed, Spanish (60.4 percent) and Chinese (9.5 percent) were the top two languages needed for patients.
- Telephone service (64.0 percent) was the most reported type of service used for interpretation needs.

Cross Tabulation: Nurses vs. Other Health Providers

For reporting purposes, Tripp Umbach ran cross tabulations on nurses vs. other health providers to draw comparisons between the groups. Dental assistants, dentists, holistic providers, mental health counselors/therapists, midwives, nurse practitioners, pharmacists, physician assistants, physician specialists, and primary care physicians were grouped together and identified as "other health providers." Respondents who self-reported their profession as being a nurse was its own separate category. Broken down, nurses encompassed 315 respondents and other health providers encompassed 339 respondents.

The following data are results from the cross tabulations.

- A majority of both nurses (92.8 percent) and other health providers (73.8 percent) practice in Dauphin County. 22.8 percent of other health providers practiced in Cumberland County compared to only 3.8 percent of nurses in the same county.
- The facility where nurses mostly provide care and services is in a hospital environment (69.5 percent); 42.2 percent of other health providers work in a hospital environment, while 29.8 percent work in a health/hospital outpatient clinic.
- On average, nurses typically see 3.8 patients in a week, while other health providers see 4.1 patients in a week.
- More than one-third of nurses (39.4 percent) and 28.9 percent of other health providers volunteer health services to people in the community.
    - Of those who volunteer, more than three-fourths of nurses (88.1 percent) and other health providers (75 percent) volunteer 1-5 hours per month for care.
- More than half of other health providers (59.1 percent) rate the care that is provided at their main facility as being "very good" compared to 43.9 percent of nurses.
- A very small percentage of nurses (3.2 percent) and other health providers (4.1 percent) rate the community where they provide care or services as being "very healthy." 6.1 percent of nurses and 14.4 percent of other health providers rated the community where they provide care or services as being "unhealthy."
- More than half of both nurses (60.0 percent) and other health providers (50.5 percent) "agree" there are high-quality healthcare programs and services in the community where they provide care and services.
- Other health providers (15.0 percent) "strongly agree" there are ample employment opportunities in the community where they provide care and services, compared to only 10.2 percent of nurses.
- Both nurses (23.4 percent) and other health providers (28.3 percent) "disagree" and "strongly disagree", respectively, that there are ample human and social service programs in the community where they provide care and services.

- A majority of both nurses (85.3 percent) and other health providers (82.0 percent) “strongly agree” and “agree”, respectively, that the community where they provide care or services is a safe place to live.
- The top three perceived barriers nurses reported for people not receiving care are: “out of pocket costs/high deductibles (21.1 percent), no insurance (16.5 percent), and not being able to navigate the healthcare system (14.7 percent).”
- “No health insurance coverage (18.6 percent), out of pocket costs/high deductibles (17.8 percent), and not being able to navigate the healthcare system (14.4 percent)” were barriers to people not receiving care reported by other health providers.
- Nurses (15.6 percent) and other health providers (19.2 percent) both reported that obesity was the top health problem in the community. Nurses reported heart disease/strokes (15.6 percent) and diabetes (14.0 percent) were additional health problems in the community. Other health providers indicated mental health problems (14.7 percent) and diabetes (11.7 percent) as being health problems in the community.
- Top risky behaviors in the community, reported by both nurses and other health providers, were poor eating habits (23.2 percent vs. 23.6 percent) and lack of exercise (21.2 percent vs. 20.1 percent).
- Other health providers reported that increased access to mental healthcare is an improvement they would like to see in the current healthcare system (14.2 percent); while 11.7 percent of nurses reported this. Affordable medication (13.3 percent vs. 12.9 percent) and affordable healthcare (13.7 percent vs. 12.3 percent) were additional improvements nurses and other health providers would like to see in the current healthcare system.
- Only 9.7 percent of nurses and 8.1 percent of other health providers believe that 81 percent-100 percent of their patients are compliant with their treatment plans. “High cost of healthcare/medications” was the top reason why nurses and other health providers reported patients may be non-compliant to treatment or medication plans (14.5 percent).
- Both nurses (79.0 percent) and other health providers (81.6 percent) have adequate access to interpreter services. With more than half of both nurses (66.5 percent) and other health providers (55.6 percent) needing this services one to five times per week. Spanish was reported as being the most frequent language needed when translation services were required (nurses 64.0 percent; other health providers 56.9 percent). Telephone was the most common type of interpreter service used between by both groups (nurses 69.2 percent; other health providers 59.2 percent).

Public Commentary Surveys

Tripp Umbach solicited public comments from community leaders and residents. Survey respondents were asked to review the 2012 CHNA and adopted implementation plan. Respondents were then asked to complete a questionnaire, which provided open and closed response questions. The survey was offered in hard copy form at locations within the hospital, as well as electronically using a web-based platform (PinnacleHealth System collected public comments through a kiosk in lieu of a hard copy form). There were no restrictions or qualifications required from survey respondents to reply to the survey.

The collection period for the public comments began March 2015 through May 2015. A majority of the surveys were collected through the online survey platform and two surveys were collected from the kiosks. In total, 33 surveys were collected and analyzed.

Public Comments

When asked if the assessment "included input from community members or organizations" a majority of the survey commenters reported that it did (93.9 percent); while 6.1 percent did not know.

More than three-fourths (81.8 percent) of survey respondents reported the assessment that was reviewed did not exclude any community members or organizations that should have been involved in the assessment; with six participants or 18.2 percent not being sure.

In response to the question, "Are there needs in the community related to health (e.g., physical health, mental health, medical services, dental services, etc.) that were not presented in the CHNA"; 60.6 percent of commenters did not indicate that there were any needs not represented in the 2012 CHNA. However, two respondents (6.1 percent) reported that there are not enough mental health facilities to treat acute problems and issues related to domestic violence. Of the two respondents: women, young adults, seniors, and children were populations who experienced barriers to mental health treatment facilities to treat acute problems and issues related to domestic violence.

A majority of survey respondents (96.7 percent) indicated that the Implementation Plan was directly related to the needs identified in the CHNA.

According to respondents, the CHNA and the Implementation Plan benefited them and their community in the following manner (in no specific order):

<u>Improving Access to Care:</u>

- Assisting those to gain access to care
- Overall increased participation and activity level
- A new health care facility in Newport opened for primary care, specialty care, and diagnostic services to meet the needs of the community.

Improving Healthy Behaviors:

- Identified issues that are key to health and highlighted that health is a community effort
- Raised awareness and benefited from the community's dental services
- Identified key areas to target by soliciting community feedback
- Provided information that is required
- Raised awareness, focusing on quality of life for women, children, and minority groups in the community.
- Worked with population health management data

Additional feedback collected from survey respondents include:

- Mental health services in the area are needed. PinnacleHealth has indirectly served the community with mental health services and given assistance to the homeless population.

Community Forums

On June 18 and June 26, 2015, Tripp Umbach facilitated two public input sessions (community forums) with community organization leaders, religious leaders, government stakeholders, and other key community leaders at Hamilton Health Center and Holy Spirit–A Geisinger Affiliate's auditorium. The purpose of the community forums was to present the CHNA findings, which included existing data, in-depth community stakeholder interviews results, hand-distributed survey findings, and provider health survey results to obtain input in regards to the needs and concerns of the community overall. Community leaders discussed the data, shared their visions and plans for community health improvement in their communities, and identified and prioritized the top community health needs in the community. With input received from forum participants, The Collaborative prioritized and identified three top priority areas. They included: access to health services, behavioral health, and healthy lifestyles. Each of the prioritized areas has subcategories, which further illustrate the identified need.

1) Access to Health Services

a. Primary care

b. Specialty care

c. Dental care

2) Behavioral Health Services

a. Mental health

b. Substance abuse

3) Healthy Lifestyles

a. Lack of physical activity

b. Inadequate nutrition and obesity

c. Smoking cessation and prevention

Provider Inventory

An inventory of programs and services specifically related to the key prioritized needs was cataloged by Tripp Umbach. The inventory highlights programs and services within the five-county focus area.

The inventory identifies the range of organizations and agencies in the community that are serving the various target populations within each of the priority needs. It provides program descriptions, contact information, and the potential for coordinating community activities by creating linkages among agencies. The provider inventory was provided as a separate document due to its interactive nature; thus, it's available online on PinnacleHealth System's website.

Final Reports/Presentations

On July 28, 2015, Tripp Umbach presented the final findings from the CHNA to PinnacleHealth System. Top community health needs were identified by analyzing secondary data, primary data collected from key stakeholder interviews, hand-distributed surveys, provider health surveys, and community forums. Tripp Umbach provided support to the prioritized needs with secondary data (where available), and consensus with community stakeholders results, hand-distributed surveys, and health provider surveys. A final report was developed that summarized key findings from the assessment process including the final prioritized community needs.

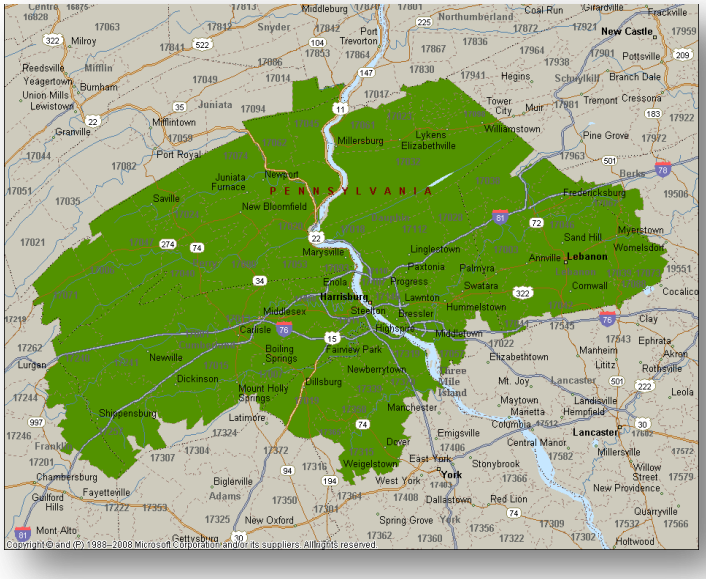
Appendix C: The Collaborative Overall Study Area Community Definition

The community defined by The Collaborative encompassed 76 zip codes for the 2015 CHNA study. The 76 zip codes represent the community served by Holy Spirit–A Geisinger Affiliate, Penn State Milton S. Hershey Medical Center, and PinnacleHealth System. The zip codes also represented 80.0 percent of inpatient discharges falling into five counties in South Central Pennsylvania: Cumberland, Dauphin, Lebanon, Perry, and York.

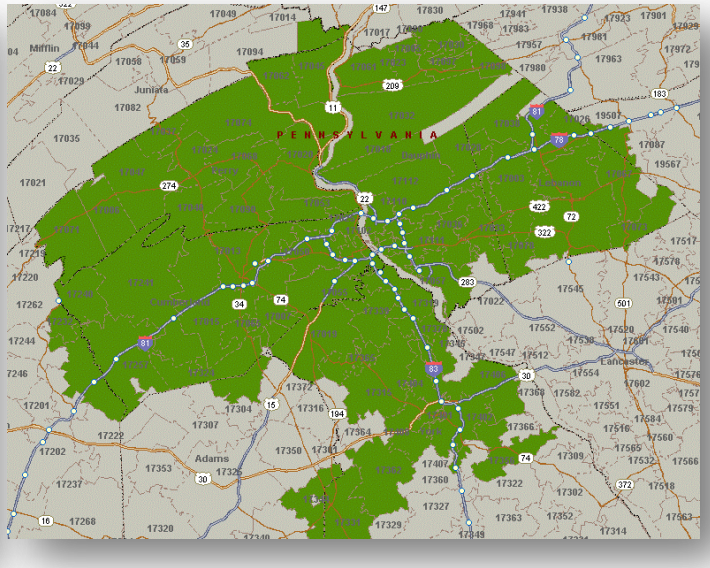
In 2012, a total of 66 zip codes were analyzed for The Collaborative, at the time representing 80.0 percent of inpatient discharges for the hospitals/health systems in the five-county area (Cumberland, Dauphin, Lebanon, Perry and York) (See Map 7).

Map 7: The Collaborative Overall Study Area for 2012 (66 Zip Codes) and 2015 (76 Zip Codes)

2012 Map (Zip Codes 66)



2015 Map (Zip Codes 76)



The Collaborative's Overall Population and Demographics Snapshot

- Perry County is the only county in the study area that is predicted to have a population loss from 2014 to 2019. The overall study area is expected to have a population increase of 1.3 percent. For the 2012 study, all five of the study-area counties reported growth in population.
- Lebanon County has the highest 65+ population in the study area (17.9 percent). This rate is expected to increase in 2019 to 20.1 percent.*[73]
- Cumberland County has the highest average household income at $75,079. This is higher than the national average ($71,320). Lebanon County has the lowest average household income at $65,934.*
- Dauphin County has the highest percentage of individuals earning less than $15K in 2014 (10.7 percent).
- Cumberland County has the highest rate of individuals earning a Bachelor's degree or greater. On the other hand, Perry County has the highest percentage of individuals without a high school diploma.*
- Dauphin County is the most racially diverse of the study-area counties; 17.1 percent of the population identify as Black, Non-Hispanic and 8.1 percent identify as Hispanic.*

The overall study area for the 2015 CHNA encompassed 76 zip codes. The 76 zip codes fell into five counties in South Central Pennsylvania: Cumberland, Dauphin, Lebanon, Perry, and York (See Table 21).

Table 21: The Collaborative Overall Study Area Community Zip Codes

Zip Code	County	Zip City
17007	Boiling Springs	Cumberland
17011	Camp Hill	Cumberland
17013	Carlisle	Cumberland
17015	Carlisle	Cumberland
17025	Enola	Cumberland
17043	Lemoyne	Cumberland
17050	Mechanicsburg	Cumberland
17055	Mechanicsburg	Cumberland
17065	Mount Holly Springs	Cumberland
17070	New Cumberland	Cumberland
17240	Newburg	Cumberland
17241	Newville	Cumberland
17257	Shippensburg	Cumberland
17266	Walnut Bottom	Cumberland
17324	Gardners	Cumberland
17005	Berrysburg	Dauphin

[73] *This finding is consistent with the 2012 CHNA study.

17018	Dauphin	Dauphin
17023	Elizabethville	Dauphin
17030	Gratz	Dauphin
17032	Halifax	Dauphin
17033	Hershey	Dauphin
17034	Highspire	Dauphin
17036	Hummelstown	Dauphin
17048	Lykens	Dauphin
17057	Middletown	Dauphin
17061	Millersburg	Dauphin
17080	Pillow	Dauphin
17097	Wiconisco	Dauphin
17098	Williamstown	Dauphin
17101	Harrisburg	Dauphin
17102	Harrisburg	Dauphin
17103	Harrisburg	Dauphin
17104	Harrisburg	Dauphin
17109	Harrisburg	Dauphin
17110	Harrisburg	Dauphin
17111	Harrisburg	Dauphin
17112	Harrisburg	Dauphin
17113	Steelton	Dauphin
17003	Annville	Lebanon
17026	Fredericksburg	Lebanon
17028	Grantville	Lebanon
17038	Jonestown	Lebanon
17042	Lebanon	Lebanon
17046	Lebanon	Lebanon
17067	Myerstown	Lebanon
17073	Newmanstown	Lebanon
17078	Palmyra	Lebanon
17006	Blain	Perry
17020	Duncannon	Perry
17024	Elliottsburg	Perry
17037	Ickesburg	Perry
17040	Landisburg	Perry
17045	Liverpool	Perry
17047	Loysville	Perry
17053	Marysville	Perry
17062	Millerstown	Perry
17068	New Bloomfield	Perry
17071	New Germantown	Perry

17074	Newport	Perry
17090	Shermans Dale	Perry
17019	Dillsburg	York
17315	Dover	York
17319	Etters	York
17331	Hanover	York
17339	Lewisberry	York
17345	Manchester	York
17356	Red Lion	York
17362	Spring Grove	York
17365	Wellsville	York
17370	York Haven	York
17401	York	York
17402	York	York
17403	York	York
17404	York	York
17406	York	York
17408	York	York

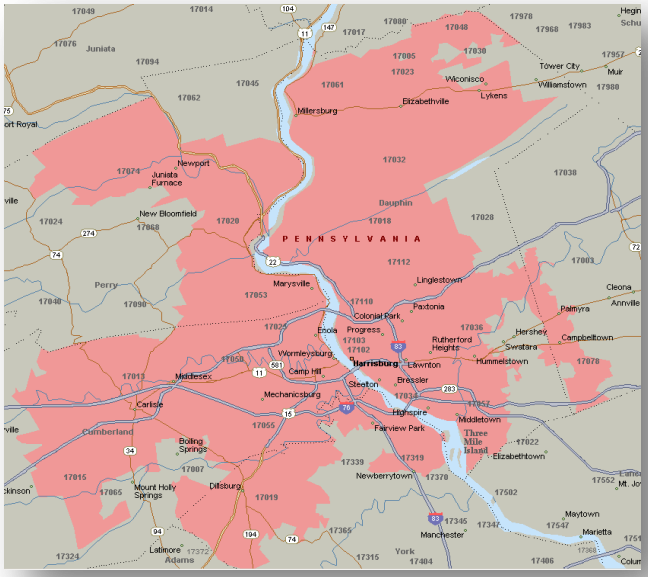
Appendix D: PinnacleHealth System Community Definition

A community can be defined in many different ways; the community served by PinnacleHealth System encompassed 42 zip codes for the 2015 CHNA study. The 42 zip codes fell into five counties in South Central Pennsylvania: Cumberland, Dauphin, Lebanon, Perry, and York (See Table 22).

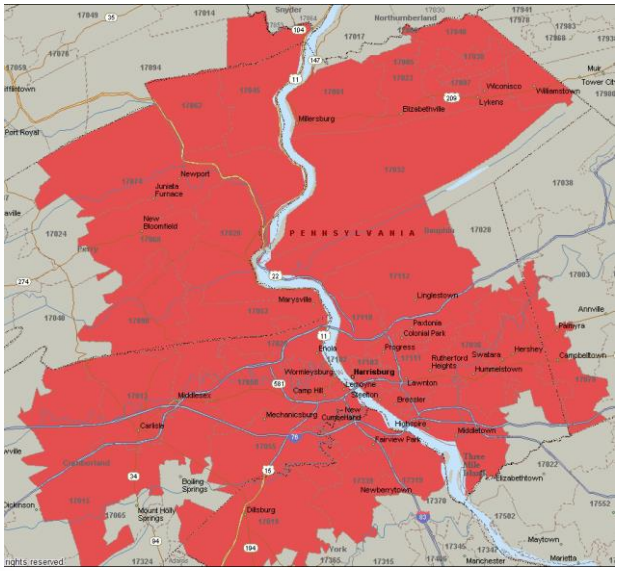
In 2012, a total of 31 zip code areas were analyzed for PinnacleHealth System, at the time representing 80.0 percent of inpatient discharges for the health system (See Map 8).

Map 8: PinnacleHealth System's Study Area for 2012 and 2015

2012 Map (Zip Codes 31)



2015 Map (Zip Codes 42)



PinnacleHealth System's Population and Demographics Snapshot

- The PinnacleHealth study area is expected to have a population growth of 1.6% from 2014 to 2019.*[74]
- The PinnacleHealth study area has a lower rate of residents aged 65 years and older (16.2%) than the state (16.6%) and higher than the nation (14.2%).
    - The PinnacleHealth study area had lower rates of residents 65 years and older (15.1%) in the 2012 study.
- The PinnacleHealth study area has an average income of $73,619. This is higher than both the state ($69,931) and the nation ($71,320).
    - The 2012 study area reported an average income of $68,212.
- The PinnacleHealth study area has 17.8% of households earning less than $25K in 2014. This is lower than the rate in PA (24.0%) and the nation (24.5%).*
- Perry County has the highest percentage of individuals without a high school diploma (15.1%). This is higher than the PinnacleHealth study area (9.2%), state rate (11.5%) and national rate (14.2%).*
- Dauphin County is the most racially diverse county of the study area, with 31.3% of its population identifying as a race other than White, Non-Hispanic. This is significantly higher than the PinnacleHealth study area (20.4%).*

Table 22: PinnacleHealth System Study Area Community Zip Codes

	ZIP Code	City	County
1.	17011	Camp Hill	Cumberland
2.	17013	Carlisle	Cumberland
3.	17015	Carlisle	Cumberland
4.	17025	Enola	Cumberland
5.	17043	Lemoyne	Cumberland
6.	17050	Mechanicsburg	Cumberland
7.	17055	Mechanicsburg	Cumberland
8.	17070	New Cumberland	Cumberland
9.	17005	Berrysburg	Dauphin
10.	17018	Dauphin	Dauphin
11.	17023	Elizabethville	Dauphin
12.	17030	Gratz	Dauphin
13.	17032	Halifax	Dauphin

[74] *This finding is consistent with the 2012 CHNA study.

14.	17033	Hershey	Dauphin
15.	17034	Highspire	Dauphin
16.	17036	Hummelstown	Dauphin
17.	17048	Lykens	Dauphin
18.	17057	Middletown	Dauphin
19.	17061	Millersburg	Dauphin
20.	17080	Pillow	Dauphin
21.	17097	Wiconisco	Dauphin
22.	17098	Williamstown	Dauphin
23.	17101	Harrisburg	Dauphin
24.	17102	Harrisburg	Dauphin
25.	17103	Harrisburg	Dauphin
26.	17104	Harrisburg	Dauphin
27.	17109	Harrisburg	Dauphin
28.	17110	Harrisburg	Dauphin
29.	17111	Harrisburg	Dauphin
30.	17112	Harrisburg	Dauphin
31.	17113	Harrisburg	Dauphin
32.	17078	Palmyra	Lebanon
33.	17020	Duncannon	Perry
34.	17045	Liverpool	Perry
35.	17053	Marysville	Perry
36.	17062	Millerstown	Perry
37.	17068	New Bloomfield	Perry
38.	17074	Newport	Perry
39.	17090	Shermans Dale	Perry
40.	17019	Dillsburg	York
41.	17319	Etters	York
42.	17339	Lewisberry	York

Appendix E: The Collaborative Overall Study Area Community Stakeholders

Tripp Umbach completed 56 interviews with community leaders in the overall study area to gain a deeper understanding of community health needs from organizations, agencies, and government officials that have a strong understanding from their day-to-day interactions with populations in greatest need. Some organizations had more than one person interviewed in their organization as part of the discussion process.

Interviews provide information about the community's health status, risk factors, service utilizations, and community resource needs as well as gaps and service suggestions.

1. Alder Health Services
2. Capital Area Head Start
3. Capital Area Intermediate Unit
4. Carlisle School District
5. Catholic Charities
6. Central Pennsylvania Food Bank
7. Community Check-Up Center
8. CONTACT Helpline
9. County Commissioners Association of Pennsylvania
10. Cumberland – Perry Drug & Alcohol Commission
11. Cumberland – Perry Mental Health, Intellectual & Developmental Disabilities (MH.IDD)
12. Cumberland County Aging & Community Services
13. Cumberland County Crisis Intervention at Holy Spirit – A Geisinger Affiliate
14. Dauphin County Area Agency on Aging
15. Dauphin County Case Management Unit
16. Dauphin County Drug & Alcohol Services
17. Dauphin County Library System
18. Dauphin County Mental Health, Intellectual & Developmental Disabilities
19. Domestic Violence Services of Cumberland and Perry Counties
20. Gaudenzia, Inc.
21. Harrisburg Area Community College (HACC)
22. Harrisburg Area Dental Society
23. Harrisburg Center for Peace & Justice
24. Harrisburg Housing Authority
25. Health Ministries of Christ Lutheran Church
26. Hope Within
27. Latino Hispanic American Community Center of the Greater Harrisburg Region
28. Lebanon School District
29. Lebanon VA Medical Center
30. Mazzitti & Sullivan

31. Mechanicsburg School District
32. Mental Health Association of the Capital Region
33. National Alliance for the Mentally Ill (NAMI) of Dauphin County
34. Northern Dauphin Human Services Center
35. Partnership for Better Health
36. Pastoral Care at Holy Spirit–A Geisinger Affiliate
37. Pennsylvania Department of Health – South Central District Office
38. Pennsylvania Immigrant and Refugee Women's Network
39. Pennsylvania Psychiatric Institute
40. Pennsylvania State Representative
41. Perry County Commissioner
42. Philhaven Hospital
43. Pressley Ridge
44. Sadler Health Center
45. The Foundation for Enhancing Communities
46. The Hershey Company
47. Tri County Community Action
48. United Way of the Capital Region
49. Wesley Union African Methodist Episcopal Zion Church
50. YMCA Camp Curtin

Appendix F: PinnacleHealth System

PinnacleHealth System, in response to their community commitment, contracted with Tripp Umbach to facilitate a comprehensive CHNA.

The CHNA was conducted between February 2015 and August 2015. As a partnering hospital of a regional collaborative effort to assess community health needs; PinnacleHealth System collaborated with Carlisle Regional Medical Center, Hamilton Health Center, Holy Spirit—A Geisinger Affiliate, Penn State Milton S. Hershey Medical Center, and the Pennsylvania Psychiatric Institute across a five-county region (Cumberland, Dauphin, Lebanon, Perry, and York) during the CHNA process.

The report fulfills the requirements of the Internal Revenue Code 501(r)(3); a statute established within the Patient Protection and Affordable Care Act (PPACA) requiring that non-profit hospitals conduct CHNAs every three years. The CHNA process undertaken by PinnacleHealth System with project management and consultation by Tripp Umbach, included extensive input from persons who represented the broad interests of the community served by the hospital facility, including those with special knowledge of public health issues, data related to underserved, vulnerable populations and representatives of vulnerable populations served by PinnacleHealth System.

PinnacleHealth System is a pioneer not-for-profit healthcare system dedicated to improving the health and quality of life for the people of Central Pennsylvania since 1873. A proven leader in medical innovation, PinnacleHealth System offers a wide range of services from primary care to the most complex surgeries and Magnet recognition for nursing excellence. The healthcare network includes four campuses (Community, West Shore, Harrisburg and Polyclinic) with three acute care hospitals with a total of 636 beds. PinnacleHealth System is part of River Health ACO, an accountable care organization (ACO) in the Medicare Shared Savings Program (MSSP). Medical services, including family practice, imaging, outpatient surgery and oncology are offered at multiple locations throughout the region. Through programs such as community health centers, senior living services, nutrition programs, nurse-family partnerships, and more, PinnacleHealth System provides more than $12 million in charity care annually for healthcare services and health education.

For a complete list of services, visit www.PinnacleHealth.org

Appendix G: The Collaborative

The CHNA was overseen by a committee of representatives from each of the six sponsoring organizations. Members of The Collaborative and the organizations they represent are listed below.

Name	Title	Organization
Carolyn Moore	Director of Marketing and Business Development	Carlisle Regional Medical Center
Terese DeLaPlaine J.D.	Senior Compliance Officer	Hamilton Health Center
Jeannine Peterson MPA	Chief Executive Officer	Hamilton Health Center
Steven Bucciferro	Administrative Director; Behavioral Health Services	Holy Spirit–A Geisinger Affiliate
Joni Fegan	Director of Planning	Holy Spirit–A Geisinger Affiliate
Sue Stuart, CFRE	Chief Development Officer	Holy Spirit–A Geisinger Affiliate
Austin Cohrs, MPH	Project Manager	Penn State College of Medicine
Elizabeth Conrad, BS	Administrative Associate	Penn State Milton S. Hershey Medical Center
Judy Dillion, MSN, MA, RN	Director of Community Health	Penn State Milton S. Hershey Medical Center
Jim George, BA	Director of Community Relations	Penn State Milton S. Hershey Medical Center
Cara Pennel	Assistant Professor	Penn State College of Medicine
Gail Snyder, MPA	Instructor	Penn State College of Medicine
Ruth Moore	Director; Business Development	Pennsylvania Psychiatric Institute
Tina L. Nixon	Vice President, Mission Effectiveness and Chief Diversity Officer	PinnacleHealth System
Buff Carlson, CPA, MBA	Director of Treasury Operations–Finance	PinnacleHealth System
Kathy Gertler, Paramedic, LPN	Community Paramedic Program Coordinator–Community LifeTeam, Inc.	PinnacleHealth System
Stefani McAuliffe, MPA	Manager, Community Initiatives–Mission Effectiveness	PinnacleHealth System
Keria Meals, BA	Marketing Coordinator–Marketing and Public Relations	PinnacleHealth System
Barbara J. Terry, RN, BSN, MS, NHA, DMin.	Community Health Advisor	PinnacleHealth System

Appendix H: Truven Health Analytics

Community Needs Index (CNI) Overview

Not-for-profit and community-based health systems have long considered a community's needs to be a core component of their mission of service to local communities. While specific initiatives designed to address health disparities vary across local communities (outreach to migrant farm workers, asthma programs for inner city children, etc.), the need to prioritize and effectively distribute hospital resources is a common thread among all providers.

Given the increased transparency of hospital operations (quality report cards, financial disclosures, etc.), community benefit efforts need to become increasingly strategic and targeted in order to illustrate to a variety of audiences how specific programs have been designed and developed. While local community needs assessments will always play a central role in this process, they are often voluminous, difficult to communicate, and may lack necessary qualitative and statistical justification for choosing specific communities as having the "greatest need."

Because of such challenges, Dignity Health and Truven Health jointly developed a Community Need Index (CNI) in 2004 to assist in the process of gathering vital socioeconomic factors in the community. The CNI is strongly linked to variations in community healthcare needs and is a strong indicator of a community's demand for various healthcare services.

Based on a wide array of demographic and economic statistics, the CNI provides a score for every populated zip code in the United States on a scale of 1.0 to 5.0. A score of 1.0 indicates a zip code with the least need, while a score of 5.0 represents a zip code with the most need. The CNI should be used as part of a larger community need assessment and can help pinpoint specific areas that have greater need than others. The CNI should be shared with community partners and used to justify grants or resource allocations for community initiatives.

Methodology

The CNI score is an average of five different barrier scores that measure various socioeconomic indicators of each community using the 2014 source data. The five barriers are listed below, along with the individual 2014 statistics that are analyzed for each barrier. The following barriers, and the statistics that comprise them, were carefully chosen and tested individually by both Dignity Health and Truven Health:

1. Income Barrier

- Percentage of households below poverty line, with head of household age 65 or older
- Percentage of families, with children under age 18, below poverty line
- Percentage of single female-headed families, with children under age 18, below poverty line

2. Cultural Barrier

- Percentage of population that is a minority (including Hispanic ethnicity)
- Percentage of population, over age five, that speaks English poorly or not at all

3. Education Barrier

- Percentage of population, over age 25, without a high school diploma

4. Insurance Barrier

- Percentage of population in the labor force, age 16 or older, without employment
- Percentage of population without health insurance

5. Housing Barrier

- Percentage of households renting their home

Every populated zip code in the United States is assigned a barrier score of 1,2,3,4, or 5 depending upon the zip national rank (quintile). A score of 1 represents the lowest rank nationally for the statistics listed, while a score of 5 indicates the highest rank nationally. For example, zip codes that score a 1 for the Education Barrier contain highly educated populations; zip codes with a score of 5 have a very small percentage of high school graduates.

For the two barriers with only one statistic each (education and housing), Truven Health used only the single statistic listed to calculate the barrier score. For the three barriers with more than one component statistic (income, cultural and insurance), Truven Health analyzed the variation and contribution of each statistic for its barrier; Truven Health then weighted each component statistic appropriately when calculating the barrier score.

Once each zip code is assigned its barrier scores from 1 to 5, all five barrier scores for each zip code are averaged together to yield the CNI score. Each of the five barrier scores receives equal weight (20.0 percent each) in the CNI score. An overall score of 1.0 indicates a zip code with the least need, while a score of 5.0 represents a zip code with the most need.

Data Sources

- 2014 Demographic Data, The Nielsen Company
- 2014 Poverty Data, The Nielsen Company
- 2014 Insurance Coverage Estimates, Truven Health Analytics

Applications and Caveats

- CNI scores are not calculated for non-populated zip codes. These include such areas as national parks, public spaces, post office boxes, and large unoccupied buildings.

- CNI scores for zip codes with small populations (especially less than 100 people) may be less accurate. This is due to the fact that the sample of respondents to the 2010 census is too small to provide accurate statistics for such zip codes.

Appendix I: Tripp Umbach

Carlisle Regional Medical Center, Hamilton Health Center, Holy Spirit–A Geisinger Affiliate, Penn State Milton S. Hershey Medical Center, Pennsylvania Psychiatric Institute, and PinnacleHealth System contracted with Tripp Umbach, a private healthcare consulting firm headquartered in Pittsburgh, Pennsylvania to complete the CHNA. Tripp Umbach is a recognized national leader in completing CHNAs, having conducted more than 250 CHNAs over the past 20 years; more than 25 of which were completed within the last three years. Today, more than one in five Americans lives in a community where Tripp Umbach has completed a CHNA.

A Five-County Regional Community Health Needs Assessment Implementation Strategy

SEPTEMBER 2016

CUMBERLAND, DAUPHIN, LEBANON, PERRY AND YORK COUNTIES

Penn State Health Milton S. Hershey Medical Center | PinnacleHealth System
Pennsylvania Psychiatric Institute

PennState Health
Milton S. Hershey Medical Center

PINNACLEHEALTH

PENNSYLVANIA PSYCHIATRIC INSTITUTE
1855
A Collaboration of Penn State Hershey & PinnacleHealth



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Community Health Needs Assessment (CHNA)

In 2015, Pennsylvania Psychiatric Institute, Penn State Health Milton S. Hershey Medical Center, PinnacleHealth System, Carlisle Regional Medical Center, Hamilton Health Center and Holy Spirit—A Geisinger Affiliate—collectively deemed The Collaborative—completed a Community Health Needs Assessment (CHNA) of a five-county Pennsylvania region that included Cumberland, Dauphin, Lebanon, Perry and northern York counties (Appendices A and B). The Collaborative worked with regional stakeholders to discover and understand residents' range of health needs (Appendix C).

CHNA contributors included public and private organizations, such as health and human service entities, government agencies, faith-based organizations and academic institutions. Stakeholders represented populations living in urban, rural, and suburban communities. Primary and secondary data including surveys, interviews, open discussion forums and county statistics, were used to evaluate the needs of these populations. An index score was created to reflect health disparity levels in comparison to other communities in the region. Tripp Umbach, a nationally recognized consulting firm, collected and analyzed the data.

THE COLLABORATIVE

To serve the needs of the five-county region of Pennsylvania, the Pennsylvania Psychiatric Institute, Penn State Health Milton S. Hershey Medical Center and PinnacleHealth System joined together to develop one implementation strategy to outline sustainable approaches to addressing the needs identified by the community in the CHNA.

Penn State Health Milton S. Hershey Medical Center, Pennsylvania Psychiatric Institute and PinnacleHealth System worked to address the patient access gap in primary, specialty and dental care services. Secondly, the team aimed to strengthen behavioral health awareness education and outreach, and increase access to mental health and substance abuse services. Lastly, the team worked diligently to improve the lifestyle choices—through education and better access to healthy, affordable and feasible nutrition and fitness options—of residents living in the health institutions' service area.

The Pennsylvania Psychiatric Institute (PPI)

PPI is committed to providing a wide range of high quality behavioral health services. PPI is dedicated to providing clinical excellence, diverse education, research and community collaboration in a manner that evolves to meet the changing behavioral health care needs of the region.

Penn State Health Milton S. Hershey Medical Center (HMC)

HMC, Penn State College of Medicine (PSCOM), and Penn State Children's Hospital (PSCH) are committed to enhancing the quality of life for all through improved health, the professional preparation of those who will serve the health needs of others, and the discovery of knowledge. As an academic medical center, HMC's mission areas include education, patient care, community outreach and research. Community members can visit studyfinder.psu.edu to explore research opportunities and request additional information.

PinnacleHealth System

PinnacleHealth is a not-for-profit healthcare system dedicated to providing and improving the health and quality of life for the people of central Pennsylvania since 1873. A proven leader in medical innovation, PinnacleHealth offers a wide range of services from primary care to complex surgeries. The healthcare network includes four campuses (Community, Harrisburg, West Shore and Polyclinic) as well as medical services such as family practice, imaging, outpatient surgery and oncology at multiple locations throughout the region. As a community hospital, PinnacleHealth maintains a focus on the needs of the local communities and strategies that address the unique healthcare needs of the diverse populations being served.

2016 - 2019
Community Health Regional Priorities

The findings of the Community Health Needs Assessment identified three overarching priorities:

1. Access to Health Services	2. Behavioral Health Services	3. Healthy Lifestyles
✔ Primary Care	✔ Mental Health	✔ Lack of Physical Activity
✔ Specialty Care	✔ Substance Abuse	✔ Obesity and Inadequate Nutrition
✔ Dental Care		✔ Smoking Cessation and Prevention

As the Collaborative determined strategies for addressing the needs of the community, it was understood that without partnerships with regional, state and local organizations, outcomes would not be achieved. Each organization participates in coalitions such as the Hospital and Healthsystem Association of Pennsylvania (HAP), SouthCentral Pennsylvania CHNA Collaborative, the Dauphin County Health Improvement Partnership (DCHIP), the Capital Area Coalition on Homelessness, and The Pennsylvania Office of Rural Health. By working with community-based organizations that focus on health improvement, the institutions can accomplish a larger, more sustainable impact. PPI, HMC and PinnacleHealth are committed to partnering with traditional and non-traditional partners to address issues regarding health and quality of life.

The collaborative recognizes that transportation, cultural competency and attention to diversity are crucial when addressing the three priorities. The focus on culturally responsive care and diversity is based on the recognition that our community is increasingly becoming more diverse, with populations traditionally defined as racial/ethnic minorities collectively becoming the majority population. By communicating effectively with diverse individuals, the Collaborative can contribute to reducing health disparities for under-represented populations.

ACCESS TO HEALTH SERVICES

According to the Agency for Healthcare Research and Quality (2011), healthcare access is considered the timely use of personal health services to achieve the best health outcomes. Barriers that prevent access to health services include insurance, affordability and poor provider availability. The five-county region reported some of the lowest county health rankings in Pennsylvania, including health outcomes, morbidity, clinical care and mortality. County records (2015) showed close to a 12 percent rate of uninsured residents across all five counties, compared to 11 percent for all of Pennsylvania from 2013 county records. Hand-distributed surveys for the CHNA found that 20 percent of respondents did not have health insurance. Lebanon, Perry and York counties are reported as having the fewest primary care physicians per capita, compared to all of Pennsylvania. The CHNA also reported the need for more specialty and dental care providers to offer services and treatments within the regional communities.

BEHAVIORAL HEALTH SERVICES

Each year, approximately 61.5 million Americans (one in four adults) live with at least one mental illness (CDC, 2015). Sixty percent of these individuals receive no mental health services or treatment (NAMI, 2015). In 2013, more than 118,000 Pennsylvania residents visited a healthcare provider for treatment of mental illness (PHC4, 2013). Approximately 18 percent of respondents to the CHNA study area are affected by a mental illness (SAMHSA, 2012). Lack of behavioral healthcare providers in Perry and York counties (47 percent fewer and 87 percent fewer than the national average, respectively) contribute to poor mental health care in the region. The CHNA identified that substance abuse across the region has either remained the same or increased since 2002 (SAMHSA, 2010, 2011, 2012). The CHNA found that undiagnosed and untreated behavioral health problems can lead to physical, emotional and spiritual distress.

HEALTHY LIFESTYLES

According to the Center for Disease Control (CDC), engaging in regular physical activity and creating a routine of exercising from adolescence into adulthood is important to overall health (2015).
The five-county region reported, through the CHNA surveys, that more than 75 percent of residents partake in regular physical activity. Those who are overweight and obese, often as a result of physical inactivity and poor diet, can face an increase in their risk of Type 2 diabetes, high blood pressure, high cholesterol, asthma, and arthritis (CDC, 2015). The number of regional residents that smoke tobacco is more than double national figures (40 percent and 18 percent, respectively). Although the physical activity outlook is promising, inadequate nutrition and obesity and smoking cessation and prevention are a significant challenge to improved healthy living in the region.

PRIORITY:
ACCESS TO HEALTH SERVICES

The CHNA results pointed to a growing issue in many communities in the five-county region of Pennsylvania: a lack of access to quality healthcare, specifically primary, specialty, and dental care. The factors of healthcare access comprise health insurance coverage, affordability, health literacy, cultural competency, coordination of comprehensive care and the availability of physicians.

PRIMARY CARE

Lack of health insurance coverage and affordability can act as barriers to health services. Low-income and economically challenged populations are greatly affected by the lack of health care coverage. Prior to the implementation of the Patient Protection and Affordable Care Act (PPACA) coverage expansion in 2013, more than 1.2 million people were uninsured (11 percent of Pennsylvania residents). Among the 89 percent of Pennsylvanians with insurance in 2013, 62 percent were covered under an employer's plan. One in five Pennsylvanians were enrolled in Medicaid or the Children's Health Insurance Program (CHIP) while seven percent were individually insured. Fifty-one percent of CHNA survey respondents reported affordability as their primary reason for not having coverage.

GOAL:
Strengthen access to provider-based services and supportive services and increase utilization of healthcare services by community members.

OBJECTIVE:
By 2019, increase access to primary care services for residents of the five-county region.

ACCESS TO HEALTH SERVICES

Provide insurance enrollment specialists and financial advisors to educate and enroll uninsured patients in appropriate insurance plans:

Expand Certified Application Counselors (CAC) in each emergency room to identify uninsured patients as they register: The CAC will review options for insurance enrollment and follow the enrollment process to completion following the visit to the emergency room. CACs work with financial aid counselors to determine best options for enrollment and reasonable financial accountability. CACs will be present at community outreach events identifying populations that struggle, to help them understand their financial options for health care coverage.

Reach out to patients who are uninsured or underinsured and provide information and counseling on Medicaid, the Marketplace, and Financial Assistance Program in hopes of providing financial options to cover clinical care costs: Financial counselors will be placed in the HMC Emergency Department and Penn State Cancer Institute, two places where patients most often need assistance. In addition, financial counselors will assist community members with the federal and state health insurance open enrollment period and partner with local non-profit organizations to assist low-income community members with premium assistance for the state and federal marketplace and COBRA benefits. HMC representatives will attend community outreach events that specifically engage populations of people who are less educated on how to obtain and finance health insurance.

Promote awareness of and enrollment in the Children's Health Insurance Program (CHIP): This strategy allows HMC to reach parents and guardians of pediatric populations and to provide information on enrollment into CHIP. In addition to working with patient families within Penn State Health Children's Hospital, HMC will work with external health colleagues to share information with families at other community locales.

Increase the number of patients who use the HMC Prescription Assistance Program: Prescription assistance is provided to any HMC patient in need. Assistance includes application support for any pharmaceutical-run patient assistance programs, one-on-one counseling about affordable medication options, and help with grant funding opportunities (usually disease-specific) to offset medication costs. Staff members will also assist qualified individuals over 65 in completing their Pharmaceutical Assistance Contract for the Elderly (PACE/PACENET) applications.

Increase Nurse-Family Partnership Program: PinnacleHealth offers a voluntary prevention program that provides nurse home visitation services to low-income, first-time mothers. From pregnancy until the child turns two years old Nurse-Family Partnership Home Visitors form a much-needed trusting relationship with the first-time moms, instilling confidence and empowering them to achieve a better life for their children and themselves. This nationally renowned, evidence-based, community health curriculum transforms the lives of vulnerable families. In 2015 the Nurse-Family Partnership Program served 274 clients and intends to increase the number of clients served in the future.

ACCESS TO HEALTH SERVICES

Optimize the patient-centered medical home, whereby continuous quality patient care is comprehensive, team-based and accessible:

PinnacleHealth's Navigation Program: PinnacleHealth's Navigation teams provide care management and coordination to high-risk patient populations, including low-income, senior high rises, community-based shelters and community clinics.

Collaborate with social workers, nurse care managers, and community-based social service organizations to assist with social program eligibility and to overcome barriers to insurance access: HMC social workers conduct social assessments and identify patient needs, including medical and financial concerns and any home restrictions that create a barrier to care. HMC and patient resources are identified and social workers develop a customized strategy for patients to follow-up by phone. Nurse care managers perform similar tasks, but focus on the clinical aspects of care.

Provide home visits to high-risk populations: A Certified Registered Nurse Practitioner (CRNP) and medical assistant-led program will organize home visit and call assessment teams for those who cannot commute to a practice site for care, including those who have been recently discharged with acute needs.

Increase Primary Care Physicians (PCPs) and Advance Practice Clinicians (APCs) in the workforce: Having founded the first Department of Family and Community Medicine in the United States, PSCOM has a well-established history of focusing on primary care. The 3+3 family medicine accelerated program began in 2015 and identifies medical students who are interested in primary care and want to stay in central Pennsylvania for residency. This program provides financial support and enables students to complete their last year of medical school in conjunction with their first year of residency. Additionally, in 2014, PSCOM opened a Physician Assistant Program and will graduate their first class of 30 students in 2016. Penn State College of Nursing also provides grant funding, through the Advanced Nursing Education Expansion and Advanced Nursing Education Traineeship, to students who are pursuing advanced degrees and are interested in caring for rural and underserved populations.

ACCESS TO HEALTH SERVICES

Provide care to uninsured, underinsured, and diverse populations:

PinnacleHealth Service Area: Through the Community Health Navigation Network, to improve service, access and coordination of care for vulnerable populations, PinnacleHealth created a multidisciplinary care team to coordinate healthcare services for senior residents in the Harrisburg area. The innovative program offered more than just efficient, well-served healthcare; it also created a connection and relationship between clients and clinicians.

LionCare/Bethesda Mission: HMC and PSCOM provide care to patients through a free, student-run clinic operating at Bethesda Mission in Harrisburg. Services include medication, follow-up care and procedures. General and women's clinics are offered biweekly, while cardiology, neurology, psychology, orthopedics and dermatology clinics are offered monthly. A smoking cessation program is also provided to male patients free of charge. In the future, LionCare intends to open sports medicine, pediatric, and additional ophthalmology clinics. This strategy aims to provide patient navigation services, nutrition education through the Manna Food Pantry and diabetes screenings.

Hope Within Ministries: Hope Within Ministries delivers free primary health and mental services to people who are medically uninsured and have significant financial need in Lancaster and Dauphin counties. To qualify, patients must have an income 200 percent below the federal poverty level. HMC provides funding for patient laboratory and radiology needs. Select HMC faculty serve on the organization's Board of Directors.

Community Check-up Center: The Community Check-up Center is located in south Harrisburg and is a community based non-profit organization working to improve the health and wellness of low-income women and children through high quality compassionate care. HMC provides a part-time pediatrician and residents to accommodate the growing number of patients with complex health needs.

Nepalese and Bhutanese Populations: As an increased number of Nepalese and Bhutanese persons are utilizing HMC for care, steps will be taken to learn about their history and needs in order to create a culturally-competent clinic which will focus on patient-centered care and increased access.

ACCESS TO HEALTH SERVICES

Provide diversity/inclusion education for faculty, medical staff, students, and community members:

PinnacleHealth is developing a series of educational events that focus on the traditions, cultures and healthcare needs of the unique populations in the service area: Content experts and speakers will be on site to share examples and preferences with the PinnacleHealth staff to include the healthcare and medical needs of men, women and children from various cultural groups. The goal of this series is to create cultural sensitivity and awareness among staff that will result in improved quality of care for all patients, regardless of ethnic and social differences.

HMC and PSCOM provide opportunities to enhance cultural competency, increase staff and student diversity, create an inclusive work environment, improve patient-centered care and educate the community: HMC and PSCOM is launching the Inspiring Excellence Through Inclusion Academy to enhance care for diverse patients, increase awareness of diversity and inclusion issues, to improve the organization's culture of respect, and to provide educational sessions on diversity to our community. The Academy includes workshops for the senior leadership, programs for managers and supervisors, workshops for the workplace, students, and community, including information on culturally-responsive care for diverse groups.

HMC and PSCOM is advancing its diversity imperative that includes eight areas of focus: 1) Communicating commitment to diversity, including developing a vision for diversity and inclusion; 2) Being "best in class" in creating a respectful and inclusive work and educational environment; 3) Increasing racial diversity of students as well as increasing diversity of students with disabilities and with military service; 4) Increasing the racial and gender diversity of faculty and staff; 5) Increasing the cultural competency of faculty and staff; 6) Improving the engagement of students, faculty and staff and the local community in the organization's commitment to diversity and inclusion; 7) Addressing disparities, including health disparities; and 8) Increasing use of diverse suppliers (businesses owned by racial minorities, women, LGBT, and veterans).

Implement the Teach Back Method: PinnacleHealth aims to provide staff training on the Teach back method, or communication confirmation method, to improve patient understanding of discharge instructions and improve overall health literacy.

Reduce flu transmissions with administration of influenza vaccine to employees, high-risk families, and community members: Influenza is a serious disease that can lead to hospitalization and even death. An annual flu shot is the best way to reduce flu in the community. HMC will collaborate with the Pennsylvania Department of Health and increase the number of HMC employees receiving a vaccine to 90 percent. The strategy for community members is to pinpoint a new location in the region to host drive-thru flu shots. High-risk families will be assisted by Penn State Health Children's Hospital nursing staff.

Reduce incidence and severity of avoidable pediatric injuries at home, at play, and in cars: To reduce the number and degree of pediatric injuries in the community, the Pediatric Trauma and Injury Prevention Program strives to increase awareness and provide families access to necessary education tools, resources and devices to lower the risk of injury.

Implement a Medical-Legal Partnership (MLP) at HMC with Penn State University-Dickinson Law's clinical program: By utilizing legal advocacy, Penn State Hershey Medical Group (PSHMG) provides support to ensure that patients have more income, better food, safer and more stable housing, and safer neighborhoods. MLP is a platform for legal and health professionals to jointly detect, address, and prevent health-harming social conditions for people and communities. The MLP Clinic is committed to improving the health and well-being of vulnerable populations through joint medical-legal advocacy; the professional preparation of those who will serve the legal and health needs of others, and the discovery of knowledge that will benefit all.

SPECIALTY CARE

Health disparities, social determinants (home life, education levels, income, and employment), and shortages of physicians adversely impact accessibility to specialty care services. By 2020, the Association of American Medical College's Center for Workforce Studies estimates that the United States will face a shortage of 46,100 surgeons and medical specialists. With the current obesity epidemic, increased lifespans, and an American population which is becoming slightly more physically active, the demand for orthopedic surgeons has grown. By 2025, the country's need for oncologists will nearly double. Information collected from the CHNA highlighted the need for more specialists in the five-county Pennsylvania region. Health provider survey data reported that health providers would like to see timely access to specialty care (11 percent) addressed as an area of improvement in the healthcare system.

GOAL:
Strengthen access to specialty provider-based services and supportive services and increase utilization of healthcare services by community members.

OBJECTIVE:
By 2019, increase access to specialty care services for residents within the five-county region.

ACCESS TO HEALTH SERVICES

Increase heart and stroke health education and screenings through community outreach activities:

The PinnacleHealth Cardiovascular and Thoracic Surgery team works in conjunction with health educators to ensure that the community has access to services and can overcome barriers to improved health after cardiac-related procedures: PinnacleHealth's cardiac educators attend community events and employer fairs to increase access to screenings and early detection. When necessary, PinnacleHealth refers community members to the PinnacleHealth Cardiovascular Institute. From diagnostics and bedside care, to procedures and rehabilitation, the goal is patient-centered care and a focus on improving and saving lives.

Penn State Heart and Vascular Institute (HVI) plans to reduce risk of cardiovascular disease mortality and morbidity by enhancing public awareness of heart and vascular health: Knowing the risk factors for heart attack and stroke is the first step towards reducing risk. HVI will participate in annual community events, enhancing the heart and vascular education outreach approach through the development of an "Outreach Education Package" providing screening and education for older adults and children in both English and Spanish. Lipid, glucose, blood pressure, and body mass index (BMI) screenings will also be provided. An "Omnibus Cardiovascular risk score", used by the American Heart Association, will be calculated and shared with the person screened, and recommendations to share the risk score and test results with the person's health care provider. Follow-up blood pressure and weight measurements will be offered at the site.

Penn State Children's Hospital (PSCH) will focus on patient care, education, and community service, by sharing and directing resources to areas (e.g., expansion into fetal diagnosis, adult congenital heart disease, and weight management): This strategy is to maintain and improve quality of care, support research, train physicians, streamline extensive outreach network of clinics (21 sites) and redeploy resources to sites which require additional support. PSCH plans to develop a referral base for fetal echocardiograms and Adult Congenital Heart Disease (ACHD), and will obtain funding for equipment/sonographers to support a fetal heart program, kid's camp, AHA Youth Health and advanced imaging research. This strategy also includes a multidisciplinary team of physicians, advanced practice clinicians, dieticians, and psychologists to help manage and counsel children who are overweight, obese or morbidly obese. HMC will expand referral bases in other regions, strengthen fellowship training, partner with Maternal Fetal Medicine, Family and Community Medicine and Adult Cardiology, and develop a pediatric cardiology research center.

HMC Stroke Program, in collaboration with the Community Health Team, will focus on education initiatives for school-aged children and at-risk adults: The plan includes multiple large scale events, the development and deployment of education tools, a phone application and a new stroke outpatient/outreach coordinator position. The goal is to increase the number of community members educated about cardiovascular risk factors, the signs and symptoms of stroke, and when to call 911.

ACCESS TO HEALTH SERVICES

Improve adult diabetic care

PinnacleHealth conducts group diabetic education sessions to help patients learn about diabetes and how to manage the disease: Diabetes education includes information on diabetes management, physical activity, medication usage, complication prevention and coping with the chronic disease. The nutrition portion of the education focuses on food choices and improving blood sugar control. Diabetes education aims to reduce heart disease
risk factors and improve weight management. Health professionals provide diabetes during pregnancy education through individualized instruction and intensive diabetes self-management instruction on insulin therapy.

HMC will identify high-risk hospitalized adult patients (with a diagnosis of Type 2 diabetes) and provide ongoing follow-up and education post-discharge: The strategy includes utilizing secure text messaging, offering group diabetic education visits, developing diabetic support groups and improving glycemic control to reduce long-term complications and future hospitalizations.

ACCESS TO HEALTH SERVICES

Improve cancer care prevention:

PinnacleHealth focuses on prevention and treatment for various cancers, with centers located on the east and west shores of Harrisburg: Treatment and support services are offered in one of our two state-of-the-art facilities: the Ortenzio Cancer Center at PinnacleHealth, located on PinnacleHealth's West Shore Campus in Hampden Township; and the PinnacleHealth Cancer Center, located on our Community Campus in suburban Harrisburg. Physicians treat a wide range of cancer types and provide specialized program to include: Women's Cancer Programs, Prostate Cancer Program, Breast Cancer Program and Lung Cancer Program. PinnacleHealth partners with community cancer support groups such as Catalyst to reduce health disparities and improve the health of our communities. The initiatives expand existing community-based education and programs on cancer, enhance skills and inform populations on resources that improve cancer survivorship for patients, caregivers and families in the service area.

Rural Northern Appalachia Cancer Network (NACN) and Harrisburg Community Cancer Network (HCCN): Penn State Cancer Institute has established community-based networks in rural and urban Pennsylvania to decrease the risk of cancer and morbidity from cancer among residents of these communities.

Northern Appalachia Cancer Network (NACN): Established in 1992, the NACN is a community-academic partnership dedicated to reducing cancer incidence, morbidity, and mortality among rural communities of Pennsylvania. The NACN develops tests and disseminates evidence-based strategies that increase physical activity, improve nutrition, reduce obesity, increase cancer screening and enhance cancer survivorship. The NACN is piloting toolkits in faith-based settings in rural central Pennsylvania.

Harrisburg Community Cancer Network (HCCN): Established in 2010, the HCCN is a cadre of community health workers (CHWs) who provide peer education and support that reduces the cancer burden among minority residents in central Pennsylvania, with special emphasis on African Americans in Harrisburg. The CHWs provide patient navigation services, coordinate community education programs and summits, and run support groups. In conjunction with Penn State Health, the HCCN is developing and testing a peer education and navigation program to increase the uptake of colorectal cancer screening in Harrisburg.

The plan includes utilizing community-based networks for development and delivery of evidence-based interventions in communities and clinics located in rural and urban Pennsylvania. This approach allows community members and organizations, as well as clinical and academic partners, to work collaboratively with Penn State Cancer Institute to reduce cancer health disparities and improve the health of our local communities.

Skin cancer due to sun exposure: Penn State Dermatology's strategy to reduce skin cancer is to focus on expanding expertise in skin cancer detection, hosting annual skin cancer screenings at multiple locations, improving access in acute care clinics, recruiting additional faculty and increasing the number of resident physicians, expanding team-based care, training other health professionals to detect skin cancer (Family and Community Medicine/Nursing), attending public health events and advocating the use of sun protective shirts, hats, umbrellas and facilitating the construction of shade structures (gazebos at Fireman's Park-Palmyra and the Eshenour Trail-Hershey). Education events involving Hershey Gardens UV protection umbrellas and outreach with local lifeguards and grounds crews, along with special communication at HMC, Hershey Country Club and Milton Hershey School.

ACCESS TO HEALTH SERVICES

Because breast cancer is the second leading cause of cancer deaths among women, free mammograms will be offered to qualifying women 40 years of age and older:

PinnacleHealth will expand their Mammogram Voucher Program (MVP) to underserved and/or under insured women: Free mammograms are provided to women that do not have insurance to receive diagnostic care and prevention of breast cancer. MVP has provided potentially life-saving screenings for more than 3,000 uninsured and underinsured women since its inception.

HMC participates in the Pennsylvania Department of Health's The Healthy Woman Program: As a partner, free mammograms are offered at HMC to uninsured and underserved Pennsylvania residents. The goals of the program are increased education and early detection.

Improve HIV/AIDS care

Continue to provide the Resources, Education, and Comprehensive Care (REACCH) program to HIV/AIDS Clients: REACCH provides free and confidential HIV testing, as well as primary medical care, HIV treatment and treatment adherence for men, women and adolescents. The strategy supports a clinical care team composed of infectious disease doctors, a nurse practitioner and registered nurses who provide a holistic, individualized plan of care for each patient, which includes both medical and psychosocial support and helps people stay on their medications and remain healthy. Psychological and social support services to HIV/AIDS clients include case management, support services for patients and their families, nutritional counseling, social services, financial counseling, help in accessing community resources and outreach to those who have fallen out of care.

Alder Health Services director for medical services and selected board members are HMC faculty: The mission of Alder Health Services is to improve the health and well-being of individuals living with HIV/AIDs, as well as members of the LGBT community, by providing a culturally competent and affirming environment that empowers their clients.

ACCESS TO HEALTH SERVICES

Enhance TeleHealth in the region:

Primary Care TeleHealth: PinnacleHealth seeks to increase the utilization of TeleHealth in family practices and throughout the service community. PinnacleHealth's strategy includes continuing to collaborate and maintain relationships with community-based agencies and PinnacleHealth sites that provide specialty care services to promote integrated and holistic care to patients.

ALS Telemedicine: The ALS telemedicine program enables patients with ALS and their caregivers to attend multidisciplinary ALS clinic visits in their home by using secure web-based video conferencing software. Patients are identified by a physician or nurse. Examples of eligible patients include those who are prevented from traveling to a clinic due to disease progression and/or those who live a significant distance from the clinic.

Dermatology TeleHealth Initiative: HMC developed a TeleHealth platform to improve access to dermatology. Dermatology will implement the TeleDermatology platform with two partners (Physician Alliance Ltd. and J.C. Blair), and expand geographic reach beyond the five-county region of Pennsylvania.

LionNet (Stroke): LionNet has impacted nearly 5,000 lives since 2012. HMC's neurologist stroke program has enabled many of these patients to stay in their communities and still receive specialty care. The goal is to expand the reach of LionNet across the continuum and continue to grow the network of 16 community hospitals to any hospital that requests TeleStroke services. Ongoing education, advances to the TeleHealth equipment, continued research relating to TeleStroke and advances in stroke care will aid in sustaining the network. Combining resources with the virtual intensive care unit model will help to provide comprehensive care for stroke patients in community hospitals.

DENTAL CARE

Although many residents of the five-county Pennsylvania region obtain primary and preventive dental care on a regular basis, some individuals experience significant challenges receiving this care. The CHNA found that economic and financial barriers, lack of dental provider coverage and lack of awareness of the importance of good oral hygiene and its effect on the rest of the body are obstacles for residents to receive dental care services. Limits to accessing dental care also include health illiteracy, cultural competence and coordination of comprehensive care.

GOAL:
Strengthen access to dental provider-based services, supportive services, and utilization of dental services by community members.

OBJECTIVE:
By 2019, increase access to dental care for uninsured and underinsured residents in the five-county region.

ACCESS TO HEALTH SERVICES

Increase utilization of the SMILES program to minimize dental care as a barrier to overall health status improvement and coordinate care of urgent dental needs with the Emergency Department:

Utilize volunteer dentists in the SMILES network: A network of more than fifty volunteer dentists spans the east and west shores of Harrisburg. Once it is determined that a patient has an urgent dental need, he/she can be referred to the dental access coordinator who will work with the patient and dentist to set up an appointment to alleviate the urgent need. In 2015, PinnacleHealth received more than 250 referrals from community partners and PinnacleHealth emergency rooms.

Explore how patients from HMC's Emergency Department can be referred to the SMILES network and the feasibility of providing a SMILES program in the service area: An expansion of the SMILES program to regional service areas will bridge the gap, provide greater access to dental care and reinforce prevention of dental health issues.

PinnacleHealth partners with community clinics to provide ongoing preventive dental care or non-urgent dental care: Hamilton Health Center is a local Federally Qualified Health Center (FQHC) that is equipped with a state-of-the-art dental clinic. This clinic is designed to provide ongoing preventive care to patients without dental insurance, and is poised to be the dental home for these patients. Harrisburg Area Community College's dental hygiene program provides dental cleanings and a local, church-based, free clinic provides dental services.

HMC and Penn State Hershey Medical Group (PSHMG) are developing a feasibility study for establishing a dental service in the greater Hershey community: The scope of services being considered includes routine and urgent dental care as well as increased access to oral surgery services. The working models being considered focus on establishing a new dental practice site staffed with full-time dentists and hygienists. Part of this feasibility study includes evaluating the impact of potentially instituting new dentist and/or dental hygienist residency and/or training programs. This program would ideally participate in all dental insurance programs (federal, state, and commercial) and be accessible to all community residents. Another important aspect of this plan will address coordination of care across routine dental, oral surgical, and specialized dental services.

PRIORITY:
BEHAVIORAL HEALTH SERVICES

Behavioral health is a major concern across the nation and is a top health priority in the five-county study area. Behavioral healthe issues affect not only the mental well-being of an individual, but they also affect spiritual, emotional and physical health. Unmanaged mental illnesses increase the likelihood of adverse health outcomes, chronic disease and substance abuse partly due to a decrease in accessing medical care. Behavioral health patients often struggle with lengthy waiting periods, long distance travel, and the inability to secure medical appointments. The primary focus of this strategy is to address mental health and substance abuse needs.

MENTAL HEALTH

The majority of adults with mental illness received no mental health treatment in the last year, indicating a nationwide issue with individuals being able to receive proper mental health services and treatment. There is a lack of mental health providers available to United States citizens. Close to 91 million adults live in areas where there is a shortage of mental health professionals. The primary data received from residents, health professionals and community leaders across the study area showed the need for attention to mental health services. Treatment of mental health is often reactive in the form of crisis intervention through hospital emergency rooms rather than proactive practices. Additional barriers to mental health services include out-of-pocket costs/insurance coverage, negative social stigmas and lack of health education. Many residents who have mental health issues tend to also have multiple behavioral diagnoses, making it even more essential for those in need to access and receive continuous treatment.

GOAL:
Residents will have access to the best practices in screenings, assessment, treatment and support programs for mental health and child protection.

OBJECTIVE:
By 2019, improve the mental health of all adults and children living in the five-county region.

BEHAVIORAL HEALTH SERVICES

PPI

Create a direct admit program: A direct admit program provides individuals experiencing a mental health crisis in a physician office, therapy office or outpatient facility direct access to a psychiatric facility and increased access to inpatient, partial hospitalization and outpatient services. The plan includes developing assessment and placement tools to determine level of care required, utilizing screening, assessment, and placement methods to determine emergent care needs in emergency departments (e.g., psychiatric care, determining level of care).

Implement an integrated care model for behavioral health services:

- **Integrate PinnacleHealth Psychological Associates (PHPA) services into the PinnacleHealth Medical Group (PHMG) practices:** Having the mental health professional on site will enhance continuity in services and integration of mental and physical health. The approach allows the professional to engage the patient while they are on site.

- **The HMC Department of Psychiatry is partnering with the PSHMG and several other HMC departments to introduce a coordinated and integrated model of care for behavioral health services into PSHMG-operated, outpatient practice sites:** Behavioral Health providers (psychologists, therapists, clinical psychiatric specialists) are placed into medical outpatient practice sites to perform mental health evaluations, provide short-term treatment and counseling, and consult with practice site clinical staff to serve patients that are identified with a demonstrated need for behavioral health treatment and interventions.

  There are currently 15 practice sites that have been licensed or are in the process of being licensed that function as satellite locations under the auspices of the outpatient psychiatry clinic. Providers at these sites are required to meet the standards of the Pennsylvania Department of Health. Sustaining these services will require ongoing funding of the positions, availability of appropriate space in each clinic to perform behavioral health services, and an improved process to identify patients in need of behavioral health services.

PPI

Psychological evaluation at medical offices: Primary care settings have become a gateway for many individuals with behavioral health and primary care needs. While patients typically present with a physical health complaint, data suggests that underlying mental health or substance abuse issues are often the cause of these visits. PPI will establish satellite offices and provide psychiatric evaluation for patients in need of behavioral health services at specialist medical offices.

PPI will perform evaluations via TelePsychiatry at HMC Emergency Department and PinnacleHealth West Shore Emergency Department: Psychiatric patients seeking emergency mental health evaluations are on the increase more than any other patient group. However, services to meet these needs are dwindling. In the absence of a readily available psychiatrist, TelePsychiatry can be an effective tool for patient evaluation and facilitating access to care in an emergency setting. The use of TelePsychiatry as a strategy to evaluate patients with behavioral health illnesses in an emergency room could potentially expedite dispositions when an on-site psychiatrist is not available.

BEHAVIORAL HEALTH SERVICES

Provide optimal care for specific mental health diagnoses

Anxiety is characterized by excessive and/or persistent worry that impacts the ability to complete daily functions, including school and/or home activities: In children, worry can present as inattention, irritability, physical complaints and/or a need for constant reassurance. To improve the screening and treatment of children experiencing anxiety, our strategy includes dissemination of evidence-based tools and treatments at local schools, regional provider sites and general pediatric clinics.

Attention Deficit Hyperactivity Disorder (ADHD) typically presents as persistent and/or intense difficulty with paying attention, sitting still, controlling behavior and failing to think before acting: Many children can experience some of these behaviors at times. In order to be diagnosed as having ADHD, a child must have consistent difficulty functioning at home or in school. Children with ADHD can also experience significant hardships getting along with peers, siblings and adults, following rules at home or school and performing well academically. It is important to assess all of these areas when evaluating for ADHD. ADHD is not just a disorder of childhood, as many patients will continue to have symptoms into adolescence and adulthood. Therefore, it is important to periodically evaluate how children with ADHD are progressing as they age.

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder, present from early childhood, characterized by difficulty in social communication and the presence of restricted and repetitive behavior: The Department of Psychiatry provides a broad array of assessment and treatment services for individuals with ASD throughout the lifespan, with a focus on adolescents transitioning to adulthood. HMC plans to improve resources and education for transition-aged individuals with ASD. Social media and newsfeeds will be used and success will be measured by website analytics (e.g., numbers of "likes" and "shares"). The strategy includes the facilitation of adolescent and young adult social skills groups at HMC and disseminating these models to the Pittsburgh area and later other parts of Pennsylvania.

BEHAVIORAL HEALTH SERVICES

Enhance behavioral services for children in need:

In 2011, HMC committed its expertise and research power to the development of the Center for the Protection of Children (CPC): Penn State Children's Hospital is the region's provider of pediatric specialty services. The Center for the Protection of Children provides 24/7 response to victims of abuse or neglect in the institution and in the region served by Penn State Health. At the Stine Family Foundation Transforming the Lives of Children (TLC) Clinic, mental health services are provided to children and families who have experienced abuse or neglect. A medical home clinic for children in out-of-home placement is also part of the TLC clinic.

Collaboration with PinnacleHealth's Children's Resource Center (an accredited Children's Advocacy Center) expands the specialized medical services for abused and neglected children into the community and seven surrounding counties.

PPI Inpatient Children's Behavioral Health Unit: The demand for child and adolescent services at PPI has increased dramatically since its opening eight years ago. Because of limited clinical space, 120 children and their families needing our care and support were unable to be helped in 2015. A new unit is being designed to meet this need. The new children's unit will include the addition of nine, private rooms for children ages 4-12, a play-therapy room and a sensory room.

Develop education to improve early detection for suicide: Suicide is a serious public health problem that can have lasting harmful effects on individuals, families, and communities. While its causes are complex and determined by multiple factors, the goal of suicide prevention is simple: Eliminate factors that increase risk and increase factors that promote resilience. Prevention addresses all levels of influence: individual, relationship, community and societal. As the CDC states, effective prevention strategies are needed to promote awareness of suicide and encourage a commitment to social change.

PPI will increase awareness of psychological distress symptoms and risk factors for suicide. PPI will provide access to free suicide prevention and health literacy education with the following groups: community groups, faith-based organizations, and beauty/barber shops. The strategy includes initially targeting counties with high rates of suicide and exploring areas with current successes to replicate in high risk regions. PPI will host suicide prevention presentations at area agencies on aging, senior centers and veteran service centers. The strategy is to support the Pennsylvania Department of Education and schools in implementation of Act 71 and to identify existing Mental Health First Aid (MHFA) trainers or other awareness raising trainings. PPI will use social media as a vehicle to educate suicide prevention.

PinnacleHealth will partner with Hamilton Health Center to provide behavioral health services: As a partner in the collaboration and a major provider of services in the Harrisburg community, Hamilton Health Center will continue to be a satellite site for Behavioral Health Services staffed with a PinnacleHealth psychiatrist, psychologist and LCSW personnel.

BEHAVIORAL HEALTH SERVICES

Promote consumer and system health literacy on mental health concerns:

PinnacleHealth is committed to understanding how consumers engage in their health, and reducing barriers to health for our community members: Health literacy plays an important role with total well-being. In 2011, efforts on educating inpatient clinicians on health literacy, and health literate communication techniques began. In 2015, health literacy education and training techniques were expanded to all areas of the health system and throughout community-based organizations. A health literacy screening tool is being implemented in the Emergency Department. Through use of this tool, clinicians will screen for patients at high risk for communication errors
or adherence issues. The patient can be connected to resources based on need, prior to being readmitted or surfacing as a high-utilizer of the health system. Assessing and taking action on health literacy provides appropriate care when and how patients need it most and helps reduce disparities.

PPI

PPI will provide health education on the understanding of mental health concerns and where resources may be found as needed for community outreach activities.

SUBSTANCE ABUSE

More than 24 million individuals, ages 12 years and older, were current, illicit drug users during the time of the Substance Abuse and Mental Health Services Administration 2013 National Survey of Drug Use and Health. More than half of Americans ages 12 years and older, were current alcohol users in 2013 (nearly 137 million individuals). Of the 22.7 million individuals ages 12 and older, who needed treatment for an illicit drug or alcohol problem, only 2.5 million received treatment in a specialty facility.

GOAL:
Residents will gain better access to the best practices in screening, assessment, treatment, and support programs for substance abuse disorders.

OBJECTIVE:
By 2019, decrease adolescent and adult deaths caused by substance abuse within the five-county Pennsylvania region.

BEHAVIORAL HEALTH SERVICES

Implement an Opioid Task Force and Stewardship Program (OTF&SP): In 2012, the Joint Commission issued a Sentinel Event Alert about the many dangerous side effects of increasing opioid misuse, abuse and dependence. In response to this trend, HMC's departments of Anesthesiology, Nursing, and Pharmacy introduced an Inpatient Opioid Task Force and Stewardship Program (IOTF&SP) in 2016. A team consisting of a pain management physician, a Certified Registered Nurse Practitioner, and a pharmacist provide inpatient consultations to individuals who have chronic pain or complex pain conditions. The team's goals include decreasing the dispensation of unnecessary opioid prescriptions, educating providers on alternatives to opioid treatment and disseminating information on safe prescribing practices to reduce the risk of sentinel events.

PPI will initiate an Opiate Treatment Center by 2017: The Opiate Treatment Program offered at the center will support the safe and effective delivery of medication-assisted treatment. Services will be individualized, according to the needs of each patient.

BEHAVIORAL HEALTH SERVICES

Educate the community on how to prevent prescription drug and opioid misuse, abuse, and overdose

Drugs 101: What Parents and Kids Need to Know is a drug and alcohol awareness program for parents and children ages 10 years and older: The program is unique because it engages parents and children at the same event. The adult portion seeks to educate parents about the various forms of drugs and the kind of peer pressure that children/adolescents may face. A mock bedroom of a teenage drug user serves as the backdrop to the two-hour presentation. The student portion provides first-hand information to teens, to help guide healthy decision-making, in a fun and relaxed format. Community representatives from the Dauphin County Coroner's Office, Harrisburg City Police Department, Dauphin County Probation Office, local drug treatment programs, Penn State Children's Hospital's Trauma and Injury Prevention and other mental health providers offer a glimpse into the life of a person experiencing addiction. A Belgian Malinois dog named Zeke, a retired Harrisburg City K-9 "officer" who was shot during a pursuit, also joins the event.

PinnacleHealth, HMC, and PPI will provide high schools, colleges and higher education institutions with easily understood advertising materials about the negative effects of drug and alcohol to enhance community awareness. The Pennsylvania Client Placement Criteria (PCPC) screening tool will be promoted to determine the most appropriate care for community members with drug and alcohol problems.

Reduce access to prescription drugs, and the possibility of misuse and abuse, by participating in National Drug Take Back Day and promoting drug take back collection sites:

HMC participates in National Drug Take Back Day by organizing a drive-thru take-back site on the hospital campus. The plan aims to provide a safe, convenient and responsible means of disposing prescription drugs with no questions asked, while educating the public on the potential abuse of medications. Medication cards and pill boxes are provided to participants and a baseline of medications returned (in pounds) is being obtained.

Participate in collaborative efforts to improve policy and address drug addiction and abuse:

The Attorney General of Pennsylvania assembled a team to share information regarding hospital admissions, emergency department visits and treatment services related to current drug trends. Collecting and collating this information will enable policy makers to make informed decisions about the allocation of funds and effective strategies to support law enforcement, health care professionals and treatment professionals. HMC and PinnacleHealth are members of this collaborative team.

Offer AL-Anon support for those in need:

AL-Anon is a fellowship program for relatives and friends of alcoholics who share their experience to solve their common problems. The monthly meeting meets on the HMC campus and is open to employees and community members. The philosophy is that alcoholism is a family illness and that changed attitudes can aid recovery. The purpose is to support and inspire hope for families of alcoholics.

PRIORITY 3:
HEALTHY LIFESTYLES

The CHNA revealed a lack of healthy lifestyles in the five-county Pennsylvania region. Obesity, being overweight, poor nutrition, physical inactivity and smoking are associated with profound, adverse health conditions—evidence links these behaviors and conditions to shortened lifespans. The Implementation Strategy addresses this need by increasing opportunities for physical activity, promoting healthy eating, offering health screenings and facilitating smoking cessation and prevention programs.

PHYSICAL ACTIVITY

The CHNA cites the U.S. Office of Disease Prevention and Health Promotion's Physical Activity Guidelines' statistics, in which more than 26 percent of Pennsylvania adults do not engage in any leisure-time physical activity. County Health Rankings reported that Perry (27 percent) and Dauphin (25 percent) counties had the highest percentage of adults aged 20 and older who reported no leisure-time physical activity when compared to Lebanon (23 percent), York (22 percent), Cumberland (19 percent) counties and the state of Pennsylvania (24 percent). Lower socioeconomic statuses are linked to a lack of physical education. Health information and education in schools, community organizations and media outlets must reinforce the overall health benefits of daily physical activity and exercise.

GOAL:
Increase opportunities for and engagement in physical activity.

OBJECTIVE:
By 2019, decrease the average percentage of adults in the Pennsylvania five-county region who report no leisure-time physical activity.

HEALTHY LIFESTYLES

Assess existing venues for physical activity:

Conduct a Walk-Friendly Community Assessment: The Walk–Friendly Communities Strategy to improve walkability includes: 1) recognizing walkable communities and 2) providing a framework to improve walkability. HMC and Partners for Healthy Communities of Central PA plan to conduct a walkability assessment of Derry Township in Dauphin County, submit the assessment and promote the results. For more information, please visit: www.walkfriendly.org/assessment.

Initiate new physical activity programs:

Get Fit Together: The Harrisburg East Shore YMCA is committed to helping low-income families in the five-county region improve their health. Get Fit Together will be a free exercise program to increase strength, endurance and flexibility. Each family participating in the program will meet with a certified personal trainer two times per week. The objective is to make being active a fun and interactive experience for families, encouraging a lifetime of fitness. In addition, each family will meet with a registered dietitian to learn healthy eating habits and how to read Nutrition Facts labels. Participants will learn the importance of eating a healthy diet and understand the long-term health benefits associated with proper nutrition. Get Fit Together will measure outcomes by conducting evaluations before, during and after the program.

HMC Bike Share Program: Bike share programs are an excellent opportunity to increase active transportation. HMC will investigate the possibility of establishing a program to make bicycles available to staff and students on campus, with future plans to expand to the larger community.

HEALTHY LIFESTYLES

Expand existing physical activity programs:

- **Walking and 5K Events:** Increasing physical activity opportunities, PinnacleHealth and regional partners will promote and volunteer at 10 large walking events annually. There is a focus on the number of people participating and the number of events per year.

- **Eat Smart Play Smart (ESPS):** PinnacleHealth continues to develop programs focused on improving health for the children in our service area. ESPS focuses on families with children to improve education and awareness of healthy choices. This program is offered three to four times per year and will incorporate smoking prevention into the curriculum in the future.

- **Band Together:** Band Together is an exercise program for seniors that includes strength and balance exercises. HMC currently has 15 sites in local churches and community centers with more than 250 participants each week. In 2015, HMC was awarded $14 million to evaluate whether or not the program is effective at reducing injuries from falls. The strategy includes opening 50 new Band Together sites in Pittsburgh, central Pennsylvania, and Philadelphia and to enroll more than 2,000 seniors in the program.

- **Walking opportunities:** Walking is an effective, low-cost form of exercise that also promotes socialization. The strategy aims to promote walking/biking days, promote walking trails and maps, promote participation in annual walking events and increase participation in "Walk, Central PA, Walk," is a grassroots walking club that offers multiple opportunities to walk throughout the week. A schedule of walks can be found online at facebook.com/walk.centralpa.walk or meetup.com/Walk-Central-PA-walk-Walking-Group-Meetup. Walks vary from "strolls" to "fitness walks" with a pace of 20 minutes/mile or less. The club plans to track their walks and mileage throughout the five-county region.

INADEQUATE NUTRITION AND OBESITY

The CHNA reports inadequate nutrition and obesity as an issue for residents in the five-county region. County health rankings report that Lebanon (32 percent), Perry (31 percent) and York (33 percent) counties have seen an increase in the number of people who are overweight and/or obese over the past several years; these rates were higher than the average for the state of Pennsylvania (29 percent). Totals in Cumberland and Dauphin counties stayed the same (26 percent and 32 percent). Dauphin County had the highest overweight student rate (33 percent), while Lebanon County had the highest obesity rate (17 percent) for students in kindergarten through sixth grade; both are higher than the State's rate. In grades 7–12, Dauphin County had the highest rate of overweight students (37 percent), and Perry County had the highest rate of obese students (23 percent), both higher than Pennsylvania's rate. Low socioeconomic statuses, poor education and lack of access to healthy, fresh foods are the top reasons for inadequate nutrition and spiked obesity rates in the region.

GOAL:
Increase opportunities for people to learn about and make healthy food choices.

OBJECTIVE 1:
By 2019, reduce adult and childhood obesity rates in the five-county region.

OBJECTIVE 2:
By 2019, decrease percentage of area residents that report inadequate fruit and vegetable consumption.

HEALTHY LIFESTYLES

Increase access to healthy food choices and nutrition education:

Power Pack Program: The program is designed to provide nutrition to students over the weekend when they are away from the school setting. Currently, PinnacleHealth supports programs in the Harrisburg, Central Dauphin and Newport School Districts. The ultimate goal is to address the root cause of hunger and disseminate educational and employment opportunities to families eligible for the Power Pack program to assist them in achieving a higher socioeconomic status.

COCOA PACKS INC: HMC provides nutrition education resources and financial support to the Derry Township School District for the COCOA PACKS INC program, an essential assistance program for students who face food shortages at home.

Food as Medicine Program / Farmers Market in Hershey: To promote healthy eating and community health, HMC and PSCOM support the Farmers Market in Hershey and Summer Concert Series from May through October. As an extension of this market, the Food as Medicine Program offers several educational and outreach initiatives including health screenings, a children's educational summer program, Wellness on Wheels, Senior Farmers' Market Nutrition Program (SFMNP) and Prevention Produce. Prevention Produce is a program that pairs patients and/or community residents with student "nutrition navigators" at the Farmers Market in Hershey and summer concert series, as well as the Broad Street Market in Harrisburg.

Hershey Community Garden: Located on HMC's campus and operated by Hershey Impact (Hershey Entertainment & Resorts, The Hershey Company, Hershey Trust, Penn State Health Milton S. Hershey Medical Center, Milton Hershey School, M.S. Hershey Foundation), Hershey Community Garden contains 124 free community plots under the direction of a garden manager. In addition to increasing access to fresh fruits and vegetables, the garden also provides opportunities for increased physical activity and socialization. Each year, a portion of fresh produce is donated to organizations who serve underprivileged populations in our region.

Food Pantry Outreach and Education / Children's Summer Program: Central PA Food Bank distributes more than 40 million pounds of food and groceries each year to clients in Pennsylvania counties. HMC has partnered with Penn State Extension and PPI to develop monthly health education sessions for food pantry clients. In addition, HMC faculty and staff, PSCOM students and Penn State College of Nursing students have collaborated with Mary's Helpers food pantry at Prince of Peace Parish and Penn State Extension to bring health education to children, as part of a summer lunch program. The program provides free meals to children from low-income families, so they may receive the same high-quality nutrition in school cafeterias throughout the academic year. Consistency in diet helps children return to school nourished and ready to learn. The plan is to strengthen these partnerships and provide health education (nutrition and physical activity) to new clients in need.

HEALTHY LIFESTYLES

Expand community nutrition education and obesity prevention programs:

School-based assessments and evidence-based interventions: Every year, nurses and health partners from HMC and PinnacleHealth team up with local school nurses to expedite required school-based assessments (height, weight, vision, hearing, and scoliosis) and to assist with the data entry for Pennsylvania Department of Health reporting. The goal is to give school nurses the opportunity to spend more time with children who require one-on-one health interventions. The strategy includes continuing participation in school-based assessments and sharing evidence-based interventions, including local summer nutrition programs.

HealthSLAM: PSCOM students have designed a health education curriculum to teach nutrition concepts to fourth and fifth grade students, a critical age for the formation of healthy eating habits. A web-based presentation is the foundation for the teaching rubric and classroom exercises.

SMOKING CESSATION

The National Survey on Drug Use and Health, conducted by Substance Abuse and Mental Health Services Administration (study years 2010, 2011, 2012), reported that Cumberland and Perry counties have the highest rates of cigarette use and tobacco use within the region at 27 percent and 34 percent, respectively. These rates are also higher than the Pennsylvania rate of nearly 25 percent. However, all of the counties in the study area had decreased rates of cigarette use since previous studies. Dauphin, Lebanon, and York counties decreased from 26 percent to 22 percent, while Cumberland and Perry counties decreased fhalf a percentage point to 27 percent. The decreased use is an encouraging sign that more community members understand the long-term, detrimental effects of smoking on one's health; however, there is still a need for community outreach focused on smoking risks, prevention, and cessation.

GOAL:
Increase access to evidence-based smoking cessation and prevention programs.

OBJECTIVE 1:
By 2019, reduce the percentage of adult smokers in the five-county Pennsylvania region.

OBJECTIVE 2:
Decrease the use of any tobacco product by middle and high school students.

HEALTHY LIFESTYLES

Provide tobacco cessation programs:

- **Conduct PinnacleHealth tobacco cessation lunch and learn:** Expand Class Series to community-based locations and worksites, increase 1:1 face-to-face sessions, increase participation in support groups, and engage practices in educational programs.
- **Implement Text to Quit and Better Breathers clubs:** These programs are offered at both PinnacleHealth campuses and will expand to community locations. They offer the opportunity to learn ways to better cope with COPD while getting the support of others who share in your struggles.
- **HMC weekly support group for community members and employees:** Counseling sessions are held in the University Conference Center. The goal of this program is to provide tobacco cessation information, guidance, and support to current and past tobacco users. Participants share their tobacco cessation tips, personal successes and struggles. Employee sessions are also offered biweekly.

Provide tobacco prevention programs:

- **Utilize "Healthy Lungs" and "Tar in a Jar" stations:** PinnacleHealth Tobacco Cessation specialist will continue to conduct school visits, add a smoking prevention component to Eat Smart Play Smart, and participate in community-based events targeting key audiences.
- **Carbon Monoxide (CO) Testing, Pulmonary Function Testing (PFT) and prevention/cessation resources provided at community events:** The piCO CO monitor is a breath-test CO monitor. It is an effective teaching tool and utilizes a traffic light system to illustrate normal, above-normal, and high levels of CO in individuals. PFT testing is an additional effective measurement to analyze how well your lungs work. The strategy includes conducting CO and PFT tests at community health events and educating young people about e-cigarettes, vaping, and the risk of long-term addiction.

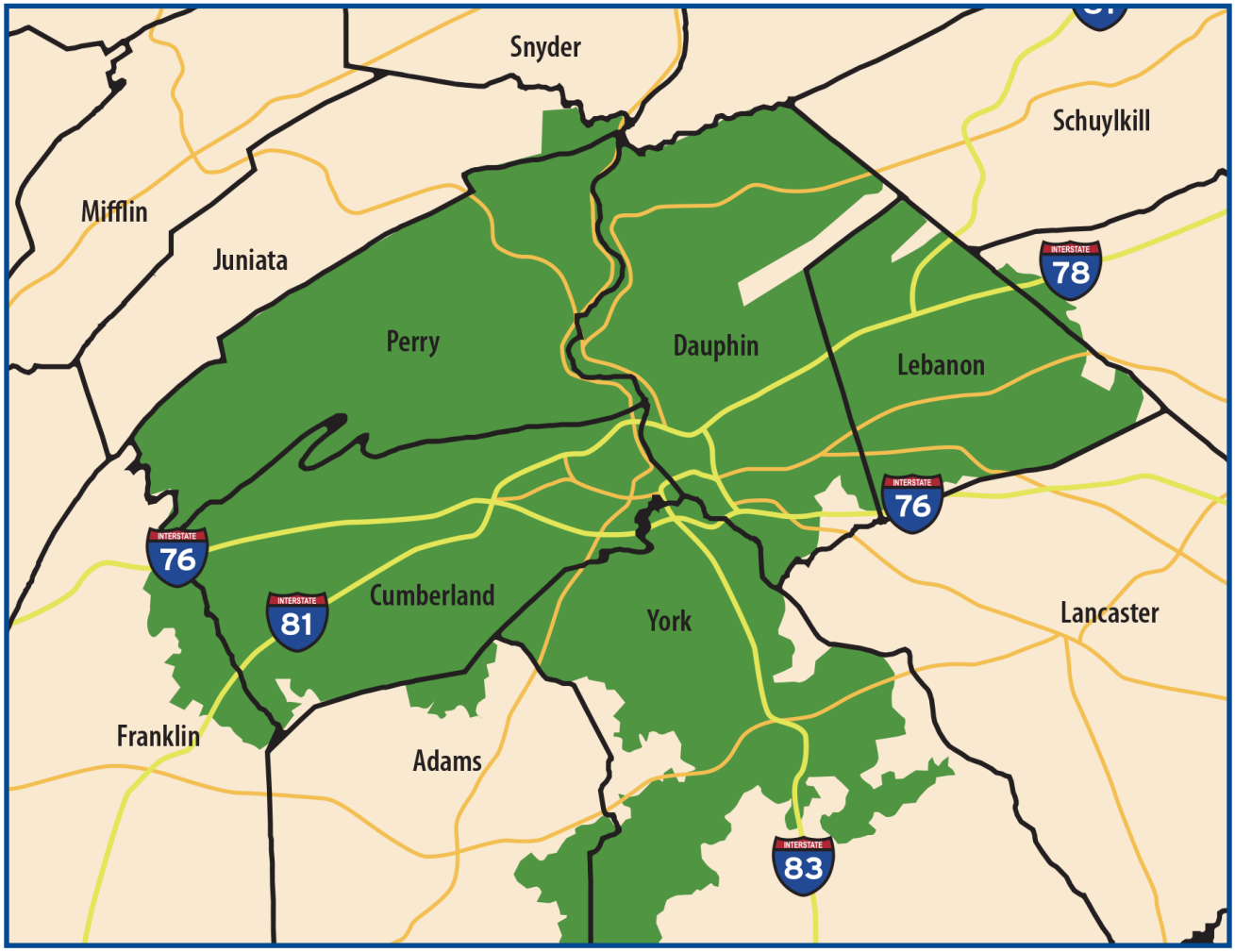
Conduct inpatient initiatives:

- **PinnacleHealth's inpatient COPD initiative:** Continue to use The Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines (goldcopd.org). The goals of effective COPD management are to prevent disease progress, relieve symptoms, improve exercise tolerance, prevent and treat complications, treat exacerbations and reduce mortality.
- **The HMC tobacco intervention program (TIP):** TIP informs those admitted to the Emergency Department about the tobacco support group meetings and facilitates a Q&A session around basic cessation topics.
- **Chronic Obstructive Pulmonary Disease (COPD) inpatient initiatives:** HMC educators trained by the American Association of Respiratory Care meet with inpatient COPD patients to discuss proper medication administration and energy conservation techniques. A respiratory therapist (RT) assesses patients' combination and dosage of breathing medications as well as their risk of readmission based on the GOLD guidelines. The RT also makes follow-up phone calls to answer questions and help address any barriers to proper self-care.

APPENDIX A: Study Area Included in CHNA

ZIP	CITY	COUNTY
17007	Boiling Springs	Cumberland
17011	Camp Hill	Cumberland
17013	Carlisle	Cumberland
17015	Carlisle	Cumberland
17025	Enola	Cumberland
17043	Lemoyne	Cumberland
17050	Mechanicsburg	Cumberland
17055	Mechanicsburg	Cumberland
17065	Mount Holly Springs	Cumberland
17070	New Cumberland	Cumberland
17240	Newberg	Cumberland
17241	Newville	Cumberland
17257	Shippensburg	Cumberland
17266	Walnut Bottom	Cumberland
17324	Gardens	Cumberland
17005	Berrysburg	Dauphin
17018	Dauphin	Dauphin
17023	Elizabethville	Dauphin
17030	Gratz	Dauphin
17032	Halifax	Dauphin
17033	Hershey	Dauphin
17034	Highspire	Dauphin
17036	Hummelstown	Dauphin
17048	Lykens	Dauphin
17057	Middletown	Dauphin
17061	Millersburg	Dauphin
17080	Pillow	Dauphin
17097	Wiconisco	Dauphin
17098	Williamstown	Dauphin
17102	Harrisburg	Dauphin
17103	Harrisburg	Dauphin
17104	Harrisburg	Dauphin
17109	Harrisburg	Dauphin
17110	Harrisburg	Dauphin
17111	Harrisburg	Dauphin
17112	Harrisburg	Dauphin
17113	Steelton	Dauphin
17003	Annville	Lebanon
17026	Fredericksburg	Lebanon
17028	Grantville	Lebanon
17038	Jonestown	Lebanon
17042	Lebanon	Lebanon
17046	Lebanon	Lebanon
17067	Myerstown	Lebanon
17073	Newmanstown	Lebanon
17078	Palmyra	Lebanon
17006	Blain	Perry
17020	Duncannon	Perry
17024	Elliottsburg	Perry
17037	Ickesburg	Perry
17040	Landisburg	Perry
17045	Liverpool	Perry
17047	Loysville	Perry
17053	Marysville	Perry
17062	Millerstown	Perry
17068	New Bloomfield	Perry
17071	New Germantown	Perry
17074	Newport	Perry
17090	Shermans Dale	Perry
17019	Dillsburg	York
17315	Dover	York
17319	Etters	York
17331	Hanover	York
17339	Lewisberry	York
17345	Manchester	York
17356	Red Lion	York
17362	Spring Grove	York
17365	Wellsville	York
17370	York Haven	York
17401	York	York
17402	York	York
17403	York	York
17404	York	York
17406	York	York
17408	York	York

APPENDIX B:
Map of CHNA Study Area



APPENDIX C:
CHNA Study Area Regional Stakeholders

- Alder Health Services
- Capital Area Head Start
- Capital Area Intermediate Unit
- Carlisle Area School District
- Catholic Charities of Diocese of Harrisburg
- Central Pennsylvania Food Bank
- Community Check Up Center
- CONTACT Helpline
- County Commissioners Association of Pennsylvania
- Cumberland – Perry Drug and Alcohol Commission
- Cumberland – Perry Mental Health, Intellectual & Developmental Disabilities (MH.IDD)
- Cumberland County Aging and Community Services
- Cumberland County Crisis Intervention at Holy Spirit—A Geisinger Affiliate
- Dauphin County Area Agency on Aging
- Dauphin County Case Management Unit
- Dauphin County Drug & Alcohol Services
- Dauphin County Library System
- Dauphin County Mental Health, Intellectual & Developmental Disabilities
- Domestic Violence Services of Cumberland and Perry Counties
- Gaudenzia, Inc.
- Harrisburg Area Community College (HACC)
- Harrisburg Area Dental Society
- Harrisburg Center for Peace & Justice
- Harrisburg Housing Authority
- Health Ministries of Christ Lutheran Church
- Hope Within Ministries
- Latino Hispanic American Community Center of the Greater Harrisburg Region
- Lebanon School District
- Lebanon VA Medical Center
- Mazzitti & Sullivan Counseling Services, Inc.
- Mechanicsburg School District
- Mental Health Association of the Capital Region
- National Alliance for the Mentally Ill (NAMI) of Dauphin County
- Northern Dauphin Human Services Center
- Partnership for Better Health
- Pastoral Care at Holy Spirit—A Geisinger Affiliate
- Pennsylvania Department of Health – The District Office of five-county region
- Pennsylvania Immigrant and Refugee Women's Network
- Pennsylvania State Representative
- Perry County Commissioner
- Philhaven Hospital
- Pressley Ridge
- Sadler Health Center
- The Foundation for Enhancing Communities
- The Hershey Company
- Tri County Community Action
- United Way of the Capital Region
- Wesley Union African Methodist Episcopal Zion Church
- YMCA Camp Curtin