

UPMC Presbyterian Shadyside



Community Health Needs Assessment *And* Community Health Strategic Plan

June 30, 2016

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EXECUTIVE SUMMARY

UPMC Presbyterian Shadyside Plays a Major Role in its Community:

UPMC Presbyterian Shadyside is a nonprofit, licensed hospital located in Pittsburgh, Pennsylvania. A quaternary-care teaching facility which provides the most highly specialized care, the hospital includes two campuses which span two Pittsburgh neighborhoods within Allegheny County. The Oakland campus includes UPMC Presbyterian and Western Psychiatric Institute and Clinic of UPMC. The Shadyside campus includes UPMC Shadyside.

UPMC Presbyterian Shadyside is a Level I Regional Resource Trauma Center which serves as the hub of UPMC's academic medical center. It is ranked #13 in the nation and #1 in western Pennsylvania by *U.S. News & World Report*, and collaborates with the University of Pittsburgh Schools of the Health Sciences to leverage and translate research and advances in medical science, educational initiatives, and clinical programs into enhanced patient care capabilities. The hospital includes Western Psychiatric, the flagship hospital of the UPMC Behavioral Health network, and is recognized as a national leader in providing research-based care and treatment of behavioral health and addictive disorders.

UPMC Presbyterian Shadyside maintains a historically strong connection with its community, and offers an array of community-oriented programs and services to improve the health of local residents.

UPMC Presbyterian Shadyside in the Community

Hub of innovation for large academic medical center

More than 8,000 area residents are employed by UPMC Presbyterian Shadyside.

Total economic impact of \$4.6 billion



UPMC Presbyterian Shadyside is part of UPMC, a leading Integrated Delivery and Finance System (IDFS) headquartered in Pittsburgh, Pennsylvania.

Identifying the Community's Significant Health Needs:

In Fiscal Year 2016, UPMC Presbyterian Shadyside conducted a Community Health Needs Assessment (CHNA) in keeping with requirements described in section 501(r)(3) of the Internal Revenue Code. Building on the initial CHNA conducted in Fiscal Year 2013, the Fiscal Year 2016 CHNA provided an opportunity for the hospital to re-engage with community stakeholders in a rigorous, structured process guided by public health experts.

An ongoing objective of the CHNA effort is to help align community benefit programs and resources with community health needs. This report documents progress toward addressing the significant health needs identified in Fiscal Year 2013, as well as an implementation plan to address new and ongoing community health needs over the Fiscal Year 2016-2019 period.

UPMC partnered with experts at the University of Pittsburgh Graduate School of Public Health (Pitt Public Health) to conduct the CHNA using a best-practice methodology. The assessment blended analysis of documented health and socioeconomic factors with a structured community input survey process that solicited feedback from a community advisory panel composed of leaders and organizations that represent patient constituencies, including medically-underserved, low-income, and minority populations within the hospital’s community.

Addressing the Community’s Significant Health Needs:

When the Fiscal Year 2013 CHNA was conducted, the significant health needs identified at that time were:

- **Preventive Health and Wellness**
- **Post-Discharge Coordination and Follow-up**
- **Behavioral Health**

Three years later, when the Fiscal Year 2016 CHNA was conducted, UPMC Presbyterian Shadyside affirmed the following significant health needs:

- **Preventive Health and Wellness**
- **End-of-Life Care**
- **Behavioral Health**

By incorporating post-discharge coordination into efforts related to “Preventive Health and Wellness,” UPMC Presbyterian Shadyside will focus implementation efforts to make a greater impact on the health of the community.

On June 13, 2016, the UPMC Presbyterian Shadyside Board of Directors adopted an implementation plan to address the significant health needs identified in the Fiscal Year 2016 CHNA, and to set measurable targets for continued improvement. The plan drew support from an array of community partners, as well as from the larger UPMC system. This plan builds upon the Fiscal Year 2013 plan, recognizing that significant health issues will generally need more than two to three years to show meaningful improvement.

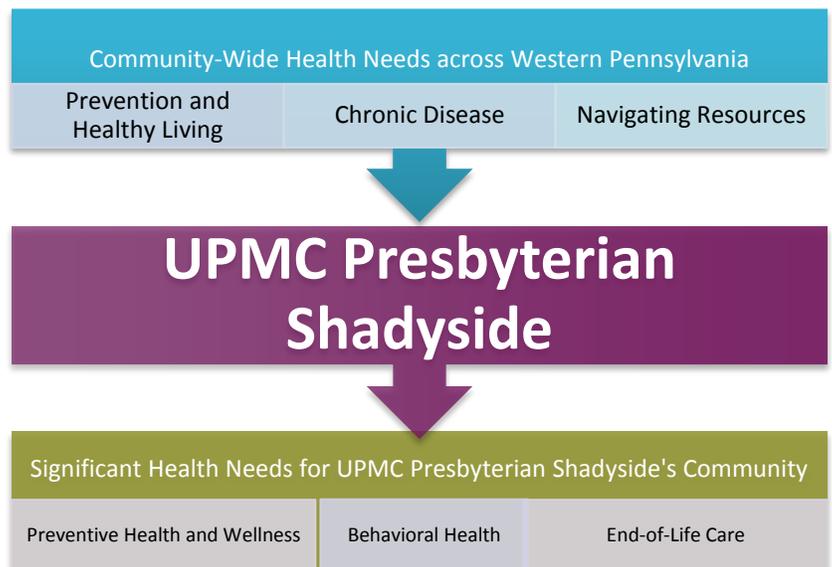
Topic	Importance to the Community
Preventive Health and Wellness	Preventive screenings can help identify some of the leading causes of death early when treatment is likely to work best. Preventive health and wellness, such as preventive screening rates, were lower in Allegheny County than benchmarks.
End-of-Life Care	End-of-Life Care is of growing importance to families and patients who are seriously ill. Allegheny County’s most elderly population (85+) has grown 25 percent in the past decade.
Behavioral Health	43 percent of all adults in Allegheny County reported experiencing poor mental health in the past month. Prevention, early diagnosis, and management of behavioral health issues can enhance the quality of life of those affected, including individuals, families, and communities.

UPMC Presbyterian Shadyside

Collective Impact Across Western Pennsylvania:

Western Pennsylvania has a diverse range of health needs. Key themes that emerged from the Fiscal Year 2016 UPMC Presbyterian Shadyside CHNA process were consistent with those found through CHNAs conducted at other UPMC hospitals throughout western Pennsylvania. These themes are increasingly important in the rapidly changing landscape of health care reform:

- **Focus on a Few High-Urgency Issues and Follow-Through:** The hospital is concentrating on a limited number of significant community health needs, and has developed concrete plans to chart measurable improvements.
- **Chronic Disease Prevention and Care:** Nearly two-thirds of deaths in the community are attributable to chronic disease. UPMC Presbyterian Shadyside is planning a wide range of prevention and chronic disease support activities.
- **Navigating Available Resources:** Established health care programs in UPMC Presbyterian Shadyside's community are often untapped due, in part, to social and logistical challenges faced among populations and individuals lacking social support systems.
- **Community Partnerships:** UPMC Presbyterian Shadyside is collaborating successfully with local organizations on improving community health. The hospital will also leverage resources and synergies within the UPMC system, which include population-focused health insurance products and comprehensive programs and resources targeted at areas including seniors and children.



PROGRESS REPORT 2013-2016: PREVENTIVE HEALTH AND WELLNESS

GOAL: UPMC Presbyterian Shadyside is increasing awareness of disease prevention and management.

STRATEGY:

The hospital is educating the community about preventive health and wellness.

To achieve this goal, UPMC Presbyterian Shadyside is engaging the greater community through a variety of programs that promote disease prevention and provide support. These community health programs rely on the clinical expertise found across UPMC, in particular the Hillman Cancer Center, located in Shadyside. UPMC Presbyterian Shadyside is improving the health of the community by:

- » Building awareness of preventive health and wellness — from promoting immunizations to supporting seniors
- » Increasing understanding about cancer screenings, prevention, and treatment
- » Promoting ways to prevent and detect concussions

PROGRESS:

UPMC Presbyterian Shadyside is making a measurable impact in its community.

Reaching more than **17,000** through cancer prevention efforts – education and screenings

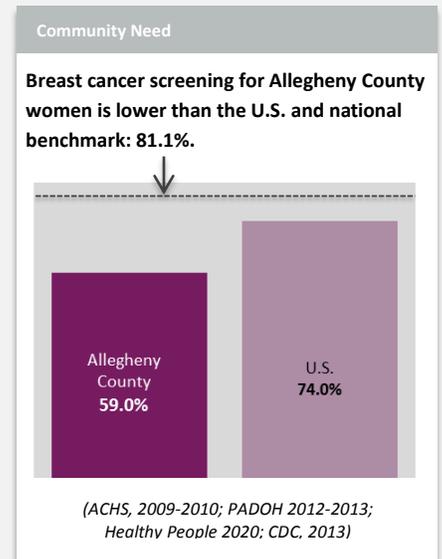
In Fiscal Year 2015, UPMC Presbyterian Shadyside offered 145 health education programs, screening 394 individuals and reaching more than 17,300 residents. The hospital has concentrated its efforts on reaching underserved populations. To connect with these groups, the hospital collaborates with organizations such as Health Care for the Homeless, the Birmingham Free Clinic, the Greater Pittsburgh Community Food Bank, and drug recovery centers. In addition, the hospital partners with churches and senior centers.

Focusing on concussions

The Heads Up/Concussion program provides baseline testing to youth athletes beginning at age seven. Since Fiscal Year 2013, a total of 9,861 have been tested, and more than 22,000 have been educated about concussive injuries. The program is a partnership with UPMC Sports Medicine, the Pittsburgh Penguins Foundation, Community College of Allegheny County, and Community College of Beaver County.

Building awareness on important health topics

UPMC Presbyterian Shadyside continues to promote ways in which community members can take an active role in health improvement. Preventive health and wellness efforts include: increasing transplant awareness and support through Donate Life; providing about 4,000 influenza and pneumonia vaccines; offering senior health programs, such as fall prevention and safe driving; and reaching more than 1,800 community members at local churches and festivals to educate them about cardiovascular health.



PROGRESS REPORT 2013-2016: POST-DISCHARGE COORDINATION

GOAL: UPMC Presbyterian Shadyside is improving care transitions from hospital to home.

STRATEGY:

UPMC Presbyterian Shadyside is helping patients connect with resources to improve their transition from hospital to home.

In anticipation of the potential challenges faced after leaving the hospital, UPMC Presbyterian Shadyside is focusing on helping patients and their families experience a seamless transition from hospital to home. These efforts include:

- » Helping coordinate care before leaving the hospital
- » Connecting with and helping patients recover after a hospital stay



PROGRESS:

UPMC Presbyterian Shadyside is achieving measurable results as it improves coordination of care.

Helping patients prior to leaving the hospital

Helping more than 11,000 patients with their medications at discharge

In 2014, the hospital opened the UPMC Presbyterian Prescription Shop, a dedicated pharmacy site next to the Emergency Department (ED) which enables ED patients to obtain and understand their prescriptions before they leave the facility. In Fiscal Year 2015, the shop filled a total of 2,057 ED patient prescriptions. In addition, through the UPMC Meds to Beds program, nurses and care managers work with discharged patients to help them obtain medications and to answer questions about their medications before they leave the hospital. To date, 9,458 patients' prescriptions have been filled.

Dedicated discharge effort to ease transitions from hospital to home

A collaborative effort between the hospital and UPMC Health Plan, the new discharge program at UPMC Shadyside performs a final safety check to ensure a safe shift from hospital to home. A transition coordinator works with patients to connect them to a pharmacist for help with medications, to assist with follow up appointments, or to refer them to other UPMC and community programs. The program formally began in April 2015, and a total of 539 patients have been helped so far.

Supporting patients after discharge — more than 96 percent visited at home after stroke

The hospital's additional discharge efforts, particularly those targeting stroke and cardiopulmonary patients, have been effective in coordinating care. The number of discharged stroke patients has increased since baseline (from 304 to 762), and more than 90 percent received a follow-up call or help scheduling a follow-up appointment. In addition, more than 96 percent had at least one home visit. Overall, nearly 99 percent of patients were satisfied with the program. Also, cardiac rehab patients participated in services offered at the local rehabilitation facility; in 2015, a total of 160 cardiac patients (representing 13,300 visits) participated in an exercise program that focused on weight loss and cardiovascular health.

The hospital's new initiatives have helped

13,006 discharged patients.

2,057	at the UPMC Presbyterian Prescription Shop
539	through UPMC Shadyside Discharge Center
9,458	through the Meds to Beds Program
762	used stroke services
+ 160	used cardiopulmonary rehab services

PROGRESS REPORT 2013-2016: BEHAVIORAL HEALTH

GOAL: Western Psychiatric Institute and Clinic of UPMC is increasing awareness and access to behavioral health care.

STRATEGY:

Western Psychiatric Institute and Clinic of UPMC is taking a comprehensive approach to addressing behavioral health care.

As the primary behavioral health facility in Allegheny County and western Pennsylvania, Western Psychiatric provides a range of behavioral health services and programs. Efforts include:

- » Promoting awareness of behavioral health
- » Coordinating behavioral care needs throughout the region
- » Focusing on the needs of vulnerable populations: seniors, homeless people, and children

PROGRESS:

Western Psychiatric Institute and Clinic of UPMC is making a measurable impact in its community.

Increasing awareness of behavioral health resources

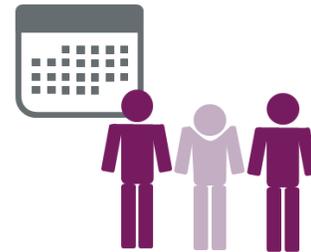
Western Psychiatric serves as a resource to the community and increases awareness about behavioral health care. Efforts include community symposiums about violence and behavioral health; trainings to help improve awareness among youths experiencing mental health crises; and tools to identify and support youth and family goals through family decision making, youth empowerment, and team care. In addition, the hospital is promoting the Peer Navigator program, which connects individuals recovering from chemical dependency with others who “have been in their shoes.” More than 16,000 people have been reached through these initiatives.

Providing and coordinating behavioral health care throughout the region

To promote behavioral care services in primary care and specialty locations, the hospital’s co-location project embeds behavioral health therapists into pediatric practices. As a result, the number of integrated behavioral health visits has increased from 15,771 in Fiscal Year 2013 to 23,815 visits in Fiscal Year 2015. The hospital also continues to co-locate in general, specialty, and geriatric care settings — resulting in more than 2,400 behavioral health referrals this past year.

Community Need

More than **1 in 3** adults in Allegheny County reported experiencing poor mental health for more than one day in the past month.



(ACHS, 2009-2010)

Focusing on the unique needs of specific populations

The hospital continues to support the needs of vulnerable populations, including homeless people and individuals with disabilities.

Homeless Continuum Project

With support from the U.S. Department of Housing and Urban Development, the hospital works with the behavioral and social needs of homeless individuals. A total of 265 housing arrangements were made, and a high percentage of individuals participating in the program remained in a home for a year (97 percent), earned income (79 percent), and received mental health treatment (95 percent).

Individuals with Disabilities

In partnership with the PA Office of Developmental Programs, the hospital supports efforts to train adults with developmental disabilities, and helps them acquire skills to obtain gainful employment. This past year, 21 adults with developmental disabilities succeeded in obtaining jobs through the program.

Prevention Education and Student Assistance Programs (SAP)

The hospital continues to provide support for Student Assistance Programs (SAP) in Allegheny County by offering courses and training for school personnel about child and adolescent development, especially as it relates to alcohol, tobacco, and other drug use among at-risk youth. Through the efforts of Western Psychiatric, more than 43,000 individuals have been served.

Focusing on Senior Population

The behavioral health needs of seniors continue to be complex and much in need. The hospital has several efforts in place to target seniors. The *Geriatric In-Home Clinic* focuses on high-risk seniors. Its services include psychiatric assessment, medication management, nursing support, and therapy in the community setting, especially for homebound seniors residing in Allegheny County. The *Palliative Care Program* at UPMC Senior Care-Benedum Geriatric Center provides outpatient palliative care to help seniors, and their caregivers, maintain quality of life.



Western Psychiatric Institute and Clinic of UPMC offers numerous programs to address behavioral health care needs:

AUTISM

- Conroy School-Merck Intensive Day Treatment Program
- Autism Spectrum Disorders Early Detection and Treatment Programs

COMORBID HEALTH ISSUES

- Blended Service Coordination (BSC) Wellness Initiative for People with Chronic Behavioral Syndrome Screenings
- Metabolic Syndrome Screenings

DEPRESSION

- Child Service Line Depression Screening

EATING DISORDERS

- Eating Disorder Training

TRAUMA

- Adult Trauma Recovery Inpatient Unit (ATRIUM)

COMMUNITY HEALTH NEEDS ASSESSMENT (CHNA) REPORT

I. Objectives of a Community Health Needs Assessment

CHNA Goals and Purpose:

In Fiscal Year 2016, UPMC Presbyterian Shadyside conducted a CHNA. In keeping with IRS 501(r) guidelines, the CHNA incorporated input from community stakeholders and public health experts, and established action plans to address identified significant community health needs. The plan builds upon a prior assessment and implementation plan developed in Fiscal Year 2013.

UPMC Presbyterian Shadyside has many long-standing initiatives focused on improving the health of its community. UPMC approached this CHNA process as an opportunity to evaluate and assess needs through a formalized, rigorous, and structured process to ensure that health improvement efforts and resources are aligned with community health priorities. Goals of the CHNA were to:

- **Better understand community health care needs**
- **Develop a roadmap to direct resources where services are most needed and impact is most beneficial**
- **Collaborate with community partners where, together, positive impact can be achieved**
- **Improve the community's health and achieve measurable results**

The overall health of the community is a shared responsibility among many stakeholders and entities, including government agencies, health care providers, nongovernmental organizations, and community members themselves. While the new IRS CHNA requirements apply specifically to nonprofit hospital organizations, collaboration with community partners is essential for implementing and achieving effective community health improvement.

Description of UPMC Presbyterian Shadyside:

UPMC Presbyterian Shadyside maintains two hospital campuses located in Allegheny County, Pennsylvania. UPMC Presbyterian Shadyside is a teaching hospital and the primary clinical training site for students of the University of Pittsburgh's Schools of Medicine and Nursing. It is also a major clinical practice site for nursing baccalaureate programs at many surrounding universities. The hospital offers a full range of quality medical services to the people of Pittsburgh and the surrounding region, and functions as the hub of the UPMC academic medical center. The hospital provides area residents with access to medical, surgical, behavioral health, rehabilitation, and transitional care, as well as cutting-edge medical services. Specialized services include transplants, CT imaging, digital mammography, minimally invasive surgery, cardiothoracic surgery, neurosurgery, critical care medicine, and on-site cancer care at the world-renowned Hillman Cancer Center, the flagship of the UPMC CancerCenters network. UPMC Presbyterian Shadyside is also one of the busiest transplant centers in the world, with more than 16,000 transplants performed since 1981.

VITAL STATISTICS		JOBS AND STRENGTHENING THE LOCAL ECONOMY	
Fiscal Year 2015			
Licensed Beds	1,312	UPMC Presbyterian Shadyside Employees	8,423
Hospital Patients	68,663	Community Benefits Contributions	\$264 million
Emergency Dept. Visits	99,706	Free and Reduced Cost Care	\$102 million
Total Surgeries	46,596	\$4.6 billion	
Affiliated Physicians	2,085	Total Economic Impact of Hospital Operations	

Description of Western Psychiatric Institute and Clinic of UPMC:

Western Psychiatric Institute and Clinic of UPMC, licensed as a part of UPMC Presbyterian Shadyside, is a national leader in the care and treatment of behavioral health and addictive disorders. Located in Allegheny County, Pennsylvania, the hospital is the primary provider of behavioral health care to the people of Pittsburgh, as well as the region. Ranked among the nation’s top 10 psychiatric providers by *U.S. News & World Report*, it is the flagship of UPMC’s Behavioral Health Network. With research funding from the National Institutes of Health and other external organizations totaling \$71 million in Fiscal Year 2015, Western Psychiatric conducts groundbreaking research and is training the next generation of behavioral health care professionals.

VITAL STATISTICS		JOBS AND STRENGTHENING THE LOCAL ECONOMY	
Fiscal Year 2015			
Beds at Western Psychiatric	310	Western Psychiatric Employees	2,154
Hospital Patients	5,657	Community Benefits Contributions	\$40 million
Emergency Dept. Visits	11,911	Free and Reduced Cost Care	\$13 million
Total Outpatient Visits	370,929		

- The 482-bed UPMC Behavioral Health Network, anchored by Western Psychiatric, includes:
 - » Inpatient services at Western Psychiatric, UPMC Altoona, UPMC Mercy, UPMC McKeesport, UPMC Northwest, and UPMC Jameson
 - » Over 50 community-based outpatient programs throughout the region that account for more than 370,000 visits annually
- Western Psychiatric’s partnership with Community Care Behavioral Health Organization, part of UPMC Health Plan, allows for early identification of psychiatric and addiction conditions.
- Through its telepsychiatry program, Western Psychiatric is an active outpatient care provider in rural parts of western Pennsylvania. More than 4,000 virtual visits are provided annually.
- Behavioral Health Consultation and Liaison Services are provided to a variety of regional hospitals and community organizations, as well as all UPMC hospitals.

UPMC Presbyterian Shadyside

II. Definition of the UPMC Presbyterian Shadyside Community

For the purpose of this CHNA, the UPMC Presbyterian Shadyside community is defined as Allegheny County. With 47 percent of patients treated at UPMC Presbyterian Shadyside residing in Allegheny County, the hospital primarily serves residents of this geographic region. By concentrating on the county, UPMC Presbyterian Shadyside can both consider the needs of the great majority of its patients, and do so in a way that allows accurate measurement using available secondary data sources.

Most Patients Treated at UPMC Presbyterian Shadyside Live in Allegheny County

County	UPMC Presbyterian Shadyside %	Medical Surgical Discharges
Allegheny County	47.4%	25,266
All Other Regions	52.6%	28,089
Total Hospital Discharges	100%	53,355

Source: Pennsylvania Health Care Cost Containment Council, Fiscal Year 2015

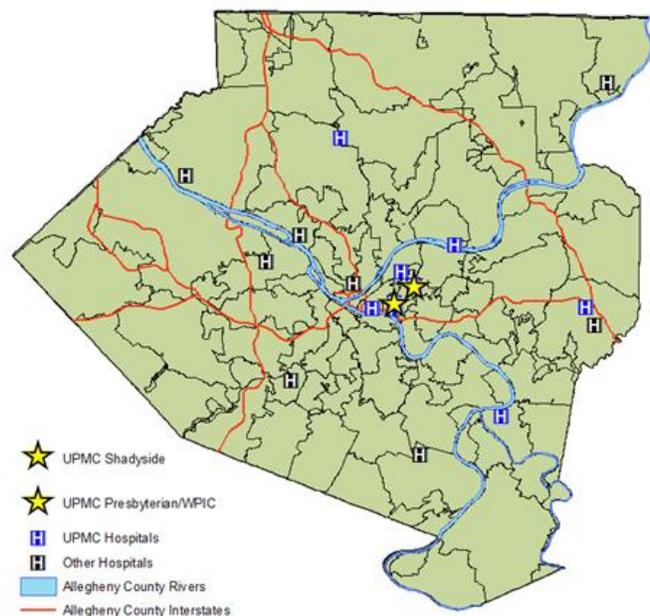
The hospital is situated centrally in the county, in the Oakland and Shadyside neighborhoods of the City of Pittsburgh. While the county represents the basic geographic definition of UPMC Presbyterian Shadyside’s community, the hospital has a broader reach throughout the seven county Pittsburgh Metropolitan Statistical Area (MSA). This CHNA therefore also considered the MSA, as well as specific populations within the defined community — such as minorities, low-income individuals, and those with distinct health needs.

Existing Healthcare Resources in the Area:

UPMC Presbyterian Shadyside and Western Psychiatric are combined under one hospital license. Together they represent one of eight UPMC licensed hospitals and 16 total licensed hospitals in Allegheny County.

Additionally, UPMC Presbyterian Shadyside is supported by nearly 110 UPMC outpatient offices within Allegheny County. These facilities include UPMC CancerCenters, Urgent Care Centers, Senior Living Facilities, Centers for Rehabilitation Services, Imaging Centers, Children’s Hospital of Pittsburgh of UPMC satellite offices, and pediatric, primary, and specialty care doctors’ offices.

Hospitals in Allegheny County



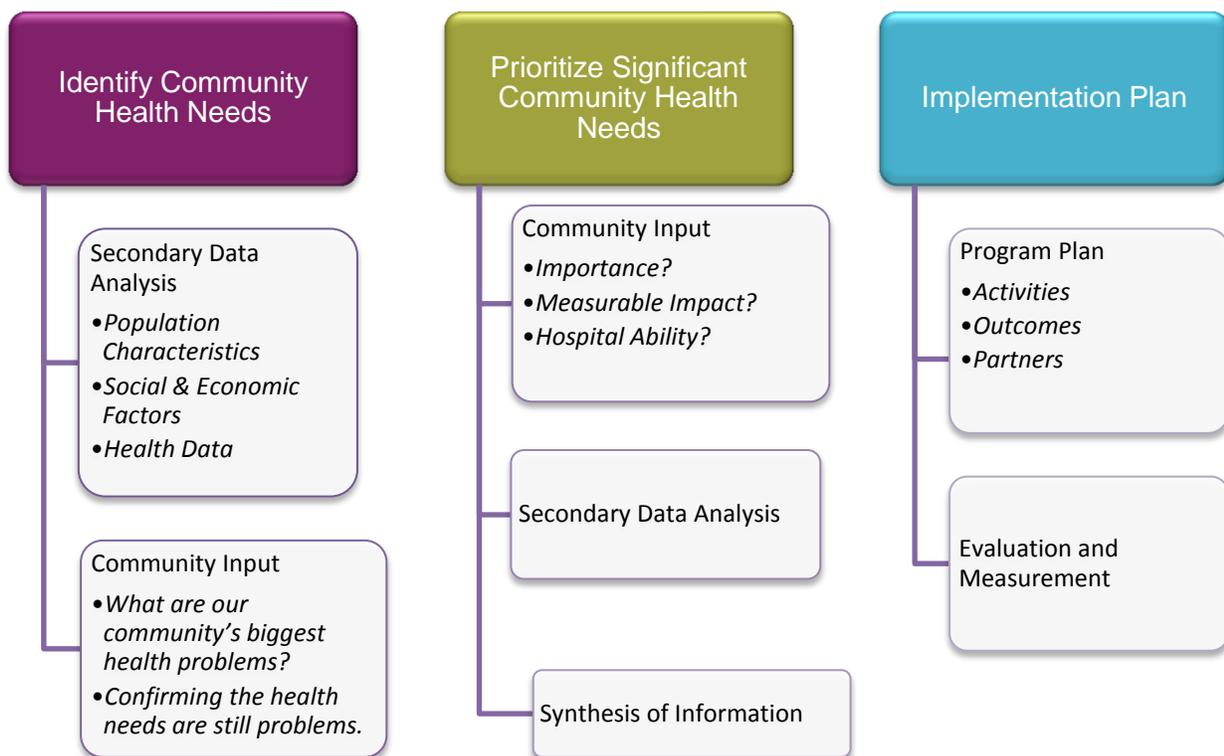
III. Methods Used to Conduct the Community Health Needs Assessment

Overview:

In conducting this CHNA and the prior CHNA conducted in Fiscal Year 2013, UPMC pursued an approach that was comprehensive, methodologically rigorous, inclusive, and open to the community's perspective on health care needs. To conduct the CHNA in a manner that reflects best practices, UPMC partnered with the University of Pittsburgh Graduate School of Public Health (Pitt Public Health). Pitt Public Health's mission is to provide leadership in health promotion, disease prevention, and the elimination of health disparities in populations. Pitt Public Health faculty and researchers' expertise supported a structured process for obtaining community input on health care needs and perceived priorities and helped establish criteria for the evaluation and measurement of progress.

Framework for Conducting the CHNA:

The Community Health Improvement Process developed by the Institute of Medicine served as a guiding framework in assessing the health needs of the UPMC hospital communities. The hospital adapted this model to guide the development of its CHNA.



Secondary Data Sources and Analysis:

To identify the health needs of a community, UPMC conducted an analysis of publicly available data. Secondary data — including population demographics, mortality, morbidity, health behavior, clinical care, and physical environmental data — were used to identify and prioritize significant community health needs. Data which informed this CHNA were compiled from a variety of state and national data sources and are reflected in the table below.

Population characteristics, socioeconomic, and health status data were also examined. Community-level data (usually county-level) were compared to the state, nation, and *Healthy People 2020* benchmarks to help identify key health issues. When available, data specific to low-income individuals, underserved minorities, and uninsured populations were examined. In addition, analysis considered federal designations of Health Professional Shortage Areas (HPSA) — defined as “designated as having a shortage of primary medical care providers” and Medically Underserved Areas (MUA) — which may consist of a whole county or a group of contiguous counties, a group of county or civil divisions, or a group of urban census tracts.

Publicly Available Data and Sources Used for Community Health Needs Assessment

Data Category	Data Items	Description	Source
Demographic Data	Population Change	Comparison of total population and age-specific populations in 2000 and 2010 by county, state, and nation.	U.S. Census
	Age and Gender	Median age, gender, and the percent of Elderly Living Alone by Zip Code, county, state, and nation in 2010.	
	Population Density	2010 total population divided by area in square miles by county, state, and nation.	
	Median Income/Home Values	By Zip Code, county, state, and nation in 2010.	
	Race/Ethnicity	Percent for each item by Zip Code, county, state, and nation in 2010. Note: Zip Code level data was not available for disabled.	
	Insurance: Uninsured, Medicare, Medicaid		
	Female Headed Households		
	Individuals with a Disability		
	Poverty		
	Unemployed		
	No High School Diploma		

Data Category	Data Items	Description	Source
Morbidity Data	Adult Diabetes	2010-2013 data collected and compared by county, state, and nation.	Allegheny County Health Survey, 2009-2010.
	Cancer		
	Mental Health		
	Asthma (Childhood)		
	Birth Outcomes		
Health Behaviors Data	Obesity (Childhood and Adult)	2010-2015 data collected and compared by county, state, and nation.	PA Department of Health Behavioral Risk Factors Surveillance System; Birth, Death, and Other Vital Statistics; Cancer Statistics.
	Alcohol Use		U.S. Centers for Disease Control and Prevention Behavioral Risk Factors Surveillance System.
	Tobacco Use		National Center for Health Statistics.
	Sexually Transmitted Disease		
Clinical Care Data	Immunization	2010-2015 data collected and compared by county, state, and nation.	Allegheny County Health Survey, 2009-2010.
	Cancer Screening (breast/colorectal)		PA Department of Health Behavioral Risk Factors Surveillance System; Birth, Death, and Other Vital Statistics; Cancer Statistics.
	Primary Care Physician Data		U.S. Centers for Disease Control and Prevention Behavioral Risk Factors Surveillance System. Health Resources and Services Administration (HRSA). National Center for Health Statistics.
Benchmark Data	Mortality Rates, Morbidity Rates, Health Behaviors, and Clinical Care Data	National benchmark goal measures on various topics for the purpose of comparison with current measures for neighborhood, county, state, and nation.	Healthy People 2020.

Information Gaps Impacting Ability to Assess Needs Described:

The best available data were used to obtain the most meaningful comparison and analysis possible. Public data sources, however, are limited by some information gaps, and small sample sizes can represent statistically unreliable estimates.

The community definition hinged at the county-level, in part, because the quality and availability of data at this level was generally most comprehensive and allowed for meaningful comparisons with state and national data. In some cases, data from geographical sources below the county level (such as Zip Codes) were available with adequate sample size for analysis. Whenever possible, population health data were examined for individual neighborhoods and sub-populations including low-income, high-minority, and uninsured populations.

Community Input:

Community input on the perceived health needs of the region was used to complement analysis of publicly available data. UPMC used an inclusive and systematic process to collect information pertaining to the community's perceptions of its greatest needs, as well as its expectations of what the hospital's role should be in meeting those needs.

The Fiscal Year 2016 CHNA builds on the assessment process originally applied in Fiscal Year 2013. In the initial assessment, Pitt Public Health facilitated this process and employed "Concept Mapping," a participatory, qualitative research method with a proven track record for gaining stakeholder input and consensus. In the subsequent assessment, UPMC conducted a survey of community leaders and stakeholders specific to the hospital's community to assess the continuing importance of identified community health needs.

To gather community input, the hospital formed a community advisory panel to provide broad-based input on health needs present in the hospital's surrounding community. These groups were made up of:

- **Persons with special knowledge or expertise in public health**
- **Representatives from health departments or governmental agencies serving community health**
- **Leaders or members of medically underserved, low-income, minority populations, and populations with chronic disease**
- **Other stakeholders in community health (*see Appendices C and D for more information on Concept Mapping and for a complete list and description of community participants*)**

The full community input survey process consisted of multiple stages:

- **Brainstorming on Health Problems:** During brainstorming, the hospital's community advisory council met to gather input on the question, "What are our community's biggest health care problems?" Brainstorming resulted in the development of a 50-item list of health problems.
- **Rating and Sorting Health Problems to Identify Significant Health Needs:** Community members participated in the rating and sorting process via the Internet to prioritize the 50 health problems and identify significant health needs according to their perceptions of the community health needs. Each participant sorted the list into overarching themes, and then rated the problems using a 1 to 5 Likert scale (1 = not important; 5 = most important), according to the following criteria:
 - » How important is the problem to our community?
 - » What is the likelihood of being able to make a measurable impact on the problem?
 - » Does the hospital have the ability to address this problem?
- **Confirming Topics:** In Fiscal Year 2016, community advisory panels were again surveyed about the continuing importance of the identified health needs. Advisory panel members participated in an online Qualtrics survey that solicited feedback on new health problems and asked participants to rate whether the health problem "remains a major problem," "is somewhat of a problem," or "is no longer a problem."

Synthesis of Information and Development of Implementation Plan:

In the final phase of the process, the community input survey results were summarized by experts from Pitt Public Health and merged with results gathered from the analysis of publicly available data. Through this process, UPMC hospital leadership identified a set of significant health needs that are critical, addressable, and have high levels of urgency in the community. The process then matched those needs to:

- **Best-practice methods for addressing these needs**
- **Existing hospital community health programs and resources**
- **Programs and partners elsewhere in the community that can be supported and leveraged**
- **Enhanced data collection concerning programs**
- **A system of assessment and reassessment measurements to gauge progress over regular intervals**

IV. Results of the Community Health Needs Assessment and In-Depth Community Profile

Characteristics of the Community:

Sizable Elderly Population with High Social Needs: A notable characteristic of Allegheny County is the large and increasing percentage of elderly residents (65 years and older). Allegheny County has a large elderly population (17 percent), especially when compared to Pennsylvania (15 percent), and the United States (13 percent). A higher percentage of elderly in Allegheny County live alone, compared with Pennsylvania and the United States. Reflective of the higher proportion of elderly, the percentage of Medicare recipients was higher in the county than the state and nation (See Appendix B).

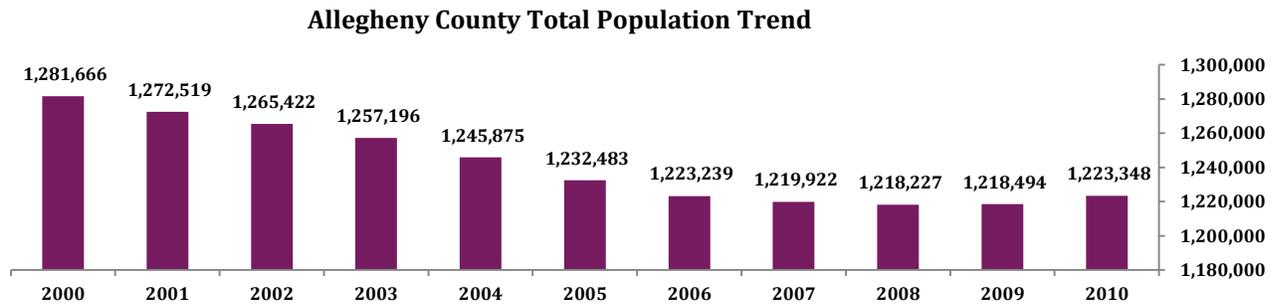
UPMC Presbyterian Shadyside's Community Has a Sizable Elderly Population

Age Distribution - 2010				
	Allegheny County	Pittsburgh MSA	Pennsylvania	National
Median Age	41.3	42.6	40.1	37.2
% Children (<18)	19.8%	20.2%	22.0%	24.0%
% 18-64	63.4%	62.5%	62.6%	63.0%
% 20-49	39.2%	37.7%	39.0%	41.0%
% 50-64	21.3%	22.1%	20.6%	19.0%
% 65+	16.8%	17.3%	15.4%	13.0%
% 65-74	7.8%	8.3%	7.8%	7.0%
% 75-84	6.1%	6.2%	5.4%	4.3%
% 85+	2.9%	2.8%	2.4%	1.8%
% Elderly Living Alone	13.1%	12.9%	11.4%	9.4%

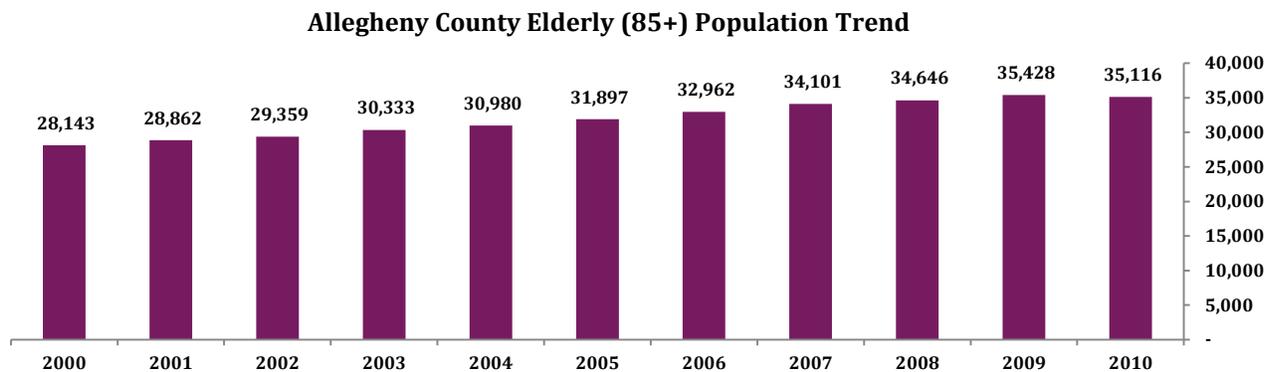
Source: U.S. Census

Total Population Decline in Allegheny County but Aging Population Increasing: In 2010, Allegheny County had a total population of 1,223,348. The population density of Allegheny County at the time was 1,675.6 people per square mile. Between 2000 and 2010, the county's total population decreased from 1.28 million to 1.22 million, representing a five-percent decline (see figure below). At the same time, the county's most elderly population (age 85 and over) *increased* by 25 percent, from 28,143 to 35,116 (see figure below). This trend resulted in a higher median age (41 years) in the county compared with Pennsylvania (40 years) and the United States (37 years).

Allegheny County's total population has seen a 5 percent decrease from 2000 to 2010.



However, the most elderly population (85+) has grown 25 percent from 2000 to 2010.



Source: U.S. Census

Economically Stable in Allegheny County Overall: When compared to the Commonwealth of Pennsylvania and the nation, the overall population of Allegheny County is economically stronger and faces fewer economic health challenges on average. Allegheny County tends to:

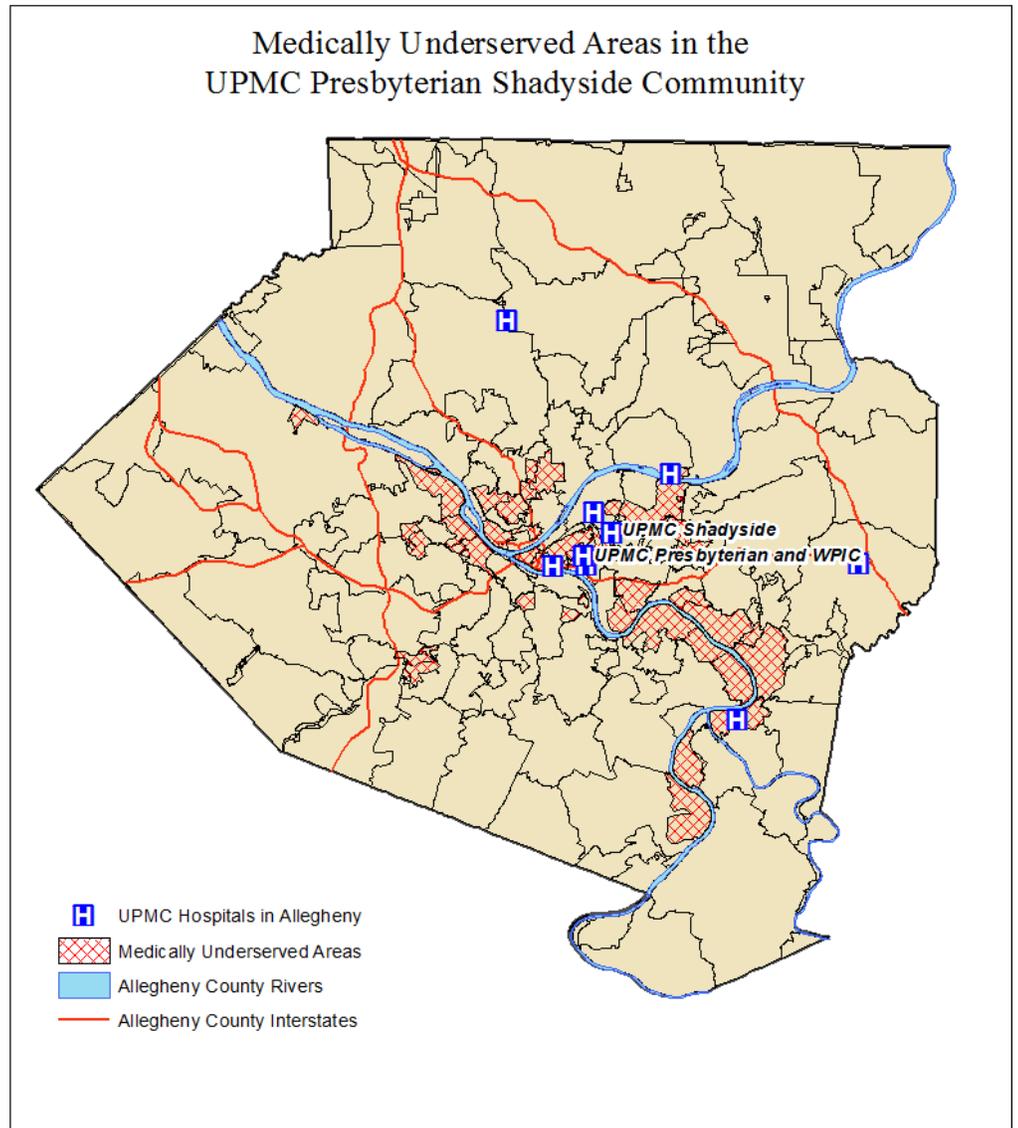
- **Be more educated**
- **Have fewer people unemployed**
- **Have fewer people living in poverty**
- **Have fewer uninsured and fewer recipients of the income-based Medicaid health insurance program (See Appendix B)**

Medically Underserved Areas in the UPMC Presbyterian Shadyside Service Area: In contrast to the relatively strong Allegheny County statistics, UPMC Presbyterian Shadyside is surrounded by some neighborhoods that have characteristics of populations more likely to experience health disparities. Neighborhoods around the service area, such as East Liberty (15206), Homewood (15208), Wilkinsburg (15221), and Greenfield/Hazelwood/Glen-Hazel (15207), all of which are in Allegheny County, have a lower median household income and higher poverty, compared to Allegheny County.

UPMC Presbyterian Shadyside

The following factors are considered in the determination of MUAs:

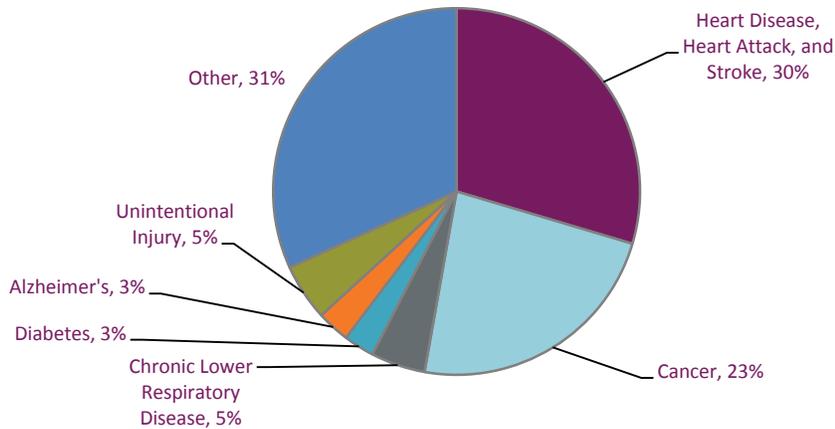
- A high percentage of individuals living below the poverty level
- High percentages of individuals over age 65
- High infant mortality
- Lower primary care provider to population ratios



Source: Health Resources and Services Administration, 2015

Chronic Disease and Mortality:

Nearly two-thirds of deaths in Allegheny County are attributable to chronic disease.



Source: Pennsylvania Department of Health, 2012

Significant Health Needs for UPMC Presbyterian Shadyside's Community:

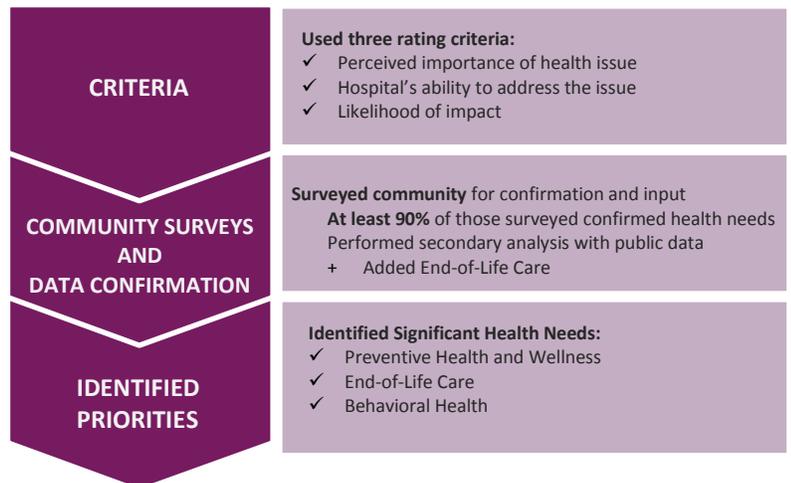
Concept mapping input was deployed across all UPMC hospital communities within western Pennsylvania and yielded three overarching themes to contextualize the health care needs of the areas served by UPMC hospitals:

- **Chronic Disease**
- **Prevention and Healthy Living**
- **Navigating Resources**

For the UPMC Presbyterian Shadyside community, the assessment identified significant health needs that were rated highly across the three criteria of importance, likelihood of making a measurable impact, and the hospital's ability to address the problem. The significant health needs are:

- **Preventive Health and Wellness**
- **End-of-Life Care**
- **Behavioral Health**

Prioritizing Community Health Needs

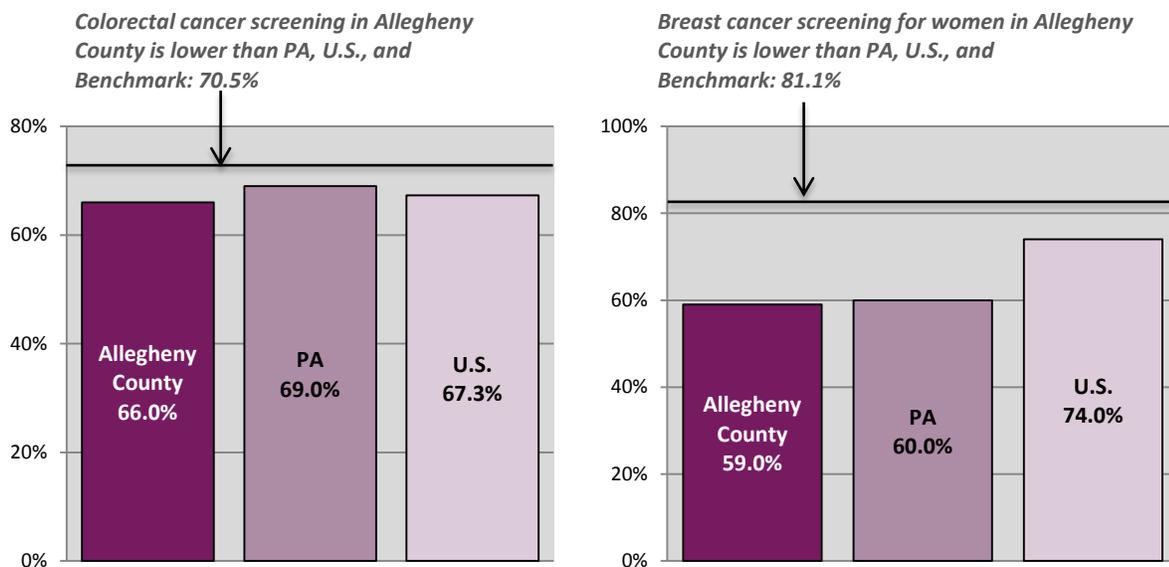


UPMC Presbyterian Shadyside Significant Health Needs:

In-depth secondary data analysis reinforced that these health topics were areas of concern for the UPMC Presbyterian Shadyside community.

Preventive Health and Wellness – Importance to the Community:

- Preventive screenings can help identify some of the leading causes of death — such as heart disease, cancer, and diabetes — in early stages when treatment is likely to work best.
- Screening for colorectal cancer and breast cancer were lower than benchmarks.



Sources: Allegheny County Health Survey 2009-2010; Pennsylvania Department of Health, 2012 Healthy People 2020; U.S. Centers for Disease Control and Prevention, 2013

Preventive health and wellness, such as preventive screening rates, are on par with the state and nation: Preventive screenings are a cost-effective approach for promoting health, and can help further delay progression or worsening of certain diseases. Screening rates within Allegheny County for conditions such as colorectal cancer were on par with those of the state and the nation, likely due to existing initiatives in the area.

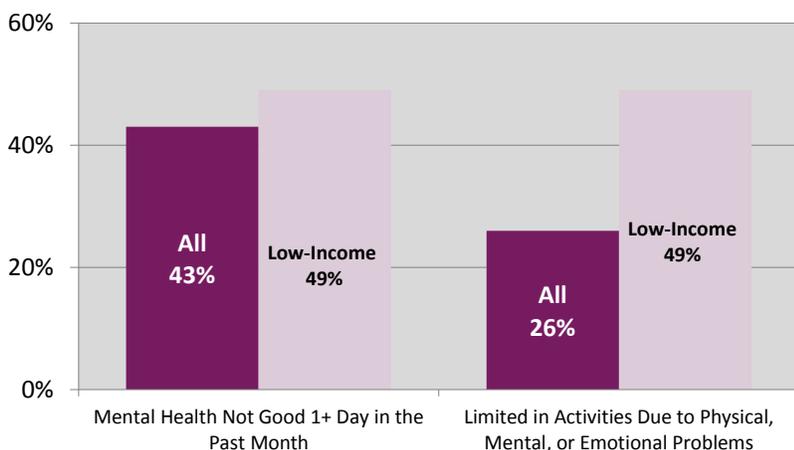
Enhancing navigation to existing resources creates opportunities for improvement within specific clinical areas and among specific sub-populations: Variations in screening rates were observed for certain demographics and areas within Allegheny County. For colorectal screening, a higher proportion of older individuals (65+) reported having a colorectal screening, compared to people 50 to 64 years old. In addition, those with a college degree reported receiving colorectal screening more often than those without a degree. No significant differences were observed based on sex, household income, or race.

For mammography screening, women with less than a high school education were significantly less likely to report receiving a mammogram, compared to women with more education. There were no significant differences by age, income, or race.

Behavioral Health – Importance to the Community:

- More than 18 percent of U.S. adults have a mental illness.
- 43 percent of all adults in Allegheny County reported experiencing poor mental health in the past month – 49 percent of low-income individuals experienced poor mental health in the past month.
- Prevention and early diagnosis of behavioral health issues may decrease the risk for or mitigate the worsening of other chronic diseases. Management of existing behavioral health issues can increase the quality of life for those living with these issues.

Adults in Allegheny County



Source: Allegheny County Health Survey 2009-2010

Behavioral health affects many individuals: Behavioral health includes mental health (state of well-being) and mental illness (diagnosable mental disorders). National data suggest that more than 18 percent of U.S. adults have a mental illness. Data on the prevalence of mental illness is unavailable at the local level, but about 43 percent of adults in Allegheny County reported poor mental health in the past month.

Behavioral health can affect certain sub-populations, including low-income individuals: A higher percentage of low-income individuals (49 percent) reported poor mental health compared to those earning higher income (37 percent). Those with less than a high school education (53 percent) had a higher percentage of poor mental health, compared to those with a college education (40 percent). In addition, women (47 percent) were more likely to report poor mental health than men (39 percent).

End-of-Life Care—Importance to the Community:

Nationally, most patients in hospice care have a primary diagnosis that includes chronic disease — cancer, heart disease/stroke, dementia: The majority of individuals in hospice care are age 65+, and more than one-third are age 85+. Hospice and end-of-life care issues are important for Allegheny County, where a sizable percentage of deaths are due to chronic disease and the region has experienced an increase in the most elderly, those who are 85+.

V. Overview of the Implementation Plan

Overview:

UPMC Presbyterian Shadyside developed an implementation plan that addresses the significant community health needs identified through the CHNA process. The plan relies on collaboration and the leveraging of partnerships with many of the same organizations and stakeholders that participated in the assessment process. The plan also represents a synthesis of input from:

- **Community-based organizations**
- **Government organizations**
- **Non-government organizations**
- **UPMC hospital and Health Plan leadership**
- **Public health experts that include Pitt Public Health**

Adoption of the Implementation Plan:

On June 13, 2016, the UPMC Presbyterian Shadyside Board of Directors adopted an implementation plan to address the identified significant health needs:

- **Preventive Health and Wellness**
- **End-of-Life Care**
- **Behavioral Health**

A high level overview of the UPMC Presbyterian Shadyside implementation plan is illustrated in the figure below, and details are found in Appendix A:

High-Level Overview of UPMC Presbyterian Shadyside Implementation Plan

Topic	Programs	Anticipated Impact	Planned Collaborations
		Goal-Year 3	
Preventive Health and Wellness	Cancer Screenings Heads Up Pittsburgh/UPMC Concussion Outreach Program COACH (Community Outreach and Cardiovascular Health) program Flu and pneumonia vaccinations Senior Prevention and Wellness Integrative Wellness Fair and Lecture Series UPMC Mobile Dental Unit Care Coordination Efforts, such as UPMC Presbyterian Shadyside Pharmacy Program, Community Cardiopulmonary Rehabilitation Services, and Stroke Service for Discharged Patients Center for Integrative Medicine at UPMC Shadyside Other Community Education and Outreach	Improve participation in preventive health and wellness activities Improve care coordination post-discharge, such as improving medical adherence and decreasing readmission rates	Various community organizations, including University of Pittsburgh Cancer Institute, Healthcare for the Homeless, Greater Pittsburgh Food Bank, Birmingham Free Clinic, University of Pittsburgh Graduate School of Public Health, local sports teams, foundations, area schools, UPMC physicians, UPMC Aging Institute, Shadyside Hospital Foundation, and other community organizations, UPMC Presbyterian and UPMC Shadyside Emergency Departments, UPMC Health Plan, Lawrence N. Adler Rehabilitation and Wellness Center at UPMC Shadyside

<p>End-of-Life Care</p>	<p>Palliative and Supportive Care Program No One Dies Alone</p>	<p>Improve support and awareness of appropriate levels of care for seriously ill patients</p>	<p>UPMC Presbyterian Volunteer Services, University of Pittsburgh Medical School, University of Pittsburgh , UPMC Palliative and Supportive Institute, UPMC Health Plan, UPMC Community Provider Services</p>
<p>Behavioral Health</p>	<p>Initiative to Reduce Stigma of Behavioral Health Children’s Hospital of Pittsburgh of UPMC and Western Psychiatric Child Psychiatry Co-Location Project Western Psychiatric Co-Location in General/ Specialty and Geriatric Care Settings Blended Service Coordination (BSC) Wellness Initiative for People With Chronic Behavioral Health Issues Metabolic Syndrome Screenings Eating Disorder Training Adult Trauma Recovery Inpatient Unit (ATRIUM) Prevention Education and Student Assistance Programs (SAP) Homeless Population: Western Psychiatric Homeless Continuum Team Individuals with Developmental Disabilities: Vocational Training Center Individuals with Developmental Disabilities: Community Supported Employment Project (SEP) Child Service Line Depression Screening Conroy School-Merck Intensive Day Treatment Program Autism Spectrum Disorders Early Detection and Treatment Programs Palliative Care Program at UPMC Senior Care-Benedum Geriatric Center Geriatric In-Home Clinic</p>	<p>Increase awareness of behavioral health resources Improve coordination and access to behavioral health care in the region</p>	<p>University of Pittsburgh, Department of Psychiatry academic researchers, community mental health organizations and providers, advocacy groups, managed care organizations Children’s Hospital of Pittsburgh of UPMC and Children’s Community Pediatrics clinic locations, specialty clinics, Community Care Behavioral Health, Allegheny County Dept. of Health Services, Allegheny Health Choices, Inc., Women’s Health Group (UPMC Internal Medicine), Children’s Hospital of Pittsburgh of UPMC Adolescent Medicine, Clarion County providers, Regional pre-school, elementary, middle, and secondary schools (Students and Professionals), Pennsylvania Department of Human Services Office of Developmental Programs, Area school districts, Pittsburgh Public Schools, Allegheny County Department of Human Services, Community Care Behavioral Health, Jewish Community Center Summer Day Camp at Monroeville and South Hills sites, UPMC Senior Care-Benedum Geriatric Center, Allegheny County and other community agencies</p>

The UPMC Presbyterian Shadyside implementation plan calls for collaboration with community partners and leveraging UPMC system-wide resources, to support a number of initiatives focused on the identified health priorities.

VI. APPENDICES

APPENDIX A: Detailed Implementation Plan

Priority Health Issue: Addressing Preventive Health and Wellness

Preventive Health and Wellness is a priority in UPMC Presbyterian Shadyside’s community: Screenings that support the early detection of chronic disease such as cancer and heart disease are important to the health of UPMC Presbyterian Shadyside’s community. Early detection frequently means early, and typically more successful, treatment. This can be especially important in medically underserved populations, as the rates of these chronic diseases tend to be higher in these populations. Other types of preventive health measures such as influenza and pneumonia vaccinations and general education about health and wellness on topics such as injury prevention in the community are also important. These services are particularly important to the health of older populations.

UPMC Presbyterian Shadyside is leveraging UPMC and community resources preventive health and wellness: UPMC Presbyterian Shadyside has an established suite of programs that provides preventive screenings, including those for cancer and heart disease, which are provided at both hospital facilities and within underserved communities. The hospital also provides educational seminars, including those specifically designed for seniors, aimed at increasing awareness of safety and injury prevention. In addition, UPMC Presbyterian Shadyside programs are complemented by UPMC Insurance Services’ efforts in many clinical areas, including provider-focused incentives and community-based programs that encourage plan members to focus on preventive health and wellness.

Preventive Health and Wellness				
Programs	Intended Actions	Anticipated Impact	Target Population	Planned Collaborations
		Goal-Year 3		
Cancer Screenings	Provide cancer screenings and preventive education within underserved communities throughout western Pennsylvania Focus on increasing colorectal cancer screening rates	Improve awareness of and participation in cancer prevention and screenings	Populations, including lower socio-economic status, elderly, individuals with disabilities, racial and ethnic minorities, and uninsured or underinsured	University of Pittsburgh Cancer Institute/UPMC CancerCenter, University of Pittsburgh Center for Health Equity, Healthcare for the Homeless, Carnegie Library of Pittsburgh, Community Libraries, Churches, Salvation Army, Greater Pittsburgh Food Bank, Local Corporations, Residential Treatment Centers, Healthy Start, Teacher’s Federation, Banks, YMCA/YWCA, Local Legislatures, Birmingham Free Clinic, UPMC Gastrointestinal Services, PA Department of Health, Pittsburgh Business Group on Health, University of Pittsburgh Graduate School of Public Health, American Cancer Society
Heads Up Pittsburgh/UPMC Concussion Outreach Program	Provide concussion baseline testing to youth and recreational athletes throughout western Pennsylvania	Improve awareness of concussions and youth and recreational athletes receiving baseline concussion testing	Youth athletes beginning age 7 through 18. Secondly, adults over the age of 18 as needed	Pittsburgh Penguins Foundation, Community College of Allegheny County, Community College of Beaver County, Grove City IU 4, local high schools and BrainSTEPS

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COACH (Community Outreach and Cardiovascular Health) program	Continue to provide cardiovascular screening events and education and expand the scope through new partnerships, relationships, and communities	Improve awareness of heart disease prevention and participation in heart screening events	All individuals in Pittsburgh and surrounding communities; Underserved populations	American Heart Association, Integrated Corporate Health, Pittsburgh Penguins, local churches and shelters, Pittsburgh Girl Friends, Hill House Association, University of Pittsburgh, Maggie Dixon Foundation, Urban League Guild, Simon Malls, Shadyside School of Nursing
Flu and pneumonia vaccinations	Continue to vaccinate patients against influenza and pneumonia	Improve vaccination rates	Hospital patients, including staff	Nursing, Pharmacy, Physicians
Senior Prevention and Wellness	Continue to provide education targeting senior population on topics including injury risks and fall prevention	Improve awareness and education about preventing injury in senior population	Seniors, including families and caregivers	University of Pittsburgh School of Occupational Therapy, AARP, AAA, Local senior citizen organizations, UPMC Presbyterian Injury Prevention Committee, University of Pittsburgh Police
Integrative Wellness Fair and Lecture Series	Continue to host Integrative Cancer Wellness Fair and Clinical Staff Symposium	Improve awareness and participation in integrative wellness events, targeting cancer patients. Integrative cancer care is a comprehensive approach to treating cancer that encompasses both body and mind awareness.	Cancer patients, including caregivers and families	The Yoga Hive, BYS Yoga, Pittsburgh Center for Complementary Health and Healing, Evolve Wellness SPA, Reiki Hands Open Hearts, Pillar Wellness, Ayurveda Wellness Center & Holistic Spa, be Well, and the UPMC Center for Integrative Medicine, Shadyside Hospital Foundation
UPMC Mobile Dental Unit	Provide comprehensive dental care in hard-to-reach neighborhoods	Increase collaboration with local organization. Increase in number of individuals served	Uninsured	Housing Developments, Majesty Care Clinic, Auberle, The Academy, preparing to partner with Pittsburgh Mercy Health System
Center for Integrative Medicine at UPMC Shadyside	Provide monthly and annual lectures on topics that complement conventional medical treatments. Lecture topics include stress reduction, spirituality, and wellness, especially as it relates to chronic conditions, such as behavioral health, cancer, and pain management.	Improve mind-body awareness in helping treat chronic disease	General community	University of Pittsburgh Department of Psychiatry, School of Health and Rehabilitation Sciences, School of Nursing, Carnegie Mellon University
Care Coordination Efforts, such as UPMC Presbyterian Shadyside Pharmacy Program, Community Cardiopulmonary Rehabilitation Services, and Stroke Service for	Continue counseling and delivering medications to patients before leaving the hospital, including exploring innovative approaches to optimize pharmacy transitions Continue to provide care coordination in the emergency department to assist with care transitions Continue to provide follow-	Improve post-discharge coordination for patients, including improving medication adherence, and/or decreasing readmission rates	Emergency department patients, recently discharged patients, including those recovering from a stroke or cardiac event	UPMC Presbyterian and UPMC Shadyside Emergency Departments, UPMC/Jefferson Regional Home Health Clinical Staff and Pharmacy Health Plan, Lawrence N. Adler Rehabilitation and Wellness Center at UPMC Shadyside

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Discharged Patients	up and/or offer programs that improve recovery for stroke patients and cardiac patients			
Other Community Education and Outreach	Participate in community outreach at health fairs, events, and classes. Provide education on health and wellness for a number of different topics, such as chronic disease awareness and screenings, injury prevention, organ donor awareness, and transplant education	Improve awareness of and participation in preventive and wellness events	General community	Gilda's Club, UPMC Pre-Hospital STAT MedEvac, Volunteer Services, Quality and Safety Council Staff Members, CORE, Team Pittsburgh, Transplant Games of America, UPMC and supporters of transplant programs across the US, Carnegie Library, Aging Institute of UPMC Senior Services and the University of Pittsburgh, Shadyside Hospital Foundation

Priority Health Issue: Addressing End-of-Life Care

End-of-life care is a priority in UPMC Presbyterian Shadyside’s community: Almost two-thirds of deaths in Allegheny County result from chronic disease. Nationally, many hospice patients have a primary diagnosis of cancer, dementia, or heart disease/stroke. The majority of individuals in hospice are age 65 and older, and more than one-third are age 85 and older. The number of individuals age 85 and older in Allegheny County has increased since 2000.

UPMC Presbyterian Shadyside is leveraging UPMC and community resources to address End-of-Life Care: UPMC Presbyterian works with patients and their families to ensure that patients are kept as comfortable as possible at the end of their lives, and that symptoms of physical, spiritual, and psychosocial pain and suffering are decreased as much as possible. Leveraging efforts of UPMC Palliative and Supportive Institute, the hospital will host an annual event to increase community awareness about the importance of care planning and continue to implement innovative programs to prepare health care providers in caring for seriously ill patients, and having difficult conversations with patients, including families and caregivers. The hospital will also link with other UPMC efforts, such as through UPMC Community Provider Services and UPMC Health Plan to explore approaches in providing home-based supportive services.

End-of-Life Care				
Programs	Intended Actions	Anticipated Impact		Planned Collaborations
		Goal-Year 3		
<p>Palliative and Supportive Care Program</p> <p>No One Dies Alone</p>	<p>Holding National Health Care Decision Day</p> <p>Educating health care providers about palliative care, having difficult conversations</p> <p>Tracking palliative care efforts</p> <p>Linking with UPMC System on several new home-based initiatives (e.g., Advanced Illness Care Initiative, UPMC Health Plan Initiatives)</p> <p>Continue to provide support to dying patients with no family members nearby</p>	<p>Improved emotional and spiritual support for dying patients</p> <p>Improved awareness about appropriate levels of care (e.g., palliative care, hospice care)</p>	<p>Seriously ill patients, including families or caregivers. Health care providers</p>	<p>UPMC Presbyterian Volunteer Services, Pitt Medical School, University of Pittsburgh, UPMC Palliative and Supportive Institute, UPMC Health Plan, UPMC Community Provider Services</p>

Priority Health Issue: Addressing Behavioral Health¹

Early intervention, assessment, and treatment of behavioral health issues are priorities for the community: National surveillance studies have demonstrated that 18 percent of the U.S. population has mental illness. In Allegheny County, about 43 percent adults in Allegheny County reported experiencing poor mental health in the past month. Given the prevalence of behavioral health conditions, coordinated care for patients with behavioral health conditions, and linkages between behavioral health and physical health providers are important issues for the community. In addition, prevention, early diagnosis, and management of behavioral health issues can enhance the quality of life of those affected, including individuals, families, and communities.

Western Psychiatric Institute and Clinic of UPMC is leveraging UPMC and community resources to address behavioral health: As the primary behavioral health facility in western Pennsylvania, Western Psychiatric provides a wide range of behavioral health services and programs for children, adolescents, and adults, as well as for vulnerable populations such as individuals with disabilities and the homeless. In addition, Western Psychiatric continues to play an active role in Allegheny County Health Department’s *Plan for a Healthier Allegheny*, including the County’s efforts to increase the following: utilization of behavioral health services in outpatient settings, substance abuse screenings and opiate management in primary care settings, and behavioral health assessment integration into various health care settings. This plan outlines a number of Western Psychiatric initiatives intended to better meet the behavioral health needs of the community.

Behavioral Health				
Program	Intended Actions	Anticipated Impact	Target Population	Planned Collaborations
		Goal-Year 3		
Initiative to Reduce Stigma of Behavioral Health	Continue to develop a regional approach to increase public awareness of behavioral health issues and resources, including implementing peer navigator program	Increase awareness of behavioral health resources Improve coordination and access to behavioral health care in the region	General population	University of Pittsburgh, Department of Psychiatry academic researchers, community mental health organizations and providers, advocacy groups, managed care organizations
Children’s Hospital of Pittsburgh of UPMC and Western Psychiatric Child Psychiatry Co-Location Project	Continue to integrate behavioral health therapists in pediatric settings to provide early screening, detection, and management of psychiatric conditions.		Pediatric population: ages 0-18	Children’s Hospital of Pittsburgh of UPMC and Children’s Community Pediatrics clinic locations
Western Psychiatric Co-Location in General and Specialty and Geriatric Care Settings	Continue to integrate behavioral health therapists in general and specialty settings to provide early screening,		General Population	Associated practices

¹ Definition: Behavioral health is an umbrella term that refers to a continuum of services for individuals at risk of, or suffering from, mental, behavioral and/or addiction disorders.

Behavioral Health				
Program	Intended Actions	Anticipated Impact	Target Population	Planned Collaborations
		Goal-Year 3		
	detection, and management of psychiatric conditions	Increase awareness of behavioral health resources Improve coordination and access to behavioral health care in the region		
Blended Service Coordination (BSC) Wellness Initiative for People With Chronic Behavioral Health Issues	Continue to provide group interventions utilizing wellness toolkits, including support for smoking cessation, weight loss, exercise, and dietary changes		Adults with chronic behavioral health issues	Community Care Behavioral Health, Allegheny County Dept. of Health Services, Allegheny Health Choices, Inc.
Metabolic Syndrome Screenings	Continue to provide screenings to detect Metabolic Syndrome, a group of risk factors that occur together and increase risk for diabetes, high blood pressure, and hyperlipidemia.		Adults ages 18 and older with chronic behavioral health issues	Family practice providers
Eating Disorder Training	Continue to provide Western Psychiatric/Children’s Hospital of Pittsburgh of UPMC sponsored training for community physical and mental health providers Develop a model for ongoing consultation between Western Psychiatric, Children’s Hospital of Pittsburgh of UPMC Adolescent Medicine, and community providers Host eating disorder multidisciplinary consultation team meetings		Community providers and medical students	Women’s Health Group (UPMC Internal Medicine), Children’s Hospital of Pittsburgh of UPMC Adolescent Medicine, Clarion County providers
Adult Trauma Recovery Inpatient Unit (ATRIUM)	Provide newly developed evidence-based treatment, including recovery principles for individuals requiring inpatient care due to issues related to trauma		Inpatients requiring care due to issues related to trauma exposure and symptomatology	

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Behavioral Health				
Program	Intended Actions	Anticipated Impact	Target Population	Planned Collaborations
		Goal-Year 3		
Prevention Education and Student Assistance Programs (SAP)	Provide evidence-based programs to prevent initiation of alcohol, tobacco, and other drug use and reduce harm and intergenerational transmission of addiction and violence for children, youth, and families	<p>Increase awareness of behavioral health resources</p> <p>Improve coordination and access to behavioral health care in the region</p>	Schools and students in the region	Regional pre-school, elementary, middle, and secondary schools
Homeless Population: Western Psychiatric Homeless Continuum	Provide services to individuals who are homeless and suffering from mental illness in Allegheny County		Individuals and families who are homeless in Allegheny County	
Individuals with Developmental Disabilities: Vocational Training Center Community Supported Employment Project (SEP)	Continue to provide programming and paid work in an environment of increased independence within a community-based adult training facility. Continue to provide assistance in securing and maintaining competitive employment		Adolescents and adults with intellectual disability and/or autism/pervasive developmental disorder	Pennsylvania Department of Human Services Office of Developmental Programs
Child Service Line Depression Screening	Provide depression screening in children with behavioral health issues		Adolescents ages 12-18 diagnosed with Major Depressive Disorder attending the AAPHP at Western Psychiatric	
Conroy School-Merck Intensive Day Treatment Program	Provide screening and treatment to children with autism spectrum disorders		Ages 5-20, with autism, intellectual disability, other developmental disabilities, and behavioral health disorders	Pittsburgh Public Schools
Autism Spectrum Disorders Early Detection and Treatment Programs	Continue to provide early detection and treatment of children and adolescents with autism spectrum disorders		Families and children with autism spectrum disorder, pervasive developmental disorder, and other developmental disabilities	Jewish Community Center Summer Day Camp at Monroeville and South Hills sites

Behavioral Health				
Program	Intended Actions	Anticipated Impact	Target Population	Planned Collaborations
		Goal-Year 3		
Palliative Care Program at UPMC Senior Care-Benedum Geriatric Center	Provide outpatient palliative care through a program that was jointly developed by the Benedum Geriatric Center and the Palliative Care Program	Increase awareness of behavioral health resources Improve coordination and access to behavioral health care in the region	Seniors recently discharged from UPMC Presbyterian Shadyside	UPMC Senior Care-Benedum Geriatric Center
Geriatric In-Home Clinic	Continue to provide psychiatric assessment, medication management, nursing support, and therapy		Seniors	Allegheny County and other community agencies

Outcomes and Evaluation of Hospital Implementation Plans:

UPMC engaged with researchers from Pitt Public Health to develop evaluation metrics to measure and track progress related to this implementation plan. The metrics vary by hospital, according to health outcomes, current hospital efforts, and hospital resources.

The implementation plan was developed with the expectation that future progress would be reviewed by the hospital as well as potentially by public health agencies. Therefore, two types of outcomes are considered:

- Process Outcomes (directly relating to hospital/partner delivery of services):** Process outcomes indicate efforts hospitals and community partners can undertake to increase delivery of a service designed to change a health impact indicator. These mostly involve increases (or better targeting) in programming, outreach, publicity, or related efforts. Process outcomes can be measured by increases in investment (dollars or personnel), outreach (media messages, public service announcements), service units delivered (classes, screenings), people attending or completing programs, and number of sites for delivery of programs.
- Health Impact Outcomes (applies to changes in population health for which the hospital's efforts are only indirectly responsible):** Health impact outcomes are changes in population health related to a broad array of factors, of which hospital and community partner efforts are only one contributing part. These outcomes include reductions in the prevalence of disease, risk factors, and health behaviors associated with disease. Benchmarks for progress in population indicators are available from *Healthy People 2020* and Robert Wood Johnson Foundation county health rankings.

APPENDIX B: Detailed Community Health Needs Profile

Population Demographics:

Characteristics	Allegheny County	Pennsylvania	United States
Area (sq. miles)	730.08	44,742.70	3,531,905.43
Density (persons per square mile)	1675.6	283.9	87.4
Total Population, 2010	1,223,348	12,702,379	308,745,538
Total Population, 2000	1,281,666	12,281,054	281,424,600
Population Change ('00-'10)	(58,318)	421,325	27,320,938
Population % Change ('00-'10)	-4.6%	3.4%	9.7%
Age			
Median Age	41.3	40.1	37.2
% <18	19.8%	22.0%	24.0%
% 18-44	34.9%	34.3%	36.5%
% 45-64	28.5%	28.1%	26.4%
% >65+	16.8%	15.4%	13.0%
% >85+	2.9%	2.4%	1.8%
Gender			
% Male	47.9%	48.7%	49.2%
% Female	52.1%	51.3%	50.8%
Race/Ethnicity			
% White*	81.5%	81.9%	72.4%
% African-American*	13.2%	10.8%	12.6%
% American Indian and Alaska Native*	0.1%	0.2%	0.9%
% Asian*	2.8%	2.7%	4.8%
% Native Hawaiian/Other Pacific Islander*	0.0%	0.0%	0.2%
% Hispanic or Latino**	1.6%	5.7%	16.3%
Disability	12.8%	13.1%	11.9%

*Reported as single race; **Reported as any race

Source: US Census, 2010

UPMC Presbyterian Shadyside

Social and Economic Factors:

Characteristics	Allegheny County	Pennsylvania	United States
Income, Median Household	\$47,505	\$49,288	\$50,046
Home Value, Median	\$119,000	\$165,500	\$179,900
% No High School Diploma*	7.4%	11.6%	14.4%
% Unemployed**	8.3%	9.6%	10.8%
% of People in Poverty	12.0%	13.4%	15.3%
% Elderly Living Alone	13.1%	11.4%	9.4%
% Female-headed households with own children <18	6.2%	6.5%	7.2%
Health Insurance			
% Uninsured	8.0	10.2	15.5
% Medicaid	11.3	13.1	14.4
% Medicare	12.1	11.2	9.3

*Based on those ≥25 years of age; **Based on those ≥16 years and in the labor force

Source: US Census, 2010

Leading Causes of Mortality for the United States Compared to Pennsylvania and Allegheny County (rates per 100,000 population):

Causes of Death	Allegheny County	Pennsylvania	United States
	Percent of Total Deaths	Percent of Total Deaths	Percent of Total Deaths
All Causes	100.0	100.0	100.0
Diseases of Heart	24.8	24.3	23.5
Malignant Neoplasms	23.2	22.8	22.5
Chronic Lower Respiratory Diseases	4.8	5.2	5.7
Cerebrovascular Diseases	4.8	5.1	5.0
Unintentional Injuries	5.0	4.9	5.0
Alzheimer's Disease	2.9	2.8	3.3
Diabetes Mellitus	2.7	2.9	2.9
Influenza and Pneumonia	2.1	1.9	2.2
Nephritis, Nephrotic Syndrome and nephrosis	2.1	2.2	1.8
Intentional Self-Harm (Suicide)	1.1	1.3	1.6

Sources: Pennsylvania Department of Health, 2012; National Center for Health Statistics, 2013

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Comparison of Additional Health Indicators for Allegheny County to Pennsylvania, United States, and Healthy People 2020:

Characteristics	Allegheny County	Pennsylvania	United States	Healthy People 2020
Morbidity				
Diabetes (%)	11.0	10.0	8.7	NA
Mental Health (Mental health not good \geq 1 day in past month) (%)	43.0	35.0	NA	NA
Low Birthweight (% of live births)	7.6	8.1	8.0	7.8
Health Behaviors				
Obesity (Adult) (%)	28.5	30.0	29.4	30.5
Childhood Obesity (Grades K-6) (%)	15.3	16.4	17.7	15.7
Childhood Obesity (Grades 7-12) (%)	17.0	18.0	20.5	16.1
Excessive Alcohol Use (%)	33.0	17.0	16.8	24.4
Current Tobacco Use (%)	23.0	21.0	19.0	12.0
STDs (Gonorrhea per 100,000)* (%)	251.5	150.5	250.6	251.9
Clinical Care (%)				
Immunization: Ever had a Pneumonia Vaccination (65+) (%)	78.0	69.0	69.5	90.0
Cancer Screening				
Mammography (%)	59.0	60.0	74.0	81.1
Colorectal Screening (%)	66.0	69.0	67.3	70.5
Primary Care Physician: Population (PCP Physicians/100K Population)	108.6	82.0	75.8	NA
Receive Prenatal Care in First Trimester (%)	89.1	72.4	71.0	77.9

Sources:

Allegheny County Data: Allegheny County Health Survey 2009-2010; Pennsylvania Department of Health, 2012; Obesity Data, 2012-2013; Health Resources and Services Administration (HRSA), 2014-2015

Pennsylvania Data: Pennsylvania Department of Health, 2012; Data from Behavioral Risk Factor Surveillance System, 2013; Obesity Data, 2012-2013; Health Resources and Services Administration (HRSA), 2014-2015

U.S. Data: U.S. Centers for Disease Control and Prevention, 2013; Health Resources and Services Administration (HRSA), 2014-2015; Healthy People, 2020

**Gonorrhea data:* County and Pennsylvania rates are per 15-35+ year old women; National and Healthy People 2020 rates are per 15-44 year old women

APPENDIX C:

Input from Persons Representing the Broad Interests of the Community

Overview:

To identify and prioritize health needs of the communities served by UPMC hospitals, the organization solicited and took into account input from persons who represent the broad interests of the community. During June through July 2015, more than 1,500 community leaders and members representing medically underserved, low-income and minority populations, consumer advocates, nonprofit organizations, academic experts, local government officials, local school districts, community-based organizations, and health care providers were invited to participate in UPMC's community health needs survey. More than 500 individuals completed the survey, and greater than 70 percent of those participants self-identified as being a representative or member of a medically underserved, minority, or low-income population. The goal of the survey was not only to provide community members with an opportunity to comment on UPMC's 2013 CHNA and implementation strategy, but also to identify other potential significant health needs.

To ensure the CHNA community input process was conducted in a rigorous manner reflecting best practices, UPMC sought support and guidance from individuals and organizations with expertise in public health. UPMC engaged with the University of Pittsburgh Graduate School of Public Health (Pitt Public Health) Department of Behavioral and Community Health Sciences to build on the methodology employed in UPMC's 2013 CHNA. Pitt Public Health assisted in:

- Developing a framework to itemize and prioritize community health needs
- Developing a survey tool for obtaining structured input from community leaders and community members
- Administering the online survey using Qualtrics web software (and also in paper format upon request)
- Analyzing survey results

In addition, local and state public health department input and data were obtained and utilized in this community health needs assessment. UPMC relied on publicly available Pennsylvania Department of Health reports and additional local health department information accessed via telephone conversations and in-person meetings.

UPMC also considered findings from the Allegheny County Health Department's (ACHD) *2015 Community Health Assessment*, released in April 2015, which identified five areas of focus: chronic disease; maternal and child health; mental and substance use disorders; access; and environment. In addition, UPMC examined ACHD's *Plan for a Healthier Allegheny*, a strategic plan that addresses the health issues identified in the assessment. UPMC takes an active role in Allegheny County's community health initiatives. During Fiscal Years 2015 and 2016, UPMC representatives attended ACHD community and workgroup meetings, served on a County Advisory Council, and met with ACHD officials to discuss community health initiatives and identify approaches to better align efforts.

Stakeholder Input

UPMC Presbyterian Shadyside's Fiscal Year 2016 CHNA builds on the assessment process originally applied in 2013. That assessment used concept mapping to elicit stakeholder prioritization of health problems and develop group consensus on priorities. In the concept mapping effort, community advisory panels at each hospital participated in focus groups to brainstorm and then sort a set of 50 community health problems (see Appendix D for list of 50 topics). Concept mapping software uses this sorting data to create a display that illustrates the relationships between health topics, and allows aggregation of topics into thematic areas. The 50 topics were grouped into three main thematic areas: prevention and healthy living, chronic disease, and navigating the health care system. For example, stakeholders reliably sorted "access to specialist care" and "care coordination and continuity" into a common group. These form clusters in concept maps and allow rational aggregation into larger health priority areas, in this case "navigating the health care system."

Community panel members then rated community health problem areas according to the following three dimensions — importance of the problem to the community, the likelihood of having a measurable impact on the problem, and the ability of the hospital to address the problem. Using a criterion of high ratings on all three dimensions, combined with results of secondary analysis of population health indicators, generated health topics which were considered significant health needs.

Confirming Community Health Needs

In Fiscal Year 2015, surveys of hospital community advisory panels were used to assess the stability and continuing importance of Fiscal Year 2013 significant health needs. Advisory panels were invited to participate in an online Qualtrics survey, administered by Pitt Public Health. Survey respondents were presented community health priorities from Fiscal Year 2013 and asked to rate these on whether the health problem "remains a major problem," "is somewhat of a problem," or "is no longer a problem." Before the survey was sent out, advisory panels were able to nominate new health priorities, which were added to this initial list. In addition, panels repeated their ratings of importance, impact, and hospital ability for a set of all 18 community health priorities identified by all UPMC hospitals in the previous Fiscal Year 2013 CHNA to identify potentially new community health needs. Finally, the survey included an open-ended question to allow participants an opportunity to suggest other health problems.

Overall, nearly 90 percent of participants responded that health topics identified in the first round of CHNAs continue to remain or are somewhat a problem in UPMC's hospital communities. Stability and consistency are not surprising, given that these are significant health issues that need more than two to three years to show meaningful improvement. Fiscal Year 2013 community health need priorities were considered to remain priorities if more than half of respondents considered them to "remain a major problem." If a Fiscal Year 2013 health priority did not achieve this rating, new priorities were added based on ratings of other health priorities. These new health priorities were identified by high scores on the dimensions of importance, measurable impact, and hospital ability and also represented health concerns not subsumed in current specified priorities.

Community Representation and Rationale for Approach

Each hospital community advisory panel consisted of hospital board members, hospital staff, and community members. Community members were leaders of organizations that represented different patient constituencies and medically underserved, low-income, and minority populations and were invited to participate to ensure that a wide range of community interests were engaged in identifying community health needs. Organizations serving the medically underserved were well represented on the panels. In addition to hospital panels, the CHNA also included a community-wide panel consisting of health departments, mental health service providers, philanthropies, and other agencies providing health services not linked to particular hospitals.

Analyses disaggregated ratings to confirm that ratings were stable across different stakeholders.

The panels ensured that a wide variety of constituencies had an opportunity to weigh in on hospital community health priorities. Use of advisory panels and a survey explicitly assessing the continuing relevance of prior health priorities offers a number of advantages:

- It explicitly assesses stability/change of community health needs, while allowing participants an opportunity to consider new health priorities
- It uses the same measures to assess importance, impact, and hospital ability to address health priorities, which will allow tracking over time
- It elicits perceptions of a broad and inclusive list of hospital and community leaders who in turn represent a broad group of constituents
- It allows assessment of consensus across different kinds of stakeholders

UPMC Presbyterian Shadyside invited representatives from the following organizations to participate in the community needs survey conducted in June 2015:

- **American Heart Association, Pittsburgh, PA**
- **Baum/Center Initiative, Pittsburgh, PA**
- **Bloomfield-Garfield Corp, Pittsburgh, PA**
- **Carnegie Mellon University, Pittsburgh, PA**
- **City of Pittsburgh Mayor's Office, Pittsburgh, PA**
- **Community Human Services Corporation, Pittsburgh, PA**
- **East End Cooperative Ministries, Pittsburgh, PA**
- **East Liberty Chamber of Commerce, Pittsburgh, PA**
- **Family House, Pittsburgh, PA**
- **Global Links, Pittsburgh, PA**
- **Good Grief, Pittsburgh, PA**
- **Greater Pittsburgh Community Food Bank, Duquesne, PA**
- **Oakland Business Improvement District, Pittsburgh, PA**
- **Oakland Planning and Development Corporation, Pittsburgh, PA**
- **People's Oakland, Pittsburgh, PA**
- **Pittsburgh City Council, Pittsburgh, PA**
- **Schenley Farms Civic Association, Pittsburgh, PA**
- **Shadyside Chamber of Commerce, Pittsburgh, PA**
- **Shadyside Hospital Foundation, Pittsburgh, PA**
- **United Way of Allegheny County, Pittsburgh, PA**
- **University of Pittsburgh, Community Relations, Pittsburgh, PA**
- **University of Pittsburgh, School of Nursing, Pittsburgh, PA**
- **Women's Center and Shelter of Greater Pittsburgh, Pittsburgh, PA**

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The UPMC Presbyterian Shadyside community survey was also supported by members of the hospital's Board of Directors and physicians, as well as hospital leadership.

Additionally, a UPMC system-wide group comprised of individuals and organizations representing the broad interests of the region's communities — including representatives from medically underserved, low-income, and minority populations — was invited to participate in the survey. Invitees included representatives from the following organizations:

- **Achieva, Pittsburgh, PA**
- **Action Housing, Inc., Pittsburgh, PA**
- **Allegheny County Area Agency on Aging, Pittsburgh, PA**
- **Allegheny County Department of Human Services, Pittsburgh, PA**
- **Allegheny County Office of Children, Youth, and Families, Pittsburgh, PA**
- **Allegheny Intermediate Unit, Homestead, PA**
- **Bethlehem Haven, Pittsburgh, PA**
- **Big Brothers Big Sisters of Greater Pittsburgh, Pittsburgh, PA**
- **Carlow University, Pittsburgh, PA**
- **Catholic Charities Free Health Care Center, Pittsburgh, PA**
- **Center for Engagement and Inclusion, UPMC, Pittsburgh, PA**
- **City of Pittsburgh Bureau of Police, Pittsburgh, PA**
- **Community College of Allegheny County, Monroeville, PA**
- **Consumer Health Coalition, Pittsburgh, PA**
- **Coro Center for Civic Leadership, Pittsburgh, PA**
- **EDSI Solutions, Pittsburgh, PA**
- **Erie Regional Chamber and Growth Partnership, Erie, PA**
- **Expanding Minds, LLC, Pittsburgh, PA**
- **Goodwill of Southwestern Pennsylvania, Pittsburgh, PA**
- **Greater Pittsburgh Community Food Bank, Duquesne, PA**
- **Healthy Lungs Pennsylvania, Cranberry Township, PA**
- **Higher Achievement, Pittsburgh, PA**
- **Hosanna House, Inc., Wilkinsburg, PA**
- **iGate Corporation, Pittsburgh, PA**
- **Imani Christian Academy, Pittsburgh, PA**
- **Jewish Family and Children's Service of Pittsburgh, Pittsburgh, PA**
- **Josh Gibson Foundation, Pittsburgh, PA**
- **Junior Achievement of Western Pennsylvania, Pittsburgh, PA**
- **Kaplan Career Institute, Pittsburgh, PA**
- **Kingsley Association, Pittsburgh, PA**
- **LEAD Pittsburgh, Pittsburgh, PA**
- **Let's Move Pittsburgh, Pittsburgh, PA**
- **Mainstay Life Services, Pittsburgh, PA**
- **The Mentoring Partnership of Southwestern PA, Pittsburgh, PA**
- **NAMI Southwest Pennsylvania, Pittsburgh, PA**
- **Neighborhood Learning Alliance, Pittsburgh, PA**
- **Office of Human Services, Allegheny County Department of Human Services, Pittsburgh, PA**
- **Operation StrongVet Western Pennsylvania, Wexford, PA**
- **Pennsylvania Health Access Network, Pittsburgh, PA**
- **Pennsylvania Health Law Project, Pittsburgh, PA**
- **Persad Center, Pittsburgh, PA**

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- Pittsburgh Action Against Rape, Pittsburgh, PA
- Pittsburgh Black Nurses in Action, Pittsburgh, PA
- Pittsburgh Board of Education, Pittsburgh, PA
- Pittsburgh Disability Employment Project for Freedom, Pittsburgh, PA
- Pittsburgh Job Corps Center, Pittsburgh, PA
- The Pittsburgh Promise, Pittsburgh, PA
- Ralph A. Falbo, Inc., Pittsburgh, PA
- Randall Industries, LLC, Pittsburgh, PA
- Salvation Army of Western Pennsylvania, Carnegie, PA
- Smart Futures, Pittsburgh, PA
- United Way of Allegheny County, Pittsburgh, PA
- University of Pittsburgh School of Health and Rehabilitation Sciences, Pittsburgh, PA
- University of Pittsburgh Health Sciences, Pittsburgh, PA
- UPMC Board Diversity and Inclusion Committee, Pittsburgh, PA
- Urban League of Greater Pittsburgh, Pittsburgh, PA
- Ursuline Support Services, Pittsburgh, PA
- VA Pittsburgh Healthcare System, Pittsburgh, PA
- The Waters Foundation, Pittsburgh, PA
- The Wynning Experience, Pittsburgh, PA
- Vibrant Pittsburgh, Pittsburgh, PA
- Western Pennsylvania Conservancy, Pittsburgh, PA
- Women for a Healthy Environment, Pittsburgh, PA
- Women's Center and Shelter of Greater Pittsburgh, Pittsburgh, PA
- YMCA of Greater Pittsburgh, Pittsburgh, PA
- YWCA of Greater Pittsburgh, Pittsburgh, PA

APPENDIX D: Concept Mapping Methodology

Overview:

UPMC Presbyterian Shadyside, with consultation and support from Pitt Public Health, utilized a research method known as concept mapping to develop a better understanding of perceived health problems for its community. Concept mapping is well suited for a Community Health Needs Assessment because the research method involves stakeholders in the process and allows for prioritization of health problems based on community input.

Concept mapping is a participatory research method that yields a conceptual framework for how a group of stakeholders views a particular topic or issue. The method explores the relationships of ideas and concepts and allows for the development of group consensus. It allows for the collection of a wide range of stakeholder-generated ideas and applies quantitative analytical tools (i.e., multidimensional scaling and hierarchical cluster analysis). Concept mapping output includes a concept map which is a diagram that illustrates the relationships between ideas. The research method is used to facilitate the creation of a shared vision and understanding within a group. The research method synthesizes individual data and includes a rating process that is used to prioritize key issues.

Each UPMC hospital completed the concept mapping and through the process identified hospital-specific priority community health problems based on stakeholder input.

Application of Concept Mapping for UPMC Presbyterian Shadyside:

UPMC Presbyterian Shadyside established a community advisory council. Participants contributed through face-to-face meetings and online input.

The concept mapping research method consisted of two stages:

- **Brainstorming — gathering stakeholder input**
- **Sorting and Rating — organizing and prioritizing the stakeholder input**

Brainstorming - Identifying Health Needs:

In the brainstorming meeting, the UPMC Presbyterian Shadyside Community Advisory Council met in person to solicit members' input on the focal question, "What are our community's biggest health problems?"

Council members first brainstormed independently and then shared their lists with the Pitt Public Health research team. Their responses were then compiled to generate a full list of community health problems for the hospital. The Pitt Public Health research team shared the full list with the group and facilitated a group discussion of the responses to ensure the list was comprehensive and reflected the scope of health problems faced in the UPMC Presbyterian Shadyside community.

UPMC Presbyterian Shadyside's brainstorming list was integrated with brainstorming lists from the other UPMC hospitals to develop a final master list of community health problems to be used in the subsequent concept mapping sorting and rating. A consolidated final master list of the 50 community health problems was distilled from the robust community input. The following table presents each of the 50 community health problems and provides a numerical value in parentheses so that the item can be linked with the concept map presented in the following figure.

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Final Master List of 50 Community Health Problems

Nutrition and healthy eating (1)	Diabetes (11)	Medication management and compliance (21)	High Blood Pressure/Hypertension (31)	Smoking and tobacco use (41)
Immunizations/Vaccinations (2)	Health literacy – ability to understand health information and make decisions (12)	Exercise (22)	Breast cancer (32)	Adolescent health and social needs (42)
Lung cancer (3)	Urgent care for non-emergencies (13)	Navigating existing health care and community resources (23)	Pediatrics and child health (33)	Depression (43)
Maternal and infant health (4)	End of life care (14)	Preventive Screenings (cancer, diabetes, etc) (24)	Sexual health including pregnancy and STD prevention (34)	Support for families/caregivers (44)
Alcohol abuse (5)	Asthma (15)	Heart Disease (25)	Dementia and Alzheimer’s (35)	Health insurance: understanding benefits and coverage options (45)
Adult obesity (6)	Prenatal care (16)	Primary Care (26)	Chronic Obstructive Pulmonary Disease (COPD) (36)	Preventive health/wellness (46)
Drug abuse (7)	Dental care (17)	Childhood obesity (27)	Stroke (37)	Injuries including crashes and sports related, etc (47)
Access to specialist physicians (8)	Financial access: understanding options (18)	Intentional injuries including violence and abuse (28)	Post-discharge coordination and follow-up (38)	Childhood developmental delays including Autism (48)
Behavioral health /mental health (9)	High cholesterol (19)	Cancer (29)	Arthritis (39)	Eye and vision care (49)
Geographic access to care (10)	Care coordination and continuity (20)	Social support for aging and elderly (30)	Senior health and caring for aging population (40)	Environmental health (50)

Sorting and Rating – Prioritizing Health Needs:

The UPMC Presbyterian Shadyside Community Advisory Council completed the sorting and rating activities via the Internet. Each participant was asked to sort the master list of 50 community health problems into thematic areas, and to then rate the problems using a 1 to 5 Likert scale, according to the following criteria:

Importance:

How important is the problem to our community?

(1 = not important; 5 = most important)

Measurable Impact:

What is the likelihood of being able to make a measurable impact on the problem?

(1 = not likely to make an impact; 5 = highly likely to make an impact)

Hospital Ability to Address:

Does the hospital have the ability to address this problem?

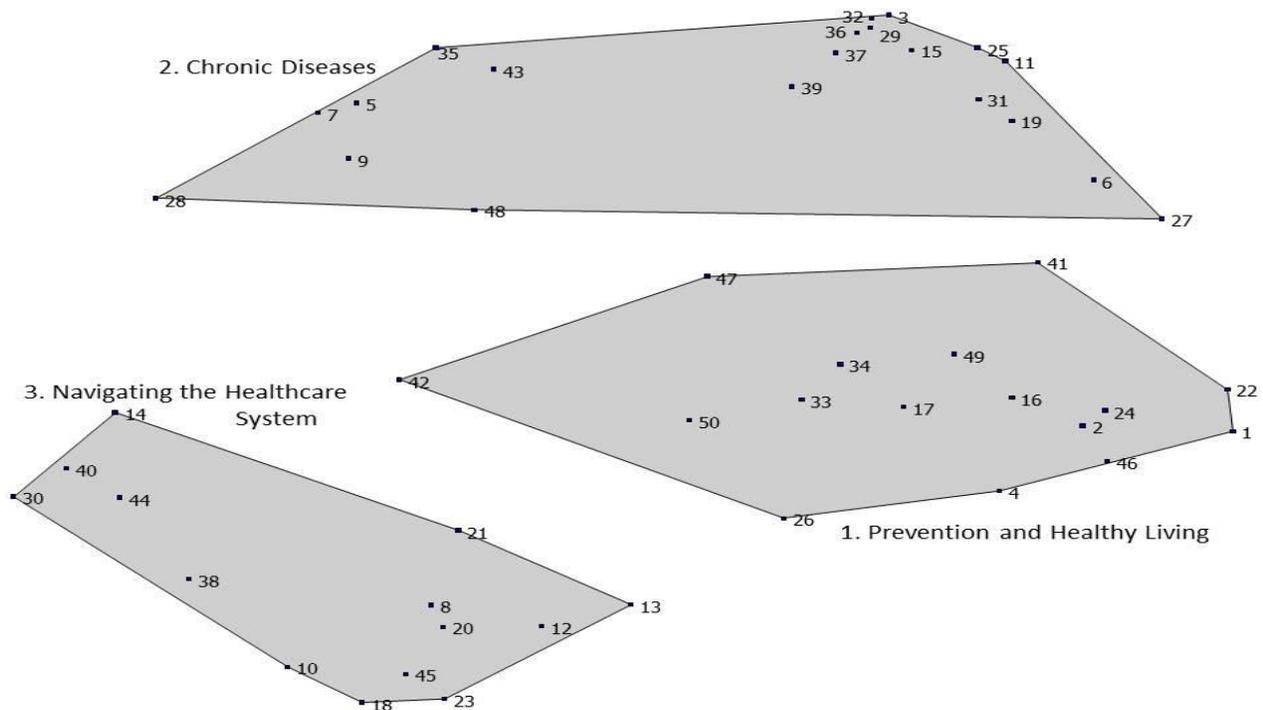
(1 = no ability; 5 = great ability)

Multi-dimensional scaling was applied to the sorting data to examine similarities between the 50 community health problems. Hierarchical clustering was used to group the sorting data into common thematic areas and to establish a final cluster map which provided a visual representation of the data. The final cluster map of the 50 community health problems reflects three thematic areas (See Figure below):

- **Prevention and Healthy Living (16 items)**
- **Chronic Diseases (20 items)**
- **Navigating the Healthcare System (14 items)**

Each of the 50 community health problems are represented in the figure below as a point. The numbers next to each point correspond to the item number. For example, item #31 is High Blood Pressure/Hypertension. The proximity of the points to each other illustrates the group thoughts about the degree of similarity between the items. For example, item #31 (High Blood Pressure/Hypertension) and item #19 (High Cholesterol) were felt to be very similar. Those two community health problems appear on the right side of the Chronic Diseases cluster.

Final Cluster Map:



For each of the rating criteria, the rating levels were broken into three equal distributions (tertiles) representing high, moderate, and low priority. The cut points for each rating criteria are as follows:

Importance:

Low (1-3.67); Moderate (3.68-4.06); High (4.07-5.0)

Measurable Impact:

Low (1-3.33); Moderate (3.34-3.83); High (3.84-5.0)

Hospital Ability to Address:

Low (1-3.20); Moderate (3.21-3.85); High (3.86-5.0)

Within each cluster, the rating data for each individual community health problem was examined across all three rating criteria. For example, in the Prevention and Healthy Living cluster, the 16 individual community health problems were identified as being low, moderate, or high for the importance, measurable impact, and hospital ability to address rating criteria.

The rating categories results were then combined with results from secondary data analyses and used to identify high-priority community health problems for UPMC Presbyterian Shadyside. Leadership from UPMC Presbyterian Shadyside next consulted with experts from Pitt Public Health and members of the community advisory council to review the list of high-priority community health problems and identify the set of needs that are critical, addressable, and have high levels of urgency in the community. The resulting list constituted the top tier of health problems for the community.