UPMC Northwest

Community Health Needs Assessment

And

Community Health Strategic Plan

June 30, 2016

TABLE OF CONTENTS

EXECUTIVE SUMMARY

UPMC Northwest Plays a Major Role in its Community:

UPMC Northwest is a nonprofit, 174-bed acute-care hospital located in Venango County, Pennsylvania. Operating from a campus in Seneca, Pennsylvania, the state-of-the-art facility is the only hospital in Venango County. It delivers a full range of quality medical services, including highly specialized medical and surgical treatment, to the residents of Venango County and surrounding rural areas.

UPMC Northwest 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 Northwest in the Community

UPMC Northwest is designated as an Advanced Primary Stroke Center.

The hospital is also the only facility in Venango County to offer inpatient behavioral health services.

UPMC Northwest 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 Northwest 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:

- **Maternal and Infant Health**
- **Diabetes**
- **Breast Cancer**

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

- **Maternal and Infant Health**
- **Diabetes**
- **Respiratory Diseases**

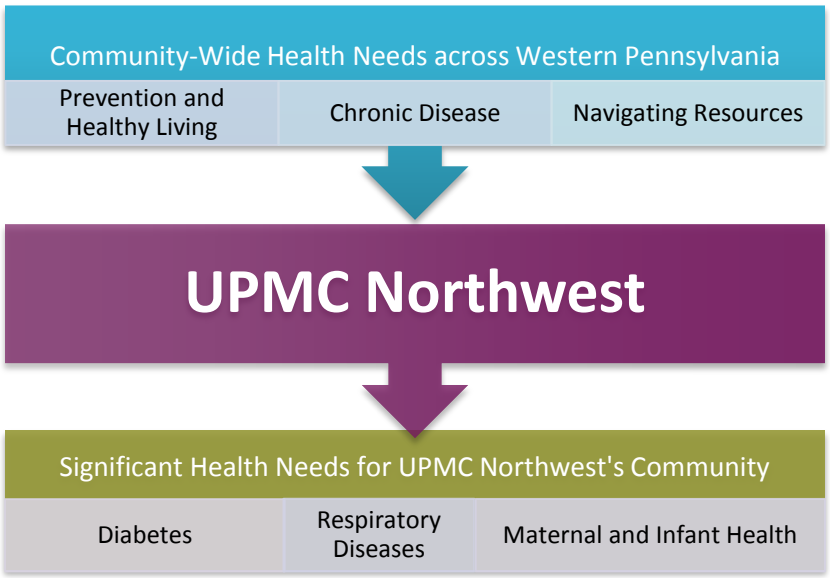
On April 26, 2016, the UPMC Northwest Board of Directors adopted an implementation plan to address the significant health needs identified in the Fiscal Year 2016 CHNA, and to set measurable targets for continued improvement. The plan drew support from an array of community partners, as well as from 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
Maternal and Infant Health	The well-being of mothers and infants is important for a healthy community. Accessing prenatal care and engaging in healthy behaviors during pregnancy is associated with healthy birth outcomes.
Diabetes	Diabetes is a leading cause of death in Venango County. Healthy behaviors, such as screenings and maintaining a healthy weight, can help reduce one's risk for this disease.
Respiratory Diseases	Chronic lower respiratory diseases are a leading cause of death in Venango County. Tobacco use, a key contributor to many respiratory diseases, is higher in Venango County compared to benchmarks.

Collective Impact Across Western Pennsylvania:

Western Pennsylvania has a diverse range of health needs. Key themes that emerged from the Fiscal Year 2016 UPMC Northwest 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 Northwest is planning a wide range of prevention and chronic disease support activities.
- **Navigating Available Resources:** Established health care programs in UPMC Northwest'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 Northwest 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.

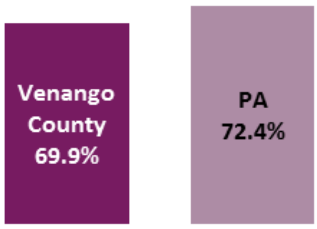


PROGRESS REPORT 2013-2016: MATERNAL AND INFANT HEALTH

GOAL: UPMC Northwest is encouraging healthy behaviors through community education and support programs focused on prenatal and postpartum care.

Community Need

Fewer women in Venango County receive early prenatal care, compared to the state.



(*PADOH 2010-2012*)

STRATEGY:
The hospital is enhancing efforts to educate and support pregnant women and new mothers.

To achieve this goal, the hospital is targeting pregnant women of childbearing age as well as new families. Because access to prenatal care and engaging in healthy behaviors during pregnancy is important for healthy birth outcomes, UPMC Northwest is expanding its maternal and infant health education and support programs. The hospital's recent efforts include:

- Helping pregnant women and new mothers get care and support
- Identifying and treating newborns addicted to opiates
- Implementing strategies to prevent Sudden Infant Death Syndrome (SIDS)

PROGRESS:
UPMC Northwest is making a measurable impact among pregnant women and families.

Supporting expectant mothers and families

The hospital offers a variety of classes to educate pregnant women about healthy behavior during and after pregnancy. Attendance has increased from 364 in 2012, to 730 in 2015. In addition, the hospital promotes breastfeeding initiatives – employing certified breastfeeding counselors and offering tutorials – to educate expectant mothers about all aspects of breastfeeding. In partnership with the Adagio Clinic, UPMC Northwest also helps care for pregnant women who are uninsured or underserved. Approximately 58 percent of women delivering at the hospital are covered by Medicaid.

Treated 48 infants born with drug addictions

Since 2012, the number of babies born in the UPMC Northwest service area with drug addictions has nearly tripled, growing from 19 in 2012 to 48 in 2015. The hospital has developed initiatives to identify these babies and treat them for withdrawal, and is working with community organizations — such as the Venango County Opiate Task Force, Venango County Human Services, and Venango County Children and Youth Services — to address this growing problem.

Recognized as a National Certified Silver Safe Sleep Leader

The UPMC Northwest Family Birthing Center is helping every baby sleep more safely. In April 2015, the facility was designated as a "Safe Sleep Leader," receiving recognition and accreditation as a National Certified Silver Safe Sleep Leader from Cribs for Kids®. The hospital is training staff on sleep guidelines, educating parents on safe sleep practices, and replacing receiving blankets with wearable blankets to eliminate loose bedding in cribs.

PROGRESS REPORT 2013-2016: BREAST CANCER

GOAL: UPMC Northwest is increasing awareness of breast cancer prevention, screening, and management.

Community Need

1 in 4

deaths in Venango County is due to cancer.

(*PADOH, 2012*)

STRATEGY:
The hospital is leveraging available resources to address breast cancer in Venango County.

To achieve this goal, the hospital is targeting women 40 years of age and older, low-income individuals, minorities, and any individual diagnosed with breast cancer. UPMC Northwest is delivering cancer care to area residents through a diversified approach, including:

- Encouraging early detection of breast cancer through mammogram screenings
- Supporting women through the diagnosis and treatment process

PROGRESS:
UPMC Northwest is making a measurable difference in addressing cancer in Venango County.

Number of annual mammograms increased by more than 500 in 2015

The hospital continues to promote mammography screening, particularly to uninsured women. As a result, the number of mammograms performed at UPMC Northwest has increased from 7,620 in 2012 to 8,123 in 2015. In addition, 100 percent of those screened received their mammogram results the same day. The hospital is also working with the Adagio Clinic to connect eligible low-income women with a voucher program to help defray the cost of mammograms. In 2015, a total of 48 eligible women participated.

Offering support through diagnosis and treatment

Through the hospital's *Breast Navigator* program, every breast cancer patient is connected with a care navigator, a nurse who guides patients through the diagnosis and treatment process. In 2015, the Breast Navigator program received 167 referrals, and 56 malignant cases were identified. Other support programs include the *Wig Bank*, *Look Good Feel Better*, and transportation assistance to help patients get to appointments.

Uniting community members by celebrating breast cancer survivors

In collaboration with the Northwest Hospital Foundation, the hospital continues to hold its annual *Survivors Celebration Picnic* during Cancer Awareness Week. Each summer, families and friends are invited to celebrate life and to honor survivors and loved ones. More than 275 individuals attended this past year. Additional community efforts include: *Relay for Life* of the American Cancer Society, cancer walks, and the *Pink Splash Event*.

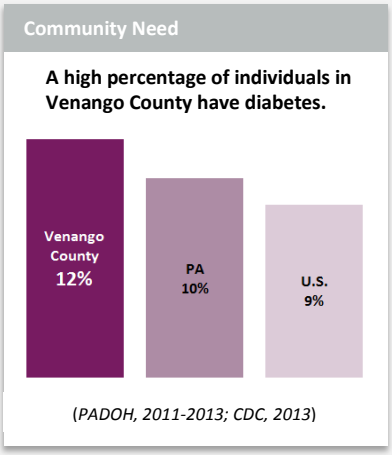
PROGRESS REPORT 2013-2016: DIABETES

GOAL: UPMC Northwest is increasing community members' participation in prevention, detection, and management of diabetes.

STRATEGY:
The hospital is taking a multifaceted approach to addressing diabetes in Venango County.

The hospital is targeting all residents, particularly pre-diabetics and individuals with diabetes. UPMC Northwest's diabetes prevention and management efforts are broad. The hospital instituted several programs to build awareness and to support patients as they manage their condition. Efforts include:

- Enhancing diabetes training for nurses
- Linking patients with diabetes to a certified diabetes educator
- Using telemedicine to connect community members with diabetes experts



PROGRESS:
UPMC Northwest is increasing community knowledge and action about diabetes.

Improving diabetes training for nurses

UPMC Northwest offered a "diabetes boot camp" to help educate nurses and individuals from the Visiting Nurses Association about the disease. This eight-hour educational program was specifically developed for staff nurses. Participants increased their knowledge about diabetes and learned about the role health care providers can play in helping patients recognize and manage their condition.

138 patients with diabetes referred to the Diabetes Self-Management Education program

The hospital continues to provide Diabetes Self-Management Education (DSME) classes to Venango County residents. Led by a certified diabetes educator and dietician, the program offers participants support as they adopt healthier habits, as well as one-on-one consultations to manage their condition, and help with goal setting.

Using telemedicine to support diabetes care

In Venango County, subspecialty care is limited. To address this problem, UPMC Northwest is using state-of-the-art digital technologies to connect patients with diabetes with UPMC endocrinologists outside the area. This new model of care delivery lets patients remain close to home while taking advantage of UPMC's extensive network of specialists. By leveraging the power of telemedicine, the hospital also helps patients reduce the significant cost and time burden often associated with travel for medical treatment.

COMMUNITY HEALTH NEEDS ASSESSMENT (CHNA) REPORT

I. Objectives of a Community Health Needs Assessment

In Fiscal Year 2016, UPMC Northwest 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 Northwest 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 Northwest:

UPMC Northwest is a nonprofit, 174-bed acute-care hospital located in Venango County, Pennsylvania. The hospital offers a full range of quality medical services, providing area residents with access to medical, surgical, behavioral health, rehabilitation, and transitional care, as well as cutting-edge medical services not typically found at a local community hospital. Specialized services include telemedicine, behavioral health, CT imaging, MRI, stroke and diabetes care, and a UPMC CancerCenter. During the Fiscal Year ended June 30, 2015, UPMC Northwest had a total of 9,204 admissions and observations, 30,208 emergency room visits, and 4,914 surgeries.

VITAL STATISTICS
Fiscal Year 2015

Licensed Beds	**174**
Hospital Patients	**9,204**
Emergency Dept. Visits	**30,208**
Total Surgeries	**4,914**
Affiliated Physicians	**128**

JOBS AND STRENGTHENING THE LOCAL ECONOMY

UPMC Northwest is one of the top three employers in Venango County and an economic pillar in this rural community.

UPMC Northwest Employees	**653**
Community Benefits Contributions	**$9.1 million**
Free and Reduced Cost Care	**$5.2 million**

$165 million
Total Economic Impact of Hospital Operations

UPMC Northwest is supported by an active medical staff representing many disciplines. The medical staff is augmented by specialists who travel to Venango County to hold regular office hours and provide inpatient consultations. It is also part of UPMC, one of the country's leading Integrated Delivery and Finance Systems (IDFS), which positions the hospital to draw on the expertise of the larger organization when patients require access to more complex or highly specialized care.

II. Definition of the UPMC Northwest Community

For the purpose of this CHNA, the UPMC Northwest community is defined as Venango County. With 74 percent of patients treated at UPMC Northwest residing in Venango County, the hospital primarily serves residents of this geographic region. By concentrating on the county, UPMC Northwest 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.

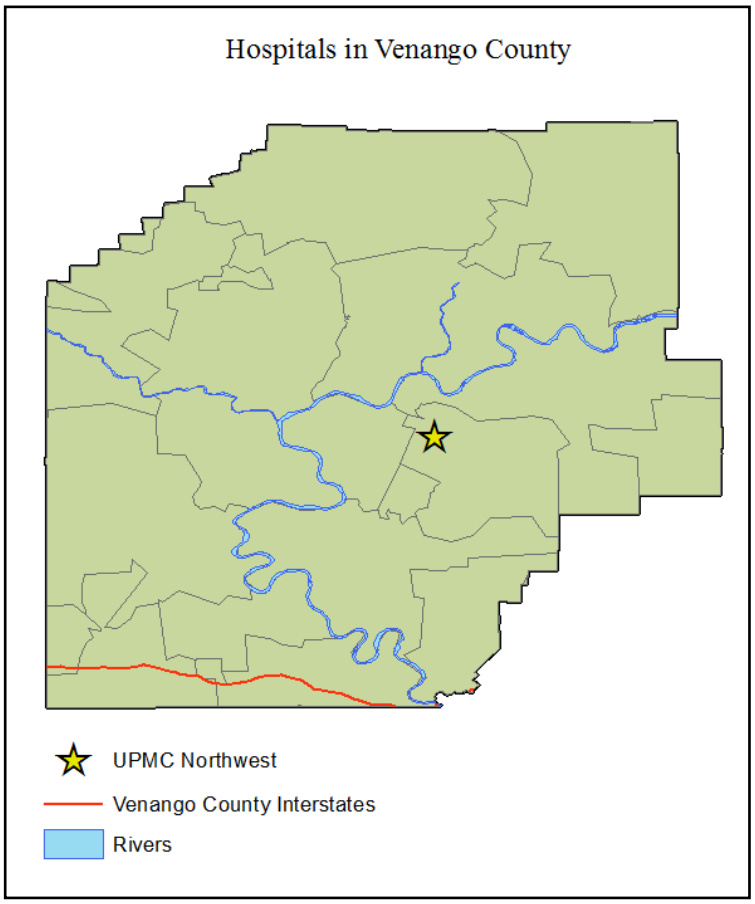
Most Patients Treated at UPMC Northwest Live in Venango County

County	UPMC Northwest %	Medical Surgical Discharges
Venango County	74.0%	4,002
All Other Regions	26.0%	1,408
Total Hospital Discharges	100%	5,410

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

The hospital is situated centrally in Venango County, Pennsylvania. This area is known for being rural, with only 81.5 persons per square mile as compared with 283.9 persons per square mile in Pennsylvania.

Existing Healthcare Resources in the Area:



UPMC Northwest is the only licensed hospital in Venango County.

In the immediate service area, UPMC Northwest is supported by 14 UPMC outpatient offices. These facilities include a UPMC CancerCenter, a UPMC Senior Living Facility, an Urgent Care Center, Imaging Centers, and primary and specialty care doctors' offices.

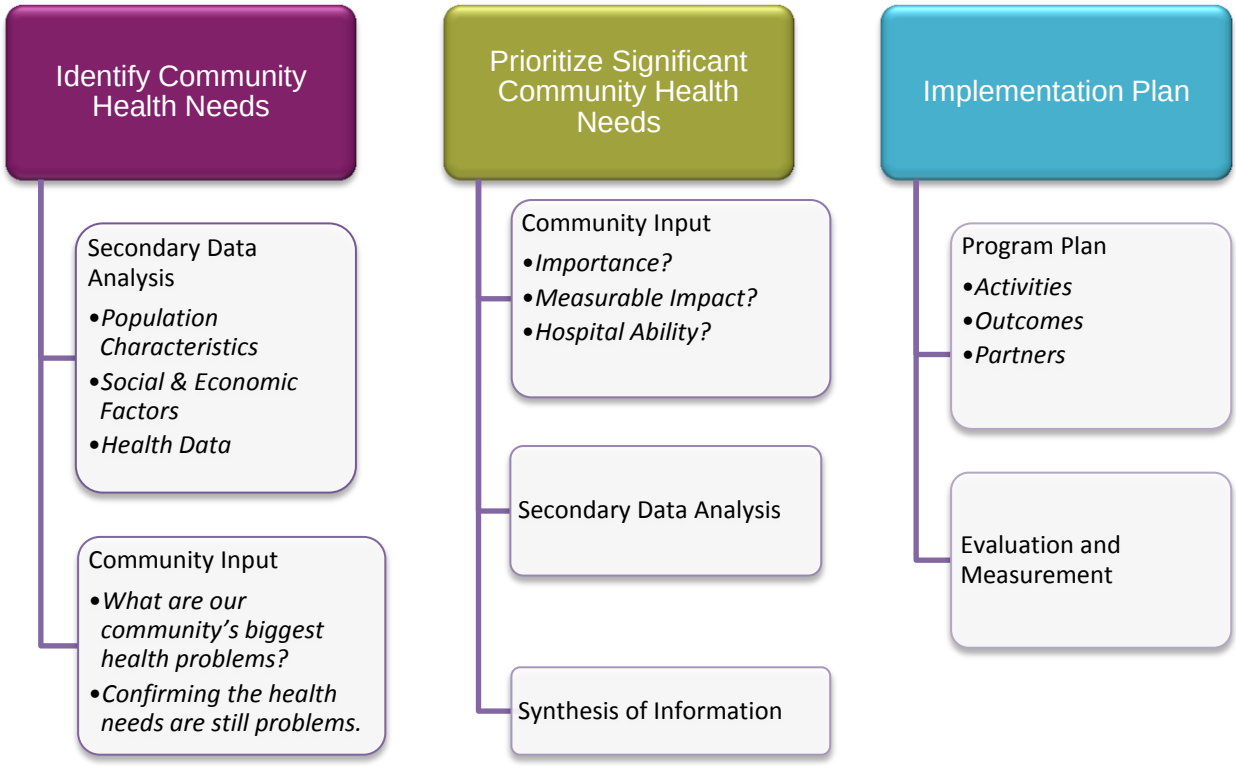
III. Methods Used to Conduct the Community Health Needs Assessment

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.	PA Department of Health Behavioral Risk Factors Surveillance System; Birth, Death, and Other Vital Statistics; Cancer Statistics. U.S. Centers for Disease Control and Prevention Behavioral Risk Factors Surveillance System. National Center for Health Statistics.
	Cancer		
	Mental Health		
	Asthma (Childhood)		
	Birth Outcomes		
Health Behaviors Data	Obesity (Childhood and Adult)		
	Alcohol Use		
	Tobacco Use		
	Sexually Transmitted Disease		
Clinical Care Data	Immunization	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. U.S. Centers for Disease Control and Prevention Behavioral Risk Factors Surveillance System. Health Resources and Services Administration (HRSA). National Center for Health Statistics.
	Cancer Screening (breast/colorectal)		
	Primary Care Physician Data		
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:

Parts of Venango County are Rural: With a population of 54,984, and a population density of 81.5 residents per square mile, Venango County is a rural area.

Sizable Elderly Population with High Social Needs: A notable characteristic of Venango County is the large and increasing percentage of elderly residents (age 65 and over). Venango County has a large elderly population (18 percent) compared to Pennsylvania (15 percent) and the United States (13 percent). 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).

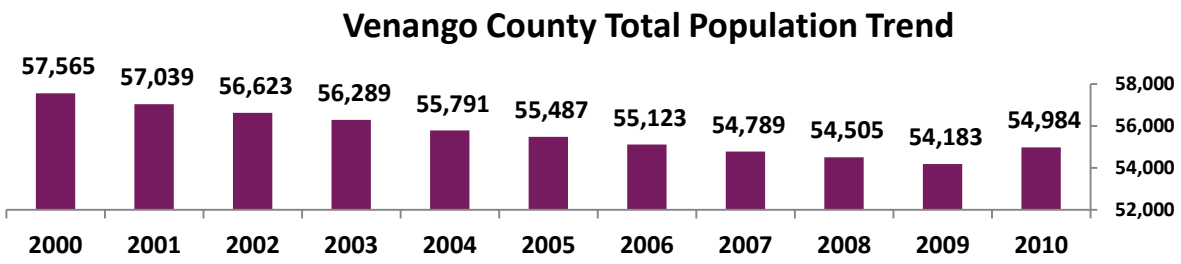
Venango County Has a Sizable Elderly Population

	Venango County	Pennsylvania	National
Median Age	44.3	40.1	37.2
% Children (<18)	21.5%	22.0%	24.0%
% 18-64	60.5%	62.6%	63.0%
% 20-49	34.5%	39.0%	41.0%
% 50-64	23.6%	20.6%	19.0%
% 65+	18.0%	15.4%	13.0%
% 65-74	9.4%	7.8%	7.0%
% 75-84	6.3%	5.4%	4.3%
% 85+	2.3%	2.4%	1.8%
% Elderly Living Alone	12.0%	11.4%	9.4%

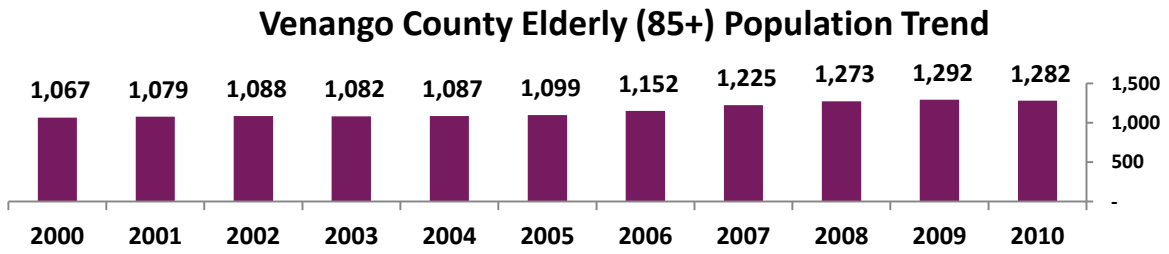
Source: U.S. Census

Total Population Decreased in Venango County but Aging Population Increasing: Although the population has decreased since 2000, the county's most elderly (age 85 and over) population increased significantly (see figure below).

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



However, the most elderly population in Venango County (age 85 and over) has seen a 20 percent increase from 2000 to 2010.



Source: U.S. Census

Medically Underserved Areas in Venango County: When compared to the Commonwealth of Pennsylvania and the nation, the overall population of Venango County faces some economic challenges. Venango County tends to have a:

- **Lower median household income**
- **Higher percentage of residents in poverty**

Social and Economic Population Demographics			
	Venango County	Pennsylvania	National
Median Household Income	$40,734	$49,288	$50,046
% in Poverty	15.8%	13.4%	15.3%
% with No High School Diploma (among those 25+)	12.3%	11.6%	14.4%
% Unemployed (among total labor force)	8.5%	9.6%	10.8%
Racial Groups			
% White	97.1%	81.9%	72.4%
% African American	1.0%	10.8%	12.6%
% Other Race	1.9%	7.3%	15.0%

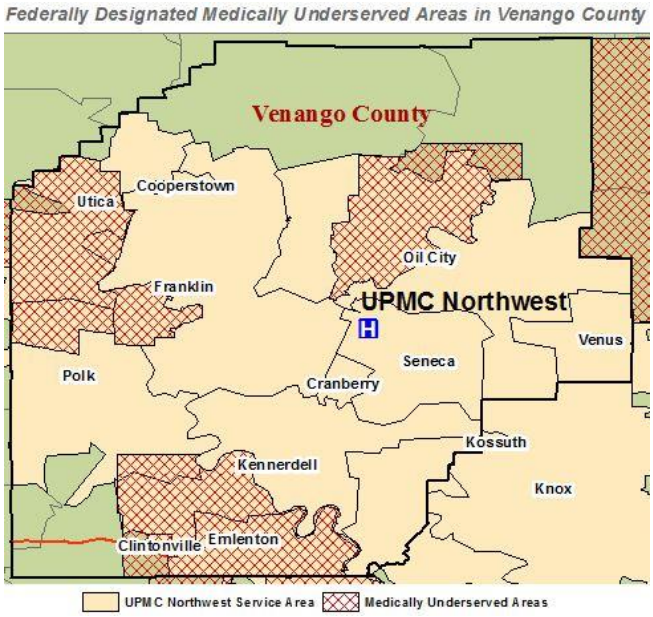
Source: U.S. Census

Federally Designated Medical Underserved Areas: In addition, areas in Venango County are federally designated as Medically Underserved Areas (MUA) (see figure below).

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**

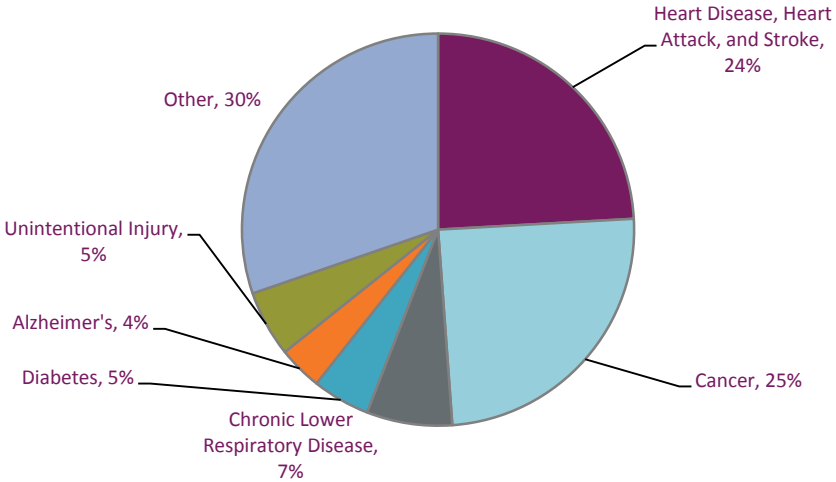
Federally Designated Health Professional Shortage Areas: Parts of Venango County are also federally designated as Health Professional Shortage Areas and Medically Underserved Areas. The designation is based on the ratio of the population to the number of primary care providers. In Venango County, the ratio of primary care physicians to the population (66.8 per 100,000) is lower, compared to the state (82.0 per 100,000).



Source: Health Resources and Services Administration, 2015

Chronic Disease and Mortality:

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



Source: Pennsylvania Department of Health, 2012

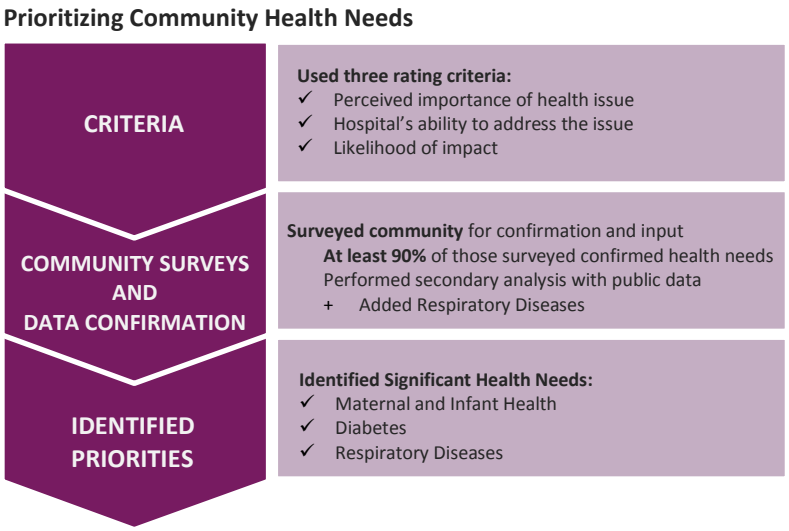
Significant Health Needs for UPMC Northwest's Community:

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 Northwest 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:

- **Maternal and Infant Health**
- **Diabetes**
- **Respiratory Diseases**

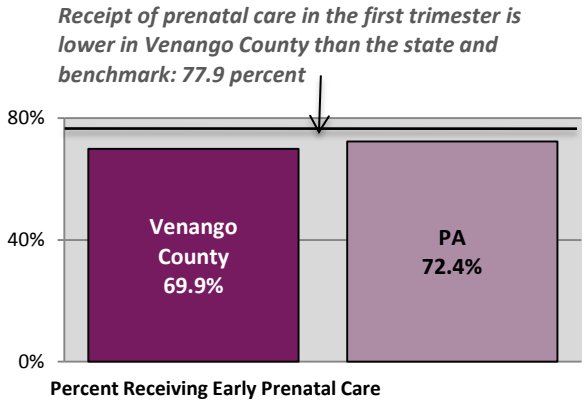


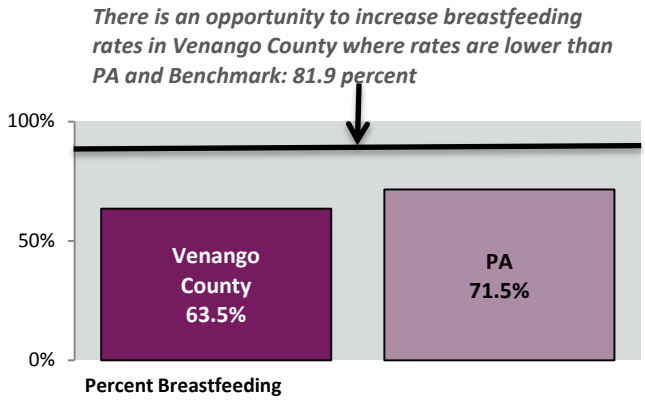
UPMC Northwest Significant Health Needs:

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

Maternal and Infant Health – Importance to the Community:

- **The well-being of mothers and infants is important for a healthy community.**
- **Accessing prenatal care and engaging in healthy behaviors during pregnancy is associated with healthy birth outcomes.**
- **Breastfeeding has health and economic benefits conferred to both infant and mother.**





Sources: Pennsylvania Department of Health, 2010-2012; Healthy People, 2020

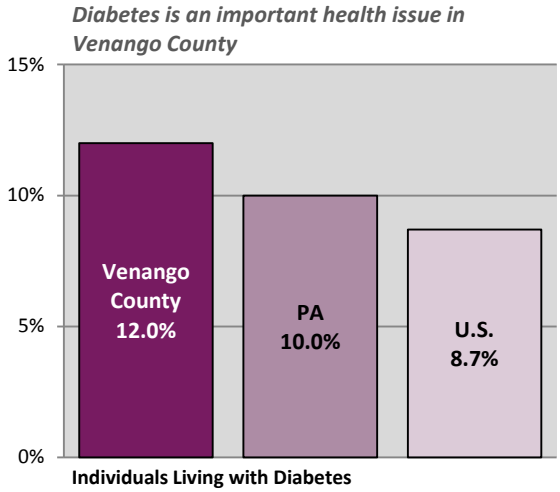
Healthy babies and healthy mothers are integral to a healthy community: The health of mothers and infants is integral to the health of families, the community, and the next generation. Nearly 1,700 infants were born in Venango County in 2010-2012.

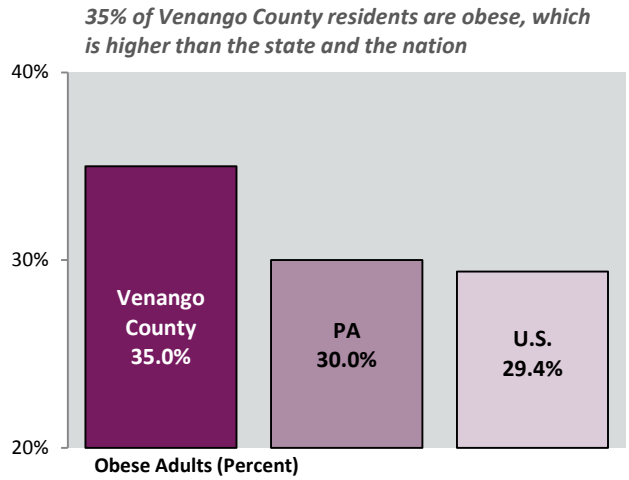
Accessing prenatal care and engaging in healthy behaviors during pregnancy is associated with healthy birth outcomes: Starting prenatal care early during pregnancy, especially in the first trimester, can help drive healthy birth outcomes. Prenatal care during the first trimester was lower in Venango County (70 percent), compared to the state (72 percent). Other healthy behaviors during pregnancy were also lower: 68 percent of pregnant women were non-smokers in Venango County, compared to 85 percent in Pennsylvania. In addition, the percentage of drug-addicted infants (or infants born with neonatal abstinence syndrome (NAS), a group of problems that occur in newborns exposed to addictive opiates such as heroin while in utero) has demonstrated an increase at UPMC Northwest—from 3.2 percent of the births delivered at UPMC Northwest in 2012 to 6.7 percent in 2015.

Breastfeeding provides benefits to mother and infants: In addition, breastfeeding is a healthy behavior that confers benefits to both mother and infants. Studies have shown that breastfed infants develop immunity against ear infections and pneumonia and have a reduced risk for chronic diseases, such as asthma and obesity. Also, mothers who breastfeed have a lower risk for breast and ovarian cancers. Breastfeeding rates are lower in Venango County (63.5 percent) compared to Pennsylvania (71.5 percent). Younger women in Venango County (ages 15-24) were less likely to breastfeed (56 percent) compared to women ages 25-44 (69 percent).

Diabetes – Importance to the Community:

- **Diabetes is a leading cause of death in Venango County, as well as the state and the nation.**
- **A high percentage of individuals in Venango County are living with diabetes.**
- **Obesity, a risk factor associated with diabetes, is high in Venango County.**





Sources: Pennsylvania Department of Health, 2011 - 2013; U.S. Centers for Disease Control and Prevention, 2013

Diabetes affects many people: Nationally, 8.7 percent of the total population has been diagnosed with diabetes, and it is estimated that almost one-third of people with the disease have not been diagnosed. Diabetes is a leading cause of death in Venango County. Nearly two-thirds of deaths in Venango County are due to chronic disease, and diabetes is a major cause of many of them, including heart disease and stroke. Unmanaged diabetes can lead to hypertension, blindness, kidney disease, and lower-limb amputations. In Venango County, 12 percent of residents reported having diabetes, which was higher than the state and the nation. UPMC Northwest has existing programs that address diabetes, and there is potential to leverage strong community partnerships to enhance these efforts.

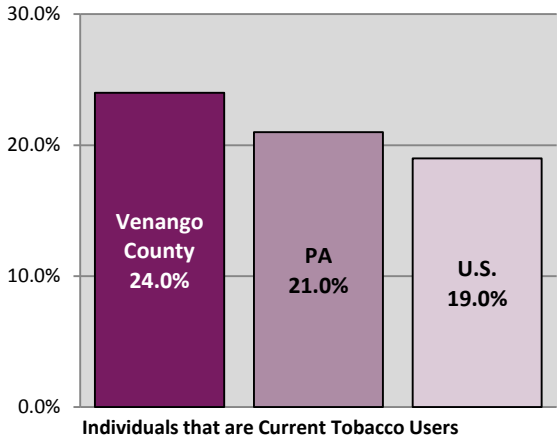
Diabetes is particularly problematic for sub-populations, including low-income and underserved minorities: Within Venango County, specific sub-populations had higher prevalence of diabetes, compared to the total population, specifically older individuals (65+, 23 percent) and those earning less than $25,000 (18 percent). Due to small sample sizes, results by race/ethnicity, other than White, are not reported.

Healthy behaviors which can help reduce one's risk for these diseases, are lower in some sub-populations within Venango County: Although early detection of diabetes can help delay progression or worsening of the disease, almost one-third of people with diabetes have not been diagnosed. Maintaining a healthy weight can help reduce diabetes risk. In Venango County, a high percentage of residents were overweight or obese (67 percent), and a disproportionately higher percentage was observed in men (72 percent), those ages 45-64 (76 percent), and those earning $25,000 to $50,000 (72 percent). Due to small sample sizes, data are not reported by racial groups, other than White.

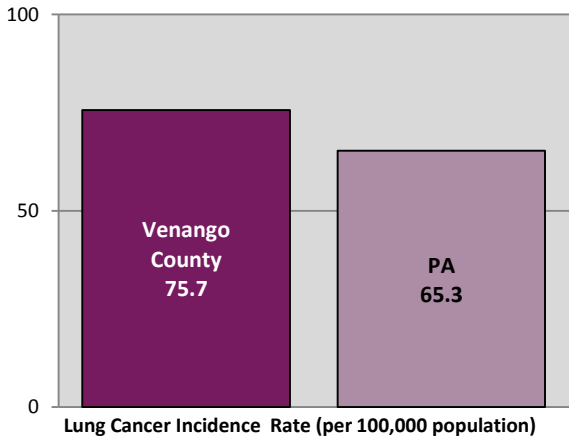
Respiratory Diseases – Importance to the Community:

- **Respiratory diseases include lung cancer and chronic lower respiratory diseases.**
- **Cancer is a leading cause of death, and among all types of newly diagnosed cancers, lung cancer comprises the highest proportion.**
- **Chronic lower respiratory diseases are a leading cause of death and prevalence rates are higher in Venango County, compared to the state.**
- **Healthy behaviors, such as screenings and smoking cessation efforts, can help reduce one's risk for these diseases.**

Current tobacco use was high in Venango County, compared to the state, nation, and benchmark: 12.0 Percent



Lung cancer rates in Venango County are higher, compared to the state



Sources: Pennsylvania Department of Health, 2011 - 2013; U.S. Centers for Disease Control and Prevention, 2013; Healthy People 2020

Respiratory diseases, such as lung cancer and chronic lower respiratory diseases, are prevalent in Venango County: Cancer is a leading cause of death in Venango County, and lung cancer is the most prevalent of cancers—in 2010-2012, there were 183 new cases of lung cancer (16 percent) compared to breast cancer (171, 15 percent). The rates of newly diagnosed lung cancer were also higher in Venango County (75.7 per 100,000) compared to the state (65.3 per 100,000). In addition, chronic lower respiratory disease is a leading cause of death in Venango County and the percentage of chronic lower respiratory diseases (chronic obstructive pulmonary disorder (COPD), chronic bronchitis, and emphysema) were higher in Venango County (9 percent) compared to the state (7 percent).

Healthy behaviors which can help reduce one's risk for these diseases, are lower in some sub-populations within Venango County: Early screening for these diseases, especially lung cancer, can help detect disease early when treatment works best. In addition, preventing smoking may also prevent and improve management of these diseases. A higher percentage in Venango County (24 percent) were current tobacco users, compared to the state (21 percent) and nation (19 percent). In addition, a higher percentage of current tobacco users were 18-44 (31 percent) or lower income (<$25,000, 35 percent). Given the magnitude of respiratory diseases in Venango County, that more new cases of lung cancer occur compared to breast cancer, and that many of the preventive health behaviors for breast cancer overlap with lung cancer and other types of respiratory disease, UPMC Northwest's Fiscal Year 2016 CHNA defined respiratory diseases as a significant health need.

V. Overview of the Implementation Plan

Overview:

UPMC Northwest 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 April 26, 2016, the UPMC Northwest Board of Directors adopted an implementation plan to address the identified significant health needs:

- **Maternal and Infant Health**
- **Diabetes**
- **Respiratory Diseases**

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

High-Level Overview of UPMC Northwest Implementation Plan

Topic	Programs	Anticipated Impact Goal-Year 3	Planned Collaborations
Maternal and Infant Health	Prenatal Health Initiatives Efforts related to neonatal abstinence syndrome Breastfeeding Initiative/Keystone 10	Increase awareness about healthy behaviors during and after pregnancy. Increase breastfeeding rates.	Venango County Overdose Task Force, Venango County Human Services, Venango County Children and Youth Services, local schools, Hospital Association of Pennsylvania
Diabetes	Diabetes Prevention Program The Diabetes Center at UPMC Northwest Diabetes Self-Management Education Endocrinology Telemedicine Program Community Outreach	Increase prevention and management of diabetes.	Telemedicine specialists , Home health agencies, Primary care offices
Respiratory Diseases	Lung Screening Program Community Education	Increase awareness about preventing respiratory-related diseases, such as lung cancer prevention and smoking cessation. Increase number screened for lung cancer.	Lung Cancer Alliance, UPMC Health Plan, American College of Radiology, Venango-Forest Cancer Coalition

VI. APPENDICES

APPENDIX A:

Detailed Implementation Plan

Priority Health Issue: Addressing Maternal and Infant Health

Maternal and infant health is an important priority in UPMC Northwest's community: As Venango County's only hospital, UPMC Northwest has the only maternity department, which is used by the majority of expectant mothers in Venango County, as well as by women from surrounding counties who come to UPMC Northwest for prenatal care and to have their babies. Access to health care services during pregnancy, along with the provision of prenatal and postpartum care, greatly improves health outcomes for women and infants. In addition, approaches to improving maternal and infant health include encouraging breastfeeding, increasing first trimester prenatal care visits, and educating about healthy lifestyle behaviors (such as not smoking, addressing substance use, eating healthier, and engaging in physical activity) prenatally and after pregnancy.

UPMC Northwest is leveraging UPMC and community resources to address maternal and infant health: UPMC Northwest is addressing this issue through its Family Birthing Center and Obstetrics and Gynecology services, as well as through support classes related to breastfeeding, siblings, and infant care. In addition to the maternal and infant care services already offered at UPMC Northwest, additional breastfeeding counselors will become certified so that more women in the community can be served through that program. UPMC Northwest is also striving to promote breastfeeding as the preferred method of feeding at birth. Other existing programs will be offered to more individuals, and program progress will be tracked. In addition, efforts will be to work with community partners to address the growing prevalence of drug-addicted infants. UPMC Northwest programs are complemented by UPMC Insurance Services' efforts in many clinical areas, including efforts to optimize maternal and infant health. These initiatives encourage health plan members to have a healthy pregnancy through clinical care coordination, education, and preventive care.

Maternal and Infant Health				
Programs	Intended Actions	Anticipated Impact Goal-Year 3	Target Population	Planned Collaborations
Prenatal Health Initiatives Efforts related to neonatal abstinence syndrome Breastfeeding Initiative/Keystone 10	Continue to provide prenatal education classes Work together with community organizations to help address drug dependency, especially as it relates to infant health Promote breastfeeding through educational programs and with continued efforts from certified breastfeeding counselors on staff	Increase awareness about healthy behaviors during and after pregnancy. Increase breastfeeding rates.	Pregnant women, families, infants	Venango County Overdose Task Force, Venango County Human Services, Venango County Children and Youth Services, local schools, Hospital Association of Pennsylvania

Priority Health Issue: Addressing Diabetes

Diabetes is an important priority in UPMC Northwest's community: Diabetes is the sixth leading cause of death in Venango County, where there is a much larger percentage of people living with diabetes (12.0 percent) than the state (10.0 percent) and nation (8.7 percent). Diabetes can be prevented through increases in physical activity, a healthy diet, and maintenance of a healthy weight. For those living with diabetes, education about the disease, coupled with self-management techniques, can greatly improve quality of life.

UPMC Northwest is leveraging UPMC and community resources to address diabetes: UPMC Northwest serves as an important resource to the community in promoting diabetes prevention and detection, and in helping individuals with diabetes manage their condition. Efforts include enhancing a diabetes program to improve prevention and management of diabetes, linking individuals with diabetes to a certified diabetes educator to help improve their condition, and connecting the UPMC Northwest community to expert diabetes care via telemedicine. In addition, UPMC Northwest programs are complemented by UPMC Insurance Services in many clinical areas. Through provider-focused incentives and disease management programs, the health plan works to improve diabetes care for health plan members.

Diabetes				
Program	Intended Actions	Anticipated Impact Goal-Year 3	Target Population	Planned Collaborations
Diabetes Prevention Program The Diabetes Center at UPMC Northwest Diabetes Self-Management Education Endocrinology Telemedicine Program Community Outreach	Offer diabetes prevention and management education programs Provide endocrinology consults through UPMC Northwest's Teleconsult Center Present information about diabetes risk factors and prevention at health fairs and education through community events	Increase prevention and management of diabetes	Individuals at risk for diabetes, individuals with diabetes, general community	Telemedicine specialists , Home health agencies, Primary care offices

Priority Health Issue: Addressing Respiratory Diseases

Respiratory disease is an important priority in UPMC Northwest's community: Respiratory disease, which includes lung cancer and chronic lower respiratory diseases, are prevalent in Venango County. Lung cancer and chronic lower respiratory diseases are a leading cause of death in Venango County, and the rate of lung cancer in Venango County is much higher than the state. Improving behaviors such as reducing tobacco use is one effective way to address many respiratory diseases --tobacco use is higher in Venango County compared to the state, nation, and benchmark. In addition, lung screenings are an effective approach in detecting lung cancer early and increasing survival rates, especially for smokers.

UPMC Northwest is leveraging UPMC and community resources to address respiratory disease: UPMC Northwest serves as an important resource to the community in preventing respiratory disease. The hospital leverages the expertise of the UPMC system to provide comprehensive lung services that include state-of-the art detection and support to improve treatment and management of identified disease. The hospital recently established a standardized approach to encourage lung screening, identify at-risk individuals, and connect individuals to treatment and support offered at UPMC Northwest and in the community. In addition, UPMC Northwest continues to educate the community about preventing respiratory disease and providing ways to encourage healthy behaviors, such as smoking cessation.

Respiratory Disease				
Program	Intended Actions	Anticipated Impact Goal-Year 3	Target Population	Planned Collaborations
Lung Screening Program Community Education	Provide education about lung screenings throughout the community through participation at health fairs, community events, community organizations' meetings, and at UPMC Northwest Provide smoking cessation education	Increase awareness about preventing respiratory-related diseases, such as lung cancer prevention and smoking cessation Increase number screened for lung cancer	Current smokers General community	Lung Cancer Alliance, UPMC Health Plan, American College of Radiology, Venango-Forest Cancer Coalition

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	Venango County	Pennsylvania	United States
Area (sq. miles)	674.28	44,742.70	3,531,905.43
Density (persons per square mile)	81.5	283.9	87.4
Total Population, 2010	54,984	12,702,379	308,745,538
Total Population, 2000	57,565	12,281,054	281,424,600
Population Change ('00-'10)	-2,581	421,325	27,320,938
Population % Change ('00-'10)	-4.5%	3.4%	9.7%
Age			
Median Age	44.3	40.1	37.2
% <18	21.5%	22.0%	24.0%
% 18-44	29.3%	34.3%	36.5%
% 45-64	31.2%	28.1%	26.4%
% >65+	18.0%	15.4%	13.0%
% >85+	2.3%	2.4%	1.8%
Gender			
% Male	48.9%	48.7%	49.2%
% Female	51.1%	51.3%	50.8%
Race/Ethnicity			
% White*	97.1%	81.9%	72.4%
% African American*	1.0%	10.8%	12.6%
% American Indian and Alaska Native*	0.2%	0.2%	0.9%
% Asian*	0.4%	2.7%	4.8%
% Native Hawaiian/Other Pacific Islander*	0.0%	0.0%	0.2%
% Hispanic or Latino**	0.9%	5.7%	16.3%
Disability	17.3%	13.1%	11.9%

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

Source: US Census, 2010

Social and Economic Factors:

Characteristics	Venango County	Pennsylvania	United States
Income, Median Household	$40,734	$49,288	$50,046
Home Value, Median	$79,000	$165,500	$179,900
% No High School Diploma*	12.3%	11.6%	14.4%
% Unemployed**	8.5%	9.6%	10.8%
% of People in Poverty	15.8%	13.4%	15.3%
% Elderly Living Alone	12.0%	11.4%	9.4%
% Female-headed households with own children <18	6.1%	6.5%	7.2%
Health Insurance			
% Uninsured	9.0	10.2	15.5
% Medicaid	17.8	13.1	14.4
% Medicare	12.2	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 Venango County (rates per 100,000 population):

Causes of Death	Venango 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	19.1	24.3	23.5
Malignant Neoplasms	24.5	22.8	22.5
Chronic Lower Respiratory Diseases	7.0	5.2	5.7
Cerebrovascular Diseases	4.8	5.1	5.0
Unintentional Injuries	5.4	4.9	5.0
Alzheimer's Disease	3.6	2.8	3.3
Diabetes Mellitus	4.7	2.9	2.9
Influenza and Pneumonia	1.8	1.9	2.2
Nephritis, Nephrotic Syndrome and nephrosis	1.2	2.2	1.8
Intentional Self-Harm (Suicide)	0.5	1.3	1.6

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

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

Characteristics	Venango County	Pennsylvania	United States	Healthy People 2020
Morbidity				
Diabetes (%)	12.0	10.0	8.7	NA
Mental Health (Mental health not good ≥1 day in past month) (%)	34.0	35.0	NA	NA
Low Birthweight (% of live births)	7.9	8.1	8.0	7.8
Health Behaviors				
Obesity (Adult) (%)	35.0	30.0	29.4	30.5
Excessive Alcohol Use (%)	15.0	17.0	16.8	24.4
Current Tobacco Use (%)	24.0	21.0	19.0	12.0
STDs (Gonorrhea per 100,000)*	30.2	150.5	250.6	251.9
Clinical Care (%)				
Immunization: Ever had a Pneumonia Vaccination, 65+ (%)	74.0	69.0	69.5	90.0
Cancer Screening				
Mammography (%)	NA	60.0	74.0	81.1
Colorectal Screening (%)	NA	69.0	67.3	70.5
Primary Care Physician: Population (PCP Physicians/100K Population)	66.8	82.0	75.8	NA
Receive Prenatal Care in First Trimester (%)	69.9	72.4	71.0	77.9

Sources:

Venango County Data: Pennsylvania Department of Health, 2010-2012; Data from Behavioral Risk Factor Surveillance System, 2011-2013; Health Resources and Services Administration (HRSA), 2014-2015

Pennsylvania Data: Pennsylvania Department of Health, 2012; Data from Behavioral Risk Factor Surveillance System, 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 on-line 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.

Stakeholder Input

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

- **Adagio Health, Seneca, PA**
- **Child Development Centers, Inc., Oil City, PA**
- **Community Ambulance Services, Franklin, PA**
- **Community Services of Venango County, Franklin, PA**
- **Family Services and Children's Aid Society, Oil City, PA**
- **Office of the County Administrator, Venango County, Franklin, PA**
- **Sugar Valley Lodge, Franklin, PA**
- **United Way of Venango County, Reno, PA**
- **Valley Grove School District, Franklin, PA**
- **Venango County Area Agency on Aging, Franklin, PA**
- **Venango County Commissioners, Franklin, PA**
- **Venango County Mental Health and Developmental Services, Franklin, PA**
- **Visiting Nurses Association of Venango County, Oil City, PA**

The UPMC Northwest 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
- 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 Northwest, 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 Northwest:

UPMC Northwest 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 Northwest 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 Northwest community.

The UPMC Northwest 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.

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 healthcare 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 Northwest 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)

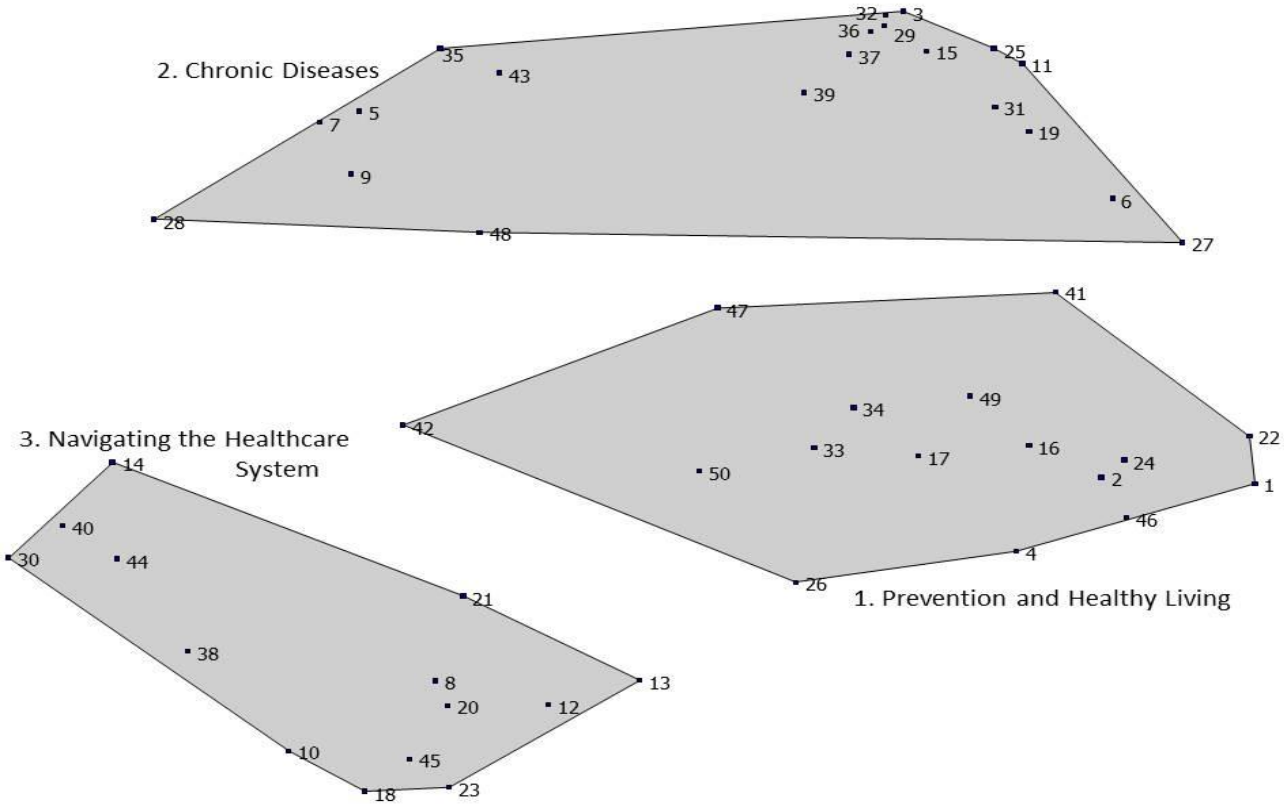
Hospital Ability to Address:
Does the hospital have the ability to address this problem?
(1 = no ability; 5 = great ability)

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 Northwest. UPMC Northwest leadership 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.