



Community Health Needs Assessment
And
Community Health Strategic Plan

June 30, 2013

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EXECUTIVE SUMMARY

UPMC Hamot Plays a Major Role in its Community:

UPMC Hamot is a nonprofit, 412-bed tertiary-care teaching hospital located in Erie County, Pennsylvania. Operating in the city of Erie since 1881, the state-of-the-art facility delivers a full range of quality medical services — including highly specialized medical and surgical treatment — to the residents of the greater Erie region. UPMC Hamot is the only Level II trauma center in northwestern Pennsylvania. Since affiliating with UPMC two short years ago, the hospital has benefited from \$61 million in investment, which includes UPMC Hamot Women’s Hospital, a new, advanced facility devoted to meeting the health care needs of women and infants in the community.

UPMC Hamot 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. One notable example is the opening of Wayne Primary Care, the first school-based health center in Erie County.

UPMC Hamot in the Community

Nearly 3,300 employees, with an economic impact of \$512 million.

UPMC Hamot conducts free community health screenings, serving more than 7,000 individuals each year.

UPMC Hamot provides financial and professional support to the city of Erie, its schools, police and fire departments, and numerous nonprofit organizations.



UPMC Hamot 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 2013, UPMC Hamot conducted a Community Health Needs Assessment (CHNA) in keeping with requirements described in section 501(R)(3) of the Internal Revenue Code. The CHNA provided an opportunity for the hospital to engage public health experts and community stakeholders in a formal process to ensure that community benefit programs and resources are focused on significant health needs.

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 rigorous analysis of documented health and socioeconomic factors with a structured community input process, known as “Concept Mapping.”

The CHNA process effectively engaged the community of UPMC Hamot in a broad, systematic way. The process included face-to-face meetings with the community advisory council, as well as use of an online survey tool.

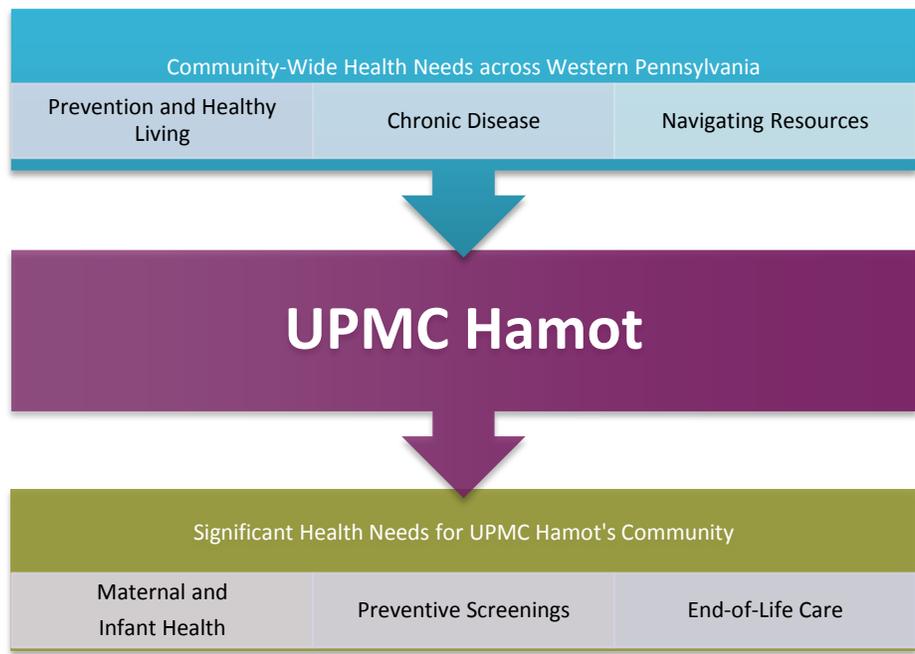
Through the CHNA process, UPMC Hamot identified significant health needs for its particular community. They are:

Topic	Importance to the Community
Preventive Screenings	Screenings for colorectal cancer and breast cancer were lower in Erie County than benchmarks. Preventive screenings can help identify some of the leading causes of death – such as heart disease, cancer, diabetes – in early stages when treatment is likely to work best.
Maternal and Infant Health/Prenatal Care	The well-being of mothers and infants are important for a healthy community. Erie County’s percentages of babies with low birth weight and early receipt of prenatal care by expectant mothers are comparable to the state and nation.
End-of-Life Care	Erie County’s most elderly population (85+) has grown 37.2% in the past decade. Most patients in hospice care, many who are 85+, have a primary diagnosis that includes chronic disease.

UPMC is Responding to the Community's Input:

Key themes that emerged from the UPMC Hamot CHNA process were consistent with those found through CHNAs conducted at other UPMC hospitals throughout western Pennsylvania, as well as through focus groups and a community health needs assessment conducted by the Erie County Department of Health. In addition to being relevant to the CHNA, these themes are increasingly important in the rapidly changing landscape of health care reform:

Identifying Significant Health Needs Relevant for the Hospital Community



- **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 Hamot is planning a wide range of initiatives to support prevention and care for chronic disease.
- **Navigating Available Resources:** Many established health care programs in UPMC Hamot'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 Hamot is collaborating successfully with local organizations on improving community health. The hospital will also leverage resources and synergies within the UPMC system, which includes population-focused health insurance products and comprehensive programs and resources targeted at areas including seniors and children.

UPMC Hamot Is Improving Community Health in Measurable Ways:

On March 28, 2013, the UPMC Hamot Board of Directors adopted an implementation plan to address the identified significant health needs and set measurable targets for improvement over the next three years.

The plan draws support from an array of active and engaged community partners as well as from the larger UPMC system. Highlights of programs and goals contained in this plan are summarized below.

Expanding Preventive Screenings

Goal: Increase the number of preventive screenings, and increase awareness of the importance of screenings for chronic disease.

Collaborating Partners: UPMC Health Plan, schools, local organizations, UPMC's electronic health record

- **UPMC Hamot is involved in a wide range of community health activities including preventive screenings. Moving ahead, to expand reach into the community, UPMC Hamot will offer screenings for chronic disease, including heart disease and cancer, at multiple service delivery points including primary care physician offices, emergency departments, urgent care locations, and community health events.**
 - » The hospital is continuing its outreach to uninsured and Medicaid-eligible populations to convey the importance of primary care and preventive screenings. Educational resources and connections to relevant community resources, such as Community Health Net, the county's only Federally Qualified Health Center, will be emphasized.

Enhancing Maternal and Infant Health/Prenatal Care

Goal: Increase the number of women and families receiving prenatal care and support – particularly in underserved populations.

Collaborating Partners: National and local advocacy agencies, area OB/GYN practices, local organizations

- **The cornerstone of UPMC Hamot's initiative to improve maternal and infant health is the Stork Support Program, a prenatal program for at-risk women who plan to deliver their babies at UPMC Hamot.**
 - » Classes about healthy behaviors during pregnancy — such as smoking cessation, childbirth and breastfeeding — as well as one-on-one visits with a registered nurse (Stork Support nurse) who specializes in perinatal nursing are important aspects of UPMC Hamot's suite of programs.
 - » UPMC Hamot will consider expanding this program into school-based clinics to reach pregnant teens.

Raising Awareness about End-of-Life Care

Goal: Enhance end-of-life programs through increased community and provider education.

Collaborating Partners: Area hospice organizations, LifeWorks Erie, Regional Cancer Center, UPMC System

- **UPMC Hamot will build a multi-pronged approach to raise awareness within the community and among providers about end-of-life care programs, including palliative care, hospice, and advance directives.**
 - » Many individuals and their families facing end-of-life issues are not aware of palliative care and hospice services. The hospital is taking a holistic approach by offering end-of-life options that minimize physical, spiritual, psychosocial and psychological pain for patients and their families.
 - » Every patient admitted through the hospital and affiliated departments will be interviewed to determine if they have an advance directive. UPMC Hamot will create an advanced directive informational toolkit to provide information and guidance, so that end-of-life wishes can be expressed before a critical point.

COMMUNITY HEALTH NEEDS ASSESSMENT (CHNA) REPORT

I. Objectives of a Community Health Needs Assessment

CHNA Goals and Purpose:

In Fiscal Year 2013, UPMC Hamot conducted a Community Health Needs Assessment (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.

UPMC Hamot 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 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 Hamot:

UPMC Hamot is a nonprofit, 412-bed tertiary acute-care hospital located in the City of Erie, Erie County, Pennsylvania. It offers a full range of quality medical services to the people of Erie County and the surrounding region. The hospital provides area residents with access to medical, surgical, Level II trauma services, cardiovascular/thoracic surgery with 24/7 access to in-house cardiologists, neurosurgery, comprehensive stroke services, and a Level III NICU, as well as cutting-edge medical services not typically found at a local community hospital. Specialized services include CT imaging, digital mammography, minimally invasive surgery, a UPMC CancerCenter, and a women's hospital. During the Fiscal Year ended June 30, 2012, UPMC Hamot had a total of 23,800 admissions and observations, 75,327 emergency room visits, and 10,423 surgeries.

UPMC Hamot is a teaching hospital, with residency programs in neurology, orthopaedics, emergency medicine and pharmacy. In addition, UPMC Hamot offers a fellowship program in hand surgery. UPMC Hamot 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.

UPMC Hamot in Your Community



UPMC Hamot is a regional tertiary care facility that serves patients from northwestern Pennsylvania, southwestern New York, and eastern Ohio

Delivering Compassionate Care to the Region

- The only accredited Level II Trauma Center in northwestern Pennsylvania.
- Nationally recognized for exceptional cardiovascular care.
- State-of-the-art neurosurgical capabilities and comprehensive stroke care.
- UPMC Hamot Women's Hospital is the region's only free standing facility dedicated to offering comprehensive health care across every stage of a woman's life.

UPMC Hamot's Community Service and Community Benefit Initiatives:

UPMC Hamot provides a broad array of benefits to the community.

- **Subsidizing Care through Charity Care and Shortfalls in Payments from Government Programs for the Poor:** In keeping with its commitment to serve all members of its community, the hospital provides certain care regardless of an individual's ability to pay. Avenues for offering care to those who can't afford it include free or subsidized care, care provided to persons covered by governmental programs when those programs don't cover the full cost.
- **Providing Care for Low Income and Elderly Populations:** Recognizing its mission to the community, UPMC Hamot is committed to serving Medicare and Medicaid patients. These patients represent approximately half of UPMC Hamot's patient population.
- **Educating the Next Generation of Health Professionals:** Support for medical education is a focus for UPMC Hamot, which offers a wide range of rotations for medical residents. Medical students are provided with clinically oriented experiences in a variety of patient care settings with a community hospital focus, as well as the added perspective of UPMC Hamot's tertiary referral service. UPMC Hamot also supports nursing and allied health students as well as offering job shadowing for younger students, so that they may become interested in a health care career.
- **Offering Community Health Improvement Programs and Donations:** UPMC Hamot provides services to the community through outreach programs, including referral centers, screenings, and educational classes —all of which benefit patients, patients' families, and the community. Through the 2012 Fiscal Year, the hospital offered more than 550 community health events, including health testing, screenings, breast and prostate exams, cancer support groups, and information and health education for vulnerable populations, such as seniors. The estimated cost of these programs, in addition to donations to allied nonprofit partner organizations that enhance UPMC Hamot's community services, was \$5.5 million in Fiscal Year 2012.
- **Anchoring the Local Economy:** With deep roots in the community dating back to 1881, the hospital takes an active role in supporting the local economy through employment, local spending, and strategic community partnerships. A major employer in the area, UPMC Hamot has paid \$247 million in salaries and benefits to its nearly 3,300 employees — many of whom live in the area — and generated a total economic impact of \$512 million in 2012.

Other community benefit programs include:

- » On-site career training for students interested in nursing, phlebotomy, radiation technology, respiratory therapy, and physical therapy.

- » Establishing Erie’s first school-based health center – located in the underserved Erie City neighborhood - in collaboration with more than 17 organizations.

II. Definition of the UPMC Hamot Community

For the purpose of this CHNA, the UPMC Hamot community is defined as Erie County. With 71 percent of patients treated at UPMC Hamot residing in Erie County, the hospital primarily serves residents of this geographic region. By concentrating on the county, UPMC Hamot 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 Hamot Live in Erie County

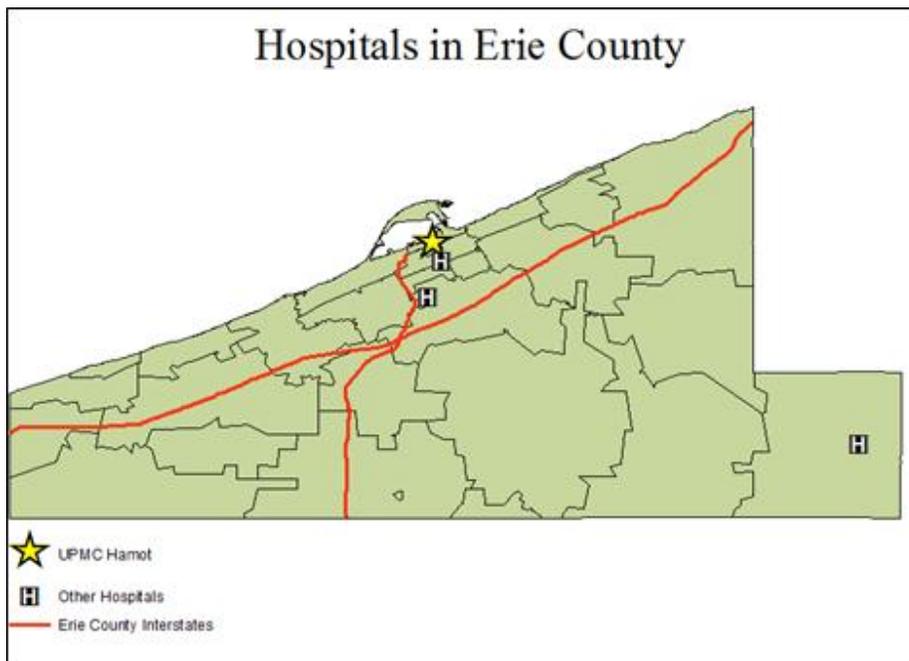
County	UPMC Hamot %	Medical Surgical Discharges
Erie County	70.6%	12,791
All Other Regions	29.4%	5,319
Total Hospital Discharges	100%	18,110

Source: Pennsylvania Health Care Cost Containment Council, FY2012

The hospital is situated on the northern border of Erie County, Pennsylvania, on Lake Erie. While the county represents the basic geographic definition of UPMC Hamot’s community, this CHNA also considered specific focus areas within the hospital’s immediate geographic “service area.” Small “focus area” analyses were conducted to identify geographical areas within the county, as well as areas of concentration with potentially higher health needs — such as areas with high minority populations, low per-capita incomes, and areas with historically distinct health needs. Health data reflecting Zip Codes of neighborhoods within the service area was also analyzed.

Existing Healthcare Resources in the Area:

UPMC Hamot is the only UPMC licensed hospital and one of 4 total acute care licensed hospitals in Erie County.



In the immediate service area, UPMC Hamot is supported by more than 60 UPMC outpatient offices and other UPMC facilities in the county. These facilities include a UPMC CancerCenter, five Centers for Rehabilitation Services sites, seven Imaging Centers, two urgent care centers, and more than 45 pediatric, primary and specialty care doctor’s offices.

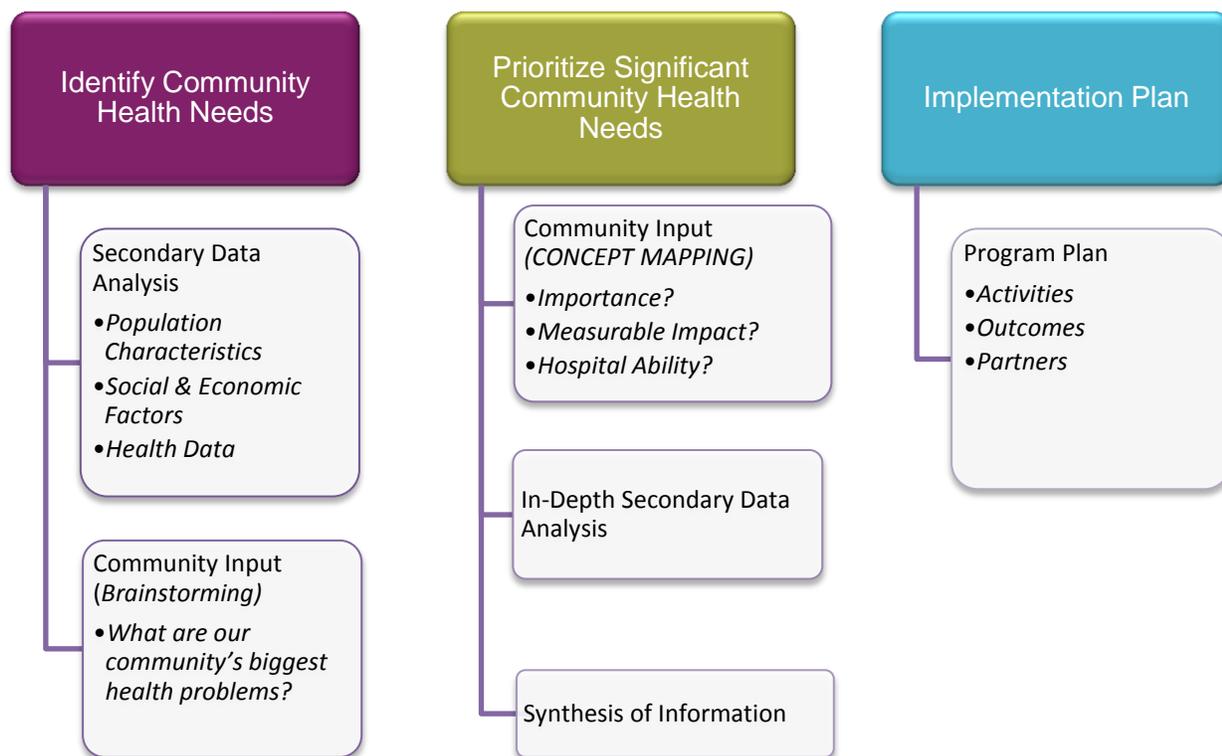
III. Methods Used to Conduct the Community Health Needs Assessment

Overview

In conducting this CHNA, 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 ensured that the CHNA was undertaken using a structured process for obtaining community input on health care needs and perceived priorities, and that analysis leveraged best practices in the areas of evaluation and measurement.

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 — with assistance of faculty from Pitt Public Health — 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 on low-income individuals, underserved minorities, and uninsured populations were examined. In addition, the 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	2007 - 2009 data collected and compared by neighborhood, county, state and nation. 2011 Erie County Behavioral Risk Factors Surveillance System.	Erie County Department of Health, Behavioral Risk Factor Surveillance System; PA Department of Health Behavioral Risk Factors Surveillance System; Birth, Death, and Other Vital Statistics; Cancer Statistics;
	Cancer		
	Mental Health		
	Asthma (Childhood)		
	Birth Outcomes		
Health Behaviors Data	Obesity (Childhood and Adult)		U.S. Centers for Disease Control and Prevention Behavioral Risk Factors Surveillance System; National Center for Health Statistics.
	Alcohol Use		
	Tobacco Use		
	Sexually Transmitted Disease		
Clinical Care Data	Immunization	2007 - 2009 data collected and compared by county, state and nation. 2011 County Health Rankings by County. 2011 Erie County Behavioral Risk Factors Surveillance System.	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; Robert Wood Johnson Foundation County Health Rankings; 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
Physical Environment Data	Access to Healthy Foods	2011 County Health Rankings by County.	Robert Wood Johnson Foundation County Health Rankings
	Access to Recreational Facilities		

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. The CHNA 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. 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. (See Appendix C for more information on Concept Mapping.)

To gather community input, the hospital convened a community advisory council to provide broad-based input on health needs present in the hospital's surrounding community. UPMC also convened a community focus group for the purpose of discussing the overarching needs of the larger region served by UPMC's 13 licensed Pennsylvania hospitals. 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 Appendix D for a more complete list and description of community participants)**

The Concept Mapping process consisted of two 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 in order 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?

Synthesis of Information and Development of Implementation Plan:

The Concept Mapping results were merged with results gathered from the analysis of publicly available data. In the final phase of the process, UPMC hospital leadership consulted with experts from Pitt Public Health, as well as the community advisory council, to identify a set of significant health needs that are critical, addressable, and have high levels of urgency in the community. The process then matched these needs to:

- **Best-practice methods for addressing these needs, identified by Pitt Public Health**
- **Existing hospital community health programs**
- **Programs and partners elsewhere in the community that can be supported and leveraged**
- **Enhanced data collection concerning programs, again with the consultation of Pitt Public Health**
- **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: A notable characteristic of Erie County is the large and increasing percentage of elderly residents (age 65 and over). Erie County has a relatively large elderly population (15 percent) compared to 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).

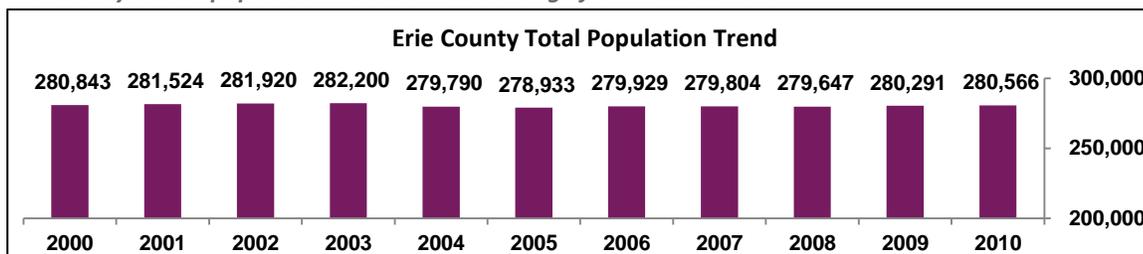
Erie County Has a Sizable Elderly Population

	Erie County	Pennsylvania	National
Median Age	38.6	40.1	37.2
% Children (<18)	22.7%	22.0%	24.0%
% 18-64	62.7%	62.6%	63.0%
% 20-49	38.6%	39.0%	41.0%
% 50-64	20.4%	20.6%	19.0%
% 65+	14.6%	15.4%	13.0%
% 65-74	7.2%	7.8%	7.0%
% 75-84	4.8%	5.4%	4.3%
% 85+	2.4%	2.4%	1.8%
% Elderly Living Alone	11.3%	11.4%	9.4%

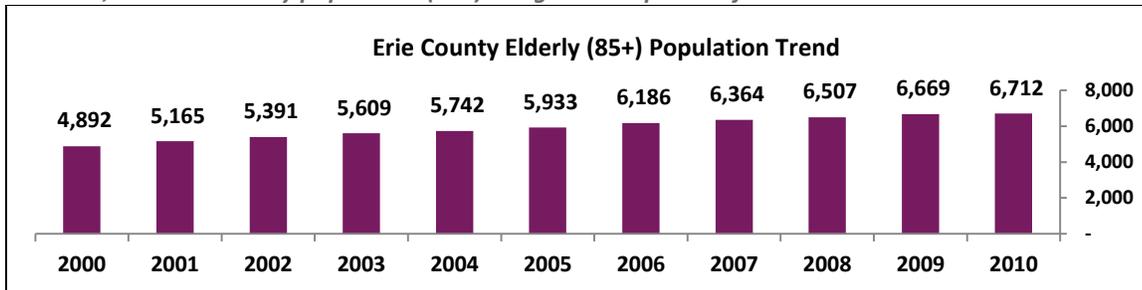
Source: U.S. Census

Total Population Stable in Erie County but Aging Population Increasing: In 2010, Erie County had a total population of 280,566. The population density of Erie County at the time was 351.1 people per square mile. Although the population has remained stable since 2000, the county’s most elderly population increased significantly (see figure below).

Erie County’s total population has seen little change from 2000 to 2010



However, the most elderly population (85+) has grown 37 percent from 2000 to 2010



Source: U.S. Census

Socioeconomic Characteristics Reflect Challenges: When compared to the Commonwealth of Pennsylvania and the nation, the overall population of Erie County faces some economic challenges. Erie County tends to have:

- A lower median household income
- More families living in poverty
- More recipients of the income-based Medicaid health insurance program (see Appendix B)

Social and Economic Population Demographics			
	Erie County	Pennsylvania	Nation
Median Household Income	\$45,519	\$49,288	\$50,046
% in Poverty (among families)	17.4%	13.4%	15.3%
% with No High School Diploma (among those 25+)	9.8%	11.6%	14.4%
% Unemployed (among total labor force)	9.4%	9.6%	10.8%
Racial Groups:			
% White	88.2%	81.9%	72.4%
% African-American	7.2%	10.8%	12.6%
% Other Race	4.6%	7.3%	15.0%

Source: U.S. Census

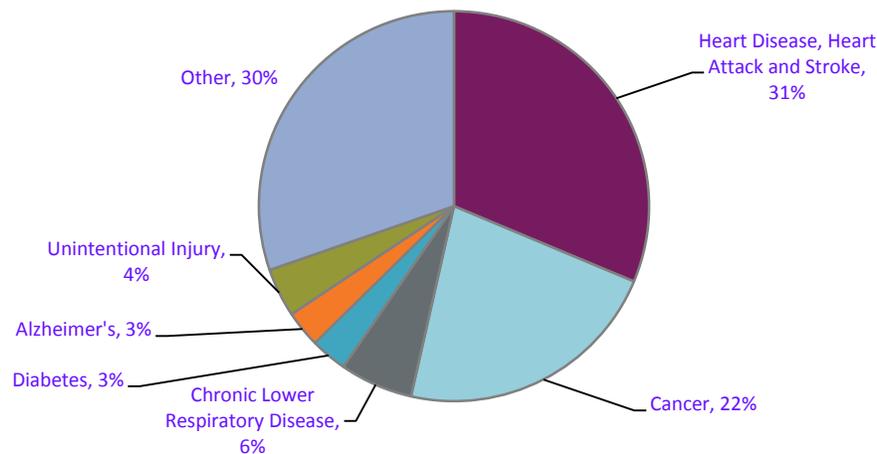
In addition, neighborhoods within Erie County have characteristics of populations more likely to experience health disparities. Compared to Erie County, Erie City has a lower median household income (\$25,562) and higher percentage of families living in poverty (25.9 percent), individuals with no high school diploma (21.1 percent), and who are unemployed (16.5 percent). The percentages of African-American residents (24.6 percent) and other races (11.6 percent) were also higher in Erie City, compared to Erie County. In addition, sections of Erie City are designated as federally Medically Underserved Areas (MUA).

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**

Chronic Disease and Mortality:

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



Source: Pennsylvania Department of Health, 2009

Significant Health Needs for UPMC Hamot'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 community:

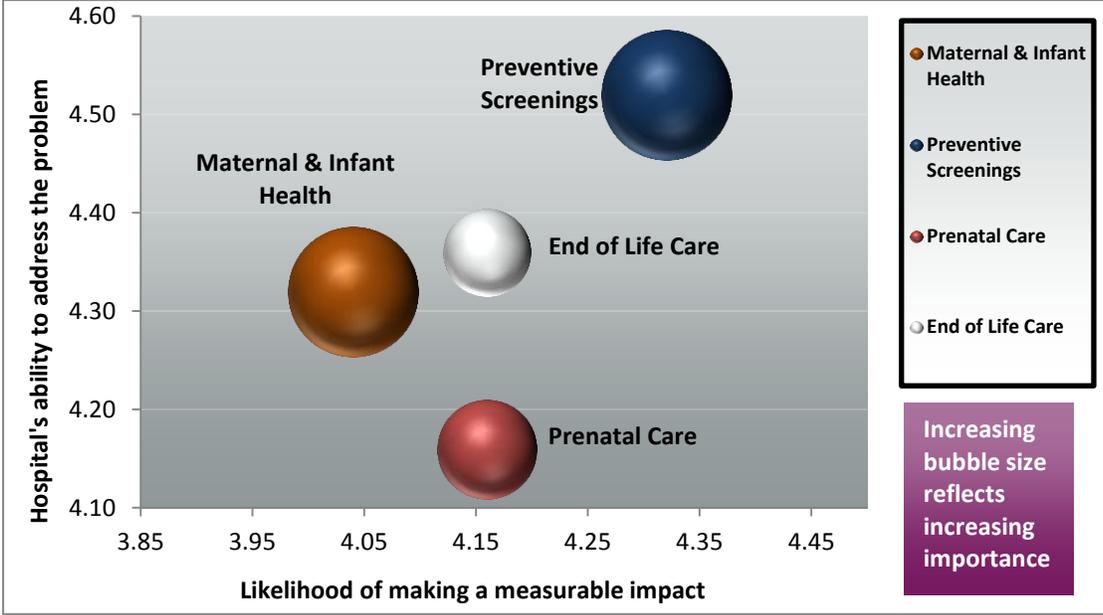
- **Chronic Disease**
- **Prevention and Healthy Living**
- **Navigating Resources**

For UPMC Hamot's 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/Prenatal Care**
- **Preventive Screenings**
- **End-of-Life Care**

The following illustration depicts where these significant health needs ranked within the criteria considered. Please note: metrics are rated on a Likert scale of 1 through 5.

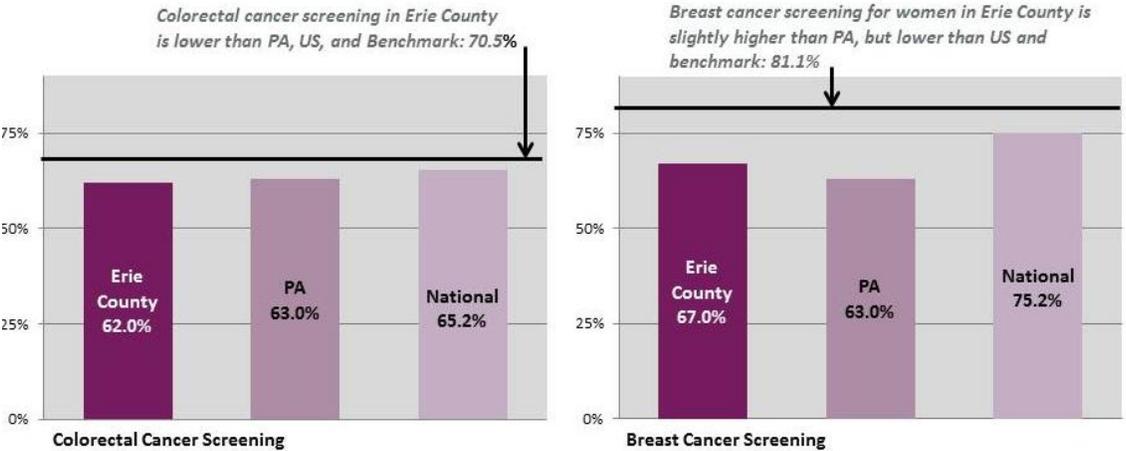
UPMC Hamot Significant Health Needs



In-depth secondary data analysis reinforced that these health topics were areas of concern for the UPMC Hamot community. The secondary data findings are illustrated below:

Preventive Screenings – Importance to the Community

- Preventive Screenings can help identify some of the leading causes of death – such as heart disease, cancer, diabetes – in early stages when treatment is likely to work best.
- Although on par with the state, screening for colorectal cancer and breast cancer were lower in Erie County than benchmarks.



Sources: Erie County Department of Health, 2011; Pennsylvania Department of Health, 2010; Healthy People 2020; U.S. Centers for Disease Control and Prevention, 2010

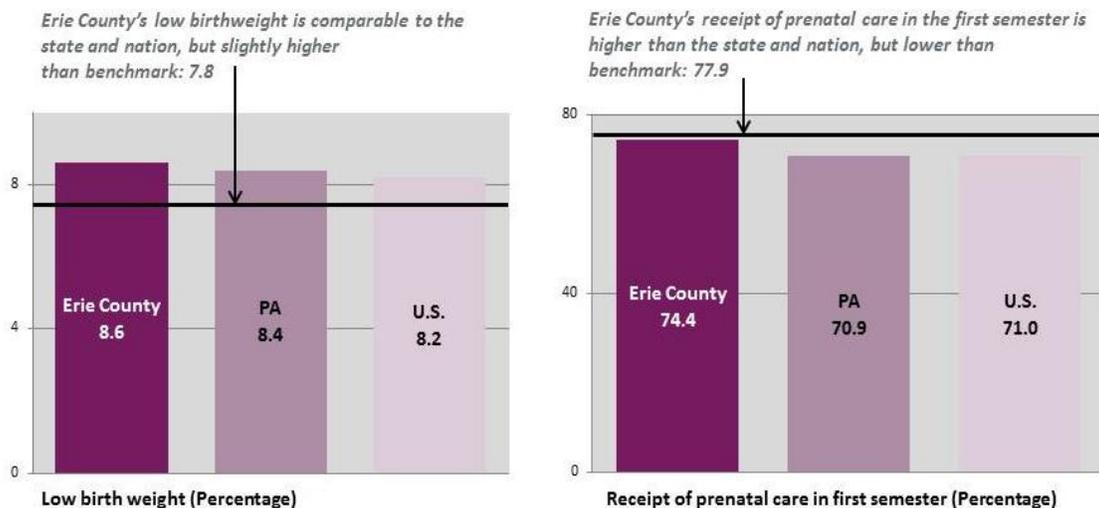
Screening rates are on par with state: Preventive screenings are a cost-effective approach in promoting health, and can help further delay progression or worsening of certain diseases. Screening rates within Erie County for conditions such as colorectal cancer and breast cancer were generally on par or higher than the state, likely due to existing initiatives in the areas.

Opportunities for improvement within specific clinical areas and sub-populations, specifically low-income populations: Variations in screening rates were observed for certain demographics and areas within Erie County. For colorectal cancer screening, a significantly higher percentage of those earning >\$50,000 (74 percent) were screened, compared to those earning <\$25,000 (51 percent). No significant differences were observed by sex, age, and education. Due to small sample sizes, results by race/ethnicity are not reported.

For mammography screening, similar patterns were observed, except results were not statistically significant. A higher percentage of women earning <\$50,000 had a mammogram (80 percent), compared to those earning <\$25,000 (51 percent). No significant differences were observed by sex, age, and education. Due to small sample sizes, results by race/ethnicity are not reported.

Maternal and Infant Health/Prenatal Care – Importance to the Community

- The well-being of mothers and infants is important for a healthy community.
- Erie County’s percentages of babies with a low birth weight and early receipt of prenatal care by expectant mothers are comparable to the state and nation.
- Smoking during pregnancy, which is associated with poorer birth outcomes, was higher in Erie County, compared to the state.



Sources: Pennsylvania Department of Health, 2011, National Center for Health Statistics, 2011

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. Over 3,000 infants were born in Erie County in 2009.

Accessing prenatal care and engaging in healthy behaviors during pregnancy is associated with healthy birth outcomes: Infant mortality rates and low birth weight data in Erie County are reflective of national trends. Starting prenatal care early during pregnancy, especially in the first trimester, can help result in healthy birth outcomes. Prenatal care during the first trimester was higher in Erie County (74 percent), compared to the state and the nation (each were 71 percent). Although receipt of early prenatal care was high in Erie County, healthy behaviors during pregnancy were lower: 72.5 percent of pregnant women were non-smokers in Erie County, compared to 83.5 percent in Pennsylvania.

Sub-populations, specifically low-income women and underserved minorities, are at risk for adverse birth outcomes. National studies suggest that low-income women and underserved minorities have a higher risk of adverse birth outcomes and challenges in accessing prenatal care. In Erie County, a sizable percentage of pregnant women were covered by Medicaid—37 percent, which is higher than state data (32 percent). In addition, local data showed differences in birth outcomes between African-Americans and Whites. For Whites, 7.4 percent of infants were low birth weight and 76.5 percent received prenatal care in the first trimester. In comparison, a higher percentage of African-American infants had a low birth weight (15 percent), and a lower percentage of pregnant mothers received prenatal care in the first trimester (57.6 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 one-third are age 85+. Hospice and end-of-life care issues are important for Erie 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 Hamot has developed an implementation plan that addresses the significant community health needs identified through the CHNA process. The plan relies on collaboration and leveraging of partnerships with many of the same organizations who 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 March 28, 2013, the UPMC Hamot Board of Directors adopted an implementation plan to address the identified significant health needs:

- **Preventive Screenings**
- **Maternal and Infant Health/Prenatal Care**
- **End-of-Life Care**

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

High-Level Overview of UPMC Hamot Implementation Plan

Topic	Goal	Collaborating Community Partners
Maternal and Infant Health/Prenatal Care	Increase the number of women and families receiving prenatal care and support – particularly in underserved populations – through the Stork Support Program where an RN who specializes in prenatal nursing provides in-depth education, support and follow-up.	National and local advocacy agencies, area OB/GYN practices, local organizations
Preventive Screenings	Increase the number of preventive screenings and increase awareness of the importance of screenings. Offer screenings for chronic disease, including heart disease and cancer, at multiple service delivery points including primary care offices, emergency department and urgent care locations as well as in the community at health events.	UPMC Health Plan, schools, local organizations
End-of-Life Care	Enhance end-of-life programs through increased community education. Increase education for providers regarding UPMC end-of-life programs. Explore development of an outpatient palliative care clinic.	Area hospice organizations, LifeWorks Erie, Regional Cancer Center, UPMC System

VI. APPENDICES

APPENDIX A: Detailed Community Health Needs Assessment Implementation Plans

Priority Health Issue: Addressing Preventive Screenings

Preventive screenings are an important priority in the community: Preventive screenings can include regular physical exams conducted by a primary care physician, blood tests (such as blood sugar or cholesterol), certain measurements (like weight and blood pressure), immunizations/vaccinations, and screening tests to look for signs of cancer or heart disease. All of these services can help to identify common, yet potentially serious, health concerns early. Early detection typically leads to more successful treatment. Currently, Erie County has a lower screening rate than the nation, as well as the national benchmark set by Health People 2020 when it comes to colonoscopies and mammograms.

UPMC Hamot is addressing this issue: UPMC Hamot currently offers many preventive screenings, including blood and weight screenings and screenings for cancer, heart disease and stroke. UPMC Hamot provides these services through its Primary Care Network, which serves more than 110,000 residents, as well as through screenings at events held in the community.

UPMC Hamot plans to do more to focus on this priority: UPMC Hamot plans to establish standardized ways of educating the community about recommended screenings during community education programs and screenings, while people are visiting their primary care network physician, and when people are in the emergency department or urgent care center.

Preventive Screenings				
Program	Activities	Goal-Yr 3	Target Population	Partners
Screening Assessment	<p>Establish a standardized method of assessing risk status and communicating recommended screenings to primary care patients.</p> <p>Develop a standard risk questionnaire and list of recommended screenings to be integrated in the EHR for all UPMC Hamot Primary Care Practices.</p> <p>Develop rooming standard process to capture patient-reported screening history.</p>	<ul style="list-style-type: none"> • Increase use of risk questionnaire during routine patient visits to primary care practices. 	UPMC Hamot Primary Care Network.	UPMC Hamot primary care physicians, EpicCare Electronic Health Record.
Screening Awareness	<p>Communicate regularly with patients registered in the UPMC Hamot Primary Care Network.</p> <p>Pilot birthday card program to increase awareness of recommended preventive screenings and exams.</p> <p>Communicate the importance of primary care and preventive screenings at health fairs and community events.</p> <p>Develop method to track compliance with recommended screenings.</p>	<ul style="list-style-type: none"> • Increase awareness of primary care and preventive screenings. • Increase primary care patient compliance with recommended preventive screening visits and exams. • Include screening information at all community health events that UPMC Hamot attends. 	Primary Care Network Patients, Community.	UPMC Health Plan, Community Partners, UPMC Hamot primary care physicians, EpicCare Electronic Health Record.

Preventive Screenings				
Program	Activities	Goal-Yr 3	Target Population	Partners
Emergency Room and Urgent Care Initiative	<p>Develop a plan to educate Emergency Department and Urgent Care Clinic patients about the importance of primary care and preventive screenings.</p> <p>Include information on available resources.</p> <p>For patients without a PCP, refer them to a PCP.</p>	<ul style="list-style-type: none"> • Increase number of materials distributed. • Increase number of individuals referred to screening resources. • Increase number of patients who are referred to primary care that have an appointment scheduled within 5 business days. 	UPMC Hamot Emergency Department and Urgent Care patients.	Emergency Department, UPMC Urgent Care, Department and UPMC Hamot Primary Care.
Screenings for Underserved Populations	<p>Provide targeted community screening events based on identified areas of need.</p> <p>Execute community screening plan.</p> <p>Attend annual screening events in Erie's underserved area.</p>	<ul style="list-style-type: none"> • Increase attendance at screening events in underserved areas. 	Community, low income.	UPMC Hamot Community Benefit Task Force, UPMC Health Plan, Erie School District, Community Health Net, Gannon Erie – GAINS, Erie Together.

Priority Health Issue: Addressing Maternal and Infant Care/Prenatal Care

Maternal and infant health and prenatal care are important priorities in the community: The well-being of mothers and infants affects the health, wellness, and quality of life of women, children, and families. Pregnancy can provide an opportunity to identify existing health risks in women and to prevent future health problems for women and their children.

UPMC Hamot is addressing these issues: UPMC Hamot is addressing the risks of maternal and infant mortality and pregnancy-related complications through clinical programs delivered at UPMC Hamot Women's Hospital, the first facility of its kind in northwestern Pennsylvania, as well as through a strong suite of community programs that provide access to quality prenatal clinical care and education to the Erie community, including underserved populations. UPMC Hamot's consumer education and community outreach department, the UPMC Hamot Health Connection, offers a free prenatal program that provides one-on-one consultations with a registered nurse skilled in perinatal care. This Stork Support program, as well as others, addresses the importance of good prenatal care and aims to improve health outcomes for both mother and baby.

UPMC Hamot plans to do more to focus on these priorities: UPMC Hamot plans to increase educational efforts by partnering with other community organizations to reach populations that may not currently be receiving prenatal education, improving access to prenatal care in both the general population as well as in underserved populations, and by expanding their Stork Support program.

Maternal and Infant Health and Prenatal Care				
Program	Activities	Goal-Yr 3	Target Population	Partners
Stork Support Program Awareness	<p>Participate in community events and health fairs.</p> <p>Work with community partners to reach identified at-risk populations.</p> <p>Distribute pamphlets to high-risk populations using community partners. Participate in the Maternal/Child Health Task Force.</p>	<ul style="list-style-type: none"> • Maintain or increase health fairs/ community events. • Track where pamphlets are distributed. • Improve distribution to city center and surrounding county. 	<p>At-risk community members:</p> <p>teens, immigrants, older mothers, low income, smokers.</p>	<p>Adagio, March of Dimes, Maternal and Child Health Task Force, School District of the City of Erie. Multi-cultural Health Evaluation Delivery Service (MHEDS), Gannon Erie – GAINS, Erie Together.</p>
Stork Support Program Outreach/ Enrollment	<p>Target outreach for the Stork Support Program to pregnant women who are not already associated with UPMC Hamot/Hamot Health Connection.</p> <p>Work with local obstetric practices' to increase their awareness and promotion of the Stork Support Program.</p> <p>Develop an enrollment process for physician offices.</p>	<ul style="list-style-type: none"> • Increase enrollment in program. • Increase enrollment of high-risk mothers in program. • Increase referrals and utilization of services (prenatal classes, lactation support, and homecare) by program enrollees. 	<p>At-risk community members:</p> <p>teens, immigrants, older mothers, low income, smokers, Stork program enrollees.</p>	<p>Adagio, March of Dimes, Maternal and Child Health Task Force, School District of the City of Erie, Multi-cultural Health Evaluation Delivery Service (MHEDS), Bayside Ob/GYN Infertility, OB/ GYN Associates of Erie, March of Dimes, Gannon Erie – GAINS, Erie Together.</p>
Prenatal Care Access	<p>Establish clinical prenatal services at Wayne Primary Care.</p> <p>Provide educational programs in the adjacent Wayne Community Room.</p>	<ul style="list-style-type: none"> • Provide services at Wayne Primary Care. 	<p>Community surrounding Wayne Primary Care.</p>	<p>Community Health Net, Erie Community Foundation.</p>
Community Programs	<p>Work with other local agencies to determine the breadth of services available and how all might work best together.</p>	<ul style="list-style-type: none"> • Identify areas of improvement for the Stork Support program or other local programs to standardize care and programming. 	<p>Entire community.</p>	<p>Maternal Infant Health Task Force.</p>

Priority Health Issue: Addressing End-of-Life Care

End-of-life care is an important priority in the community: Almost two-thirds of deaths in Erie 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 one-third are age 85 and older. The number of individuals age 85 and older in Erie County has increased since 2000.

UPMC Hamot is addressing this issue: UPMC Hamot 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. UPMC Hamot provides inpatient palliative care to lessen pain, palliative care consultations to develop treatment goals and advanced directives, psychological and spiritual counseling, and discharge plans and referrals, including referrals to hospice. UPMC Hamot works with Great Lakes Hospice to provide hospice care for end-of-life patients.

UPMC Hamot plans to do more to focus on this priority: UPMC Hamot plans to improve awareness of end-of-life resources within the community and initiate discussions within the community about end-of-life issues, including the importance of understanding patients’ end-of-life wishes. UPMC Hamot also plans to develop a way to identify and refer patients who could benefit from existing programs, such as palliative care consultation and hospice.

End-of-Life Care				
Program	Activities	Outcomes Goal-Year 3	Target Population	Partners
End-of-Life Resource Awareness	<p>Develop a toolkit or brochure of information for community members.</p> <p>Identify and promote speakers who can present at community events.</p> <p>Develop curriculum to educate UPMC Hamot physicians and employees about end-of-life resources and issues and how to interpret and honor patient wishes at the point of care.</p> <p>Hold a kick-off event that consists of several educational sessions and reaches more than 500 employees once curriculum is developed.</p> <p>Include the curriculum in Mandatory Clinical Education annually.</p> <p>Deliver a Day of Conversation program annually for all employees and medical staff.</p>	<ul style="list-style-type: none"> • Increase community and provider awareness of end-of-life resources and issues. • Increase hospice and palliative care participation in community events. • Achieve 100% compliance with Mandatory Clinical Education. 	Community. Employees and medical staff.	Great Lakes Home Healthcare and Hospice, LifeWorks Erie, Gannon Erie – GAINS, Erie Together.

End-of-Life Care				
Program	Activities	Outcomes	Target Population	Partners
Palliative Care and Hospice Patient Identification	<p>Identify and refer the following types of inpatients who are eligible for palliative care consults:</p> <ul style="list-style-type: none"> ✓ Patients with 2 or more inpatient admissions in the last 6 months. ✓ Patients age 80 or greater. ✓ All ventilated ICU patients on or before day 4 in the ICU. ✓ Patients transferred to ICU from a general medical floor and patients admitted from nursing homes and rehab hospitals. ✓ Patients diagnosed with chronic diseases, life threatening illness or trauma. ✓ Patients with perceived spiritual or emotional distress. <p>Conduct evaluation by certified palliative care physician or NP and make recommendations for control of physical, psychological, psychosocial, and spiritual pain.</p> <p>Identify and refer the following types of patients who are eligible for hospice care:</p> <ul style="list-style-type: none"> ✓ Life expectancy of six months or less ✓ Desire for palliation versus curative 	<ul style="list-style-type: none"> • Increase inpatient palliative care consults. • Increase percentage of total adult inpatient admissions through consultations. • Explore development of (an) outpatient palliative care clinic(s). • Increase number of enrollees in the hospice program. 	UPMC Hamot inpatients. Patients (and families) eligible for hospice.	Great Lakes Home Healthcare and Hospice, RCC, UPMC Hamot Medical Staff, UPMC Palliative and Supportive Care Institute.
Improve Utilization of End-of-Life Care	Document utilization and outcomes for evaluation.	<p>Improvements documented in:</p> <ul style="list-style-type: none"> • Number of multidisciplinary family meetings • Pain control ratings • Number of deceased patients who received a palliative consult before death • ALOS for palliative patients • Cost avoidance 	UPMC Hamot inpatients	Great Lakes Home Healthcare and Hospice UPMC Palliative and Supportive Care Institute
Hospice Program Utilization	<p>Evaluate patients to determine if they have an advanced directive and what their end-of-life wishes are.</p> <p>Not having an advanced directive does not preclude them from having hospice.</p>	<ul style="list-style-type: none"> • Increase ALOS in hospice to 32 days. 		Great Lakes Home Healthcare and Hospice, RCC, Physicians.

Outcomes and Evaluation of Hospital Implementation Plans

UPMC engaged with researchers from Pitt Public Health at the University of Pittsburgh 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 county rankings compiled by the RWJ Foundation.

The following table identifies measurable process outcomes and related health impact indicators proposed by Pitt Public Health. Some of the outcomes indicators, particularly the process outcomes, may be impacted in short time frames, such as the three-year span of a Community Health Needs Assessment cycle. Others, including many of the health impact indicators, are not expected to change significantly over the short-term.

	Process Outcomes (Hospital/Partner Delivery of Services)	Health Impact Outcomes (Changes in Population Health)
Perinatal Care and Support	Increase— Number of women and families receiving prenatal care and support, with a focus on high risk women and those in poverty. Community partnerships for prenatal services. Referrals for allied services for most vulnerable mothers.	Decrease— Prevalence of low birth weight and pre-term birth. Infant mortality.
Preventive Screenings	Increase— Venues for screening: PCP, ED, community events. Community members who have a primary care physician.	Decrease— Hospitalization resulting from untreated disease. Initial physician contact of patients with advanced disease.

	Process Outcomes (Hospital/Partner Delivery of Services)	Health Impact Outcomes (Changes in Population Health)
End-of-Life Care	Increase— Use of palliative care and hospice services. Hospital staff knowledge regarding advance directives and clinical implementation of such directives. Community awareness of end-of-life planning and advance directives. Advanced directives for admitted patients. Physician discussion of end-of-life planning. Access to outpatient palliative care.	Decrease— Unwanted aggressive interventions at end of life. Uncontrolled pain or discomfort at end of life. Exclusion of patients and families in end-of-life planning.

APPENDIX B: Detailed Community Health Needs Profile

Population Demographics

Characteristics	Erie County	Pennsylvania	United States
Area (sq miles)	799.15	44,742.70	3,531,905.43
Density (persons per square mile)	351.1	283.9	87.4
Total Population, 2010	280,566	12,702,379	308,745,538
Total Population, 2000	280,843	12,281,054	281,424,600
Population Change ('00-'10)	-277	421,325	27,320,938
Population % Change ('00-'10)	-0.1%	3.4%	9.7%
Age			
Median Age	38.6	40.1	37.2
%<18	22.7%	22.0%	24.0%
%18-44	35.5%	34.3%	36.5%
%45-64	27.4%	28.1%	26.4%
% >65+	14.6%	15.4%	13.0%
% >85+	2.4%	2.4%	1.8%
Gender			
% Male	49.2%	48.7%	49.2%
% Female	50.8%	51.3%	50.8%
Race/Ethnicity			
% White*	88.2%	81.9%	72.4%
% African-American*	7.2%	10.8%	12.6%
% American Indian and Alaska Native*	0.2%	0.2%	0.9%
% Asian*	1.1%	2.7%	4.8%
% Native Hawaiian/Other Pacific Islander*	0.0%	0.0%	0.2%
% Hispanic or Latino**	3.4%	5.7%	16.3%
Disability	15.6%	13.1%	11.9%

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

Source: US Census, 2010

Social and Economic Factors

Characteristics	Erie County	Pennsylvania	United States
Income, Median Household	\$42,519	\$49,288	\$50,046
Home Value, Median	\$117,500	\$165,500	\$179,900
% No High School Diploma*	9.8%	11.6%	14.4%
% Unemployed**	9.4%	9.6%	10.8%
% of People in Poverty	17.4%	13.4%	15.3%
% Elderly Living Alone	11.3%	11.4%	9.4%
% Female-headed households with own children <18	7.9%	6.5%	7.2%
Health Insurance			
% Uninsured	9.6	10.2	15.5
% Medicaid	16.9	13.1	14.4
% Medicare	10.5	11.2	9.3

*Based on those ≥25 years of age; **Based on those ≥16 years and in the civilian labor force
Source: US Census, 2010

Leading Causes of Mortality for Erie County, Pennsylvania and the United States (rates per 100,000 population)

Causes of Death	Erie 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	26.3	25.9	24.6
Malignant Neoplasms	22.0	23.1	23.3
Chronic Lower Respiratory Diseases	6.2	5.2	5.6
Cerebrovascular Diseases	5.2	5.5	5.3
Unintentional Injuries	4.2	4.4	4.8
Alzheimer's Disease	3.3	2.9	2.8
Diabetes Mellitus	3.0	2.6	2.2
Influenza and Pneumonia	2.7	2.0	2.0
Nephritis, Nephrotic Syndrome and nephrosis	2.6	2.4	1.5
Intentional Self-Harm (Suicide)	1.2	1.3	1.5

Sources: Pennsylvania Department of Health, 2009; National Center for Health Statistics, 2011

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

Characteristics	Erie County	Pennsylvania	United States	Healthy People 2020
Morbidity				
Diabetes (%)	10.0	9.0	8.0	NA
Mental Health (Mental health not good ≥1 day in past month) (%)	33.0	35.0	NA	NA
Low Birthweight (% of live births)	8.6	8.4	8.2	7.8
Health Behaviors				
Obesity (Adult) (%)	29.0	28.0	26.9	30.6
Excessive Alcohol Use (%)	19.0	17.0	15.8	24.4
Current Tobacco Use (%)	23.0	20.0	17.9	12.0
STDs(Gonorrhea per 100,000)*	186.6	103.8	285	257
Clinical Care (%)				
Immunization: Ever had a Pneumonia Vaccination (65+) (%)	73.0	70	68.6	90
Cancer Screening				
Mammography (%)	67.0	63.0	75.0	81.1
Colorectal Screening (%)	62.0	63.0	65.0	70.5
Primary Care Physician: Population (Ratio)	1:1,890	1:1,067	NA	NA
Receive Prenatal Care in First Trimester (%)	74.4	70.9	71.0	77.9
Physical Environment				
Access to Healthy Foods (%)	59%	57	NA	NA
Access to Recreational Facilities	12	12	NA	NA

Sources:

Erie County Data: Erie County Department of Health, 2011; Pennsylvania Department of Health 2009, 2007-2009; Robert Wood Johnson County Health Rankings, 2011.

Pennsylvania Data: Pennsylvania Department of Health, 2009; Robert Wood Johnson County Health Rankings, 2011

U.S. Data: U.S. Centers for Disease Control and Prevention, 2009. Healthy People, 2020; National Center for Health Statistics. 2011.

*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: Concept Mapping Methodology

Overview:

UPMC Hamot, 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 their 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 Hamot:

UPMC Hamot 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 Hamot 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 list 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 Hamot community.

UPMC Hamot'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.

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 Hamot Community Advisory Council completed the sorting and rating activities either in person or 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?

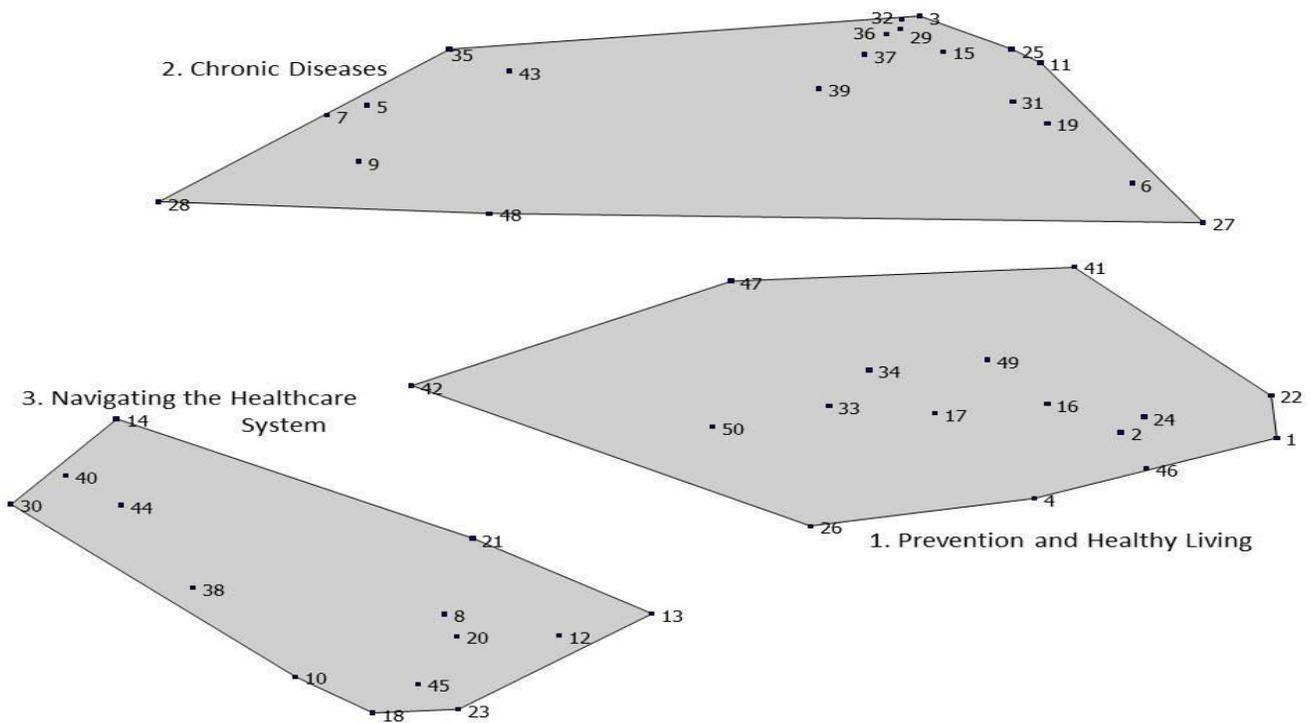
(1 = no ability; 5 = great ability)

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, the 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 Hamot. Leadership from UPMC Hamot 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.

APPENDIX D: Community Participants

To ensure the CHNA was conducted in a rigorous manner reflecting best practices, UPMC sought support and expertise from individuals and organizations with expertise in public health. UPMC engaged with the University of Pittsburgh Graduate School of Public Health (Pitt Public Health) to:

- **Develop a framework to itemize and prioritize community health needs based on review and analysis of secondary data on community health**
- **Obtain community input on health needs and perceived health care priorities through a consistent, structured process**
- **Develop implementation strategies that leverage best practices in evidence-based community health improvement**
- **Establish evaluation and measurement criteria to monitor results of implemented efforts**

The following individuals from Pitt Public Health participated in the CHNA process:

- **Steven M. Albert, PhD, MPH, Professor and Chair – Department of Behavioral and Community Health Sciences, Pittsburgh, PA**
- **Jessica G. Burke, PhD, MHS, Associate Professor - Department of Behavioral and Community Health Sciences, Pittsburgh, PA**
- **Donna Almario Doebler, DrPH, MS, MPH, Visiting Assistant Professor - Department of Behavioral and Community Health Sciences, Pittsburgh, PA**
- **Jennifer Jones, MPH, Project Assistant - Department of Behavioral and Community Health Sciences, Pittsburgh, PA**

In addition, local and state public health department input and data were obtained and utilized in this community health assessment. UPMC Hamot worked closely with the Erie County Department of Health, and relied on publically available Pennsylvania Department of Health reports and additional local health department information accessed via telephone conversations and special data requests.

Community input was garnered from a community advisory council, formed to represent the communities and constituencies served by the hospital. Council participants included representatives of medically underserved, low income and minority populations, consumer advocates, nonprofit organizations, academic experts, local government officials, community-based organizations, and health care providers.

The Community Advisory Council met between June 2012 and November 2012 and completed an online survey during August and September 2012. Their activities were facilitated by faculty from Pitt Public Health (see Appendix C).

UPMC Hamot's Community Advisory Council included representatives from the following organizations:

- C.A. Curtze Co., Erie, PA
- Community Health Net, Erie, PA
- Erie Center on Health and Aging/ LifeWorks, Erie, PA
- Erie Voice, Erie, PA
- Gannon University, College of Health Professions and Sciences, Erie, PA
- MacLean-Fogg Component Solutions, Erie, PA
- Malin Berquist & Co., Erie, PA
- McCarthy, McDonald, Schulberg & Joy, Pittsburgh, PA
- Medicor Associates, Inc., Erie, PA
- Mercyhurst University, Public Health
- Myers Trucking Company, Kane, PA
- U.S. Court of Appeals, Third Circuit, Erie, PA
- Victory Christian Center of Erie, Inc., Erie, PA
- West Erie Medical Group, Erie, PA

The UPMC Hamot Community Council was also supported by members of the hospital's Board of Directors, physicians and hospital leadership.

A focus group, also comprised of individuals and organizations representing the broad interests of the community - including representatives from medically underserved, low income and minority populations - met in August 2012. This meeting included a discussion facilitated by Pitt Public Health faculty to identify important health needs in UPMC's communities. Participants included representatives from the following organizations:

- Addison Behavioral Care, Pittsburgh, PA
- Allegheny County Area Agency on Aging, Pittsburgh, PA
- Consumer Health Coalition, Pittsburgh, PA
- Disabilities Resource Committee, UPMC Community Provider Services, Pittsburgh, PA
- Greater Pittsburgh Community Food Bank, Duquesne, PA
- LEAD Pittsburgh, Pittsburgh, PA
- Office of Inclusion and Diversity, UPMC, Pittsburgh, PA
- Pennsylvania Health Access Network, Pittsburgh, PA
- Refugee Services, Jewish Family & Children's Services, Pittsburgh, PA
- Three Rivers Center for Independent Living, Pittsburgh, PA
- United Way of Allegheny County, Pittsburgh, PA
- UPMC Board Diversity and Inclusion Committee, Pittsburgh, PA
- UPMC Health Plan, Pittsburgh, PA
- Urban League of Pittsburgh, Pittsburgh, PA

- **VA Pittsburgh Healthcare System, Pittsburgh, PA**
- **Women's Shelter of Greater Pittsburgh, Pittsburgh, PA**
- **YMCA of Greater Pittsburgh, Pittsburgh, PA**
- **YWCA of Greater Pittsburgh, Pittsburgh, PA**

UPMC also invited representatives from the following organizations to participate:

- **Allegheny Conference on Community Development**
- **HI-HOPE (Hazelwood Initiative)**
- **Kingsley Association**
- **Pennsylvania Psychological Association**
- **PERSAD**
- **Salvation Army of Western Pennsylvania**
- **The Pennsylvania Health Law Project**