University Hospitals
Richmond Medical Center
A Campus of UH Regional Hospitals





2015 COMMUNITY HEALTH NEEDS ASSESSMENT

University Hospitals' (UH) long-standing commitment to the community spans more than 145 years. This commitment has grown and evolved through significant thought and care in considering our community's most pressing health needs. One way we do this is by conducting a periodic, comprehensive Community Health Needs Assessment (CHNA) for each UH hospital facility.

Through our CHNA, UH has identified the greatest health needs among each of our hospital's communities, enabling UH to ensure our resources are appropriately directed toward outreach, prevention, education and wellness opportunities where the greatest impact can be realized.

The following document is a detailed CHNA for University Hospitals Richmond Medical Center, a campus of UH Richmond Medical Center (UH Richmond Medical Center), a 125-bed full-service acute-care teaching hospital that offers specialty services such as a Spine Center and wound care. UH Richmond Medical Center offers myriad programs and activities to address the surrounding community health needs. These range from medical education training for residents, free Health Speak educational seminars and health fairs open to the whole community, to EMS training programs and a senior emergency department.

UH Richmond Medical Center continually strives to meet the health needs of its community. Please read the document's introduction below to better understand the health needs that have been identified.

Adopted by the UH Board of Directors
September 24, 2015.

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INTRODUCTION TO REPORT

This report identifies and assesses community health needs in the areas served by UH Richmond Medical Center in accordance with regulations promulgated by the Internal Revenue Service. This CHNA was adopted by the UH Board of Directors on September 24, 2015.

This is the second UH Richmond Medical Center CHNA in response to that federal government regulation.[1] The 2015 UH Richmond Medical Center CHNA will serve as a foundation for developing an implementation strategy, required by the regulation, to address those needs that (a) the hospital determines it is able to meet in whole or in part; (b) are otherwise part of its mission; and (c) are not met (or are not adequately met) by other programs and services in the hospital's service area.

Objectives: CHNAs seek to identify priority health status and access issues for particular geographic areas and populations by focusing on the following questions:

- **Who** in the community is most vulnerable in terms of health status or access to care?
- **What** are the unique health status and/or access needs for these populations?
- **Where** do these people live in the community?
- **Why** are these problems present?

The question of how the hospital can best use its limited charitable resources to assist communities in need will be the subject of the hospital's implementation strategy.

To answer these questions, this assessment considered multiple data sources, some primary (survey of market area residents, hospital discharge data) and some secondary (regarding demographics, health status indicators and measures of health care access).

This UH Richmond Medical Center CHNA took into account input from persons representing the broad interests of the community through both a randomized telephone survey of households in Cuyahoga County and a series of mail surveys and in-person interviews with community leaders. Community leaders from the Cuyahoga County Board of Health offered their analysis based on their work as local governmental public health agencies. Participating community leaders provided input into the prioritization of significant health needs.

This report addresses the following broad topics::

- Demographics of UH Richmond Medical Center's primary and secondary market areas;
- Economic issues facing the hospital's primary and second market areas (e.g., poverty, unemployment);
- Community issues (e.g., environmental concerns and crime);
- Health status indicators (e.g.; morbidity rates for various diseases and conditions, and mortality rates for leading causes of death);
- Health access indicators (e.g., uninsured rates, ambulatory care sensitive (ACS) discharges, and use of emergency departments);
- Health disparities indicators; and
- Availability of health care facilities and resources.

[1]UH Richmond Medical Center followed the 2013 Proposed Regulations, published by the Treasury Department and IRS on April 5, 2013, in the Federal Register (REG-106499-12, 2013-21 I.R.B. 1111, [78 FR 20523]), in accordance with Notice 2014-2 that confirms that hospital organizations can rely on proposed regulations under section 501(r) of the Internal Revenue Code issued on June 26, 2012, and April 5, 2013, pending the publication of final regulations or other applicable guidance. The final rule entitled "Additional Requirements for Charitable Hospitals; Community Health Needs Assessments for Charitable Hospitals"; Requirement of a Section 4959 Excise Tax Return and Time for Filing the Return, was published by the IRS on December 21, 2014, and requires compliance after December 29, 2015.

EXECUTIVE SUMMARY

UH Richmond Medical Center by the Numbers

- Two service area counties: Cuyahoga, Lake
- Population, 2013: 304,409
- 66.2% of patient discharges were residents of its primary market area; 15.4% of its secondary market area
- 12.2% of patient discharges were Medicaid patients; 3.1% were uninsured; 67.3% were Medicare
- 30.7% of Cuyahoga County households with incomes <$25,000;20.4% of Lake County households with incomes <$25,000
- Population Trends:
  - Proportionately, there was little change in Lake County's demographic composition from 2010 to 2013.
  - Cuyahoga County decreased in population size by 1.1% from 2010 to 2013.
  - Both counties are growing older, on average.
  - Cuyahoga County is majority White, but the percentage of the population that is White decreased by 1% from 2010 to 2013.
  - Lake County is also majority White, but saw an increase in Black or African-American residents from 2010 to 2013 (+.6%).
- There exists a wide range of health status and access challenges across the community

This assessment focuses on the priority problems that impact the overall health of the community that surrounds UH Richmond Medical Center. UH Richmond Medical Center's service area extends into two counties: Cuyahoga and Lake. Key findings are as follows.

Poverty and unemployment in the area create barriers to access (to health services, healthy food and other necessities) and thus contribute to poor health. Racial and ethnic minorities are more likely to lack economic and social resources and be at risk for poor health.

Many of these issues are most prominent in Cuyahoga County:

- Nearly 19% of all residents of Cuyahoga County were living under the poverty line in 2014
- The unemployment rate in Cuyahoga County in 2014 was 5.5%, which was slightly higher than the national rate of 5.3%
- From 2010 to 2013, fewer residents in Cuyahoga and Lake counties had private health insurance, but more had public health coverage

For UH Richmond Medical Center, 27.7% of discharges were ACS discharges of residents within the primary and secondary market areas combined. This may signal lower availability or access to primary care within the primary market area. The most common primary ACS diagnoses for UH Richmond Medical Center's discharged patients were congestive heart failure and chronic obstructive pulmonary disease (COPD). Almost 15% of discharged patients in 2013 were diabetic and one in four had hypertension.

Priority Health Needs

Poor health status results if a complex interaction of challenging social, economic, environmental and behavioral factors combined with a lack of access to care is present. Addressing these "root" causes is an important way to improve a community's quality of life and to reduce mortality and morbidity.

After careful analysis of both qualitative and quantitative data, UH Richmond Medical Center identified four categories of health needs that impact the community served by the hospital. These include (not listed in a specific order):

1. Health Disparities
   - Poverty
   - Unemployment
   - Aging Population
   - Infant Mortality
2. Chronic Disease Conditions
   - Heart Disease
   - Alzheimer's
   - Respiratory Diseases
   - Cancer
   - Diabetes
   - Mental Illness
3. Lifestyle Barriers
   - Substance abuse (Tobacco/Drug/Alcohol)
   - Obesity
4. Access Barriers
   - Cost of Care
   - Lack of Primary Care Providers
   - Transportation

From this list, UH Richmond Medical Center has selected three categories of priority health needs, which are:

1. Chronic Disease Conditions
2. Access Barriers
3. Lifestyle Barriers

Significant portions of the community served by UH Richmond Medical Center are seniors. The health needs associated with an aging population have become increasingly important considerations for the hospital.

The intersection of a focus on increasing health care access and focus on the aging population will promote an emphasis on diagnosing and treating chronic disease conditions and reducing the prevalence of lifestyle factors like obesity and smoking.

CHNA Collaboration

UH Richmond Medical Center worked closely with The Center for Health Affairs and Cypress Research Group to complete the data assessment and summary portions of the 2015 CHNA. University Hospitals Health System, Inc. retained The Center for Health Affairs to assist in data collection and analysis to ensure the entire community served by the hospital was captured. The Center for Health Affairs is the leading advocate for Northeast Ohio hospitals. The Center advocates on behalf of 34 hospitals in six counties. Cypress Research Group provides custom research services to meet various market and business research needs. More information about The Center for Health Affairs and Cypress Research Group is provided in the Appendix.

A. Definition of Market Area (Community Served by the Hospital)

UH Richmond Medical Center is located in the city of Richmond Heights in Cuyahoga County, Ohio. UH Richmond Medical Center's market area includes 13 municipalities (eight in its primary market area and five in its secondary market area), illustrated in Figure 1: UH Richmond Medical Center Market Areas. In 2013, UH Richmond Medical Center had 2,948 discharged patients. Table 1: UH Richmond Medical Center: Hospital Discharges – Primary and Secondary Market Areas shows that of those, 2,406 were in the hospital's primary or secondary market (81.6%). Two-thirds (67.5%) of UH Richmond Medical Center's discharges in 2013 were residents of Cuyahoga County.

In 2013, 66.2% of UH Richmond Medical Center's discharges were residents of its primary market area; 15.4% were residents of its secondary market area. Of the eight municipalities which make up UH Richmond Medical Center's primary market area, South Euclid has the largest population (10.9% of the hospital's total market area). However, the ZIP code with the largest number of discharges from UH Richmond Medical Center was Richmond Heights (553 discharges), which comprises 7.9% of UH Richmond Medical Center's market area population.

Table 2: UH Richmond Medical Center: Emergency Room Visits – Primary and Secondary Market Areas shows that in 2014, UH Richmond Medical Center had 22,824 visits to the emergency room; 73.5% were residents of the hospital's primary market area, and 12.8% were residents of its secondary market area.

The largest number of emergency room visits from a single ZIP code were for residents of Richmond Heights (4,060). However, the three ZIP codes which comprise Euclid totaled 32.7% of all emergency room visits for UH Richmond Medical Center in 2014.

Cuyahoga County and Lake County Health Rankings

The Robert Wood Johnson Foundation produces an annual report which ranks counties in Ohio based on two major indices of population health: health outcomes (length and quality of life) and health factors (clinical care, health behaviors/alcohol and drug use, social/environmental factors and physical environment). A rank of "1" is the best, "88" is the worst in the state of Ohio. Table 3: County Health Rankings identifies both Cuyahoga and Lake counties' ranks. While UH Richmond Medical Center does not include all of Cuyahoga County or Lake County in its market area, it does include a substantial portion of both. Therefore, understanding where these counties as a whole rank in Ohio, in terms of health, is useful. It is important to note that in many of Ohio's counties, the differential between health outcomes and health factors is relatively small.

On the whole, Cuyahoga County achieves moderately low ranks, compared to other Ohio counties, in terms of health outcomes (65 out of 88 counties) or health factors (50 out of 88 counties). In terms of health outcomes, Cuyahoga County ranks more positively in terms of length of life (rank of 51) than quality of life (rank of 72). In terms of health factors, Cuyahoga County ranks highest in terms of clinical care (rank of 6) and to a lesser degree health behaviors (rank of 36). Cuyahoga County is among the lowest ranking counties in Ohio in terms of social and economic factors (rank of 78) and physical environment (68).

On these measures, Lake County ranks among the highest counties in Ohio: 19th in terms of health outcomes and 14th in terms of health factors. Lake County's length of life ranks 15th in the state, with quality of life having a weaker ranking (29th). Lake County's high health factors ranking is driven by a very high ranking for health behaviors (rank of 9) and social and economic factors (rank of 15). Lake County's physical environment compares unfavorably to many other counties in Ohio (rank of 58 out of 88 counties).

To better identify areas of greatest need, health rankings were further explored through data available at the Centers for Disease Control and Prevention (CDC, U.S. Department of Health and Human Services). The CDC identified several areas in which each county compares unfavorably to its peer counties (which closely match each county in terms of demographic and physical factors). Shown in Table 4: Population Statistics In Which Lake and Cuyahoga Counties Compare Unfavorably to Their Peer Counties, both counties compare unfavorably to their peers in terms of coronary heart disease deaths, incidence of Alzheimer's disease, gonorrhea and older adult asthma. Cancer deaths and preterm births are higher in Cuyahoga County compared to peer counties, and adult depression and adult diabetes are higher in Lake County than peer counties.

The Centers for Disease Control and Prevention also found that Cuyahoga County compared unfavorably to its peer counties in the U.S. in terms of the incidence of preventable hospitalizations for older adults.

FIGURE 1: UH RICHMOND MEDICAL CENTER MARKET AREAS

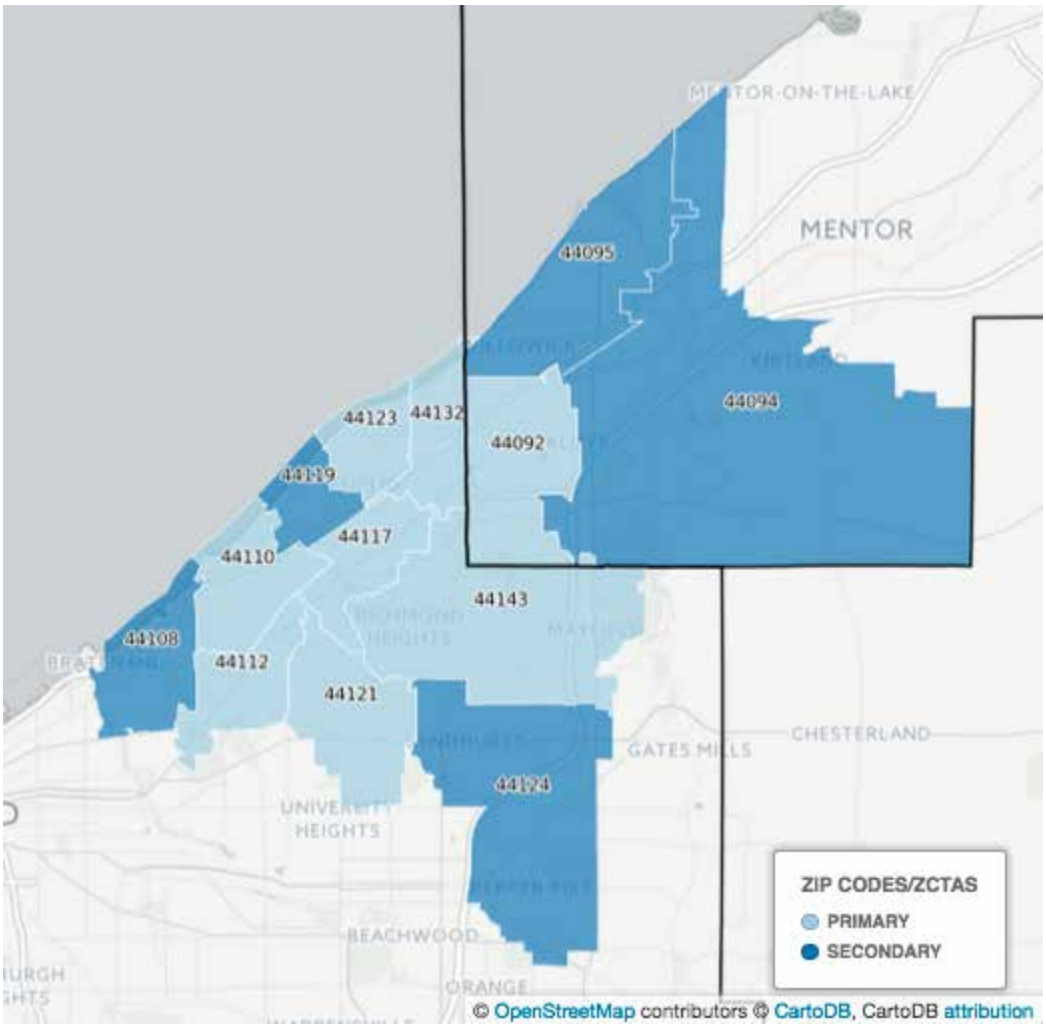


TABLE 1: UH RICHMOND MEDICAL CENTER: HOSPITAL DISCHARGES – PRIMARY AND SECONDARY MARKET AREAS

	Municipalities & ZIP Codes	Number/percent of UH Richmond Medical Center Discharges* (2013)		2013 Population (American Community Survey, U.S. Census Projection)**	
Primary Market Area		**Number**	**Percent**	**Number**	**Percent**
Cuyahoga County	Collinwood (44110)	115	3.9%	21,133	6.9%
	East Cleveland (44112)	118	4.0%	22,593	7.4%
	Euclid (44117)	330	11.2%	10,367	3.4%
	South Euclid (44121)	152	5.2%	33,252	10.9%
	Euclid (44123)	207	7.0%	16,675	5.5%
	Euclid (44132)	255	8.6%	14,883	4.9%
	Richmond Heights (44143)	553	18.8%	24,044	7.9%
Lake County	Wickliffe (44092)	222	7.5%	16,754	5.5%
Subtotal Primary Market		**1,952**	**66.2%**	**159,701**	**52.5%**
Secondary Market Area					
Cuyahoga County	Glenville-Bratenahl (44108)	83	2.8%	25,355	8.3%
	Beachland Station (44119)	89	3.0%	12,435	4.1%
	Lyndhurst/Mayfield (44124)	86	2.9%	37,971	12.5%
Lake County	Willoughby (44094)	104	3.5%	35,334	11.6%
	Eastlake (44095)	92	3.1%	33,613	11.0%
Subtotal Secondary Market		**454**	**15.4%**	**144,708**	**47.5%**
Total Market		**2,406**	**81.6%**		
Other Market		542	18.4%		
Total		**2,948**	**100%**	**304,409**	

**Ohio Hospital Association hospital discharge data, 2013*
***Source: U.S. Census, American Community Survey, 2010 Decennial projection to 2013*

TABLE 2: UH RICHMOND MEDICAL CENTER: EMERGENCY ROOM VISITS – PRIMARY AND SECONDARY MARKET AREAS

	Municipalities & ZIP Codes	Number of UH Richmond Medical Center Emergency Room Visits (2014)*		2013 Population**	
Primary Market Area		**Number**	**Percent**	**Number**	**Percent**
Cuyahoga County	Collinwood (44110)	1,215	5.3%	21,133	6.9%
	East Cleveland (44112)	1,323	5.8%	22,593	7.4%
	Euclid (44117)	2,506	11.0%	10,367	3.4%
	South Euclid (44121)	1,365	6.0%	33,252	10.9%
	Euclid (44123)	1,833	8.0%	16,675	5.5%
	Euclid (44132)	3,129	13.7%	14,883	4.9%
	Richmond Heights (44143)	4,060	17.8%	24,044	7.9%
Lake County	Wickliffe (44092)	1,353	5.9%	16,754	5.5%
Subtotal Primary Market		**16,784**	**73.5%**	**159,701**	**52.5%**
Secondary Market Area					
Cuyahoga County	Glenville-Bratenahl (44108)	655	2.9%	25,355	8.3%
	Beachland Station (44119)	822	3.6%	12,435	4.1%
	Lyndhurst/Mayfield (44124)	362	1.6%	37,971	12.5%
Lake County	Willoughby (44094)	553	2.4%	35,334	11.6%
	Eastlake (44095)	524	2.3%	33,613	11.0%
Subtotal Secondary Market		**2,916**	**12.8%**	**144,708**	**47.5%**
Other Market		3,124	13.7%		
Total		**22,824**	**100%**	**304,409**	

**UH Richmond Medical Center*
***Source: U.S. Census, American Community Survey, 2010 Decennial projection to 2013*

TABLE 3: COUNTY HEALTH RANKINGS

	Cuyahoga County, 2015		Lake County, 2015	
Health Outcomes	65 out of 88 counties	Length of Life: 51 out of 88 counties Quality of Life: 72 out of 88 counties	19 out of 88 counties	Length of Life: 15 out of 88 counties Quality of Life: 29 out of 88 counties
Health Factors	50 out of 88 counties	Clinical Care: 6 out of 88 counties Health Behaviors: 36 of 88 counties Social & Economic Factors: 78 of 88 counties Physical Environment: 68 of 88 counties	14 out of 88 counties	Clinical Care: 25 out of 88 counties Health Behaviors: 9 out of 88 counties Social & Economic Factors: 15 out of 88 counties Physical Environment: 58 out of 88 counties

Source: County Health Rankings & Roadmaps; Robert Wood Johnson Foundation program, 2015.

TABLE 4: POPULATION STATISTICS IN WHICH LAKE AND CUYAHOGA COUNTIES COMPARE UNFAVORABLY TO THEIR PEER COUNTIES

Cuyahoga County	Lake County
Mortality	
Coronary heart disease deaths	Coronary heart disease deaths
Cancer deaths	
Morbidity	
Alzheimer's disease/dementia	Alzheimer's disease/dementia
Gonorrhea	Gonorrhea
Older adult asthma	Older adult asthma
Preterm births	Older adult depression
	Adult diabetes
Health Care Access	
Older adult preventable hospitalizations	

B. Introduction to Data Analysis

This report analyzed both primary and secondary data to draw conclusions regarding the priority health needs of the population within the UH Richmond Medical Center community.

Primary Data

There were three main sources of primary data:

A. Survey Data

- UH Richmond Medical Center's market area is contained within Cuyahoga and Lake counties in Northeast Ohio. A random mail survey of households in Cuyahoga County was conducted in 2012. A total of 602 surveys were completed of which 123 (20.4%) were in UH Richmond Medical Center's primary or secondary market areas. Surveys were commissioned by Cuyahoga County Health Partners and conducted by the Hospital Council for Northwest Ohio to capture a comprehensive picture of Cuyahoga County residents' health status.

  In addition to a survey of adults in Cuyahoga County, the results from a random survey of youth (ages 12 to 18) conducted in Lake County in 2014 are included. The Lake County youth survey was commissioned by a partnership of Lake County community organizations with mutual interest in the health of the community and led by the Lake County Health Department. A total of 485 youth were randomly chosen and surveyed in 2014 within Lake County; a total of 128 were residents of the ZIP codes which are in UH Richmond Medical Center's market area within Lake County (mostly in UH Richmond Medical Center's secondary market).

B. Hospital Discharge Data

- Discharge data from the Ohio Hospital Association was used to describe hospital admission patterns for UH Richmond Medical Center from 2011 to 2013.

C. Qualitative Data

- A survey was sent to five community leaders from organizations that serve the populations in the hospital's service area. Two responses to the survey were received.

  UH Richmond Medical Center conducted interviews with five community leaders from public health, local government and social service agencies.

Qualitative Data Analysis Summary

From January 2015 – July 2015, UH Richmond Medical Center solicited the input of individuals who represent the broad interests of the community and individuals in leadership roles in public health, both in the form of mail surveys and in-person interviews.

Surveys

Surveys were sent to five community leaders from local government organizations that serve the populations in the hospital's service area. Two responses to the survey were received. A copy of the survey can be found in the Appendix.

The organizations solicited are listed below; those in **bold** responded.

City of Bedford

City of Richmond Heights

Walton Hills

Oakwood Village

Glenwillow

The top health issues identified by those surveyed were: Cancer, Diabetes and Heart Disease. Access to health care and insurance, Obesity and Substance Abuse were also noted as key health issues in local communities. Respondents felt that the primary access issues faced by their communities are access to mental health services and access to transportation.

Respondents also agreed that significant barriers that keep people in the community from accessing health care when they need it include the following: (1) availability of providers/appointments, (2) inability to pay out-of-pocket expenses (copays, prescriptions, etc.), (3) lack of transportation, and (4) time limitations.

Respondents predominantly agreed that there are specific populations in the UH Richmond Medical Center service area that are not being adequately served by local health services. The most commonly identified populations included the poor and uninsured. There was a consensus that the majority of those uninsured and underinsured individuals in this community use urgent care centers as their primary point of care when in need of medical care. Individuals will also visit the emergency department frequently.

Survey respondents identified a number of resources and services related to health and quality of life that are lacking in the community. These included free/low-cost providers of primary care, specialty care and dental care; transportation services; and services to assist with prescription medication coverage.

Interviews

UH Richmond Medical Center, in collaboration with UH Case Medical Center, UH Parma Medical Center and UH Ahuja Medical Center, further conducted interviews with community leaders that represent the broad interests of the community and public health. A copy of the interview guide can be found in the Appendix. Individuals interviewed included:

June 19 (UH Richmond Medical Center):

- Rozita Davis, Western Reserve Agency on Aging
- Rob David, UH Richmond Medical Center President
- Roy Longfellow, UH Richmond Medical Center Nursing
- Annie O'Neill, UH Richmond Medical Center Community Outreach
- Angela Payne, UH Richmond Senior ER Social Work

June 23:

- Terry Allan, Commissioner, Cuyahoga County Board of Health
- Joanne Mraz, Educational Program Director, American Diabetes Association (ADA)
- Jeffrey Lox, Chief Clinical Officer, Bellefaire JCB

July 8 (UH Bedford Medical Center)

- Stan Koci, Mayor, City of Bedford
- Roy Longfellow, UH Bedford Medical Center Nursing
- Annie O'Neill, UH Bedford Medical Center Community Outreach
- Mary Hamilton, UH Bedford Medical Center Marketing
- Carol Huszai, UH Bedford Social Work
- Mary Jo Deely, UH Bedford Social Work

Public Health

Cuyahoga County Board of Health (CCBH) Commissioner, Terry Allan, was interviewed on June 23, 2015. CCBH serves 855,000 people in Cuyahoga County and provides supplemental services regionally for seven counties. While CCBH serves this robust population, services are generally targeted to low-income, high need and often minority communities.

Mr. Allan believes that the biggest driver impacting health status in the community is poverty and education. He stated that social determinants of health have a vast impact across all age groups. Among the youth/young adult age group the biggest issues driven by the social determinants of health are infant mortality, healthy eating/active living, tobacco use, violence, asthma, teen pregnancy and childhood vaccination.

Mr. Allan believes that many of these issues drive health issues as people age. In the age group of adults age 18 – 44, he identified the biggest health issues as preventive health, healthy eating/active living, chronic disease management, housing and employment.

As the population continues to age, Mr. Allan believes that chronic disease management continues to play an important role in population health. Employment among 45- to 65-year-olds is also a critical health indicator because it provides access to care, as well as family stabilization. In the senior population, Mr. Allan cited senior fall prevention, preventive screenings and pneumonia vaccines as primary health concerns.

Demographic trends have played a significant role in the health status of Cuyahoga County residents. In the past 10 years, the population of the City of Cleveland has shrunk considerably. Following that trend, first-ring communities have become higher need (more aligned with the city). The first-ring school districts are facing challenges that hadn't been seen in the suburbs previously because of a rise in poverty.

There has been an increase in the concentrations of immigrants and minority populations (upward of 50% in the City of Cleveland) that face their own unique health challenges. Importantly, care needs to become much more culturally competent to address these challenges.

Mr. Allan described several public health indicators that show challenges faced by the community. Overall, Cuyahoga County has decreased rates of lead poisoning among children. However, there remains a subset of neighborhoods in the most impoverished parts of the community that consistently have high rates of poisoning.

Similarly, trends in infant mortality remain deplorable among the minority populations in certain hotspots throughout the city. There are also negative trends in teen pregnancy disparities by race, even though the rate of teen pregnancy is going down overall. Diabetes-related health issues are also a big concern among the minority community.

Mr. Allan explained that while residents don't often find a need to leave the community to receive health services, they often migrate out of the community to meet other needs, which further drives the challenges associated with poverty for those who are left behind. He explains several reasons the population of Cuyahoga County has migrated out of the county in recent years:

- It is less expensive to live in counties further from the City of Cleveland, and people are worried about living wage
- Taxes outside of Cuyahoga County are lower
- People hunt for school systems they believe are best for their children
- Some have perceptions about safety and space in outer communities (race-related)

Challenges related to access to health care, mental and behavioral health, and social services for community members are largely driven by poverty. Lack of transportation is a major barrier to access. Additionally, a variety of social determinants of health impact access, including stress, employment and housing. Mr. Allan believes that communities that are more integrated, over time, fare better. The racial polarity that is a reality in Cuyahoga County is a huge problem.

Mr. Allan suggests that a variety of stakeholders in the health care and social services sector must work together in a new way, in order to really drive change in the social determinants of health. He suggests that anchor agencies can play the role of facilitation, by managing the big issues in their areas of expertise. It is important to build a plan in an integrated way that provides collective impact and shared measurement and evaluation. If this doesn't happen, the community will continue to have organizations tripping over each other, because everyone tries to address the same issues without communication. Resources should be targeted based on data to address disparities and engage the community. Infant Mortality would be a great starting point to demonstrate how such collaboration could succeed.

Social Services

On June 23, 2015, interviews were conducted with Joanne Mraz, Educational Program Director at the American Diabetes Association (ADA), and Jeffrey Lox, Chief Clinical Officer at Bellefaire JCB (Bellefaire).

The Northeast Ohio office of ADA works primarily with diabetic populations in need in the Cleveland area, working to close the resource gap for those that have the least access to resources. The organization primarily reaches its target population through work at community centers, senior centers, county facilities, libraries and hospitals. They provide fundamental diabetes education, including biometric measurements, blood sugar screenings, blood pressure screenings and body mass index screenings. They couple screenings with fundamental, baseline education, such as food groups, mapping resources in the community, and how to access healthy options at local stores, like a dollar store.

Joanne explained that the majority of her low-income, diabetic population does not go to specialists like endocrinologists for care. At best, they work with primary care physicians to treat their disease, but often report to emergency room visits for emergent care only.

Bellefaire JCB serves 22,000 children and families each year. It is the largest behavioral health provider between Chicago and New York City. The organization treats kids with behavioral health issues, mental health issues and substance abuse issues. Bellefaire has a residential treatment facility on its Cleveland Heights campus, which houses approximately 100 young people. That includes a locked intensive treatment facility that treats kids ages 11 – 18; a four-bed crisis stabilization unit for kids who need help but won't qualify to be in a psychiatric unit at a hospital; and a residential program for 40 kids, age 6 – 22 on the autism spectrum. Bellefaire also houses the Monarch School, a day school for 150 students with autism, and recently spun off an adult program for those with autism, which treats those who age out of Bellefaire's childhood programs.

Outside of these on-campus programs, Bellefaire has a robust school-based program that serves kids in 180 Northeast Ohio schools; an in-home family therapy program; a foster care program; an adoption program; traditional outpatient therapy, and several other social services programs for local children.

The children seen through Bellefaire's programs are generally multineed kids with multisystem, complex medical needs.

Ms. Mraz and Mr. Lox expressed robust needs faced by their target audiences in the Cleveland area. To summarize, Ms. Mraz identified three primary issues: (1) health literacy, (2) lack of access to resources, and (3) lack of education. Mr. Lox identified: (1) a fundamental need for education, (2) issues of poverty and disenfranchisement, and (3) a lack of care coordination.

While Bellefaire and ADA primarily work with populations at the opposite ends of the age spectrum, their target audiences are impacted by similar trends and significant challenges associated with poverty. Mr. Lox noted that the children his organization works with appear more ill, come from more poverty and more abuse and neglect. They have not seen any appreciable growth in circumstances based on the Affordable Care Act.

Mr. Lox also noted that for children with autism, there is a national epidemic, which is the result of a growing population with services/technologies that can't keep pace. They see more children diagnosed with autism spectrum disorders and are in turn seeing an aging population with related problems.

Bellefaire has not traditionally had a large population of uninsured children because kids have traditionally qualified for Medicaid. However, the organization is seeing a new problem that has resulted from families that cannot qualify for Medicaid, but cannot afford the expenses associated with private insurance.

Finally, Mr. Lox noted that there is a growing crises related to heroin/opiate addiction. He stated that the problem is huge and his organization is seeing younger and younger children with addiction problems – they currently have an 11-year-old girl in their residential program for treatment of heroin addiction.

Poverty is also an underlying, growing issue for the populations Ms. Mraz works with through ADA. She noted that lifestyle is, both literally and figuratively, a killer for her patients. They do not have access to healthy food and do not properly exercise, and as such, contribute to the impact of their disease. There is also a significant population treated by ADA's programs that are underinsured and cannot afford copays associated with their insurance coverage. These patients do not visit their physicians regularly, do not receive the necessary durable goods to properly manage their disease, and are not properly educated on diabetes management.

Both leaders expressed that the community has a lack of mental health resources available for treatment of all ages. This is particularly a problem for kids on the autism spectrum, as there are no psych hospitals in town that will admit kids with a primary autism diagnosis. There was consensus that community members have several challenges related to access to health care. These primarily stem from a lack of access to primary care physicians and specialists that are willing to treat low-income individuals. There is also a lack of mental health providers that accept Medicaid (most have waiting lists) and a shortage of psych beds.

Mr. Lox and Ms. Mraz agreed that there is opportunity to improve circumstances for both of their target populations by bringing together community resources in creative, collaborative ways. The current challenge is that there is not a current, active, navigational hub to coordinate such efforts. There is a need to organize resources by health population and help individuals and families navigate through them.

UH Richmond Medical Center

On June 19, 2015, UH Richmond Medical Center convened a group of internal leaders to hold a discussion with Rozita Davis from the Western Reserve Agency on Aging. Themes from this meeting focused on the needs of seniors in Cuyahoga County and surrounding areas. Key issues that were identified included:

1. A lack of affordable, appropriate housing for seniors
2. Transportation barriers for seniors that cause challenges with accessing health care
3. Issues related to health literacy and system navigation upon hospital discharge for seniors
4. Obesity related to lack of nutrition and wellness education

UH Bedford Medical Center

On July 8, 2015, UH Bedford Medical Center convened a group of internal leaders to host a discussion about community health needs with Mayor Stan Koci, from the City of Bedford. The conversation during this meeting focused around the needs of seniors, as a significant portion of the population served by this hospital falls into that category.

The key issues identified through this discussion largely echoed those discussed during the June 19 meeting at UH Richmond Medical Center. These included:

1. Insufficient living arrangements for an aging population that requires assistance
2. A reduction in available community services to support this aging population
3. Lack of transportation options for seniors needing to access health care and lifestyle amenities
4. Issues related to health literacy and system navigation
5. Challenges with health care access resulting from costs associated with care
6. Lack of healthy, accessible food options

Secondary Data

There were several sources of secondary data:

- U.S Census. 2010 Decennial Census, American Community Survey (projections to 2013) (Demographic data; Poverty data)
- U.S. Bureau of Labor Statistics, 2015 (Unemployment Data)
- U.S. Health Resources and Services Administration (HRSA) (medically underserved areas and populations and food deserts)
- Health status and access indicators available from:
  - County Health Rankings & Roadmaps; Robert Wood Johnson Foundation Program, 2014;
  - Ohio Department of Health, 2014;
  - U.S. Centers for Disease Control and Prevention, CHSI Information for Improving Community Health, Community Health Status Indicators Project, 2015;
  - Community Commons, 2015

Information Gaps

To the best of The Center for Health Affairs' and Cypress Research Group's knowledge, no information gaps have affected UH Richmond Medical Center's ability to reach reasonable conclusions regarding community health needs.

C. Demographic Characteristics of UH Richmond Medical Center's Market Area

As illustrated in Figure 2: Cuyahoga County and Lake County Population Trends, Cuyahoga County is a much larger county, in terms of population, than Lake County (1,259,828 residents compared to 229,230 residents in 2014). UH Richmond Medical Center's market area covers 17.3% of Cuyahoga County's population, but 37.4% of Lake County's population.

Accurate population trends for subportions of counties is not available. Cuyahoga County as a whole had a 1.4% reduction in population from 2010 to 2014. Lake County had only a 0.3% reduction in total population during that same period.

Cuyahoga County and Lake County differ tremendously in terms of racial composition and socioeconomic status of their populations, shown in Table 5: Demographic Trends in Cuyahoga County and Lake County: By Gender, Age and Race.

Proportionately, there was little change in Lake County's demographic composition from 2010 to 2013. Cuyahoga County decreased in population size by 1.1% from 2010 to 2013. Both counties, like their neighboring counties, are growing older, on average. In 2013, the proportion of senior citizens increased by 0.4 percentage points in Cuyahoga County and 1.2% in Lake County.

Cuyahoga County is majority White, but the percentage of the population that is White decreased by 1% from 2010 to 2013. Lake County is also majority White, but saw an increase in Black or African American residents from 2010 to 2013 (+.6%).

Shown in Table 6: Economic Trends in Cuyahoga and Lake Counties: Income and Poverty, the number of households in both Cuyahoga and Lake counties decreased slightly from 2010 to 2013 (by no more than 0.7%).

The average (median) income decreased in both counties from 2010 to 2013, although average household incomes in Lake County were higher during that time period compared to Cuyahoga County. In Cuyahoga County, the median household income decreased by 4.6% compared to a 5.3% reduction in Lake County. Mean household incomes decreased by 1.9% and 4.4% respectively in Cuyahoga and Lake counties from 2010 to 2013.

The proportion of households with Social Security income increased in both counties from 2010 to 2013 (1.4% in Cuyahoga County and 2.1% in Lake County). However, the average income from Social Security declined by 1.3% in Cuyahoga County to $15,921 in 2013 and by 0.4% in Lake County to $17,839 that same year.

There were more households receiving cash public assistance income in 2013 compared to 2010 in Cuyahoga County (an increase of 0.6%), but slightly fewer in Lake County receiving cash public assistance during that same time period (a decrease of 0.2%). The size of cash public assistance decreased by 6.9% in those three years in Cuyahoga County and by 1.7% in Lake County. Likewise, the proportion of households receiving Food Stamp/SNAP benefits increased by 3.8% in Cuyahoga County from 2010 to 2013 and by 2.7% in Lake County. In both 2010 and 2013 there were proportionately about twice as many households in Cuyahoga County than Lake County which received Food Stamp/SNAP benefits.

Both Cuyahoga and Lake counties saw modest increases in the proportion of economically vulnerable citizens and families from 2010 to 2013, shown in Table 7: Most Economically Vulnerable County Residents.

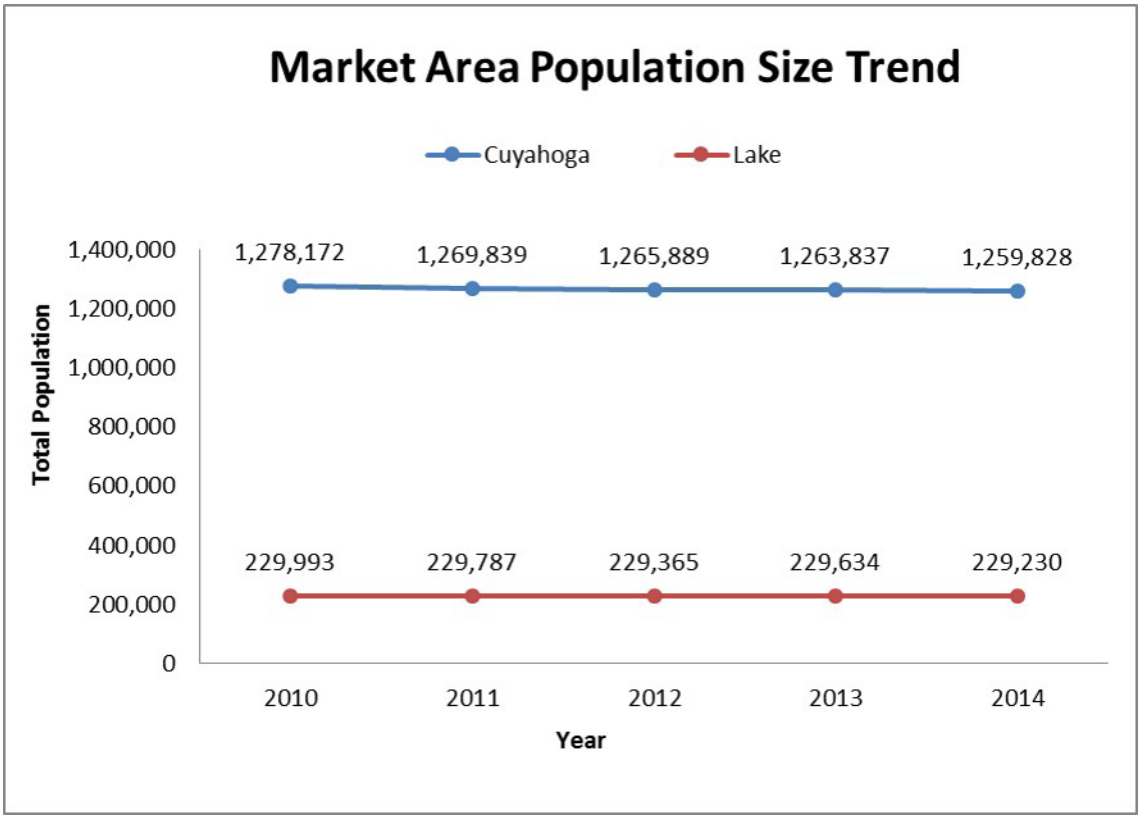
The proportion of Cuyahoga County households living below the poverty line increased by 1.3% (from 13.1% to 14.4%) from 2010 to 2013. Almost one in four Cuyahoga County households with children under age 18 lived below the poverty line in 2013 (23.9%), an increase of 2.7%. Lake County had significantly fewer households with children under age 18 living below the poverty line in 2013 (11.8%), but that represents an increase of 0.6% since 2010.

Roughly one-fourth of Cuyahoga County households with children under age 5 (but no older children) lived under the poverty line in 2013 (26.1%), compared to half as many (13.4%) in Lake County. Approximately half of single mothers with young children under age 5 (and no older children) were living under the poverty line in Cuyahoga County in 2013.

From 2010 to 2013, fewer residents in Cuyahoga and Lake counties had private health insurance (a reduction of 2% and 2.5%), but more had public health coverage (an increase of 2.3%). On a net basis, there were fewer uninsured people in 2013 compared to 2010 in both counties (a decrease of 0.5% in Cuyahoga County and 0.3% in Lake County).

Finally, the unemployment rate in Cuyahoga County is the 30th highest in Ohio and was 5.5% in April of 2015. Lake County ranked 48th highest county in Ohio, in terms of unemployment, with a rate of 4.6% (Source: U.S. Bureau of Labor Statistics 2015).

FIGURE 2: MARKET AREA POPULATION SIZE TRENDS RICHMOND COUNTY, LAKE COUNTY AND ASHTABULA COUNTY POPULATION TRENDS



Source: U.S. Decennial Census, American Community Survey projections to 2014

TABLE 5: DEMOGRAPHIC TRENDS IN CUYAHOGA COUNTY AND LAKE COUNTY: BY GENDER, AGE AND RACE

	Cuyahoga County			Lake County		
	2010	2013	Percent Change	2010	2013	Percent Change
Total Population	**1,278,172**	**1,263,837**	**-1.1%**	**229,993**	**229,634**	**-0.2%**
By Gender						
Males	47.4%	47.5%	+0.1%	48.7%	48.9%	+0.2%
Females	52.6%	52.5%	-0.1%	51.3%	51.1%	-0.2%
By Age Group						
0 – 19	25.6%	24.6%	-1.0%	24.6%	23.7%	-0.9%
20 – 44	31.0%	31.0%	0.0%	29.6%	29.1%	-0.5%
45 – 64	27.8%	28.3%	+0.5%	29.8%	30.0%	+0.2%
65+	15.4%	15.8%	+0.4%	15.8%	17.0%	+1.2%
By Race						
White	64.9%	63.9%	-1.0%	93.5%	92.9%	-0.6%
Black or African-American	29.6%	29.7%	+0.1%	3.1%	3.7%	+0.6%
American Indian and Alaska Native	0.2%	0.2%	0.0%	0.1%	0.1%	0.0%
Asian	2.6%	2.7%	+0.1%	1.2%	1.2%	0.0%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Some other race	0.9%	1.2%	+0.3%	0.6%	0.5%	-0.1%

TABLE 6: ECONOMIC TRENDS IN CUYAHOGA AND LAKE COUNTIES: INCOME AND POVERTY

	Cuyahoga County			Lake County		
	2010	2013	Percent Change	2010	2013	Percent Change
Total Households	**534,653**	**532,702**	**-.4%**	**94,198**	**93,496**	**-0.7%**
Less than $10,000	10.2%	11.2%	+1.0%	4.5%	4.9%	+0.4%
$10,000 to $14,999	6.5%	6.9%	+0.4%	3.7%	4.7%	+1.0%
$15,000 to $24,999	12.1%	12.6%	+0.5%	9.6%	10.8%	+1.2%
$25,000 to $34,999	11.2%	11.3%	+0.1%	10.4%	11.2%	+0.8%
$35,000 to $49,999	14.3%	13.7%	-0.6%	14.5%	14.3%	-0.2%
$50,000 to $74,999	16.9%	16.6%	-0.3%	20.7%	19.0%	-1.7%
$75,000 to $99,999	10.9%	10.3%	-0.6%	15.2%	14.0%	-1.2%
$100,000 to $149,999	10.8%	10.2%	-0.6%	13.7%	14.2%	+0.5%
$150,000 to $199,999	3.6%	3.4%	-0.2%	4.7%	3.9%	-0.8%
$200,000 or more	3.6%	3.7%	+0.1%	3.0%	2.9%	-0.1%
Median household income (dollars)	$45,184	$43,112	-4.6%	$57,875	$54,830	-5.3%
Mean household income (dollars)	$64,552	$63,340	-1.9%	$72,539	$69,336	-4.4%
Percent of households with Social Security	29.0%	30.4%	+1.4%	30.1%	32.2%	+2.1%
Mean Social Security income (dollars)	$16,127	$15,921	-1.3%	$17,902	$17,839	-0.4%
Percent with retirement income	18.5%	18.8%	+0.3	21.5%	21.4%	-0.1%
Mean retirement income (dollars)	$21,612	$21,819	+1.0%	$21,104	$20,343	-3.6%
Percent with Supplemental Security income	5.3%	6.8%	+1.5%	2.3%	3.7%	+1.4%
Mean Supplemental Security income (dollars)	8,406	8,860	+5.4%	10,344	9,204	-11.0%
Percent with cash public assistance income	3.7%	4.3%	+0.6%	2.0%	1.8%	-0.2%
Mean cash public assistance income (dollars)	3,142	2,925	-6.9%	3,303	3,248	-1.7%
With Food Stamp/SNAP benefits in the past 12 months	14.5%	18.3%	+3.8%	6.6%	9.3%	+2.7%

Source: U.S. Decennial Census, American Community survey projections to 2013

TABLE 7: MOST ECONOMICALLY VULNERABLE COUNTY RESIDENTS

	Cuyahoga County			Lake County		
	2010	2013	Percent Change	2010	2013	Percent Change
Percent of families under the poverty line	13.1%	14.4%	+1.3%	6.3%	6.6%	+0.3%
Percent of households with related children under 18 years under the poverty line	21.2%	23.9%	+2.7%	11.2%	11.8%	+0.6%
Percent of households with related children under 5 years (no older children) under the poverty line	21.5%	26.1%	+4.6%	10.9%	13.4%	+2.5%
Percent of married couple families under the poverty line	4.3%	5.1%	+0.8%	2.6%	2.7%	+0.1%
Percent of married couple families with related children under 18 years under the poverty line	5.6%	7.7%	+2.1%	3.8%	4.4%	+0.6%
Percent of married couple families with related children under 5 years (no older children) under the poverty line	4.5%	8.4%	+3.9%	1.9%	2.0%	+0.1%
Percent of families with female householder, no husband present, under the poverty line	33.1%	34.2%	+1.1%	21.4%	22.1%	+0.7%
Percent of families with female householder, no husband present, with related children under 18 years, under the poverty line	43.2%	45.7%	+2.5%	33.5%	32.7%	-0.8%
Percent of families with female householder, no husband present, with related children under 5 years (no older children), under the poverty line	46.7%	52.9%	+6.2%	32.9%	48.6%	+15.7%
Percent of all people in the county under the poverty line:	17.3%	18.7%	+1.4%	8.6%	9.5%	+0.9%
Of those under 18 years	26.1%	28.1%	+2.0%	13.3%	12.6%	-0.7%
Of those with related children under 18 years	25.8%	27.8%	+2.0%	13.0%	12.3%	-0.7%
Of those with related children under 5 years	30.4%	31.7%	+1.3%	14.3%	14.2%	-0.1%
Of those with related children 5 to 17 years	24.2%	26.3%	+2.1%	12.6%	11.7%	-0.9%
Living under the poverty line, by age:						
Of those 18 years and older	14.6%	16.0%	+1.4%	7.2%	8.6%	+1.4%
18 to 64 years	15.6%	17.2%	+1.6%	7.8%	9.1%	+1.3%
65 years and over	10.8%	11.2%	+0.4%	4.7%	7.1%	+2.4%
Percent with health insurance coverage	88.2%	88.7%	+0.5%	90.2%	90.5%	+0.3%
Percent with private health insurance	67.6%	65.6%	-2.0%	78.7%	76.2%	-2.5%
Percent with public coverage	32.9%	35.2%	+2.3%	25.3%	27.6%	+2.3%
Percent with no health insurance coverage	11.8%	11.3%	-0.5%	9.8%	9.5%	-0.3%

Source: U.S. Decennial Census, American Community survey projections to 2013

D. UH Richmond Medical Center Patients Served

Shown in Table 8: Hospitalizations, UH Richmond Medical Center Market Area Residents, between 2011 and 2013, the number of patient discharges decreased for UH Richmond Medical Center by 4.5% within the primary market area and 13.9% in the secondary market area, thus 6.5% overall.

Table 9: UH Richmond Medical Center, 2013 Discharges, by Payer illustrates that of all discharges in 2013, two-thirds (67.3%) were Medicare patients and 12.2% were Medicaid patients. This differs by primary and secondary markets, and among the ZIP code areas within those markets. Medicare patient discharges were slightly higher in the primary market (67.5%) than in the secondary market (66.7%); there was a wider gap between the percentage of Medicaid patients in the primary market (13.2%) and the secondary market (7.9%). The ZIP code in the primary market with the highest proportion of Medicare discharges was Richmond Heights (44143) (74.1%). Beachland Station (44119) was the ZIP code with the highest proportion of commercially insured patients (25.8%). Willoughby (44094), which is in Lake County, had a relatively high proportion of commercially insured (12.5%) and self-pay discharges (10.6%). East Cleveland (44122) and Euclid (44123) had the highest proportion of Medicaid patient discharges (25.4% and 22.7%) at UH Richmond Medical Center in 2013.

In 2013, all discharged patients from UH Richmond Medical Center market areas were adults (age 18+), shown in Figure 3: Age of Discharged Patients. The median age for primary market patient discharges in 2013 was 68; the median age for secondary market patient discharges was slightly older at 71 years.

TABLE 8: HOSPITALIZATIONS, UH RICHMOND MEDICAL CENTER MARKET AREA RESIDENTS 2011 TO 2013

UH Richmond Medical Center's Discharges Versus All Other Ohio Hospitals' Discharges

		UH Richmond Medical Center's Primary Market	UH Richmond Medical Center's Secondary Market	Total UH Richmond Medical Center Market Area Residents
2011	Discharge from Other Hospital	24,150	21,317	45,467
	Discharge from UH Richmond Medical Center	2,045	527	2,572
	Total Discharges, Market Area:	**26,195**	**21,844**	**48,039**
2012	Discharge from Other Hospital	24,022	21,898	45,920
	Discharge from UH Richmond Medical Center	2,018	480	2,498
	Total Discharges, Market Area:	**26,040**	**22,378**	**48,418**
2013	Discharge from Other Hospital	23,690	21,127	44,817
	Discharge from UH Richmond Medical Center	1,952	454	2,406
	Total Discharges, Market Area:	**25,642**	**21,581**	**47,223**
Change in Discharges from Other Hospitals, 2011 to 2013		-1.9%	-0.9%	-1.4%
Change in Discharges from UH Richmond Medical Center, 2011 to 2013		-4.5%	-13.9%	-6.5%

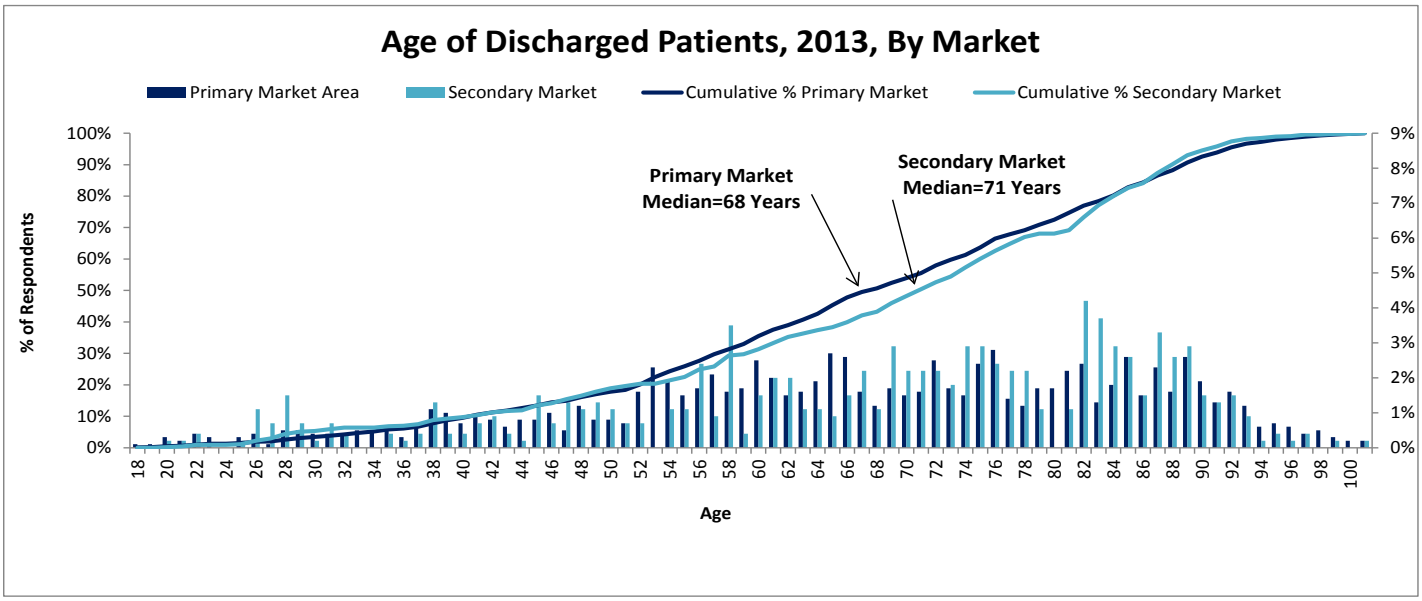
Source: Ohio Hospital Association discharge data

TABLE 9: UH RICHMOND MEDICAL CENTER, 2013 DISCHARGES, BY PAYER

			Percent in ZIP Code By Payer				
		Number of Discharges	Medicare	Medicaid	Commercial	Other	Self-Pay
Primary Market Area							
Cuyahoga County	Collinwood (44110)	115	71.3%	12.2%	9.6%	4.3%	2.6%
	East Cleveland (44112)	118	54.2%	25.4%	11.0%	5.1%	4.2%
	Euclid (44117)	330	70.3%	14.5%	9.7%	3.0%	2.4%
	South Euclid (44121)	152	57.2%	13.8%	14.5%	8.6%	5.9%
	Euclid (44123)	207	59.4%	22.7%	11.6%	4.3%	1.9%
	Euclid (44132)	255	62.0%	17.6%	11.8%	5.5%	3.1%
	Richmond Heights (44143)	553	74.1%	5.8%	11.0%	6.5%	2.5%
Lake County	Wickliffe (44092)	222	72.5%	9.5%	9.0%	6.8%	2.3%
Subtotal Primary Market:		**1,952**	**67.5%**	**13.2%**	**10.9%**	**5.5%**	**2.9%**
Secondary Market Area							
Cuyahoga County	Glenville-Bratenahl (44108)	83	75.9%	8.4%	8.4%	4.8%	2.4%
	Beachland Station (44119)	89	52.8%	12.4%	25.8%	7.9%	1.1%
	Lyndhurst/Mayfield (44124)	86	81.4%	5.8%	8.1%	2.3%	2.3%
Lake County	Willoughby (44094)	104	59.6%	2.9%	12.5%	14.4%	10.6%
	Eastlake (44095)	92	66.3%	10.9%	13.0%	6.5%	3.3%
Subtotal Secondary Market:		**454**	**66.7%**	**7.9%**	**13.7%**	**7.5%**	**4.2%**
Other Market		542	52.4%	15.7%	19.4%	9.6%	3.0%
Total		**2,948**	**67.3%**	**12.2%**	**11.4%**	**5.9%**	**3.1%**

Source: Ohio Hospital Association discharge data

FIGURE 3: AGE OF DISCHARGED PATIENTS



Source: Ohio Hospital Association discharge data

E. Ambulatory Care Sensitive Discharges

Adults

Using discharge data from UH Richmond Medical Center, which includes the reason for patient admission into the hospital, 'ambulatory care sensitive discharges' were identified. Ambulatory care sensitive (ACS) conditions are conditions for which "good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease," according to the Agency for Healthcare Research and Quality. The incidence of ambulatory care sensitive discharges has been used as an index of adequate primary care in a market area. The diagnostic categories (and associated ICD-9-CM codes) can be found in the Appendix.

Table 10: UH Richmond Medical Center, Primary and Secondary Diagnoses of Adult (Age 18+) ACS Discharges in 2013 shows the number of adult discharges for UH Richmond Medical Center in 2013 and the percent which were ACS cases. For all discharges, there are both primary and nonprimary diagnoses ("secondary" diagnoses), and both are shown in the table below. Patients can have up to 14 different secondary diagnoses.

For UH Richmond Medical Center, 27.7% of discharges were ACS discharges of residents within the primary and secondary market areas combined. This may signal lower availability or access to primary care within the primary market area.

The most common primary ACS diagnoses for UH Richmond Medical Center's discharged patients were congestive heart failure and chronic obstructive pulmonary disease (COPD), each comprising 6.3% of patient discharges in 2013. In terms of secondary diagnoses in 2013, congestive heart failure comprised 18.9% of discharges and COPD comprised 7.9% of discharges. Almost 15% of discharged patients in 2013 were diabetic and one in four (26.5%) had hypertension.

The incidence of ACS primary diagnoses differs by patients' age groups, shown in Table 11: UH Richmond Medical Center, Primary and Secondary Diagnoses ACS Discharges in 2013, by Age Group.

Patients under age 40 were less likely to have a primary ACS diagnosis than their older counterparts in 2013 among UH Richmond Medical Center discharges (75.2%). Congestive heart failure was rare among those under age 40 (0.9%), but equally common among those ages 40 to 64 and ages 65 and older (6.9% and 6.8%, respectively). COPD was unseen as an ACS primary diagnosis among those under age 40, but the most common ACS primary diagnosis for those ages 40 to 64. Bacterial pneumonia and cellulitis diagnoses were not related to age. Diabetes as an ACS primary diagnosis was most common among those under age 40.

Table 12: UH Richmond Medical Center Market Areas Versus Contiguous Counties, Primary Diagnosis of Adult (Age 18+) ACS Discharges in 2013 displays the number of adult discharges with ACS conditions as a primary diagnosis for UH Richmond Medical Center in 2013 compared to Cuyahoga County and Lake County (hospitalizations for UH Richmond Medical Center and other hospitals, combined), and nearby Northeast Ohio counties.

Discharged patients from UH Richmond Medical Center had higher ACS discharge rates than what was seen in the four comparison counties (30% versus 19.2%, at worst). Of the four compared counties, Ashtabula County has the largest proportion of ACS cases (19.2%); Geauga County has the lowest (15.7%).

Congestive heart failure, bacterial pneumonia and kidney/urinary infections were more common ACS conditions among Medicare patients than among those with other sources of health coverage, shown in Table 13: UH Richmond Medical Center, Primary Diagnosis of Adult (Age 18+) ACS Versus Non-ACS Discharges in 2013, by Primary Payer. Diabetes was the most prevalent among those with 'other' types of insurance. COPD was the most common ACS condition among Medicaid patients.

Overall, the incidence of an ACS diagnosis was lower (28.6%) for Medicaid patients than for Medicare patients (31.7%) or patients with 'other' insurance (34.5%). Within UH Richmond Medical Center's primary and secondary markets, there is not a pattern of ACS diagnoses which suggests a lack of primary care that is more severe for Medicaid patients than for those with other types of health insurance coverage.

TABLE 10: UH RICHMOND MEDICAL CENTER, PRIMARY AND SECONDARY DIAGNOSES OF ADULT (AGE 18+) ACS DISCHARGES IN 2013

	Primary Diagnosis	Secondary Diagnosis
No ACS Condition	70.0%	
Specific ACS Conditions:		
Congestive Heart Failure (CHF)	6.3%	18.9%
Chronic Obstructive Pulmonary Disease (COPD)	6.3%	7.9%
Bacterial Pneumonia	3.8%	4.1%
Kidney/Urinary Infections	3.0%	7.3%
Cellulitis	2.7%	2.0%
Diabetes	2.2%	14.7%
Asthma	1.9%	3.5%
Hypertension	0.9%	26.5%
Epilepsy	0.7%	2.6%
Angina	0.6%	1.5%
Dehydration/Volume Depletion	0.5%	5.6%
Gastroenteritis	0.5%	0.4%
Convulsions	0.3%	0.5%
Iron Deficiency Anemia	0.2%	1.9%
Severe ENT Infections	0.1%	0.4%
Hypoglycemia	0.1%	0.3%
Pelvic Inflammatory Disease	0.04%	0.04%
Dental Conditions	0.04%	0.2%
Nutritional Deficiencies	0.0%	1.4%

Source: Ohio Hospital Association discharge data.
Source: Definition of ACS conditions: Billings J, Zeitel L, Lukomnik J, Carey TS, Blank AE, Newman L. Impact of socio-economic status on hospital use in New York City. Health Affairs (Millwood) 1993; 12(1):172-173.

TABLE 11: UH RICHMOND MEDICAL CENTER, PRIMARY AND SECONDARY DIAGNOSES ACS DISCHARGES IN 2013, BY AGE GROUP

	< Age 40 (161 Discharges)	Age 40 to 64 (537 Discharges)	Age 65+ (985 Discharges)	Total
No ACS Condition	**75.2%**	**68.1%**	**70.2%**	**70.0%**
Congestive Heart Failure (CHF)	0.9%	6.9%	6.8%	6.3%
Chronic Obstructive Pulmonary Disease (COPD)	0.0%	7.2%	6.7%	6.3%
Bacterial Pneumonia	4.7%	3.3%	3.9%	3.8%
Kidney/Urinary Tract Infections	0.9%	0.5%	4.6%	3.0%
Cellulitis	2.8%	2.8%	2.6%	2.7%
Diabetes	5.6%	2.8%	1.4%	2.2%
Asthma	2.8%	2.8%	1.2%	1.9%

TABLE 12: UH RICHMOND MEDICAL CENTER MARKET AREAS VERSUS CONTIGUOUS COUNTIES, PRIMARY DIAGNOSIS OF ADULT (AGE 18+) ACS DISCHARGES IN 2013

	UH Richmond Medical Center	Cuyahoga County	Lake County	Ashtabula County	Geauga County
Number of discharges:	**2,406**	**133,649**	**21,123**	**9,807**	**6,758**
No ACS Condition	**70.0%**	**81.3%**	**83.2%**	**80.8%**	**84.3%**
Specific ACS Conditions:					
Congestive Heart Failure (CHF)	6.3%	3.8%	3.4%	4.1%	3.4%
Chronic Obstructive Pulmonary Disease (COPD)	6.3%	2.5%	2.5%	3.7%	1.9%
Bacterial Pneumonia	3.8%	2.6%	2.9%	3.8%	2.4%
Kidney/Urinary Infections	3.0%	1.9%	2.0%	1.8%	1.9%
Cellulitis	2.7%	2.1%	1.9%	2.4%	2.3%
Diabetes	2.2%	1.4%	1.1%	0.8%	0.8%
Asthma	1.9%	1.7%	0.8%	0.6%	0.7%
Dehydration/Volume Depletion	0.5%	0.5%	0.5%	0.5%	0.6%
Iron Deficiency Anemia	0.2%	0.2%	0.2%	0.1%	0.2%
Hypertension	0.9%	0.4%	0.3%	0.2%	0.2%
Angina	0.6%	0.1%	0.1%	0.2%	0.1%
Epilepsy	0.7%	0.7%	0.4%	0.4%	0.5%
Nutritional Deficiencies	0.0%	0.02%	0.01%	0.02%	0.01%
Gastroenteritis	0.5%	0.3%	0.3%	0.3%	0.2%
Severe ENT Infections	0.1%	0.1%	0.1%	0.02%	0.1%
Dental Conditions	0.04%	0.1%	0.1%	0.04%	0.02%
Convulsions	0.3%	0.2%	0.3%	0.2%	0.2%
Pelvic Inflammatory Disease	0.04%	0.1%	0.02%	0.1%	0.02%
Hypoglycemia	0.1%	0.02%	0.02%	0.008%	0.02%
Immunization-Related and Preventable Conditions	0.0%	0.001%	0.004%	0.0%	0.01%

Source: Ohio Hospital Association discharge data.
Source: Definition of ACS conditions: Billings et al. 1993.

TABLE 13: UH RICHMOND MEDICAL CENTER, PRIMARY DIAGNOSIS OF ADULT (AGE 18+) ACS VERSUS NON-ACS DISCHARGES IN 2013, BY PRIMARY PAYER

More Common ACS Conditions

	Medicare	Medicaid	Commercial	Other	Self-Pay*	Total
Number of Discharges	**1,620**	**294**	**275**	**142**	**75**	**2,406**
No ACS Primary Diagnosis	68.3%	71.4%	78.9%	65.5%	74.7%	70.0%
Specific ACS Conditions:						
Chronic Obstructive Pulmonary Disease (COPD)	7.0%	8.5%	1.8%	5.6%	0.0%	6.3%
Congestive Heart Failure (CHF)	7.6%	4.4%	4.0%	2.8%	1.3%	6.3%
Bacterial Pneumonia	4.2%	2.4%	3.3%	3.5%	2.7%	3.8%
Kidney/Urinary Infections	4.0%	1.0%	0.4%	1.4%	0.0%	3.0%
Cellulitis	2.8%	2.4%	1.8%	3.5%	2.7%	2.7%
Diabetes	1.7%	2.0%	3.3%	6.3%	2.7%	2.2%
Asthma	1.5%	1.0%	1.1%	7.0%	5.3%	1.9%

**Number of discharges is too small to reliably draw conclusions; not considered in analysis.*
Source: Ohio Hospital Association discharge data.
Source: Definition of ACS conditions: Billings et al. 1993.

UH Richmond Medical Center Discharges

This section again examines UH Richmond Medical Center's discharge data from 2013. These data provide primary and secondary diagnosis information for each patient discharged in 2013. This evaluation seeks to identify particular diagnoses or diagnostic categories which can shed light on how public health or preventive care initiatives could impact the overall health of Cuyahoga County and Lake County residents.

Table 14: UH Richmond Medical Center, Primary and Secondary Diagnosis of Adults (Age 18+), Discharged in 2013 shows the number and percentage of discharges based on the major diagnostic category of adult patients' primary diagnoses. There are over 17,000 different medical diagnostic codes. For specific diagnoses only those which were relatively common are shown.

In 2013, the most common primary diagnostic category (19.1%) was diseases of the circulatory system. Heart failure was the most common primary diagnosis within that category, but 34.4% of discharges had a secondary diagnosis of heart failure.

Diseases of the respiratory system were also very common as primary diagnoses (15.5%). Pneumonia and chronic bronchitis were the two most common specific diagnoses in this category. Almost as common were digestive system diseases (15.3%), and while no specific digestive disease primary diagnosis was very common, 21.5% of discharged patients had a secondary diagnosis of diseases of the esophagus.

Almost half of all discharges (49.4%) had a secondary diagnosis of essential hypertension; roughly one in five patients (18.7%) had a secondary diagnosis of acute renal failure and almost as many (18.6%) were in chronic renal failure. 20% of adults discharged in 2013 had a secondary diagnosis of obesity and more than one-third (37.3%) were diabetic.

While very few discharged patients in 2013 had a mental disorder as a primary diagnosis, mental disorders were very common secondary diagnoses. One in four (25.4%) had a secondary diagnosis of nondependent drug abuse.

TABLE 14: UH RICHMOND MEDICAL CENTER, PRIMARY AND SECONDARY DIAGNOSIS OF ADULTS (AGE 18+), DISCHARGED IN 2013

	Primary Diagnoses	Secondary Diagnoses
	Percent of Discharges*	Percent of Discharges**
Diseases of the circulatory system	**19.1%**	
Most common specific diagnoses in category:		
Heart failure	6.2%	34.4%
Cardiac dysrhythmias	3.0%	26.0%
Essential hypertension	0.8%	49.4%
Hypotension	0.7%	6.4%
Hypertensive renal disease	0.6%	19.4%
Chronic ischemic heart disease	0.2%	20.6%
Chronic pulmonary heart disease		4.6%
Previous myocardial infarction		9.2%
Diseases of the respiratory system	**15.5%**	
Most common specific diagnoses in category:		
Chronic bronchitis	6.2%	4.0%
Pneumonia, organism unspecified	3.7%	7.6%
Asthma	1.9%	6.6%
Chronic airway obstruction, not elsewhere classified		10.1%
Diseases of the digestive system	**15.3%**	
Most common specific diagnoses in category:		
Diseases of the esophagus	0.5%	21.5%
Functional digestive disease	0.2%	6.2%
Infectious and parasitic diseases	**9.4%**	
Most common specific diagnoses in category:		
Intestinal Infection	1.0%	1.9%
Candidiasis	0.04%	3.5%
Bacterial infection in other disease		5.3%
Viral hepatitis		1.7%
Diseases of the genitourinary system	**7.3%**	
Most common specific diagnoses in category:		
Acute renal failure	3.1%	18.7%
Urinary tract disorder	2.8%	14.5%
Hyperplasia of prostate	0.1%	6.1%
Chronic renal failure		18.6%
Injury and poisoning	**6.7%**	

	Primary Diagnoses	Secondary Diagnoses
	Percent of Discharges*	Percent of Discharges**
Endocrine, nutritional and metabolic diseases, and immunity disorders	**5.8%**	
Most common specific diagnoses in category:		
Diabetes mellitus	3.0%	37.3%
Fluid/electrolyte disease	2.0%	52.5%
Acquired hypothyroidism	0.04%	15.2%
Gout	0.2%	6.1%
Disease of mineral metabolism	0.2%	11.7%
Disease of lipoid metabolism		31.2%
Obesity/hyperalimentation		20.0%
Diseases of the musculoskeletal system and connective tissue	**4.0%**	
Most common specific diagnoses in category:		
Osteoarthrosis	2.4%	7.3%
Diseases of the skin and subcutaneous tissue	**2.9%**	
Most common specific diagnoses in category:		
Cellulitis/Abscess	2.6%	3.3%
Chronic ulcer of skin	0.1%	10.9%
Diseases of the nervous system	**2.1%**	
Mental Disorders	**1.7%**	
Most common specific diagnoses in category:		
Alcoholic psychoses	0.6%	1.0%
Alcohol dependence syndrome	0.3%	3.1%
Neurotic disorders	0.2%	9.1%
Nondependent drug use	0.1%	25.4%
Other organic psychological conditions	0.1%	12.7%
Affective psychoses	0.04%	5.0%
Schizophrenic Disorders	0.04%	2.5%
Depressive disorder, not elsewhere classified		10.1%
Diseases of the blood and blood-forming organs	**1.3%**	
Most common specific diagnoses in category:		
Anemia	0.7%	23.9%
White blood cell disorders	0.1%	7.1%
Neoplasms-malignant	**1.2%**	
Neoplasms-benign	**0.3%**	
Diseases of the sense organs	**0.2%**	

**Total includes all diagnoses within this category, not just those shown.*
***These are duplicated counts; patients may have more than one secondary diagnosis.*
Source: Ohio Hospital Association discharge data.

F. Market Area Mortality and Morbidity

Table 15: Most Prevalent Causes of Death or Impaired Health and Table 16: Most Prevalent Morbidity – Adults and Youth show the most prevalent types of mortality and morbidity of chronic diseases and other health-impacting events in UH Richmond Medical Center's market area. Cancer is the leading cause of death for adults in Cuyahoga and Lake counties, followed by coronary heart disease. Strokes, accidents, diabetes and kidney disease combined to account for far fewer deaths than cancer and/or coronary heart disease deaths. Note that annually approximately 560 per 100,000 of Cuyahoga County citizens and roughly 203 per 100,000 citizens of Lake County are victims of violent crime.

Linked to the most common death rates are common habitual behaviors. About one-fourth of Cuyahoga and Lake County residents are obese (BMI > 30); one in five are tobacco smokers.

Finally, the Centers for Disease Control and Prevention also designates Cuyahoga County as one which has lower-than-average access to primary care providers (74.5 per 1,000 Medicare enrollees). This is supported by the analysis of ambulatory care sensitive discharge cases, which found higher rates of ACS conditions within UH Richmond Medical Center's market area compared to surrounding counties (indicative of a potential low access to primary care).

TABLE 15: MOST PREVALENT CAUSES OF DEATH OR IMPAIRED HEALTH

	Cuyahoga County, Annual, Per 100,000 adults	Centers for Disease Control and Prevention's Comparison to Peer Counties	Lake County, Annual, Per 100,000 adults	Centers for Disease Control and Prevention's Comparison to Peer Counties	U.S. Median, of All Counties
Cancer Deaths	196.1	Higher than average**	189.8		185.0
Coronary Heart Disease Deaths	151.3	Higher than average**	144.3	Higher than average**	126.7
Stroke Deaths	38.7		40.3		46.0
Accidental Deaths (including motor vehicle)	32.1		32.9		50.8
Motor Vehicle Deaths	5.7		6.7		19.2
Diabetes Deaths	23.1		24.3		24.7
Kidney Disease Deaths	15		10.4		17.5
Violent Crime (homicide, rape, assault)	559.7		203.2		199.2

Source, U.S. Centers for Disease Control and Prevention, 2015
***Compared to peer counties.*

TABLE 16: MOST PREVALENT MORBIDITY – ADULTS AND YOUTH

	Cuyahoga County	Centers for Disease Control and Prevention's Comparison to Peer Counties	Lake County	Centers for Disease Control and Prevention's Comparison to Peer Counties	U.S. Median, of All Counties
	Percent Morbidity				
Adults:					
Obesity	26.4%		25.9%		30.4%
Smokers	19.3%		20.7%		21.7%
Adult Diabetes	7.7%		9.1%	Rate is higher than average**	
Older Adult Depression	14.0%		15.6%	Rate is higher than average**	12.4%
Older Adult Asthma	5.2%	Rate is higher than average**	5.1%	Rate is higher than average**	3.6%
Alzheimer's Disease (among older adults)	14.4%	Rate is higher than average**	12.6%	Rate is higher than average**	10.3%
Preterm Births	14.4%	Rate is higher than average**	11.2%		12.1%
Youth:					
Teen Births (of females ages 15 to 19)	39.3% (per 1,000 births)		21.3% (per 1,000 births)		4.2%

Source, U.S. Centers for Disease Control and Prevention, 2015

G. Primary Analysis of Representative Sample of Market Area Population

The ACS analysis section provided evidence from UH Richmond Medical Center's discharge data that market area residents may lack full access to primary care. The proportion of ACS cases in UH Richmond Medical Center in 2013 was higher in the primary and secondary market areas than in Ohio overall.

To further understand market area health needs, the following section presents the results of a mail survey of Cuyahoga and Lake County adults (who reside in UH Richmond Medical Center's market areas) regarding their health and access to health care. A random mail survey of households in Cuyahoga County was conducted in 2012. A total of 602 surveys were completed of which 123 (20.4%) were in UH Richmond Medical Center's primary or secondary market areas. Surveys were commissioned by Cuyahoga County Health Partners and conducted by the Hospital Council for Northwest Ohio to capture a comprehensive picture of Cuyahoga County residents' health status. Cuyahoga County Health Partners did not commission similar studies for children or youth in the county, therefore, data is only available for the adult population.

In addition to a survey of adults in Cuyahoga County, the results from a random school based survey of youth (ages 12 to 18) conducted in Lake County in 2014 are included. The Lake County youth survey was commissioned by a partnership of Lake County community organizations with mutual interest in the health of the community and led by the Lake County Health Department. A total of 485 youth were randomly chosen and surveyed in 2014 within Lake County; a total of 128 were residents of the ZIP codes which are in UH Richmond Medical Center's market area within Lake County (mostly in UH Richmond Medical Center's secondary market). Similar studies for adults and children were not conducted in Lake County.

Population Health Status

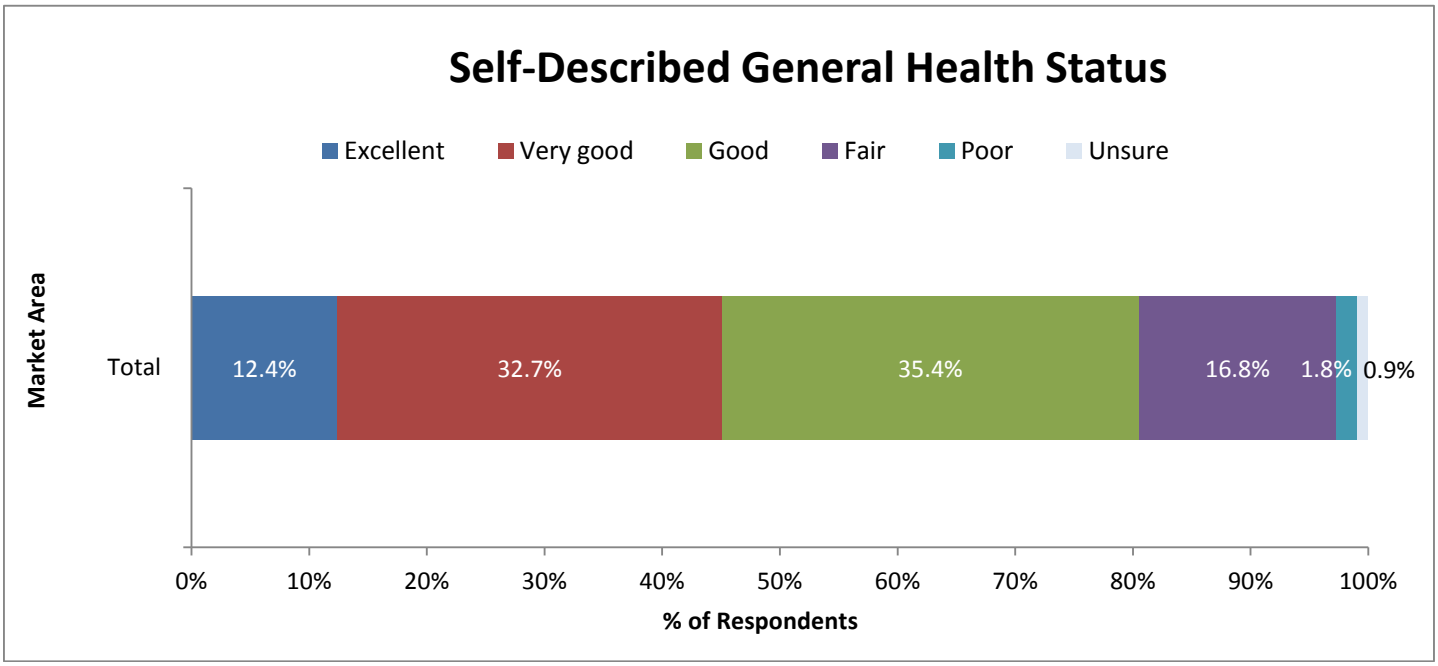
This section describes the self-reported health status of the population within UH Richmond Medical Center's market area. Survey respondents for the county-wide data were designated a resident of UH Richmond Medical Center's market area via their residential ZIP code.

Seeking medical care outside of the county was uncommon for Cuyahoga County adults (within UH Richmond Medical Center's market areas) in 2012: only 15% sought care outside of the county within the year prior to the survey; only 3% of those adults survey sought primary care outside of the county.

Likewise, most (80.5%) report their 'overall health care' as at least good, shown in Figure 4: Ratings of Overall Health Care. More than one in 10 (12.4%) in UH Richmond Medical Center's market area adult population described their health as 'excellent.' However, most (80.5%) described their general health as at least 'good.'

Those within UH Richmond Medical Center's market area reported that their physical health was 'not good' an average (mean) of 5.5 days during the previous 30 days, shown in Table 17: Self-Described Physical and Mental Health Status: Past 30 Days (Mean Number of Days). On average, this group reported that their mental health was 'not good' an average (mean) of 5.2 days. For them, these less-than-optimal health days prevented them from doing their normal activities (work, school) an average of 3.5 days within that 30-day period. Note that most (56%) reported zero days with physical health problems within the 30-day period, and 57.5% reported zero days with any mental health issues during that time. 71% reported that their health didn't keep them from any of their normal activities within the past 30 days.

FIGURE 4: RATINGS OF OVERALL HEALTH CARE



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 17: SELF-DESCRIBED PHYSICAL AND MENTAL HEALTH STATUS: PAST 30 DAYS (MEAN NUMBER OF DAYS)

	Physical health 'not good'	Mental health 'not good'	Poor physical or mental health prevented normal activities
Total UH Richmond Medical Center Market			
Mean Number of Days	5.5 days	5.2 days	3.5 days
Proportion With At Least One Day	44.0%	42.5%	29.1%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

Health Care Coverage

Illustrated in Figure 5: Adults with Health Coverage, a majority of adults in UH Richmond Medical Center's primary and secondary market areas have health coverage (87.6%). The U.S. Census Bureau (American Community Survey) found that 11.3% of adults in Cuyahoga County, overall, were without health insurance in 2013, which is approximately what the survey data showed.

Lack of access to health coverage is a common occurrence during some point in the adult lives of many of UH Richmond Medical Center's market area adult residents: 64.5% of those in the market area always had health coverage, meaning roughly one in three were without health coverage at some point in their adult lives.

Figure 6: Access to Health Care shows a majority of adults in UH Richmond Medical Center's market area reported having a primary care provider (79.5%). One in six (16.1%) reported not seeking needed medical care within the previous 12 months because of cost; this was also true for 9.9% of those with medical coverage (not shown). Almost 6% of adults in UH Richmond Medical Center's market area reported transportation as a barrier to obtaining health care.

Illustrated in Figure 7: Specific Sources of Care, all survey respondents (100%) were able to name a location or source from which they primarily seek health care services or information. The most common specific location where health care or information was primarily sought was a physician's office (60.2%). The second most common source for health care services or information was an emergency department (8.9%) followed by the Internet (5.7%). Some (6.5%) reported not having one specific location or type of location which they go to for health care services or information.

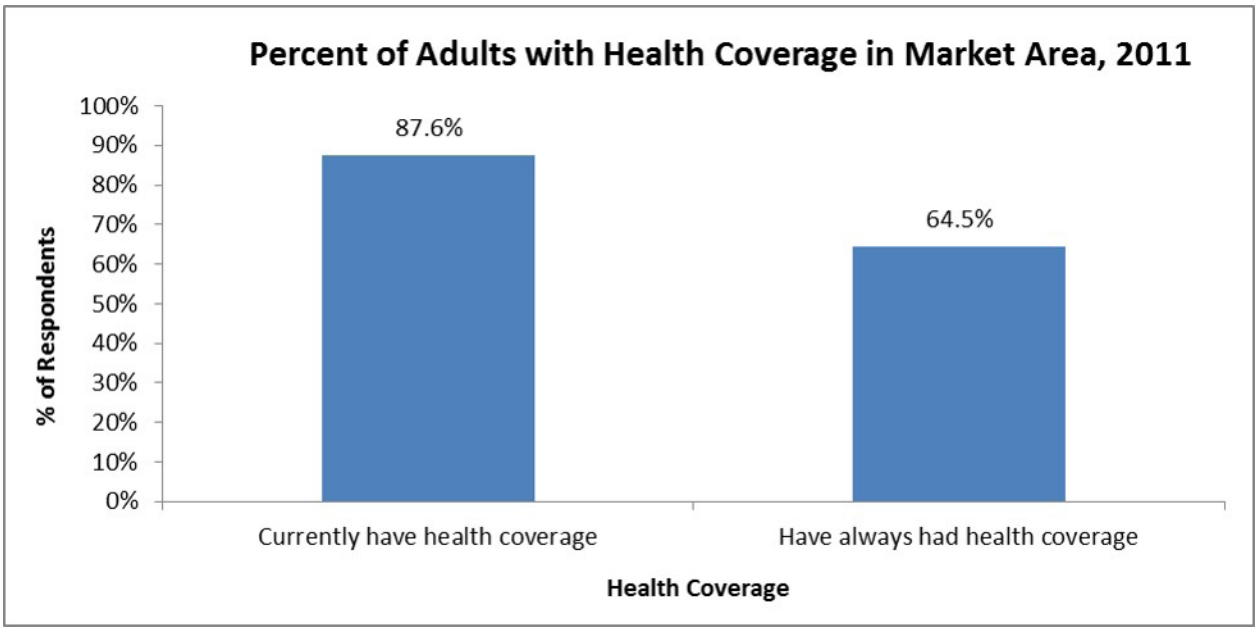
Just over one-third (35.5%) of adults reported that at some point they have been without health care coverage as adults. The reasons for loss of coverage are varied, and no reason dominates. Note that the figures below are of the total survey respondent base. Thus, it can be estimated that 16.8% of adults in UH Richmond Medical Center's market area lost their health care coverage because of a job loss or change of employers during their adult lifetime, shown in Table 18: Reason For No Health Care Coverage. One in 10 had no health care coverage because they could not afford to pay the health care premiums.

Shown in Figure 8: Private vs. Public Sources of Health Care Coverage, for those with health insurance coverage, over half (55.9%) have a private source of insurance. Almost half of those with health care coverage obtain it either through their own employer (38.2%) or through another person's employer-provided coverage (6.9%). A substantial portion (40.2%) obtain their coverage through a publicly funded source. One-fourth of those in UH Richmond Medical Center's market area obtain their health coverage through Medicare (25.5%).

While almost all health coverage includes medical care, other types of health care are not covered for residents within UH Richmond Medical Center's market areas, illustrated in Figure 9: Types of Coverage.

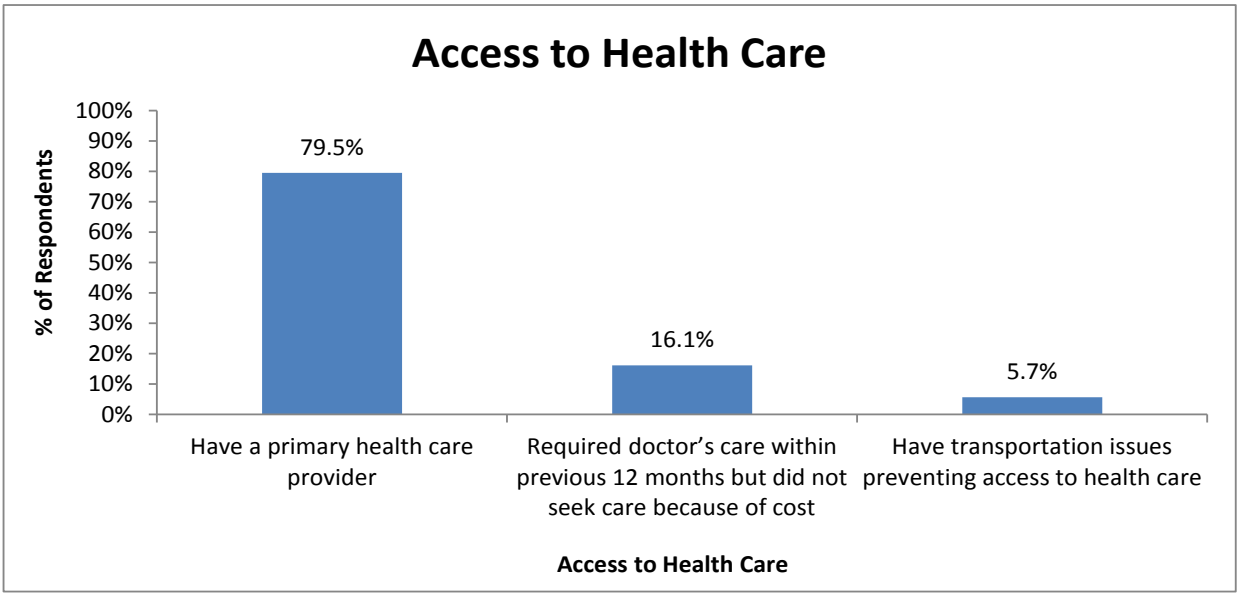
Health care coverage includes medical care, and a great majority of those with coverage have a prescription plan as part of their coverage (93%). Only roughly three in four of those covered have plans that include mental health (81.3%), immunizations (76.2%) and/or dental (74.5%). Slightly fewer have plans that include vision (71.6%), or preventive health (72.3%). Half of those covered have plans that cover alcohol and drug treatment (52.1%), and about one-third of plans cover home care (37.2%), hospice (30%), and/or skilled nursing (34.4%). Just under half (45.1%) of those with health care coverage say their plans can also include their spouses. Fewer (37.7%) say their children can be or are covered under their own plan.

FIGURE 5: ADULTS WITH HEALTH COVERAGE



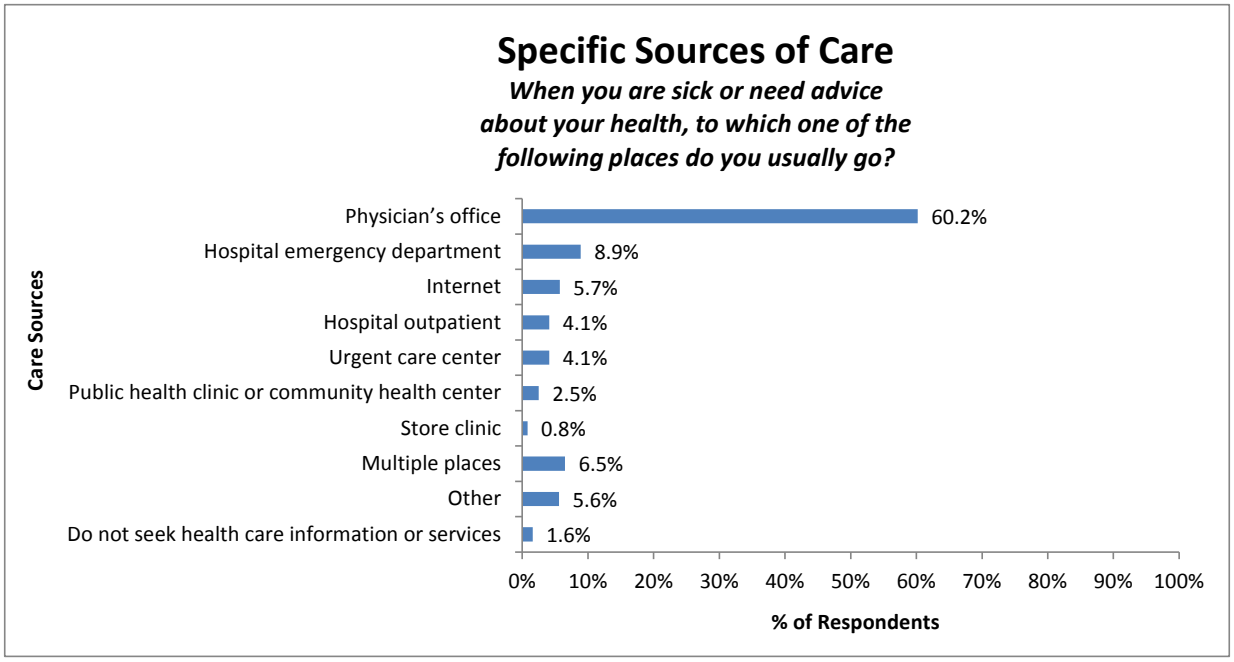
Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

FIGURE 6: ACCESS TO HEALTH CARE



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

FIGURE 7: SPECIFIC SOURCES OF CARE



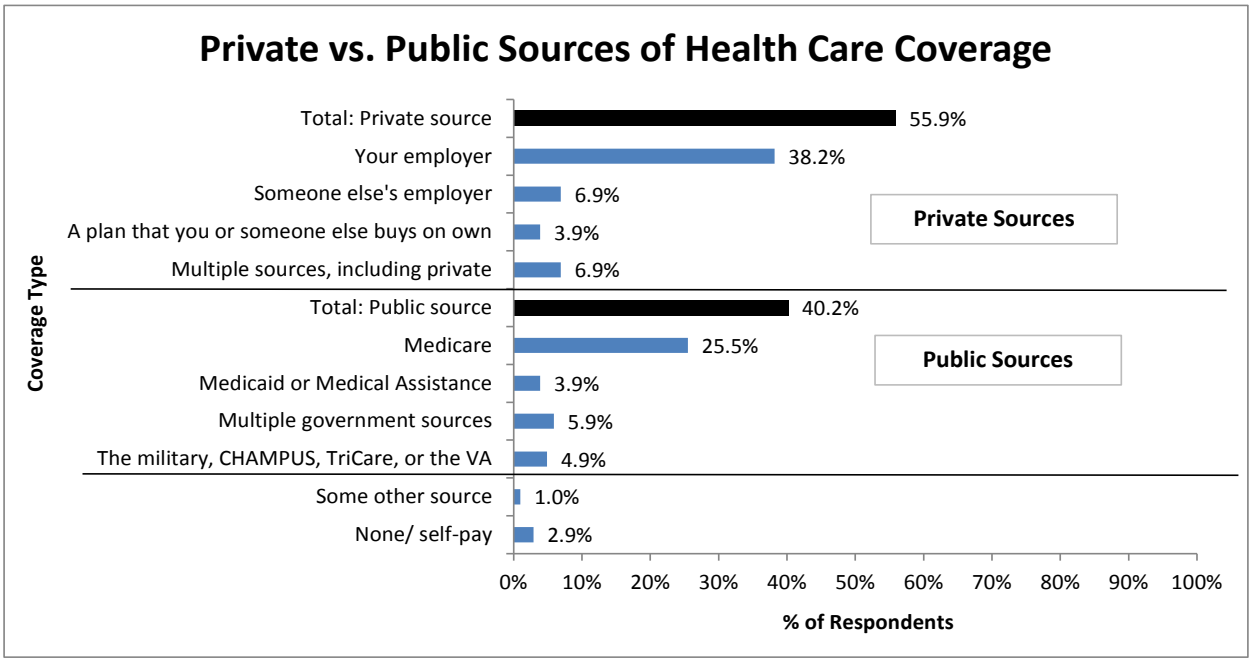
Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 18: REASON FOR NO HEALTH CARE COVERAGE

	Of All in UH Richmond Medical Center's Market Area (n=123)
Lost job or changed employers	16.8%
Couldn't afford to pay the premiums	9.7%
Benefits from employer/former employer ran out	6.8%
Employer doesn't/stopped offering coverage	3.5%
Became divorced or separated	3.5%
Lost Medicaid eligibility	2.7%
Became a part-time or temporary employee	2.7%
Spouse or parent lost job or changed employers	1.8%
Became ineligible (aged out or left school)	.9%
Insurance company refused coverage	0%
Other	2.7%

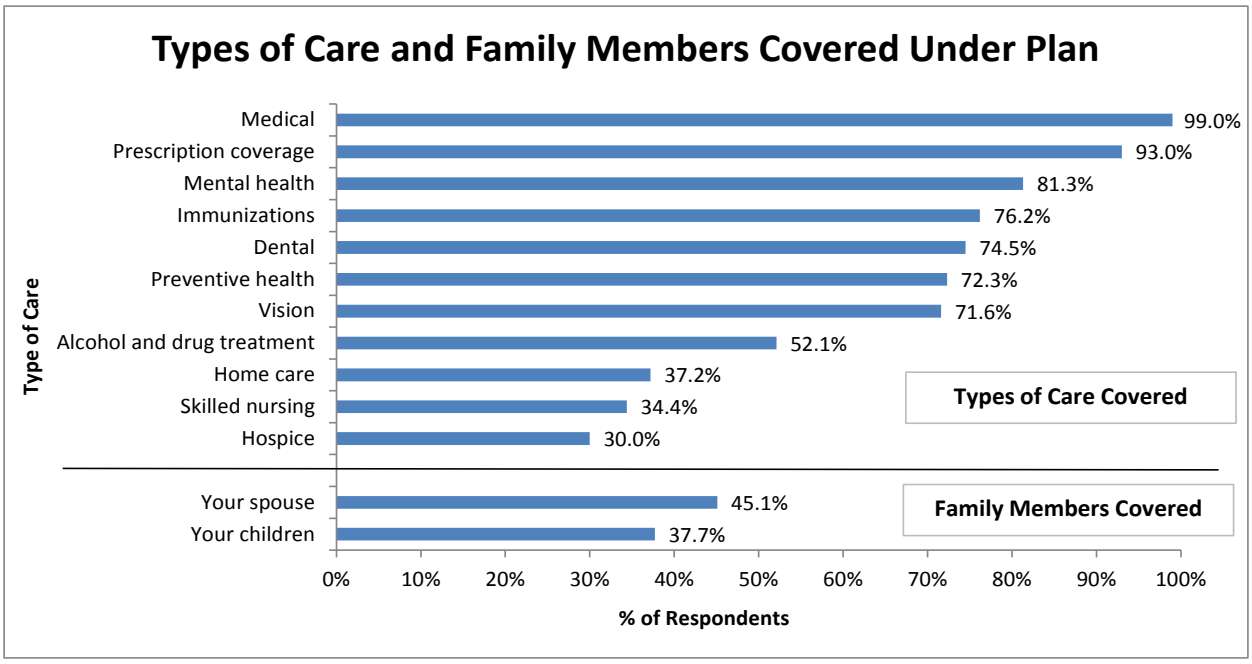
Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

FIGURE 8: PRIVATE VS. PUBLIC SOURCES OF HEALTH CARE COVERAGE



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

FIGURE 9: TYPES OF COVERAGE



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

Health Care Utilization

Shown in Table 19: Would Prevent Seeking Doctor's Care (If Needed) Because of Cost, within UH Richmond Medical Center's market area, one-third felt that cost might be a barrier to seeking medical care when needed. This was true among the combined group of insured and uninsured surveyed adults. However, even a large portion of those with medical coverage (27.6%) said that cost might be a barrier to seeking care. Deductibles and copays are often a barrier to seeking care.

Many reported that cost has been a barrier to their seeking various specific preventative care or medical services, shown in Table 20: Percent of Adults Who Have Not Obtained Preventive Care Procedures or Other Medical Services Because of Cost. 23% reported that cost has been a barrier to their receiving any of these types of medical services (not shown).

A great majority (79.5%) of adults with and without health care coverage in UH Richmond Medical Center's market areas have a provider for primary care, illustrated in Table 21: Percent of Adults with Primary Care Physician(s). While the proportion of adults without health care coverage who also have a primary care provider cannot be identified within the sample, other surveys have shown that a majority of those without health care coverage do have someone they consider their primary care provider. In 2012, those with health care coverage were somewhat more likely to have a primary care provider (86.8%) than the sample overall.

Seeking and obtaining preventive care (general medical or dental checkup) was completed by a majority of adults in UH Richmond Medical Center's market area, shown in Table 22: Incidence of Receiving Routine Health Care: UH Richmond Medical Center Primary and Secondary Market. Males were less likely to obtain prostate cancer screenings than females were to obtain breast or cervical cancer screenings.

Certain unhealthy or risky behaviors are fairly prevalent among adults in UH Richmond Medical Center's market area, shown in Table 23: Incidence of Unhealthy/Risky Behaviors: UH Richmond Medical Center Primary and Secondary Market.

The survey found that 25.6% of those within UH Richmond Medical Center's market area were smokers at the time of the survey in 2012. The Centers for Disease Control and Prevention reported that about one in five adults in Cuyahoga County are smokers. In addition, 8.2% reported using illicit drugs recreationally and 9% reported using medications (prescribed for others) recreationally in the survey. Recall that a large number of UH Richmond Medical Center patients (25.4% of adults) had a secondary diagnosis of nondependent drug abuse.

A significant proportion of households in UH Richmond Medical Center's market area either store a firearm which is not locked (9%), loaded (4.9%), or is both unlocked and loaded (2.9%). Almost one in five (16.3%) adults in UH Richmond Medical Center's market area do not always wear a seat belt while driving in a vehicle.

Among the adult population, unhealthy consumption of alcohol (binge drinking) occurred two or more times for 26.2% of the adult population in the 30 days prior to being surveyed.

Although more than eight in 10 surveyed adults had obtained a medical checkup within the two years prior to the survey, for many that checkup did not include discussions about diet, exercise, injury prevention or healthy sexual practices. Likewise, most were not counseled on the importance of family history as it relates to health or their immunization status. More than one-third (39.3%) of smokers have never been counseled by a medical professional on the importance of quitting smoking, shown in Table 24: Health Care Providers' Communication of Key Health Supporting Behaviors, UH Richmond Medical Center Primary and Secondary Market Areas.

While obesity was very common among those hospitalized at UH Richmond Medical Center in 2013 (20%), not all of those who are obese have had discussions with a health care providers about that health condition. In fact, 76% of overweight or obese adults in UH Richmond Medical Center's market areas have never been counseled by health care professionals regarding their weight (not shown).

Recall that almost one in five of UH Richmond Medical Center's adult discharged patients in 2013 had a primary diagnosis of coronary heart disease. Another 54% had a secondary diagnosis of coronary heart disease. 6% had a primary diagnosis of COPD. Both of these conditions are strongly tied to lifestyle choices.

TABLE 19: WOULD PREVENT SEEKING DOCTOR'S CARE (IF NEEDED) BECAUSE OF COST

	Total Market
Of All Respondents (Those With And Without Coverage)	33.6%
Of Those With Health Care Coverage	27.6%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 20: PERCENT OF ADULTS WHO HAVE NOT OBTAINED PREVENTIVE CARE PROCEDURES OR OTHER MEDICAL SERVICES BECAUSE OF COST

Preventive Care Procedures/ Medical Services	Percent
Mammogram (females)	12.8%
Pap smear test (females)	11.0%
Medications	10.0%
Weight loss program	10.0%
Colonoscopy	8.2%
Surgery	6.4%
PSA test (males)	5.4%
Smoking cessation	4.5%
Mental health treatment	3.6%
Alcohol and drug treatment	0.9%
Immunizations	0.9%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 21: PERCENT OF ADULTS WITH PRIMARY CARE PHYSICIAN(S)

	Total Market
Of All Respondents (Those With And Without Coverage)	79.5%
Have Health Care Coverage	86.8%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 22: INCIDENCE OF RECEIVING ROUTINE HEALTH CARE: UH RICHMOND MEDICAL CENTER PRIMARY AND SECONDARY MARKET

Type of Routine Health Care Service	Percent
Obtained routine checkup within past two years	84.4%
Visited a dentist for a routine checkup within past two years	63.1%
Recent cholesterol check (within past year)	70.2%
Recent blood pressure check (within past year)	89.2%
Received flu vaccine (within past year)	59.7%
Recent mammogram (females only, within past year)	43.3%
Recent clinical breast exam (females only, within past year)	56.7%
Recent Pap smear (females only, within past year)	37.3%
Recent Prostate-Specific Antigen test (males only, within past year)	24.1%
Recent digital exam of prostate gland (males only, within past year)	31.0%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 23: INCIDENCE OF UNHEALTHY/RISKY BEHAVIORS: UH RICHMOND MEDICAL CENTER PRIMARY AND SECONDARY MARKET

Type of Unhealthy/Risky Behavior	Percent
Smoke cigarettes	25.6%
Used recreational drugs within past six months	8.2%
Have firearm(s) in home which is unlocked/loaded	9.0%/4.9%; 2.5% have firearm(s) both unlocked and loaded
Do not always wear seat belt while in vehicle	16.3%
Binge drinking, two or more times a month (within past 30 days)	26.2%
Driving a vehicle after consuming alcohol (within past 30 days)	7.5%
Recreational use of medications prescribed for others or obtained illegally	9.0%

TABLE 24: HEALTH CARE PROVIDERS' COMMUNICATION OF KEY HEALTH SUPPORTING BEHAVIORS, UH RICHMOND MEDICAL CENTER PRIMARY AND SECONDARY MARKET AREAS

	Within Past Year	Before Past Year	Never
Your diet or eating habits	53.0%	11.1%	35.9%
Physical activity or exercise	53.4%	11.2%	35.3%
Injury prevention such as safety belt use, helmet use or smoke detectors	11.4%	7.9%	80.7%
Sexual practices, including family planning, sexually transmitted diseases, AIDS or the use of condoms	12.4%	10.6%	77.0%
Depression, anxiety or emotional problems	27.2%	13.2%	59.6%
Significance of family health history	19.5%	16.8%	63.7%
Immunizations	31.9%	21.2%	46.9%
Quitting tobacco use (current smokers only)	39.3%	21.4%	39.3%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

Survey of Youth

This section reports survey data from a 2014 survey of Lake County youth. The youth survey (ages 12 to 18) aimed to measure the attitudes toward health and the health and safety behaviors of youth living in Lake County. There is no recent survey data for Cuyahoga County youth relevant to this analysis.

Although Lake County is a relatively affluent county in Northeast Ohio, poverty does impact many youth in UH Richmond Medical Center's market area. Roughly one in four (24.4%) youth in UH Richmond Medical Center's market area live in single family homes; earlier this report showed that a large portion of single-parent households struggle economically (45.7% of female-headed single family households with children live beneath the poverty line). 8% of youth living in UH Richmond Medical Center's market area within Lake County reported not having enough food to eat in the home at least one day per week.

As shown in Table 25: Personal Safety: Risky Environments and Behaviors, teens in Lake County within UH Richmond Medical Center's market area frequently engage in risky behavior. Approximately one in seven (14.8 %) had driven in a car with someone who had been drinking in the 30 days prior to the survey. Almost 2% (1.6%) reported driving after drinking in the 30 days prior to the survey. Many (6.3%) carried a weapon in the 30 days prior to the survey.

About one-fourth of youth in UH Richmond Medical Center's market area within Lake County are sexually active, and 2.5% were both sexually active and used no method of birth control during their most recent sexual encounter prior to the survey.

Many teens in UH Richmond Medical Center's market area within Lake County reported being physically harmed by boyfriends or girlfriends (4.8%) or adults or other caregivers (8.7%) within the year prior to the survey, shown in Table 26: Personal Safety: Harmed By Others. Roughly one-fifth (21.8%) of youth surveyed had been in a physical fight, and about half (52%) reported being bullied, within the year prior to the survey. Almost one in 10 reported being threatened or injured by someone with a weapon on school property within the previous year.

Recall that mental health issues were frequent diagnoses among UH Richmond Medical Center adult discharges in 2013. Surveyed youth reported frequent mental health issues also: more than one in four (28.8%) reported bouts of depression lasting more than two weeks and 2.4% reported a treated suicide attempt in the year prior to the survey, shown in Table 27: Mental Health.

TABLE 25: PERSONAL SAFETY: RISKY ENVIRONMENTS AND BEHAVIORS

	Lake County, UH Richmond Medical Center Market Area
Ride in car, within past 30 days, with a driver who had been drinking alcohol	14.8%
Drive a car after drinking alcohol (within past 30 days)	1.6%
Carry a weapon (within past 30 days)	6.3
Sexually active	28.0
Is sexually active and used no form of birth control for most recent sexual activity	2.5%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 26: PERSONAL SAFETY: HARMED BY OTHERS

	Lake County, UH Richmond Medical Center Market Area
Physically harmed by boyfriend/girlfriend (within past year)	4.8%
Physically harmed by adult or caregiver (within past year)	8.7%
In a physical fight (within past year)	21.8%
Bullied (physically, verbally, cyber, sexually) (within past year)	52.0%
Threatened or injured by someone with a weapon on school property (within past year))	8.6%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 27: MENTAL HEALTH

	Lake County, UH Richmond Medical Center Market Area
Mental health, within the past year:	
Feelings of sadness or hopelessness every day for more than two weeks enough to stop normal activities	28.8%
Attempted suicide which required treatment by a doctor or a nurse	2.4%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

Unhealthy Habits

Unhealthy and often dangerous habits are not uncommon among UH Richmond Medical Center market area youth. Shown in Table 28: Unhealthy/Dangerous Behaviors of Youth, smoking prevalence (11.1%) is approaching adult levels, and consumption of alcohol is even more common (29% within the past 30 days). Almost one in 10 (8.5%) surveyed youth reported consuming alcohol about once per week (not shown).

Abuse of illicit or nonprescribed drugs is very common if one looks only at marijuana: 21.8% of those surveyed had used marijuana within the 30 days prior to the survey. Prescription medications (not prescribed for the survey respondent) and 'party drugs' (ecstasy, etc.) were the most commonly used illicit drugs besides marijuana (6.7% and 11.7%, respectively, used within lifetime). Inhalants were the third most commonly abused substances (3.2%). A small but important proportion of surveyed youth had used heroin (0.8%) and/or methamphetamines (0.8%) in their lifetimes. Approximately 5% (4.7%) of surveyed youth reported being offered illegal drugs on school property within the year prior to the survey.

Consumption of soft drinks is very high among teens in UH Richmond Medical Center's market area (37.5% drink soft drinks most days of the week), as illustrated in Table 29: Nutrition. Energy drinks are consumed as often by 8.7% of youth in UH Richmond Medical Center's market area. One-fourth (24.8%) of youth surveyed who live within the hospital's market area are either overweight or obese; 14.2% are obese (BMI > 30).

Finally, while attitudes and behaviors are greatly impacted by youth peer groups, they are also shaped by parental attitudes and behaviors. Many youth in UH Richmond Medical Center's market area have implicit consent regarding some unhealthy or dangerous choices. When asked whether or not their parents would disapprove of their use of various unhealthy or illegal substances, not all were affirmative.

TABLE 28: UNHEALTHY/DANGEROUS BEHAVIORS OF YOUTH

	Lake County
Smoke cigarettes	11.1%
Consumed alcohol within past 30 days	29.0%
Binge drinking within past 30 days	12.7%
Used marijuana within past 30 days	21.8%
Used cocaine in lifetime	0.0%
Used inhalants in lifetime	3.2%
Used heroin in lifetime	0.8%
Used methamphetamines in lifetime	0.8%
Used steroid pills or shots in lifetime	0%
Took prescription medications not prescribed to you in lifetime	6.7%
Tried other recreational "party" drugs (ecstasy, cough syrup, GbH, etc.)	11.7%
Offered illegal drugs on school property within past year	4.7%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 29: NUTRITION

	Lake County
Drink at least one serving of soda most days of the week	37.5%
Drink at least one serving of an 'energy' drink most days of the week	8.7%
Ate at a fast food restaurant at least three days per week	10.7%
Overweight (not obese)	10.6%
Obese	14.2%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

	Lake County
Parents would disapprove of youth ….	
smoking cigarettes	83.2%
drinking alcohol	71.4%
using marijuana	80.7%
misusing prescription drugs	84.9%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

H. Infant Mortality

This indicator reports the rate of deaths to infants less than one year of age per 1,000 births. This indicator is relevant because high rates of infant mortality indicate the existence of broader issues pertaining to access to care and maternal and child health. Data at the ZIP code level (and hence hospital market area) are not available; only data at the county level are available.

Historically, infant mortality rates for Blacks have been significantly higher in the U.S. In fact, according to the most recently available data, infant mortality rates for Blacks were almost twice as high as infant mortality rates for Whites in 2012. This disparity is also true for Cuyahoga County and Lake County. In 2012, the infant mortality rate for Blacks was 64% higher than for Whites in Cuyahoga County, and 58% higher for Blacks in Lake County compared to Whites, illustrated in Figure 10: Infant Mortality Trends. Note that the number of births for Black mothers in Lake County, for all years measured, is extremely low, making this statistic (number of infant mortalities per 100,000 births) extremely unreliable; therefore, the Black infant mortality rate in Lake County should be interpreted with great care.

The infant mortality rate per 1,000 births in Cuyahoga County (8.86) was somewhat higher than Ohio overall (7.57) in 2012, but significantly higher than that in the United States overall (5.98), shown in Table 30: Infant Mortality Trends, 2007 to 2012, U.S., Cuyahoga County, Lake County, and Surrounding Counties, Per 1,000 Births. In sharp contrast, infant mortality rates for Lake County were lower (4.12) than Ohio and U.S. levels in 2012.

FIGURE 10: INFANT MORTALITY TRENDS

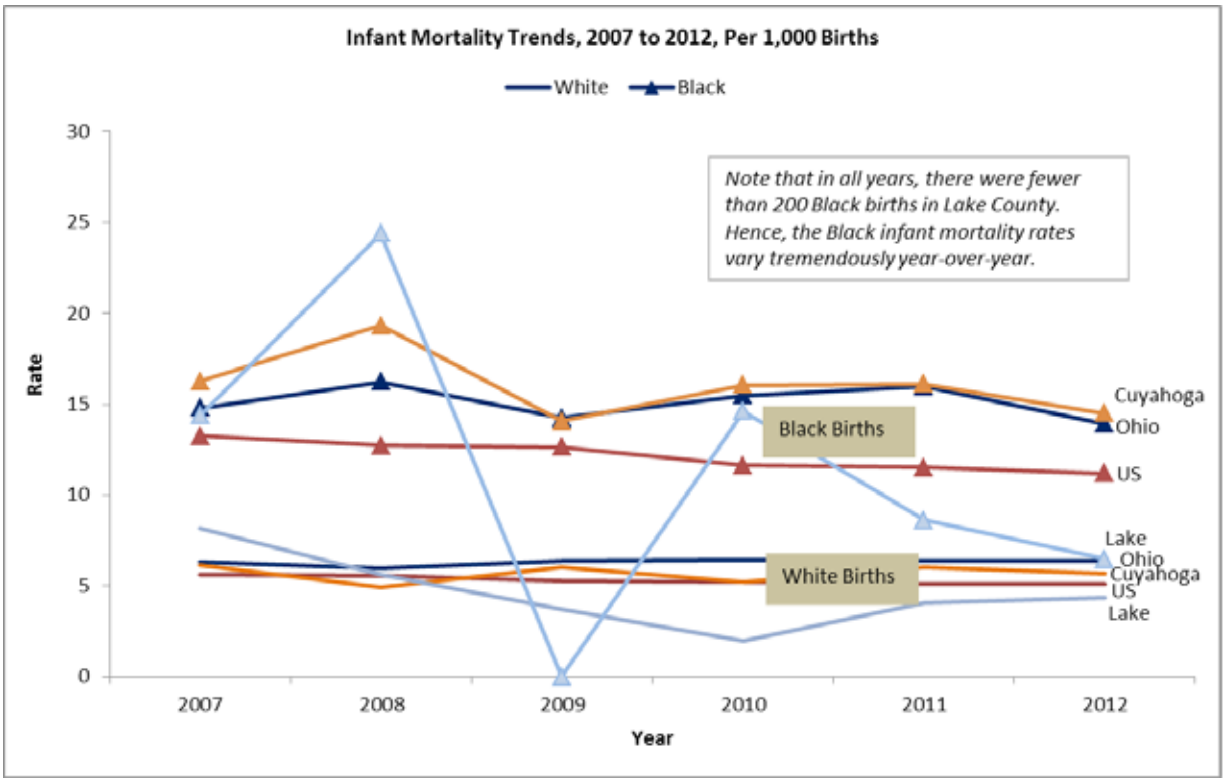


TABLE 30: INFANT MORTALITY TRENDS, 2007 TO 2012, U.S., CUYAHOGA COUNTY, LAKE COUNTY, AND SURROUNDING COUNTIES, PER 1,000 BIRTHS*

Geography	Race	Infant Mortality Rate						Number of Births					
		'07	'08	'09	'10	'11	'12	'07	'08	'09	'10	'11	'12
United States Overall	Total	6.75	6.61	6.39	6.15	6.07	5.98	4,316,233	4,247,694	4,130,665	3,999,386	3,953,590	3,952,841
	White	5.64	5.55	5.3	5.2	5.12	5.09	3,336,626	3,274,163	3,173,293	3,069,315	3,020,355	2,999,820
	Black	13.24	12.74	12.64	11.63	11.51	11.19	675,676	670,809	657,618	636,425	632,901	634,126
Ohio Overall	**Total**	**7.71**	**7.7**	**7.67**	**7.68**	**7.87**	**7.57**	**150,784**	**148,592**	**144,569**	**139,034**	**138,024**	**138,284**
	White	6.34	6	6.4	6.42	6.41	6.37	121,267	118,901	115,328	107,189	104,906	106,004
	Black	14.79	16.23	14.23	15.47	15.96	13.93	25,959	26,131	25,433	23,469	23,252	23,696
Cuyahoga County	**Total**	**9.97**	**10.59**	**9.08**	**9.07**	**9.47**	**8.86**	**16,450**	**16,249**	**15,525**	**15,108**	**14,993**	**14,787**
	White	6.17	4.95	6.06	5.23	6.06	5.69	9,233	9,092	8,746	7,842	7,750	7,554
	Black	16.27	19.32	14.05	16.07	16.13	14.51	6,576	6,573	6,192	5,912	5,829	5,789
Lake County	**Total**	**8.31**	**6.71**	**3.38**	**2.53**	**3.95**	**4.12**	**2,526**	**2,532**	**2,366**	**2,376**	**2,280**	**2,187**
	White	8.15	5.63	3.70	1.96	4.08	4.34	2,332	2,308	2,161	2,038	1,961	1,843
	Black	14.39	24.39	0.00	14.60	8.62	6.49	139	164	140	137	116	154
Lorain County	**Total**	**8.37**	**6.84**	**7.31**	**8.31**	**5.2**	**6.26**	**3,586**	**3,654**	**3,420**	**3,371**	**3,464**	**3,356**
	White	7.5	4.2	4.52	6.32	3.64	6.39	3,067	3,098	2,873	2,692	2,746	2,661
	Black	14.99	24.14	24.79	25.58	18.96	9.8	467	497	484	391	422	408
Medina County	**Total**	**3.06**	**5.31**	**1.08**	**0.57**	**3.39**	**6.4**	**1,963**	**1,844**	**1,752**	**1,752**	**1,768**	**1,719**
	White	3.18	5.49	1.12	0.6	2.96	6.74	1,888	1,822	1,779	1,676	1,692	1,632
	Black	0.00	0.00	0.00	0.00	29.41	0.00	46	33	30	21	34	37
Summit County	**Total**	**6.23**	**7.49**	**7.57**	**8.04**	**8.91**	**6.67**	**6,738**	**6,279**	**6,342**	**6,096**	**6,174**	**6,145**
	White	5.63	5.97	6.3	6.77	7.08	5.58	5,512	4,688	4,746	4,429	4,520	4,482
	Black	7.97	13.57	12.29	12.08	15.87	10.84	1,380	1,400	1,383	1,342	1,323	1,292
Geauga County	**Total**	**8.23**	**2.21**	**2.22**	**2.13**	**7.84**	**6.36**	**972**	**905**	**901**	**939**	**893**	**944**
	White	8.46	2.25	2.27	2.18	8.03	6.67	946	887	880	916	872	899
	Black	0.00	0.00	0.00	0.00	0.00	0.00	18	11	7	12	9	18
Ashtabula County	**Total**	**9.69**	**6.64**	**10.43**	**8.56**	**8.76**	**8.09**	**1,342**	**1,204**	**1,247**	**1,156**	**1,141**	**1,112**
	White	7.83	6.07	10.95	7.31	6.78	7.99	1,277	1,154	1,187	1,095	1,033	1,001
	Black	56.60	21.74	0.00	76.92	46.51	26.32	53	46	52	26	43	38

**Source: Ohio Department of Health*

I. Incidence of Health Issues

Many adults within UH Richmond Medical Center's market area who were surveyed have been diagnosed with a chronic disease.

Of surveyed adults in UH Richmond Medical Center's market area, 24.5% have been diagnosed with asthma, 34% have been diagnosed with arthritis and 12.2% have been diagnosed with diabetes. Also, 9.1% of adults in UH Richmond Medical Center's market area have a known circulatory disease (heart attack/myocardial infarction, angina, stroke). Previous diagnosis of and/or treatment for mental health issues was reported by 21.2% of adults in UH Richmond Medical Center's market area in 2012.

High blood pressure impacts about one-third (36.7%) of those in UH Richmond Medical Center's market area, as do high blood cholesterol levels (38.2%). One in five (20%) adults within UH Richmond Medical Center's market area have both high blood pressure and high cholesterol levels.

Many adults within UH Richmond Medical Center's market area have also been impacted by these serious health events:

- 1% have been a victim of some type of abuse (physical, sexual, financial and/or emotional) within the past year;
- 8% have had a cancer diagnosis at some point.

Shown in Table 31: Cancer Incidence by Cancer Type, prostate cancer and breast cancer are the two most common cancer diagnoses both in Cuyahoga and Lake counties. Note that prostate cancer and cervical cancer rates in Cuyahoga County are higher than rates in the U.S. and in Ohio. Lung cancer rates are low in Cuyahoga County compared to Ohio, but higher than U.S. rates.

Lake County residents have higher rates of breast cancer and lung cancer compared to Ohio and the U.S. Lake County has lower levels of prostate, colon/rectal and cervical cancers compared to Ohio and the U.S.

Finally, many adults in UH Richmond Medical Center's market areas are subject to major life stressors:

- 39% of adults lack a support system such as child care back-up, financial assistance, etc.
- 82% experienced some type of major stressful event within the past year (household member death, hospitalized or jailed; job loss; homelessness; changed residences; self or child was slapped or hit; household member abused drugs or alcohol).

TABLE 31: CANCER INCIDENCE BY CANCER TYPE

Cancer Type	Report Area	Total Population	Average New Cases per Year	Annual Incidence Rate (Per 100,000 Population)
Prostate Cancer (total population male only)	Cuyahoga County	609,670	1,076	156
	Lake County	111,848	185	134.9
	Ohio	5,624,513	8,272	135.8
	United States	150,740,224	220,000	142.3
Breast Cancer (total population female only)	Cuyahoga County	675,609	1,107	129.7
	Lake County	117,897	202	132.5
	Ohio	5,901,023	8,435	120.0
	United States	155,863,552	216,052	122.7
Lung	Cuyahoga County	1,285,279	1,143	71.5
	Lake County	229,745	226	77.0
	Ohio	11,525,536	9,551	72.4
	United States	306,603,776	212,768	64.9
Colon and Rectum	Cuyahoga County	1,285,279	709	44.2
	Lake County	229,745	125	42.7
	Ohio	11,525,536	5,862	44.5
	United States	306,603,776	142,173	43.3
Cervical (total population female only)	Cuyahoga County	675,609	61	8.3
	Lake County	117,897	7	5.3
	Ohio	5,901,023	471	7.7
	United States	155,863,552	12,530	7.8

Data Source: National Institutes of Health, National Cancer Institute, Surveillance, Epidemiology, and End Results Program. State Cancer Profiles. Source geography: County

J. Vulnerable Populations

Medically Underserved Areas, Federally Qualified Health Centers and Food Deserts

Medically underserved areas/populations (MUAs/MUPs) are areas or populations designated by the U.S. Department of Health and Human Services' Health Resources and Services Administration (HRSA) as having insufficient primary care providers, a high infant mortality rate, high poverty or a high elderly population. Within Lake County, there are no MUAs designated by HRSA, but there is one MUP; it is not within UH Richmond Medical Center's service area. There are several MUAs designated within Cuyahoga County which are also within UH Richmond Medical Center's market area.

Federally Qualified Health Centers (FQHCs) are community-based organizations that provide comprehensive primary care and preventive care, including health, oral, and mental health/substance abuse services to persons of all ages, regardless of their ability to pay or health insurance status. There are two FQHCs within UH Richmond Medical Center's market area.

In addition, pinpointing food desert locations in a hospital's service area can help to identify areas with insufficient access to healthy and affordable food. According to the U.S. Department of Agriculture, food deserts are defined as "urban neighborhoods and rural towns without ready access to fresh, healthy and affordable food." Rather than having grocery stores in these communities, there may be no food access or limited access to healthy, affordable food options. The Food Desert Locator, created by the U.S. Department of Agriculture's Economic Research Service, is a web-based mapping tool that pinpoints food desert locations in the U.S. Food deserts in UH Richmond Medical Center's service area are located in both urban centers and rural areas. There are several census tracts within Cuyahoga and Lake counties that are designated as food deserts.

Figure 11: Medically Underserved Areas/Populations, FQHCs and Food Deserts: UH Richmond Medical Center overlays medically underserved areas and food deserts in UH Richmond Medical Center's market areas and beyond to determine areas that may have the highest need for services. To provide further context, the map also pinpoints the location of FQHCs.

FIGURE 11: MEDICALLY UNDERSERVED AREAS/POPULATIONS, FQHCS AND FOOD DESERTS: UH RICHMOND MEDICAL CENTER

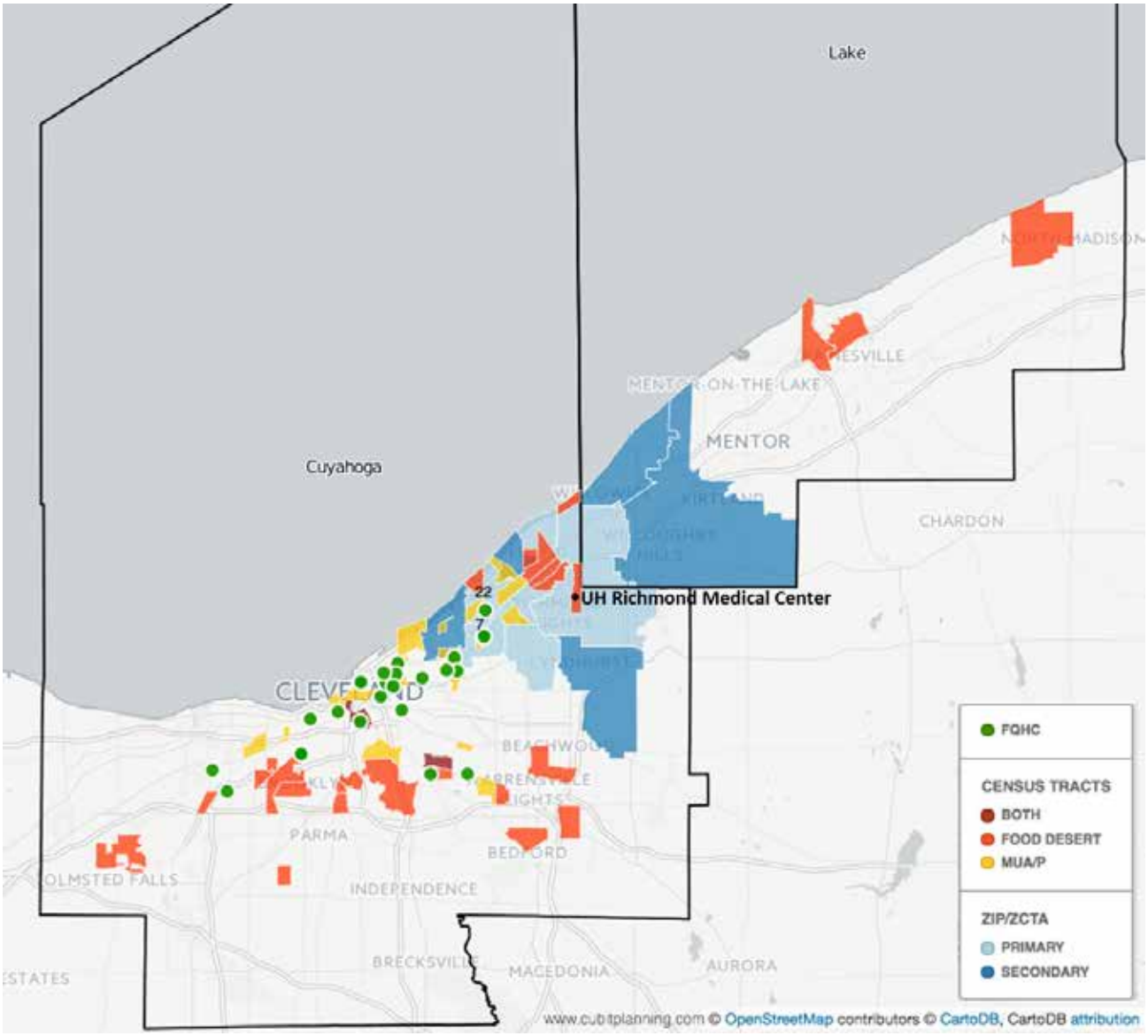


TABLE 32: FQHCS IN UH RICHMOND MEDICAL CENTER'S MARKET AREA:

Map Code	FQHC Name and Address
7	NEON Dental Mobile Unit, 15320 Euclid Avenue, East Cleveland
22	Collinwood Health Center, 15322 Saint Clair Avenue, Cleveland

ACS Analysis of Vulnerable Populations

Revisiting the ACS data can provide further insight into the level of access to health care for vulnerable populations by revisiting the ACS data. Details of this analysis can be found in the Appendix. In sum, a higher incidence of ACS conditions was found among residents of UH Richmond Medical Center's market area (from all area hospitals) among Blacks (18.5%) compared to Whites (15.8%). This suggests lower access to primary care among Blacks compared to Whites in UH Richmond Medical Center's market area.

However, this varies by specific ACS diagnoses for residents of UH Richmond Medical Center's market area. The ACS diagnoses of diabetes, epilepsy and asthma were higher among Blacks. The ACS diagnoses of bacterial pneumonia, cellulitis and kidney/urinary infections were higher among Whites.

CONCLUSIONS

A. Priority Health Needs

The list that follows describes the health issues identified through this CHNA.

Health Disparities

- Poverty
- Unemployment
- Aging Population
- Infant Mortality

Chronic Disease Conditions

- Heart Disease
- Alzheimer's
- Respiratory Diseases
- Cancer
- Diabetes
- Mental Illness

Lifestyle Barriers

- Substance Abuse (Tobacco/Drug/Alcohol)
- Obesity

Access Barriers

- Cost of Care
- Lack of Primary Care Providers
- Transportation

This list of health needs was compiled based on the variety of data assessed throughout this report. For example, issues like heart disease and diabetes were found prevalently throughout the data sets; including in hospital discharge data Hospital Council of Northwest Ohio Community Health Needs Assessment data, and qualitative data collected through surveys and public health interviews. Health needs were categorized into four categories of health needs, which encompassed a broader list of specific, related needs.

UH Richmond Medical Center has prioritized three primary categories of health needs for this CHNA:

1. Access Factors
2. Chronic Disease Conditions
3. Lifestyle Factors

Within these three categories of needs fall numerous health needs that were identified through this CHNA, which UH Richmond Medical Center will prioritize.

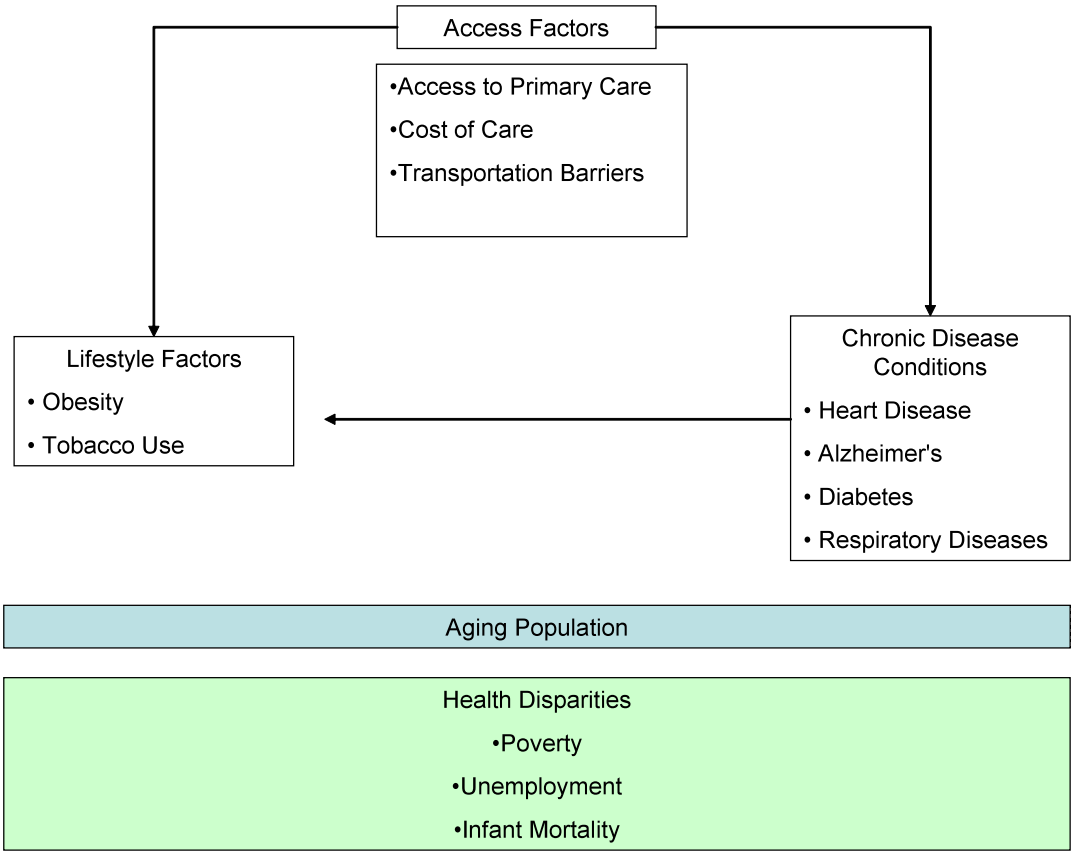
The prioritization process included input from hospital leaders who work closely with the community and have an in-depth understanding of community needs. After reviewing the primary and secondary data analysis for the UH Richmond Medical Center service area, a team of leaders from the hospital assembled to determine priority health needs. This team included:

- Robert David, President, UH Regional Hospitals
- William Aiken, Director, Hospital Support Services
- Anne O'Neill, Manager, Center for Healthy Aging
- Michelle Giltner, Director, Clinical and Support Services
- Vetella Camper, Community Outreach

The team met in July 2015 and together determined that the CHNA data indicated a need for prioritization of these three categories of needs, especially with a focus on the senior population, as significant portions of the community served by UH Richmond Medical Center are seniors. The health needs associated with an aging population have become increasingly important considerations.

Priorities were determined based on specific criteria, including (1) magnitude of the problem, (2) alignment of the problem with organizational strengths and priorities, and (3) existing resources to address the problem. Feedback from external community leaders, as described in the Qualitative Data Analysis section of this report, was a driving factor in this prioritization process as well.

Additionally, the intersection of a focus on increasing health care access and focus on the aging population will promote an emphasis on diagnosing and treating chronic disease conditions and reducing the prevalence of lifestyle barriers like obesity and smoking. The chart below illustrates UH Richmond Medical Center's approach to prioritization, with Access Barriers as the focal point, influencing Lifestyle Barriers and Chronic Disease Conditions, with an emphasis on the aging population. Health Disparities are root causes of all of these priorities.



B. Resources Available to Address Priority Health Needs within the Community Served by the Hospital

The following is a list of available facilities and resources that the Hospital uses to assist in meeting identified community health needs:

Health Disparities

Aging Population

- University Hospitals Center for Lifelong Health
- Western Reserve Area Agency on Aging
- Community Partnership on Aging, serves South Euclid, Lyndhurst, Highland Heights, Mayfield Village and Mayfield Heights
- Cleveland Heights Office on Aging

High Rate of Poverty

- The City Mission, homeless shelter and nonprofit charity
- Council for Economic Opportunities in Greater Cleveland
- Cleveland Housing Network
- Hunger Network of Greater Cleveland
- The HARP Mission, based in Broadview Heights
- Housing Research and Advocacy Center

High Rate of Unemployment

- Cuyahoga County Department of Job and Family Services

Lifestyle Barriers

Obesity

- Cuyahoga County Board of Health
- St. Luke's Foundation
- Warrensville Heights YMCA
- Cuyahoga Child and Family Health Services Executive Committee

Substance Abuse

- Recovery Resources
- Partnership for Prevention Coalition
- Cuyahoga County Board of Alcohol, Drug Addiction, and Mental Health Services
- Northern Ohio Recovery Association

Chronic Disease Conditions

- UH Ahuja Medical Center (inpatient care)
- Alzheimer's Association
- American Diabetes Association
- Diabetes Partnership of Cleveland
- American Heart Association
- Bellefaire JCB

Access Barriers

- UH Ahuja Medical Center (inpatient care)
- Free Clinic of Greater Cleveland
- Cuyahoga County Health Care Council/Joint Advisory Committee
- Health Improvement Partnership – Cuyahoga
- Universal Health Care Action Network

A. Qualifications of Consulting Companies

The Center for Health Affairs, Cleveland, Ohio

The Center for Health Affairs is the leading advocate for Northeast Ohio hospitals. With a rich history as the Northeast Ohio hospital association, dating back to 1916, The Center serves as the collective voice of 34 hospitals spanning six counties.

The Center recognizes the importance of analyzing the top health needs in each community while ensuring hospitals are compliant with IRS regulations governing nonprofit hospitals. Since 2010, The Center has helped hospitals fulfill the CHNA requirements contained within the Affordable Care Act. The Center offers a variety of CHNA services to help hospitals produce robust and meaningful CHNA reports that can guide a hospital's community health improvement activities. Beyond helping hospitals with the completion of timely CHNA reports, The Center spearheads the Northeast Ohio CHNA Roundtable, which brings member hospitals and other essential stakeholders together to spur opportunities for shared learning and collaboration in the region.

The 2015 CHNA prepared for UH Richmond Medical Center was directed by The Center's vice president of corporate communications, managed by The Center's community outreach director and supported by a project manager. The Center engaged Cypress Research Group to provide expertise in data analysis and statistical methods.

More information about The Center for Health Affairs and its involvement in CHNAs can be found at www.chanet.org.

Cypress Research Group, Cleveland, Ohio

Founded in 1997, Cypress Research Group focuses on quantitative analysis of primary and secondary market and industry data. Industry specialties include health care, hi-tech and higher education. Since 2002, Cypress Research Group has partnered with The Center for Health Affairs to conduct a range of studies including building forecast models for nurses and most recently to analyze data for CHNAs.

UH Richmond Medical Center's CHNA was directed by the company's president and supported by the work of associates and research analysts. The company's president, as well as all associates and research analysts, hold graduate degrees in relevant fields.

B. ACS Conditions and ICD-9-CM Codes

Below are the general categories of ACS conditions and their associated ICD-9-CM codes.

1. Congenital Syphilis: ICD-9-CM code 090 (newborns only).
2. Immunization-Related and Preventable Conditions: ICD-9-CM codes 033, 037, 045, 390, 391; (also including haemophilus meningitis for children ages 1-5 only, ICD-9-CM code 320.0; ICD-10-CA code G00.0).
3. Epilepsy: ICD-9-CM code 345.
4. Convulsions: ICD-9-CM code 780.3.
5. Severe ENT Infections: ICD-9-CM codes 382, 462, 463, 465, 472.1; (cases of otitis media, ICD-9-CM code 382).
6. Pulmonary Tuberculosis: ICD-9-CM code 011.
7. Other Tuberculosis: ICD-9-CM codes 012-018.
8. Chronic Obstructive Pulmonary Disease (COPD): ICD-9-CM codes 491, 492, 494, 496.
9. Acute Bronchitis: (only included if a secondary diagnosis of COPD is also present, diagnosis codes as above), ICD-9-CM code 466.0.
10. Bacterial Pneumonia: ICD-9-CM codes 481, 482.2, 482.3, 482.9, 483, 485, 486; (patients with a secondary diagnosis of sickle-cell anemia, ICD-9-CM code 282.6; and patients less than two months of age are excluded).
11. Asthma: ICD-9-CM code 493.
12. Congestive Heart Failure (CHF): ICD-9-CM codes 402.01, 402.11, 402.91, 428, 518.4.
13. Hypertension: ICD-9-CM codes 401.0, 401.9, 402.00, 402.10, 402.90.
14. Angina: ICD-9-CM codes 411.1, 411.8, 413 (patients with any surgical procedure coded are excluded).
15. Cellulitis: ICD-9-CM codes 681, 682, 683, 686 (patients with any surgical procedure coded are excluded, except for incisions of skin and subcutaneous tissue, ICD-9-CM procedure code 86.0).
16. Diabetes: ICD-9-CM codes 250.0, 250.1, 250.2, 250.3, 250.8, 250.9.
17. Hypoglycemia: ICD-9-CM code 251.2.
18. Gastroenteritis: ICD-9-CM code 558.9.
19. Kidney/Urinary Infections: ICD-9-CM codes 590, 599.0, 599.9.
20. Dehydration/Volume Depletion: ICD-9-CM code 276.5.
21. Iron Deficiency Anemia: ICD-9-CM codes 280.1, 280.8, 280.9.
22. Nutritional Deficiencies: ICD-9-CM codes 260, 261, 262, 268.0, 268.1.
23. Failure to Thrive: ICD-9-CM code 783.4; ICD-10-CA code R62 (patients less than one year of age only).
24. Pelvic Inflammatory Disease: ICD-9-CM code 614; ICD-10-CA codes N70, N73, N99.4 (female patients only, patients with a hysterectomy procedure coded are excluded, ICD-9-CM procedure codes 68.3-68.8).
25. Dental Conditions: ICD-9-CM codes 521, 522, 523, 525, 528.

C. Vulnerable Populations Analysis

It is well established that access to medical care and health outcomes are weaker in the lowest income areas throughout the U.S. To shine a light on this problem and help policymakers properly allocate resources, HRSA identified Medically Underserved Areas/Populations (MUA/Ps). Currently there are several MUA/Ps identified within UH Richmond Medical Center's market area (see body of report).

However, all area hospitals' discharge data can also be examined, including UH Richmond Medical Center's, to look for potential health care access issues among economically vulnerable populations in terms of ambulatory care sensitive (ACS) cases. An earlier analysis showed that UH Richmond Medical Center's inpatient discharges, as a group, had a fairly high prevalence of ACS cases in 2013 (30%). For Cuyahoga and Lake counties on the whole (all hospital discharges), however, there were significantly lower levels of ACS cases (18.7% and 16.8%, respectively). Race can be used as a proxy for socioeconomic status in the hospital's market area. It is known that socioeconomic status is related to race in the area surrounding UH Richmond Medical Center.

Shown in Table 32: Poverty Levels, by Race, Cuyahoga and Surrounding Counties, 2013, in Cuyahoga and Lake counties, Blacks are about three times more likely to live in poverty than Whites.

There are not socioeconomic indicators associated with hospital discharge data, but the association between race and hospital discharge findings can be used to illuminate possible health care access issues within the economically vulnerable areas UH Richmond Medical Center serves.

Table 33: Most Common ACS Conditions, by County, White versus Black Discharges, 2014 shows the prevalence of ACS conditions by race for those admitted to any hospital for those who live in UH Richmond Medical Center's market area. Discharges from UH Richmond Medical Center can not be used alone because the number of racial minorities is too low for reliable analysis. For comparison the ACS discharge rates overall and primary diagnoses for those in Cuyahoga and Lake counties in 2014 are shown.

Overall, there was a higher prevalence of ACS conditions among residents of UH Richmond Medical Center's market area (from all area hospitals) among Blacks (18.5%) than Whites (15.8%). This warrants concern that there is a racial disparity between Blacks and Whites in terms of access to primary care in UH Richmond Medical Center's market area.

However, this varies by specific ACS diagnoses among residents of UH Richmond Medical Center's market area. The ACS diagnoses of diabetes, epilepsy and asthma were notably higher among Blacks. The ACS diagnoses of bacterial pneumonia, cellulitis and kidney/urinary infections were higher among Whites.

TABLE 32: POVERTY LEVELS, BY RACE, CUYAHOGA AND SURROUNDING COUNTIES, 2013

	Percent Below Poverty Level	
Geography	White	Black
Cuyahoga County, Ohio	11%	33.5
Lake County, Ohio	8.3%	25.3%

Source: U.S. Census Bureau, American Community Survey 2013 5-year Estimates (Table: S1701)

TABLE 33: MOST COMMON* ACS CONDITIONS, BY COUNTY, WHITE VERSUS BLACK DISCHARGES, 2014

Discharges from All Hospitals

	UH Richmond Medical Center Market Area		Cuyahoga County		Lake County	
	White	Black	White	Black	White	Black
Number of discharges:	**24,068**	**21,193**	**110,424**	**68,358**	**26,724**	**1,313**
No ACS Condition as Primary Diagnosis*	84.2%	81.5%	83.5%	81.1%	83.7%	85.2%
ACS Condition as Primary Diagnosis, Total	**15.8%**	**18.5%**	**16.5%**	**18.9%**	**16.3%**	**14.8%**
Congestive Heart Failure (CHF)	3.5%	3.6%	3.1%	3.7%	3.5%	2.6%
Bacterial Pneumonia	2.5%	2.0%	2.3%	2.0%	2.6%	2.4%
Chronic Obstructive Pulmonary Disease (COPD)	1.9%	1.9%	2.2%	1.9%	2.1%	1.4%
Asthma	1.0%	3.1%	1.2%	3.2%	0.8%	2.1%
Cellulitis	1.9%	1.3%	2.5%	1.3%	1.9%	1.4%
Diabetes	0.8%	1.9%	1. 0%	2.0%	1.1%	1.1%
Epilepsy	0.4%	1.0%	0.6%	1.0%	0.5%	0.4%
Kidney/Urinary Infections	2.1%	1.3%	1.9%	1.3%	2.0%	1.7%

**This refers to any ACS condition. Only the most prevalent ACS conditions are shown in the table.*

D. 2015 CHNA Community Leader Survey

KEY HEALTH ISSUES

1. What are the top five (5) health issues you see in your community?

☐ Access to Care/Uninsured
☐ Cancer
☐ Dental Health
☐ Diabetes
☐ Heart Disease
☐ Maternal/Infant Health
☐ Mental Health/Suicide
☐ Overweight/Obesity
☐ Sexually Transmitted Diseases
☐ Stroke
☐ Substance Abuse/Alcohol Use
☐ Tobacco
☐ Other (specify):

2. Of those health issues mentioned, which one (1) is the most significant?

☐ Access to Care/Uninsured
☐ Cancer
☐ Dental Health
☐ Diabetes
☐ Heart Disease
☐ Maternal/Infant Health
☐ Mental Health/Suicide
☐ Overweight/Obesity
☐ Sexually Transmitted Diseases
☐ Stroke
☐ Substance Abuse/Alcohol Use
☐ Tobacco
☐ Other (specify):

3. Please share any additional information regarding these health issues and your reasons for ranking them this way below:

ACCESS TO CARE

4. On a scale of 1 (strongly disagree) through 5 (strongly agree), please rate each of the following statements about Health Care Access in the area.

Residents in the area are able to access a primary care provider when needed (Family Doctor, Pediatrician, General Practitioner)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Residents in the area are able to access a medical specialist when needed (Cardiologist, Dermatologist, Neurologist, etc.)	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Residents in the area are able to access a dentist when needed	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
There is a sufficient number of providers accepting Medicaid in the area	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
There is a sufficient number of bilingual providers in the area	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
There is a sufficient number of mental/behavioral health providers in the area	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
Transportation for medical appointments is available to area residents when needed	☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. What are the most significant barriers that keep people in the community from accessing health care when they need it? (Select all that apply)

☐ Availability of Providers/Appointments
☐ Basic Needs Not Met (Food/Shelter)
☐ Inability to Navigate Health Care System
☐ Inability to Pay Out-of-Pocket Expenses (Copays, Prescriptions, etc.)
☐ Lack of Child Care
☐ Lack of Health Insurance Coverage
☐ Lack of Transportation
☐ Lack of Trust
☐ Language/Cultural Barriers
☐ Time Limitations (Long Wait Times, Limited Offices Hours, Time off Work)
☐ Non/No Barriers
☐ Other (specify):

6. Of those barriers mentioned, which one (1) is the most significant?

☐ Availability of Providers/Appointments
☐ Basic Needs Not Met (Food/Shelter)
☐ Inability to Navigate Health Care System
☐ Inability to Pay Out-of-Pocket Expenses (Copays, Prescriptions, etc.)
☐ Lack of Child Care
☐ Lack of Health Insurance Coverage
☐ Lack of Transportation
☐ Lack of Trust
☐ Language/Cultural Barriers
☐ Time Limitations (Long Wait Times, Limited Offices Hours, Time off Work)
☐ Non/No Barriers
☐ Other (specify):

7. Please share any additional information regarding barriers to health care below:

8. Are there specific populations in this community that you think are not being adequately served by local health services?

___ Yes ___ No

9. If yes, which populations are underserved? (Select all that apply)

☐ Uninsured/Underinsured
☐ Low-income/Poor
☐ Hispanic/Latino
☐ Black/African-American
☐ Immigrant/Refugee
☐ Disabled
☐ Children/Youth
☐ Young Adults
☐ Seniors/Aging/Elderly
☐ Homeless
☐ None
☐ Other (specify):

10. In general, where do you think MOST uninsured and underinsured individuals living in the area go when they are in need of medical care? (Choose one)

☐ Doctor's Office
☐ Health Clinic/FQHC
☐ Hospital Emergency Department
☐ Walk-in/Urgent Care Center
☐ Don't Know
☐ Other (specify):

11. Please share any additional information regarding uninsured/underinsured individuals and underserved populations below:

12. Related to health and quality of life, what resources or services do you think are missing in the community? (Select all that apply)

☐ Free/Low-Cost Medical Care
☐ Free/Low-Cost Dental Care
☐ Primary Care Providers
☐ Medical Specialists
☐ Mental Health Services
☐ Substance Abuse Services
☐ Bilingual Services
☐ Transportation
☐ Prescription Assistance
☐ Health Education/Information/Outreach
☐ Health Screenings
☐ None
☐ Other (specify):

CHALLENGES & SOLUTIONS

13. What challenges do people in the community face in trying to maintain healthy lifestyles like exercising and eating healthy and/or trying to manage chronic conditions like diabetes or heart disease?

14. In your opinion, what is being done well in the community in terms of health and quality of life?

15. What recommendations or suggestions do you have to improve health and quality of life in the community?

CLOSING

Please answer the following demographic questions.

16. Name and Contact Information

Name: _____

Title: _____

Organization: _____

Email Address: _____

Phone Number: _____

17. Which one of these categories would you say BEST represents your community affiliation (Choose one):

☐ Health Care/Public Health Organization
☐ Mental/Behavioral Health Organization
☐ Nonprofit/Social Services/Aging Services
☐ Faith-Based/Cultural Organization
☐ Education/Youth Services
☐ Government/Housing/Transportation Sector
☐ Business Sector
☐ Community Member
☐ Other (specify):

18. What is your gender? ___ Male ___ Female

19. Which one of these groups would you say BEST represents your race/ethnicity?

☐ White/Caucasian
☐ Black/African-American
☐ Hispanic/Latino
☐ Asian/Pacific Islander
☐ Other (specify):

20. University Hospitals will be using the information gathered through these surveys to develop a community health implementation plan. Please share any other feedback you may have for them below:

E. 2015 CHNA Community Leader Interview Guide

Community Health Needs Assessment Survey Questions

Name: _____

Organization: _____

Title: _____

Date: _____

Do we have your permission to list your name in the report? _____

Questions:

1. Briefly describe the services your organization offers, and the population you serve.

2. Are your services targeted toward a particular geographical area (city, ZIP code, school, etc.)? Are they county-wide?

3. In your opinion, what is the biggest issue or concern facing the people served by your agency/in your community? In surrounding counties? Particular age groups (0 – 17, 18 – 44, 45 – 65, 65+)?
(Note: If not health care related, what is biggest health care related issue or concern?)

4. Please share any trends seen in the following areas (and where, geographically they are occurring):

a. Demographic – changes in the size, age, racial/ethnic diversity, or other characteristics of the population (particularly those who are "vulnerable")

b. Economic variables – their impact on health

c. Provider community – physicians, hospitals – who is taking care of the poor?

d. Health status/public health indicators (what illnesses/needs/issues are getting worse or better? Why?)

e. Access to care – why?

5. If residents are leaving the community to receive certain services, what services are not accessible locally? Why do residents need to travel for care? Are people entering the county for services? Why/from where? Particular age groups (0 – 17, 18 – 44, 45 – 65, 65+)?

6. Please discuss the kinds of problems that the people served by your agency (by community agencies) have in accessing health care, mental and behavioral health, and/or social services for themselves and/or their families?
(Prompt: In answering this question you may wish to consider the following problems – language barriers, transportation, no health insurance, lack of information on available resources, delays in getting needed care, economic constraints, and/or dissatisfaction with treatment.)

7. What are the community organizations/assets that are or could be working to address these needs?

8. Is there capacity within your organization to serve additional clients? If not, what are the biggest barrier(s) impacting your ability to increase capacity?

9. What role do you see the hospital(s) in your area currently playing to help address the community health issues faced by the low-income people who live here?

What role do you think the hospitals in your area should play?

10. If resources were not a concern, what specific initiative(s) would you recommend to address the most pressing access or health status problems in the community? Why?

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