University Hospitals
Case Medical Center





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 Case Medical Center ("UH Case Medical Center"). UH Case Medical Center is a 1,032-bed tertiary medical center specializing in adult and pediatric medical and surgical specialties. It is also the primary affiliate of Case Western Reserve University.

This academic medical center is the central campus of University Hospitals and includes UH MacDonald Women's Hospital, the only women's hospital in the state of Ohio, UH Rainbow Babies & Children's Hospital, a nationally ranked pediatric hospital, and UH Seidman Cancer Center, the only freestanding cancer hospital in northern Ohio.

UH Case Medical Center offers myriad programs and activities to address the surrounding community health needs. These range from physician visit programs for homebound seniors and support groups and education for minority populations, to high-risk pregnancy prevention programs and sickle cell treatment and research programs.

UH Case 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 community served by UH Case Medical Center in accordance with regulations promulgated by the Internal Revenue . This CHNA was adopted by the UH Board of Directors on September 24, 2015.

This is the second UH Case Medical Center CHNA in response to that federal government regulation.[1] The 2015 UH Case 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 Case Medical Center CHNA took into account input from persons representing the broad interests of the community through both a randomized mail survey of households in market area counties, a series of focus groups with City of Cleveland Residents and community leaders, and a series of mail surveys and in-person interviews with community leaders. Community leaders from the Cuyahoga County Board of Health and Cleveland Department of Public 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 Case 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 Case 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 pulished by the IRS on December 31, 2014, and requires compliance after December 29, 2015.

UH Case Medical Center by the Numbers

- 8 Primary Service Area Counties: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, Summit
- 7 Secondary Service Area Counties: Ashland, Erie, Huron, Mahoning, Stark, Trumbull, Wayne
- Service Area Population, 2013: 3,987,639
- 31.7% of population resides in Cuyahoga County
- 94% of patient discharges originate from the Primary Service Area, 71% from Cuyahoga County
- Significant concentration of 65+ population in certain Cuyahoga ZIP codes
- 39.4% of discharges were Medicare patients; 31.2% were Medicaid patients
- The county with the highest proportion of Medicaid patients was Cuyahoga (38.3%)
- The proportion of economically vulnerable residents in many counties in UH Case Medical Center's market areas increased from 2010 to 2013
- 63.9% of population in Cuyahoga County is White; 29.7% is Black
  - In the Greater University Circle area, 42.9% of population is White; 49.4% is Black
  - In the Greater University Circle area, 24.5% of the White population lives below the poverty line; 44.1% of the Black population lives in poverty
- There exists a wide range of health status and access challenges across the community

This assessment focuses on the most priority problems that impact the overall health of the community.

UH Case Medical Center's service area extends into eight primary service area counties: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit, and seven secondary service area counties: Ashland, Erie, Huron, Mahoning, Stark, Trumbull and Wayne. Key findings from analyses of the primary service area counties 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.

While the basic demography in Cuyahoga County did not see significant changes from 2010 to 2013, the economic situations for many residents did. Within most market area counties, average incomes declined. The proportion of economically vulnerable residents in many counties in UH Case Medical Center's market areas increased from 2010 to 2013. For most counties in UH Case Medical Center's primary and secondary market areas, the proportion of households with children living under the poverty line increased from 2010 to 2013. Likewise, the proportion of all people living under the poverty line also increased during that time. The largest shifts in the hospital's primary market area in these occurred in Cuyahoga and Portage counties.

For UH Case Medical Center, 12.8% of adult discharges were found to be ACS or potentially preventable if patients are accessing primary care resources at optimal rates. The most common primary ACS diagnoses for UH Case Medical Center's discharged patients in 2013 were congestive heart failure (2.9%) and bacterial pneumonia (1.3%). Almost one-fourth (22.6%) of discharged patients in 2013 were diabetic and almost one in two (42.7%) had a primary or secondary diagnosis of hypertension.

In all counties that contain a significant urban area in Ohio, the incidence of ACS cases is higher among Black discharged patients than White discharged patients. In Cuyahoga County, where UH Case Medical Center is located, 2.4% more Black discharged patients were admitted with a primary ACS diagnosis compared to White discharged patients. This may signal an issue with inadequate access to primary care among Blacks as compared to Whites.

The UH Case Medical Center service area has many access issues. Many ZIP codes in UH Case Medical Centers service area have been designated as Medically Underserved Areas or Medically Underserved Populations, having insufficient primary care providers, a high infant mortality rate, high poverty or a high elderly population.

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 morbidity and mortality.

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

1. Health Disparities

2. Access Barriers

3. Lifestyle Barriers

4. Chronic Disease Conditions

Priorities were determined based on specific criteria and on feedback from external community leaders, as described in the Qualitative Data Analysis section of this report.

Within these four categories of needs fall numerous health needs that were identified through this CHNA. They include:

1. Health Disparities
   - Equity
   - Poverty
   - Education
   - Unemployment
   - Aging population
   - Violence/safety
   - Infant mortality
2. Access Barriers
   - Cost of care
   - Transportation barriers
   - Poor access to mental health and primary care
     - High ED utilization
     - Health Literacy
     - Lack of resources
3. Lifestyle Barriers
   - Obesity
   - Nutrition
   - Smoking
   - Physical Activity
4. Chronic Disease Conditions
   - Alzheimer's
   - Cancer
   - Diabetes
   - Digestive Diseases
   - Heart Disease
   - Respiratory Diseases
   - Mental illness

CHNA Collaboration

UH Case 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. 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 Case Medical Center is located in Cuyahoga County, within the City of Cleveland and the Greater University Circle neighborhood. University Circle is a cultural enclave boasting museums and institutions including the Cleveland Museum of Art, Severance Hall, the Cleveland Institute of Music, and Case Western Reserve University. Greater University Circle includes portions of Cleveland's Fairfax, Wade Park-Glenville, Hough, Little Italy, and Buckeye-Shaker neighborhoods.

As shown in Figure 1: UH Case Medical Center Market Areas, UH Case Medical Center's market area includes 15 counties and 268 municipalities in Northeast Ohio (152 in its primary market area, 116 in its secondary market area). A strong majority of 2013 discharges (94%) were residents of the hospital's primary market area, which includes all of Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit counties, illustrated in Table 1: UH Case Medical Center: Hospital Discharges – Primary and Secondary Market Areas. A comprehensive list of all ZIP codes included in UH Case Medical Center's market area, along with their 2013 discharge numbers, is shown in the Appendix.

In terms of population, the largest county in UH Case Medical Center's market area is Cuyahoga, which contains 31.7% of the population within the hospital's market area. In 2013, 71% of UH Case Medical Center's discharges were residents of Cuyahoga County. Lake County was home to 5.9% of UH Case Medical Center's discharges that same year.

Shown in Table 2: UH Case Medical Center: Emergency Room Visits – Primary and Secondary Market Areas, in 2014, UH Case Medical Center had 54,817 visits to the emergency room; 97.2% were residents from the hospital's primary market area, and 1% were residents from its secondary market area. Only 1.8% resided outside of the hospital's market area.

County Health Rankings

The Robert Wood Johnson Foundation produces an annual report that 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: UH Case Medical Center County Health Rankings: Health Outcomes, identifies the rank of UH Case Medical Center's market area counties.

For health outcomes, Geauga and Medina counties rank among the highest in Ohio in terms of both length and quality of life. In contrast, Ashtabula, Mahoning and Trumbull counties rank among the lowest on those measures.

Cuyahoga County, where UH Case Medical Center is located and where the bulk of its inpatient and emergency room patients live, ranks 'in the middle' (51 out of 88 counties) in terms of length of life and near the bottom in terms of quality of life (72 out of 88 counties) in Ohio.

Regarding health factors, as shown in Table 4: UH Case Medical Center County Health Rankings: Health Factors, Geauga, Lake and Medina counties all rank among the highest in Ohio in terms of health behaviors, clinical care and social/economic factors. No county in UH Case Medical Center's primary market area ranks high in Ohio in terms of physical environment. Ashtabula County ranks relatively poorly in terms of all health factor measures.

In UH Case Medical Center's secondary market area, Wayne County achieves high ranks for health behaviors (five out of 88 counties) and social/economic factors (18 out of 88 counties). For health behaviors, Huron County ranks among the weakest in the state (84 out of 88 counties). Among counties in the secondary market, Trumbull County ranks the weakest in terms of clinical care (59). Mahoning County ranks lowest (within UH Case Medical Center's secondary market) in terms of both social/economic factors (71 of 88) and physical environment (85 of 88).

To better identify areas of greatest need within these market area counties, 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), which identified several areas in which counties compare unfavorably in terms of the more prevalent mortalities to their peer counties (which closely match each county in terms of demographic and physical factors).

Table 5: UH Case Medical Center Primary Service Area, Mortality and Table 6: UH Case Medical Center Secondary Service Area, Mortality show the most recent (2012) mortality rates for various disease states and/or unfavorable health conditions. Shaded areas in these tables note where each county compares unfavorably to its peer counties across the U.S.

FIGURE 1: UH CASE MEDICAL CENTER MARKET AREAS

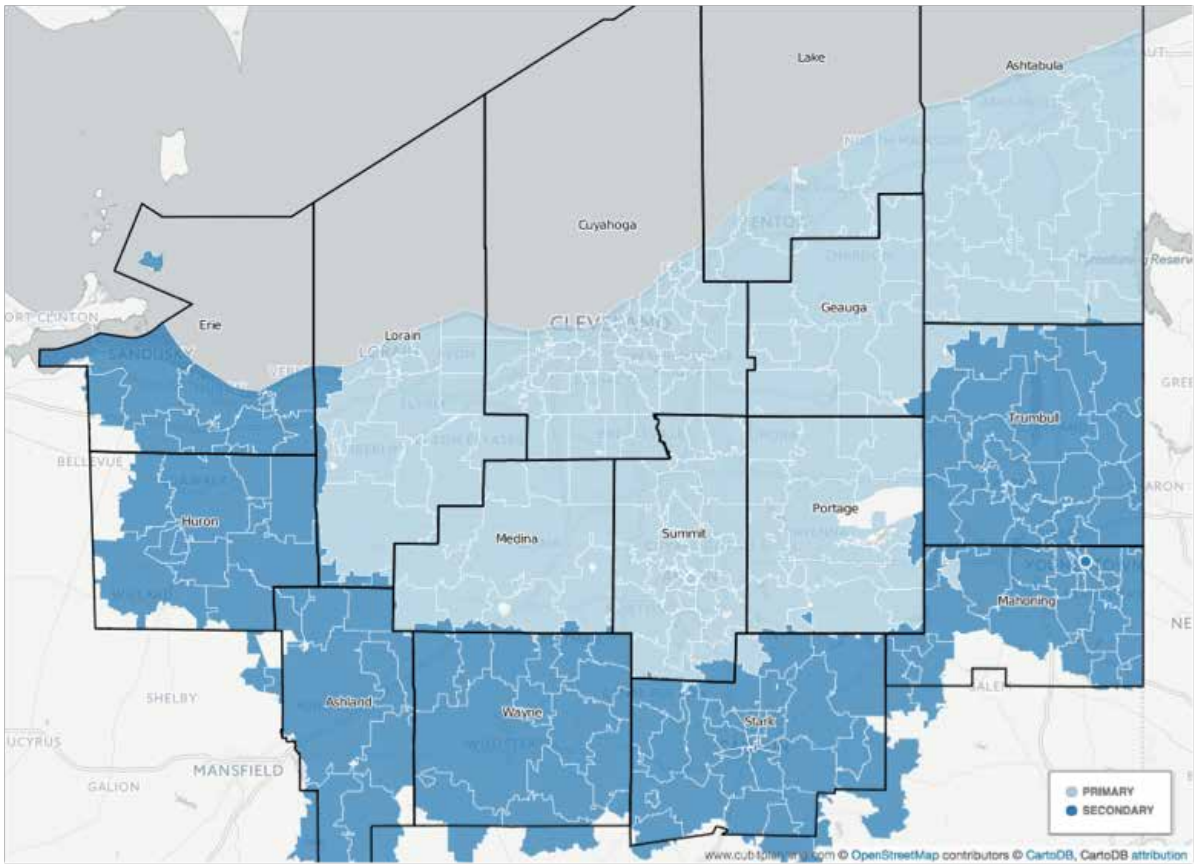


TABLE 1: UH CASE MEDICAL CENTER: HOSPITAL DISCHARGES – PRIMARY AND SECONDARY MARKET AREAS

Geography	Number of UH Case Medical Center Discharges (2013)	Percent of UH Case Medical Center Hospital Discharges* (2013)	2013 Population (American Community Survey, U.S. Census Projection)**	Percent of Market Area
Primary Market Area	**Number**	**Percent**	**Number**	**Percent**
Ashtabula	1,400	4.0%	99,779	2.5%
Cuyahoga	24,627	71.0%	1,263,837	31.7%
Geauga	790	2.3%	94,059	2.4%
Lake	2,053	5.9%	229,634	5.8%
Lorain	1,292	3.7%	303,006	7.6%
Medina	536	1.5%	174,792	4.4%
Portage	653	1.9%	161,423	4.0%
Summit	1,281	3.7%	541,787	13.6%
Subtotal Primary Market	**32,632**	**94.0%**	**2,868,317**	**71.9%**
Secondary Market Area				
Ashland	38	0.1%	53,117	1.3%
Erie	196	0.6%	76,134	1.9%
Huron	87	0.3%	58,889	1.5%
Mahoning	377	1.1%	234,336	5.9%
Stark	431	1.2%	375,222	9.4%
Trumbull	815	2.4%	206,480	5.2%
Wayne	103	0.3%	115,144	2.9%
Subtotal Secondary Market	**2,047**	**6.0%**	**1,119,322**	**28.1%**
Total	**34,679**		**3,987,639**	

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

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

Geography	Number of UH Case Medical Center Emergency Room Visits (2014)*		2013 Population **	
Primary Market Area	**Number**	**Percent**	**Number**	**Percent**
Ashtabula	258	0.5%	99,779	2.5%
Cuyahoga	50,297	91.8%	1,263,837	31.7%
Geauga	265	0.5%	94,059	2.4%
Lake	909	1.7%	229,634	5.8%
Lorain	532	1.0%	303,006	7.6%
Medina	193	0.4%	174,792	4.4%
Portage	285	0.5%	161,423	4.0%
Summit	531	1.0%	541,787	13.6%
Subtotal Primary Market	**53,270**	**97.2%**	**2,868,317**	**71.9%**
Secondary Market Area				
Ashland	13	0.0%	53,117	1.3%
Erie	46	0.1%	76,134	1.9%
Huron	28	0.1%	58,889	1.5%
Mahoning	116	0.2%	234,336	5.9%
Stark	122	0.2%	375,222	9.4%
Trumbull	185	0.3%	206,480	5.2%
Wayne	25	0.0%	115,144	2.9%
Subtotal Secondary Market	**535**	**1.0%**	**1,119,322**	**28.1%**
Other Market	1,012	1.8%		
Total	**54,817**		**3,987,639**	

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

TABLE 3: UH CASE MEDICAL CENTER COUNTY HEALTH RANKINGS: HEALTH OUTCOMES

	Length of Life		Quality of Life	
County	**Z-Score****	**Rank***	**Z-Score****	**Rank***
Ashtabula	0.41	71	0.14	57
Cuyahoga	0.07	51	0.35	72
Geauga	-0.91	3	-0.75	2
Lake	-0.49	15	-0.24	29
Lorain	-0.26	31	-0.18	30
Medina	-0.86	4	-0.53	5
Portage	-0.47	16	-0.31	22
Summit	-0.10	40	0.08	53
Ashland	-0.26	30	-0.28	24
Erie	-0.12	38	0.45	79
Huron	-0.08	43	-0.15	32
Mahoning	0.39	70	0.24	64
Stark	-0.12	39	0.08	52
Trumbull	0.42	73	0.35	71
Wayne	-0.40	20	-0.48	9

Source: County Health Rankings & Roadmaps; Robert Wood Johnson Foundation program, 2015.
**Rank is out of 88 counties in Ohio. A score of 1 designates the county in Ohio which has the most favorable measure.*
***Z-score is a measure of how each county compares to the average of all Ohio counties. It is calculated for each measure for each county: (Measure - Average of state counties)/(Standard Deviation). A strong negative Z-score (closer to -1) is associated with that county having a relatively favorable measure.*

TABLE 4: UH CASE MEDICAL CENTER COUNTY HEALTH RANKINGS: HEALTH FACTORS

	Health Behaviors		Clinical Care		Social and Economic Factors		Physical Environment	
County	**Z-Score****	**Rank***	**Z-Score****	**Rank***	**Z-Score****	**Rank***	**Z-Score****	**Rank***
Ashtabula	0.20	77	0.11	67	0.29	77	0.04	76
Cuyahoga	-0.05	36	-0.16	6	0.29	78	0.02	68
Geauga	-0.38	3	-0.13	9	-0.37	8	0.02	61
Lake	-0.23	9	-0.08	25	-0.21	15	0.01	58
Lorain	-0.04	37	-0.05	31	0.04	51	0.02	63
Medina	-0.34	4	-0.17	5	-0.42	7	0.03	70
Portage	-0.08	28	-0.04	37	-0.14	28	0.05	81
Summit	-0.10	21	-0.09	24	0.00	48	0.05	82
Ashland	-0.14	16	-0.10	18	-0.18	24	0.02	66
Erie	-0.08	27	-0.13	12	-0.02	45	0.00	45
Huron	0.28	84	-0.02	49	0.13	57	-0.01	41
Mahoning	0.01	53	-0.12	14	0.21	71	0.05	85
Stark	-0.03	40	-0.13	10	0.00	47	0.04	80
Trumbull	0.15	70	0.04	59	0.26	75	0.04	79
Wayne	-0.32	5	-0.04	35	-0.21	18	0.01	51

Source: County Health Rankings & Roadmaps; Robert Wood Johnson Foundation program, 2015.
**Rank is out of 88 counties in Ohio. A score of 1 designates the county in Ohio which has the most favorable measure.*
***Z-score is a measure of how each county compares to the average of all Ohio counties. It is calculated for each measure for each county: (Measure - Average of state counties)/(Standard Deviation). A strong negative Z-score (closer to -1) is associated with that county having a relatively favorable measure.*

TABLE 5: UH CASE MEDICAL CENTER PRIMARY SERVICE AREA, MORTALITY
(NUMBERS ARE PER 100,000 PERSONS, UNLESS OTHERWISE NOTED)

Indicator	U.S. Median	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit
All Cancer Deaths	185.0	214.0	196.1	160.6	189.8	190.3	170.0	190.2	190.8
Coronary Heart Disease Deaths	126.7	171.8	151.3	108.8	144.3	131.7	125.0	123.6	113.6
Stroke Deaths	46.0	42.7	38.7	35.7	40.3	40.3	33.6	41.8	44.8
Unintentional Injuries (Including motor vehicle Injuries)	50.8	45.6	32.1	31.6	32.9	29.0	31.2	32.3	34.1
Births to Women 15 to 19 (per 1,000)	42.1	43.1	39.3	9.9	21.3	33.8	16.2	15.9	32.9
Premature Births	12.1%	12.1%	14.4%	9.7%	11.2%	11.7%	11.2%	11.8%	13.6%
Alzheimer's Disease Deaths	27.3	21.7	22.0	19.1	29.0	34.6	33.3	23.9	28.0
Chronic Kidney Disease Deaths	17.5	15.6	15.0	8.4	10.4	14.8	11.4	13.0	14.9
Chronic Lower Respiratory Deaths	49.6	56.8	40.4	37.7	47.9	58.5	44.2	48.8	53.2
Diabetes Deaths	24.7	31.8	23.1	20.5	24.3	25.6	22.9	22.6	24.2
Violent Crime (per 100,000 persons)	199.2	139.9	559.7	38.4	203.2	225.6	95.8	84.8	405.6

Source: CDC, 2012

TABLE 6: UH CASE MEDICAL CENTER SECONDARY SERVICE AREA, MORTALITY
(NUMBERS ARE PER 100,000 PERSONS, UNLESS OTHERWISE NOTED)

Indicator	U.S. Median	Ashland	Erie	Huron	Mahoning	Stark	Trumbull	Wayne
All Cancer Deaths	185.0	184.8	197.1	198.2	196.1	183.9	196.8	178.3
Coronary Heart Disease Deaths	126.7	145.2	130.2	143.7	143.4	129.0	134.4	132.5
Stroke Deaths	46.0	41.4	34.6	40.5	47.8	43.5	51.8	45.7
Unintentional Injuries (including motor vehicle Injuries)	50.8	39.6	36.6	46.5	41.7	37.1	48.5	42.1
Births to Women 15 to 19 (per 1,000)	42.1	22.9	37.1	43.1	38.0	33.5	36.3	24.5
Premature Births	12.1%	9.8%	13.0%	10.6%	13.8%	12.0%	11.8%	10.3%
Alzheimer's Disease Deaths	27.3	44.9	45.4	8.2	25.2	27.3	26.4	27.8
Chronic Kidney Disease Deaths	17.5	10.3	11.1	10.7	19.5	14.0	17.7	13.6
Chronic Lower Respiratory Deaths	49.6	45.0	62.6	56.1	42.1	49.2	48.4	52.6
Diabetes Deaths	24.7	31.5	31.9	34.1	26.0	27.5	26.9	30.9
Violent Crime (per 100,000 persons)	199.2	63.2	244.6	40.7	346.5	297.1	244.2	90.9

Source: CDC, 2012

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 Case Medical Center community.

Primary Data

There were three main sources of primary data:

A. Survey Data

- UH Case Medical Center's primary market area contains eight counties in Northeast Ohio: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage and Summit counties. UH Case Medical Center's secondary market area contains seven other Northeast Ohio Counties: Ashland, Erie, Huron, Mahoning, Stark, Trumbull and Wayne counties. Various mail surveys of adults, youth (ages 12 to 18) and parents of young children (ages 0 to 11) were conducted in some of those counties at various points in time from 2011 to 2015. These surveys provide behavioral and attitudinal data for populations within many of the counties served by UH Case Medical Center. Survey data are available for the counties and populations as listed in Table 7: Availability of County-Based Community Member Survey Data.

- Hospital Discharge Data
  - Discharge data from the Ohio Hospital Association was used to describe hospital admission patterns for UH Case Medical Center from 2011 to 2013.
- Qualitative Data
  - Three focus groups were hosted in May 2015. 26 community agency leaders participated, as did 28 community residents.
  - Interviews were conducted with two public health leaders and two social service agency leaders.
  - A mailed survey was sent to 28 community leaders from organizations that serve the populations in the hospital's service area. 24 responses to the survey were received.

TABLE 7: AVAILABILITY OF COUNTY-BASED COMMUNITY MEMBER SURVEY DATA

	Child (0 – 11)	Youth (12 – 18)	Adult
Ashtabula (2011)		Yes	Yes
Cuyahoga (2012)			Yes
Geauga (2011)	Yes	Yes	Yes
Lake (2014)		Yes	
Lorain (2011)		Yes	Yes
Medina (2012)	Yes	Yes	Yes
Portage (2015)	Yes		Yes

Qualitative Data Analysis Summary

From January 2015 – July 2015, UH Case Medical Center, in collaboration with UH Rainbow Babies & Children's Hospital, UH Regional Hospitals, UH Parma Medical Center and UH Ahuja Medical Center, solicited the input of individuals who represent the broad interests of the community and individuals in leadership roles in public health. This included a series of focus groups, interviews and mail surveys.

Focus Groups

On May 21, 2015, UH commissioned a qualitative research study that included: (1) One 90-minute focus group with a total of 26 community agency leaders and staff, representing health care services, social services, religious organizations, government agencies and others, and (2) Two 90-minute focus groups with a total of 28 community residents selected at random from specific ZIP codes in the Greater University Circle area. The focus groups were facilitated by an independent moderator, audio-recorded and transcribed.

Community resident participants reflected a mix of ages, from 21 to 64. In total, 61% were female, 39% male. The majority (81%) were African-American; 15% self-classified as White, and 4% as Other. Participants reported a wide range of educational backgrounds and represented 10 ZIP codes from the community

Participating community agency leaders are identified in the chart below.

Community residents and community agency representatives who participated in the focus groups identified a wide range of challenges to the health and general well-being of community residents.

Name			Title	Agency
Mr.	Chuck	Ackerman	Associate Director	Famicos
Ms.	Janean	Aikens	Community Engagement Coordinator	St. Clair Superior Development Corporation
Ms.	Deborah	Aloshen	Head of Nursing	Cleveland Metropolitan School District
Mr.	Jerome	Baker	Community Engagement Supervisor	YWCA
Dr.	David	Bass	VP for Research/Senior Research Scientist II	Benjamin Rose Institute on Aging
Ms.	Maria	Campanelli	Executive Director	The Children's Museum of Cleveland
Ms.	Carrie	Clark	Executive Director	MedWorks
Ms.	Susan	Conover	Manager of WIC Operations	WIC
Ms.	Valeria	David		Moms First/City of Cleveland, Dept. of Public Health
Mr.	William	Denihan	Chief Executive Officer	ADAMHS Board Cuyahoga County
Ms.	Lisa	Fiorilli	Breastfeeding Coordinator	WIC
Ms.	Michelle	Hall	RN Case Manager	Caresource
Mr.	Neal	Hodges	Community Network Builder	Neighborhood Connections
Minister	R. L.	Jones	Minister	Mt. Hermon Baptist Church
Ms.	Linda	Kimble	Executive Director	Minority Organ/Tissue Transplant Educ. Program
Mr.	Jeffrey	Lox	Chief Clinical Officer	Wingspan/Bellefaire JCB/Applewood
Ms.	Jackie	Matloub	Research Associate	CWRU-Family Medicine & Community Health
Ms.	Caitlin	McDermott	Director, Annual Fund & Special Events	St. Martin De Porres High School
Mr.	Ryan	Miday	Vice President, Government Relations	The Centers for Family and Children
Ms.	Sondra	Miller	President & CEO	Cleveland Rape Crisis Center
Ms.	Sherita	Mullins	Manager of Social Enterprises	Burten, Bell, Carr Development, Inc.
Ms.	Alisa	Powell	Director of Programs and Services	Ronald McDonald House of Cleveland
Ms.	Tiffanie M.	Riggs	Community Outreach	Molina Healthcare of Ohio, Inc.
Mr.	Ron	Soeder	President	Boys & Girls Clubs of Cleveland
Ms.	Millette	Tucker	Assistant Principal	Stepstone Academy
Ms.	Tatiana	Wells	Promise Early Learning Navigator	Starting Point

The issues that elicited the strongest concern and greatest amount of focus across some or all of the focus groups include:

1. Access to health care services, particularly primary care, urgent care, mental health services, children's physical/ mental health services and dental health.
2. Access to resources that facilitate positive health and well-being, such as affordable healthy foods, support services for seniors and a one-stop-shopping directory of available resources.
3. Aspects of the community environment that affect health and well-being, including violence/safety, housing, and workforce- and unemployment-related issues.
4. Barriers: cultural stigma associated with the use of preventive, behavioral health, HIV/AIDS, cancer care and other services; lack of awareness of available services and how to access them; lack of extended-hour services; and transportation.

Community residents identified a wide range of personal, household and community health challenges. Based on the frequency of mention and the detail provided, the key issues they identified as affecting themselves and the community included:

1. Cost of health care
2. Access to health care and supportive services
3. Children's health
4. Senior health
5. Nutrition/access to healthy food
6. Community safety
7. Stigma

Community residents reported that access to and use of health care services are challenged by high/unaffordable costs in several respects including the cost of health insurance, the cost of medications, and the cost of services. They also expressed a lack of understanding in the community about available health care resources and how to access them.

Gaps also were identified with respect to:

- The continuum of mental health services: for children, and for those leaving residential treatment programs.
- Long wait times to obtain an appointment for certain services.
- "Second class" treatment of community residents in some of the local clinics, leading to mistrust of the system.
- Lack of clinical care (primary and specialty) resources in the immediate community.

Both children's health issues and senior's health issues were of concern to the community residents. Participants associated children's health and well-being issues with the settings in which children spend their time. In the family setting, there are generational changes in family dynamics, challenging economics of healthy eating at home, and challenges to parents' ability to model healthy lifestyles.

In the schools, there is poor nutrition in school cafeterias; decreasing/minimal time for recess, gym and fitness; limited health education; and peer pressure for unhealthy behaviors. In the broader community, children face earlier and more frequent exposure to violence, drug and alcohol abuse and other negative lifestyles. They lack safe environments and programs for indoor and outdoor recreation.

Finally, in the health system, there is a lack of resources/ difficulty identifying resources to aid in early diagnosis of children's health conditions, including mental and physical health issues; difficulty identifying supportive resources for children with conditions such as autism and ADHD; and physician hours that do not synch with parents' schedules.

At the opposite end of the spectrum, focus group participants felt there was insufficient investment in the health and well-being of seniors in their community. A huge barrier is a lack of free or low-cost transportation.

Community residents noted several challenges in maintaining a healthy lifestyle by making healthy food choices. Fresh produce is scarce and expensive, and there is a lack of availability of healthy options in local stores. Childhood obesity is a huge concern.

Violence was also a key discussion point for community residents. Many community residents are reluctant to venture outside in their community, or to send their children out to play, especially on dark evenings, due to potential violence, illegal drug transactions/use in the open and other concerns.

Community agency participants identified a range of key health and wellness concerns affecting residents of the community:

1. Violence
2. Mental health
3. Prevention/early detection
4. Well-being: Nutrition and exercise
5. Housing
6. Dental health
7. Access
8. Workforce
9. Inter-agency coordination

Violence at various levels – in the home, on the streets, and in other communities – was identified as the underlying cause of a considerable unserved need with respect to mental health services. Agency leaders were particularly focused on the impact of violence in children. They further identified considerable mental health needs affecting the community, beyond those related to violence. These included trauma and chronic stress, depression, the autism "epidemic," youth transition out of foster care, dementia and other mental health issues affecting seniors, lack of integration of mental health within physical health services, and lack of follow-up and continuing services.

Agency leaders identified the need to move the community from a focus on only interventional care to a focus on prevention and wellness. Challenges to this include over-reliance on the emergency department; limited availability of clinics in public schools; shortage of primary care providers in the community; lack of funding for prevention and wellness services; and limited access to care managers for those with chronic conditions.

Participating agency leaders voiced several challenges that echoed the sentiments of community residents. These included challenges related to healthy eating, safety considerations outside the home/violence, housing and infrastructure issues, lack of dental care, and a host of challenges relating to health care access.

Public Health Interviews

Toinette Parrilla – Cleveland Department of Public Health

Cleveland Department of Public Health (CDPH) Director, Toinette Parrilla, was interviewed on June 26, 2015. CDPH serves the 400,000 residents of the City of Cleveland and provides supplementary services to the broader populations of Cuyahoga County. Within CDPH, there are three primary divisions: (1) Health, which is focused on emergency preparedness, HIV/AIDS prevention and treatment, housing, behavioral health, mental health, substance abuse, nursing services, infant mortality, women's health, immunizations, and health/wellness initiatives; (2) Environment, which focuses on licensing and inspecting 20 different types of establishments, nuisance control and issues related to lead; and (3) Air Quality, which provides services for all of Cuyahoga County related to enforcement, engineering, permitting, asbestos, toxins and emissions. CDPH also has a robust epidemiology department and oversees the Department of Vital Statistics.

Director Parrilla described the greatest health issues she believes residents of the City of Cleveland currently face. She listed the primary concerns for the youngest portion of the population, aged 0 – 17 years as, lack of reproductive health services; needing a better understanding of what health and wellness is; lack of education on healthy lifestyles; poor nutrition; high rates of childhood obesity; and high rates of lead poisoning.

In the young adult category, ages 18 – 44, Director Parrilla placed infant mortality at the top of the list of health issues. She also listed high rates of STDs/HIV/AIDS; youth violence; mental health issues; and substance abuse issues.

For ages 45 – 65, Director Parrilla noted issues of obesity; hypertension; COPD; cardiovascular disease; diabetes; lack of healthy eating/active living lifestyles; mental health issues; and drug abuse, particularly with heroin.

Director Parrilla identified several health issues that impact the senior population, aged 65+ including chronic conditions based on lifestyle; mental health issues; and substance abuse issues.

The population served by CDPH is predominantly comprised of minorities including African-Americans, Latinos and Asians. This population is largely impoverished. In fact, 100% of children in the Cleveland Municipal School District receive free breakfast and lunch at school. Director Parrilla noted that there are significant issues related to structural racism and minority health disparities that plague the population. A good example is the vast number of food deserts found throughout the city, driving countless health issues related to poor nutrition.

Director Parrilla cited several public health indicators that illustrate the severe health disparities that impact the population of the City of Cleveland. She noted that infant mortality rates (particularly for the African-American population) are among the worst in the country. Director Parrilla believes a key driver to this issue is the lack of coordination between agencies and providers with services to address this.

Another indicator noted by the Director was continued high rates of lead poisoning. She attributes this to the immense need for abatement and demolition of dilapidated housing stock in the city.

Childhood obesity was also noted as a key health status indicator for the population served by CDPH. It is tied to the issues generally associated with unhealthy neighborhoods, including violence, lack of safety, food deserts, lack of access to health care, poverty and poor nutrition.

Finally, Director Parrilla stated that mental health issues are on the rise in the City of Cleveland. She believes that increased rates of violence are also on the rise as a direct result of the mental health issues faced by residents.

Director Parrilla believes that coordination and collaboration are key to addressing the health needs discussed in her interview. She believes that there are a significantly large number of assets, particularly at Cleveland's anchor institutions, that can work together to impact in areas of need. In order to achieve a collective impact, a coordinated strategic plan is required.

Terry Allan – Cuyahoga County Board of 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 Interviews

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 the 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, (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.

Surveys

Surveys were sent to 28 community leaders from organizations that serve the populations in the hospital's service area. 24 responses to the survey were received. A copy of the survey can be found in Appendix [X].

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

Benjamin Rose Institute on Aging
ADAMHS Board Cuyahoga County
Alzheimers Association
American Cancer Society
American Diabetes Assocation
American Heart Association
Cleveland City Council
Cleveland Council of Black Nurses
Cleveland Department of Public Health
Cleveland Public Library
Commission on Cancer
Cuyahoga County Department of Health
East End Neighborhood House
Fairhill Partners
Medina County Health Department
Mental Health Advocacy Coalition
Mental Health and Recovery Board of Portage County
NAMI Greater Cleveland
Neighborhood Family Practice
NEON
North Coast Health Ministry
Ohio Commission on Minority Health
Portage County Health Department
Susan G. Komen NEO
The Free Medical Clinic of Greater Cleveland
UH Seidman Cancer Center
Upward Bound
Western Reserve Area Agency on Aging

The top six health issues identified by those surveyed were: Cancer, Diabetes, Obesity, Substance Abuse, Access/Insurance and Mental Health. Furthermore, survey participants identified cancer as the most significant health issue in the community.

Moreover, gaps in access to the following services were identified: (1) access to dentists, (2) access to bilingual providers, (3) access to mental/behavioral health providers, and (4) access to transportation.

When asked to identify the most significant barriers that keep people in the community from accessing health care when they need it, the following barriers were prioritized: (1) lack of transportation, (2) inability to pay out-of-pocket expenses (copays, prescriptions, etc.), (3) inability to navigate health care system, (4) time limitations, (5) basic needs are not being met (food/shelter), (6) lack of health insurance coverage, (7) lack of trust, (8) availability of providers/appointments, (9) lack of child care, and (10) language/cultural barriers. When asked to prioritize the most significant of these barriers, a majority of respondents selected inability to pay out of pocket expenses and lack of transportation.

Respondents predominantly agreed that there are specific populations in the UH Case Medical Center service area that are not being adequately served by local health services. The most commonly identified populations included the poor, African-American, uninsured, seniors, homeless, and Hispanic populations. Other populations identified as underserved included immigrants, young adults, disabled individuals and children/youth. Moreover, several participants added their own opinion that the mental health population was underserved.

There was a strong consensus that the majority of uninsured and underinsured individuals in this community use the hospital emergency department as their primary point of care when in need of medical care.

All respondents agreed that there are a number of resources and services related to health and quality of life that are missing in the community. Free/low-cost dental care was the highest ranked missing service that was identified, closely followed by transportation and mental health services. Other identified missing services included free/low-cost medical care, medical specialists, substance abuse services, prescription assistance, health screenings, primary care providers, bilingual services, and health education/info/outreach.

Responses varied when asked what challenges people in the community face in trying to maintain healthy lifestyles. Examples include the expenses of both exercise facilities and healthy food options; violence creating a lack of safe places to exercise within the community; food deserts and lack of quality grocery stores making it difficult to obtain healthy foods; poor education system; and structural racism and health inequity.

Respondents provided several recommendations that may help to improve the health and quality of life in the community. Some recommendations included creating UH van transportation services to help patients travel to appointments; increasing the collaboration between clinical care providers and public health organizations; gaining more community input on issues within the community; continuing education about healthy lifestyles from school-aged kids to seniors; bring educational outreach programs to churches and senior centers; increase the number of patient navigators; community gardens; host free semi-annual health fairs; and have doctors/nurses speak on health issues at quarterly collaborate meetings. The respondents to this survey included leaders from public health organizations, health care organizations, nonprofit organizations, social service agencies, aging services, faith-based organizations, education/youth services and local government.

Secondary Data

There were several sources of secondary data:

A. U.S. Census, 2010 Decennial Census, American Community Survey (projections to 2013) (demographic data; poverty data);

B. U.S. Bureau of Labor Statistics, 2015 (unemployment data);

C. U.S. Health Resources and Services Administration (H RSA) (medically underserved areas and populations and food deserts);

D. Case Western Reserve University, Prevention Research Center for Healthy Neighborhoods (youth survey data for Cuyahoga County)

E. Cleveland Department of Health, Office of Biostatistics (infant mortality data for the City of Cleveland)

F. 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, 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 Case Medical Center's ability to reach reasonable conclusions regarding community health needs.

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

As illustrated in Table 8: UH Case Medical Center Market Area: County Population Trends, Cuyahoga County has, by far, the largest total population (1,259,828) among UH Case Medical Center's market area counties. Second in population size is Summit County with a population of 541,943 in 2014.

Overall, UH Case Medical Center's primary market area saw a slight (-0.5%) decrease in population size from 2010 to 2014. Ashtabula and Cuyahoga Counties showed greater decreases in population size (-2.2% and -1.4%, respectively). Geauga and Lorain Counties both had the biggest population increases (+0.9%).

The hospital's secondary market area saw a larger decrease in population size overall (-1.0%). Among those counties, Mahoning (-2.2%) and Trumbull (-2.2%) showed the largest decreases, and Stark County (+0.1%) and Wayne County (+0.9%) showed the only increases.

UH Case Medical Center's market area saw two significant changes in demographic composition from 2010 to 2014. The first is the age of the population, shown in Table 9: Demographic Trends in UH Case Medical Center's Market Area Counties: by Age. In all counties, the proportion of those ages 65 and over increased (by a minimum of 0.4% to a maximum of 1.8%). While the absolute level of this change is small, it is significant in that the use of health care increases exponentially with age, especially after age 65. Therefore, the aging of the population will have significant impacts on the demand for health care in regions where the proportion of older citizens is increasing.

Shown in Table 10: Demographic Trends in UH Case Medical Center's Market Area Counties: by Race, all counties in UH Case Medical Center's market area are majority White. Cuyahoga (-1.0%), Summit (-0.8%), and Erie (-0.8%) counties showed the largest decreases in the proportion of Whites in the general population between 2010 – 2014.

Table 11: Trends in UH Case Medical Center's Service Areas: by Household Income illustrates that while the basic demography in Cuyahoga County did not see significant changes from 2010 to 2013, the economic situations for many residents did. Within most counties, average incomes declined.

The proportion of economically vulnerable residents in many counties in UH Case Medical Center's market areas increased from 2010 to 2013, shown in Figure 2: Most Economically Vulnerable UH Case Medical Center Market Area Residents.

For most counties in UH Case Medical Center's primary and secondary market areas, the proportion of households with children living under the poverty line increased from 2010 to 2013. Likewise, the proportion of all people living under the poverty line also increased during that time. The largest shifts in the hospital's primary market area in these occurred in Cuyahoga and Portage counties.

Figure 3: Health Insurance Coverage; Market Area Residents shows that the dynamics of market area residents' health insurance status also changed during that time period. While the percent overall with any health coverage stayed about the same in many counties, larger changes were seen in the proportion of people with public coverage, shown in Figure 4: Percent with Public Coverage; Market Area Residents. No county, except Ashtabula and Ashland Counties, saw a reduction in the proportion of residents with public health coverage in 2013 compared to 2010.

Finally, the unemployment rate for UH Case Medical Center's market areas improved significantly from 2010 to 2015, shown in Figure 5: Unemployment Rate. In April of 2015, Lorain County had the highest unemployment rate (6%) within UH Case Medical Center's primary market area, and Huron County had the highest unemployment rate (6.3%) in the secondary market area. The unemployment rate for Ohio overall in April of 2015 was (4.6%) and was (5.4%) for the United States overall.

TABLE 8: UH CASE MEDICAL CENTER MARKET AREA: COUNTY POPULATION TRENDS

Service Area	2010	2011	2012	2013	2014	Five-Year Trend
Primary Market Area						
Ashtabula	101,409	101,101	100,264	99,779	99,175	-2.2%
Cuyahoga	1,278,172	1,269,839	1,265,889	1,263,837	1,259,828	-1.4%
Geauga	93,422	93,403	93,917	94,059	94,295	0.9%
Lake	229,993	229,787	229,365	229,634	229,230	-0.3%
Lorain	301,478	301,932	301,695	303,006	304,216	0.9%
Medina	172,493	173,438	173,704	174,792	176,029	2.0%
Portage	161,355	161,770	161,336	161,423	161,882	0.3%
Summit	541,612	541,111	540,867	541,787	541,943	0.1%
Subtotal Primary Market	**2,879,934**	**2,872,381**	**2,867,037**	**2,868,317**	**2,866,598**	**-0.5%**
Secondary Market Area						
Ashland	53,329	53,288	53,240	53,117	53,035	-0.6%
Erie	77,013	76,662	76,442	76,134	75,828	-1.5%
Huron	59,599	59,431	59,295	58,889	58,714	-1.5%
Mahoning	238,406	237,314	235,787	234,336	233,204	-2.2%
Stark	375,398	374,248	374,844	375,222	375,736	0.1%
Trumbull	209,897	208,991	207,439	206,480	205,175	-2.2%
Wayne	114,501	114,718	114,990	115,144	115,537	0.9%
Subtotal Secondary Market	**1,128,143**	**1,124,652**	**1,122,037**	**1,119,322**	**1,117,229**	**-1.0%**
Total	**4,008,077**	**3,997,033**	**3,989,074**	**3,987,639**	**3,983,827**	**-0.6%**

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

TABLE 9: DEMOGRAPHIC TRENDS IN UH CASE MEDICAL CENTER'S MARKET AREA COUNTIES: BY AGE

		Age Cohort			
		0 to 19	20 to 44	45 to 64	65 and Older
Primary Market Area					
Ashtabula	2010	26.2%	29.6%	28.6%	15.4%
	2013	25.1%	29.2%	29.1%	16.3%
	Percent Change	**-1.1%**	**-0.4%**	**0.5%**	**0.9%**
Cuyahoga	2010	25.6%	31.0%	27.8%	15.4%
	2013	24.6%	31.0%	28.3%	15.8%
	Percent Change	**-1.0%**	**0.0%**	**0.5%**	**0.4%**
Geauga	2010	28.4%	24.9%	31.4%	15.0%
	2013	27.4%	24.2%	31.4%	16.8%
	Percent Change	**-1.0%**	**-0.7%**	**0.0%**	**1.8%**
Lake	2010	24.6%	29.6%	29.8%	15.8%
	2013	23.7%	29.1%	30.0%	17.0%
	Percent Change	**-0.9%**	**-0.5%**	**0.2%**	**1.2%**
Lorain	2010	26.8%	30.5%	28.5%	14.0%
	2013	25.9%	29.8%	28.9%	15.3%
	Percent Change	**-0.9%**	**-0.7%**	**0.4%**	**1.3%**
Medina	2010	27.8%	30.1%	29.1%	12.8%
	2013	26.6%	28.9%	30.1%	14.2%
	Percent Change	**-1.2%**	**-1.2%**	**1.0%**	**1.4%**
Portage	2010	26.0%	33.9%	27.3%	12.6%
	2013	25.3%	33.9%	27.0%	13.5%
	Percent Change	**-0.7%**	**0.0%**	**-0.3%**	**0.9%**
Summit	2010	25.8%	31.3%	28.3%	14.4%
	2013	24.7%	31.0%	28.8%	15.3%
	Percent Change	**-1.1%**	**-0.3%**	**0.5%**	**0.9%**

		Age Cohort			
		0 to 19	20 to 44	45 to 64	65 and Older
Secondary Market Area					
Ashland	2010	27.3%	30.2%	26.5%	15.7%
	2013	26.6%	29.7%	27.1%	16.4%
	Percent Change	**-0.7%**	**-0.5%**	**0.6%**	**0.7%**
Erie	2010	24.4%	27.8%	30.7%	16.9%
	2013	23.5%	27.7%	30.3%	18.3%
	Percent Change	**-0.9%**	**-0.1%**	**-0.4%**	**1.4%**
Huron	2010	28.8%	30.6%	26.9%	13.5%
	2013	27.6%	30.0%	28.0%	14.3%
	Percent Change	**-1.2%**	**-0.6%**	**1.1%**	**0.8%**
Mahoning	2010	24.4%	28.6%	29.1%	17.8%
	2013	23.3%	28.8%	29.5%	18.3%
	Percent Change	**-1.1%**	**0.2%**	**0.4%**	**0.5%**
Stark	2010	25.8%	29.4%	28.5%	16.0%
	2013	24.9%	29.4%	28.7%	16.8%
	Percent Change	**-0.9%**	**0.0%**	**0.2%**	**0.8%**
Trumbull	2010	24.8%	28.6%	29.4%	17.0%
	2013	23.7%	28.1%	29.8%	18.2%
	Percent Change	**-1.1%**	**-0.5%**	**0.4%**	**1.2%**
Wayne	2010	28.8%	30.0%	26.8%	14.2%
	2013	28.2%	29.5%	26.8%	15.3%
	Percent Change	**-0.6%**	**-0.5%**	**0.0%**	**1.1%**

TABLE 10: DEMOGRAPHIC TRENDS IN UH CASE MEDICAL CENTER'S MARKET AREA COUNTIES: BY RACE

		White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race
Primary Service Area Counties:							
Ashtabula	2010	93.1%	3.8%	0.1%	0.1%	0.0%	0.4%
	2013	93.4%	3.5%	0.2%	0.5%	0.0%	0.3%
	Percent Change	**+0.3%**	**-0.3%**	**+0.1%**	**+0.4%**	**0.0%**	**-0.1%**
Cuyahoga	2010	64.9%	29.6%	0.2%	2.6%	0.0%	0.9%
	2013	63.9%	29.7%	0.2%	2.7%	0.0%	1.2%
	Percent Change	**-1.0%**	**+0.1%**	**0.0%**	**+0.1%**	**0.0%**	**+0.3%**
Geauga	2010	97.2%	1.0%	0.1%	0.6%	0.0%	0.1%
	2013	96.9%	1.4%	0.0%	0.6%	0.0%	0.1%
	Percent Change	**-0.3%**	**+0.4%**	**-0.1%**	**0.0%**	**0.0%**	**0.0%**
Lake	2010	93.5%	3.1%	0.1%	1.2%	0.0%	0.6%
	2013	92.9%	3.7%	0.1%	1.2%	0.0%	0.5%
	Percent Change	**-0.6%**	**+0.6%**	**0.0%**	**0.0%**	**0.0%**	**-0.1%**
Lorain	2010	84.7%	8.4%	0.4%	1.0%	0.0%	2.4%
	2013	85.7%	8.2%	0.2%	0.9%	0.1%	1.5%
	Percent Change	**+1.0%**	**-0.2%**	**-0.2%**	**-0.1%**	**+0.1%**	**-0.9%**
Medina	2010	95.9%	1.3%	0.1%	0.9%	0.0%	0.6%
	2013	96.0%	1.3%	0.2%	1.0%	0.0%	0.2%
	Percent Change	**+0.1%**	**0.0%**	**+0.1%**	**+0.1%**	**0.0%**	**-0.4%**
Portage	2010	92.3%	4.0%	0.1%	1.4%	0.0%	0.4%
	2013	91.8%	3.8%	0.0%	1.7%	0.0%	0.3%
	Percent Change	**-0.5%**	**-0.2%**	**-0.1%**	**+0.3%**	**0.0%**	**-0.1%**
Summit	2010	81.0%	14.4%	0.1%	2.1%	0.0%	0.4%
	2013	80.2%	14.2%	0.2%	2.3%	0.0%	0.4%
	Percent Change	**-0.8%**	**-0.2%**	**+0.1%**	**+0.2%**	**0.0%**	**0.0%**

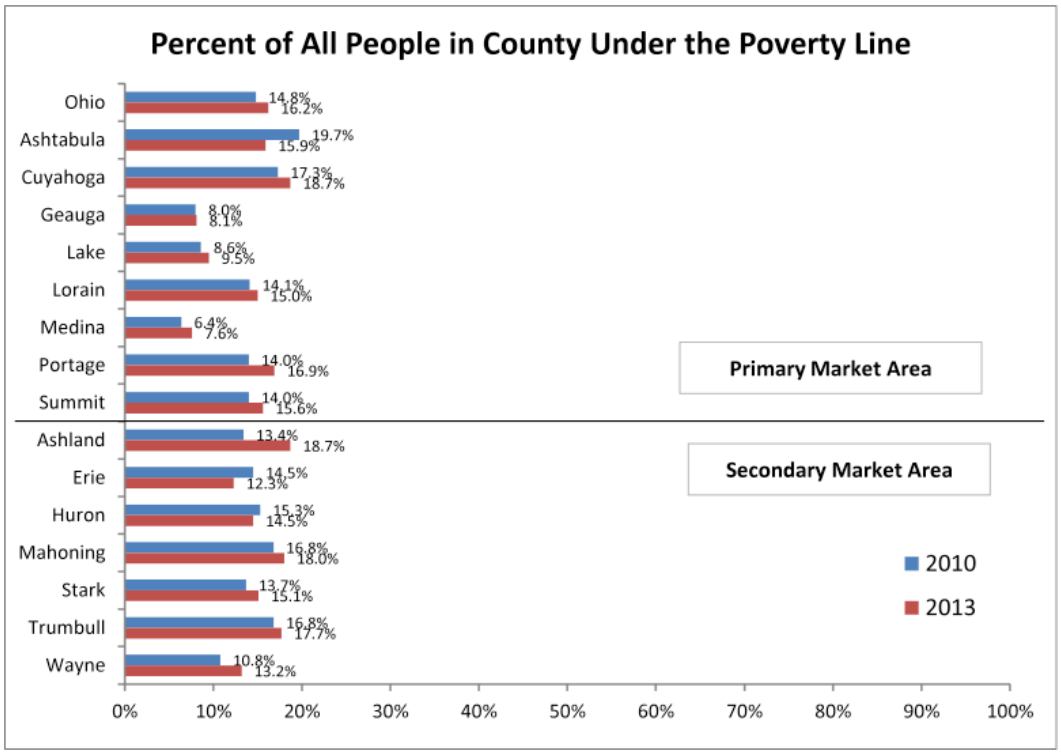
		White	Black or African-American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race
Secondary Service Area Counties:							
Ashland	2010	97.3%	0.6%	0.3%	0.7%	0.1%	0.3%
	2013	97.0%	0.7%	0.2%	0.5%	0.0%	0.4%
	Percent Change	**-0.3%**	**+0.1%**	**-0.1%**	**-0.2%**	**-0.1%**	**+0.1%**
Erie	2010	87.7%	8.0%	0.4%	0.5%	0.0%	0.7%
	2013	86.9%	8.3%	0.5%	0.6%	0.2%	0.7%
	Percent Change	**-0.8%**	**+0.3%**	**+0.1%**	**+0.1%**	**+0.2%**	**0.0%**
Huron	2010	94.1%	0.9%	0.4%	0.3%	0.0%	2.6%
	2013	95.8%	1.1%	0.1%	0.3%	0.0%	0.9%
	Percent Change	**+1.7%**	**+0.2%**	**-0.3%**	**0.0%**	**0.0%**	**-1.7%**
Mahoning	2010	80.6%	16.0%	0.1%	0.7%	0.0%	0.9%
	2013	80.2%	15.3%	0.3%	0.8%	0.0%	1.0%
	Percent Change	**-0.4%**	**-0.7%**	**+0.2%**	**+0.1%**	**0.0%**	**+0.1%**
Stark	2010	88.9%	7.4%	0.2%	0.7%	0.0%	0.3%
	2013	88.8%	6.9%	0.1%	0.8%	0.0%	0.2%
	Percent Change	**-0.1%**	**-0.5%**	**-0.1%**	**+0.1%**	**0.0%**	**-0.1%**
Trumbull	2010	89.3%	8.2%	0.2%	0.4%	0.0%	0.2%
	2013	89.0%	8.0%	0.1%	0.6%	0.0%	0.2%
	Percent Change	**-0.3%**	**-0.2%**	**-0.1%**	**+0.2%**	**0.0%**	**0.0%**
Wayne	2010	96.1%	1.4%	0.2%	0.8%	0.0%	0.2%
	2013	95.8%	1.6%	0.1%	0.7%	0.0%	0.3%
	Percent Change	**-0.3%**	**+0.2%**	**-0.1%**	**-0.1%**	**0.0%**	**+0.1%**

TABLE 11: TRENDS IN UH CASE MEDICAL CENTER'S SERVICE AREAS: BY HOUSEHOLD INCOME

		Total households	Median household income (dollars)*	Mean household income (dollars)*
Ohio	2010	4,544,687	$49,641	$65,596
	2013	4,551,497	$47,782	$64,206
	Percent Change	**0.1%**	**-3.7%**	**-2.1%**
Primary Service Area:				
Ashtabula County, Ohio	2010	39,103	$39,012	$48,744
	2013	38,650	$44,376	$53,717
	Percent Change	**-1.2%**	**13.7%**	**10.2%**
Cuyahoga County, Ohio	2010	534,653	$45,184	$64,552
	2013	532,702	$43,112	$63,340
	Percent Change	**-0.4%**	**-4.6%**	**-1.9%**
Geauga County, Ohio	2010	34,567	$66,565	$93,619
	2013	34,563	$68,107	$91,988
	Percent Change	**0.0%**	**2.3%**	**-1.7%**
Lake County, Ohio	2010	94,198	$57,875	$72,539
	2013	93,496	$54,830	$69,336
	Percent Change	**-0.7%**	**-5.3%**	**-4.4%**
Lorain County, Ohio	2010	115,757	$54,198	$67,349
	2013	116,633	$51,614	$66,066
	Percent Change	**0.8%**	**-4.8%**	**-1.9%**
Medina County, Ohio	2010	65,071	$68,851	$83,483
	2013	65,513	$64,963	$80,496
	Percent Change	**0.7%**	**-5.6%**	**-3.6%**
Portage County, Ohio	2010	61,912	$54,241	$66,677
	2013	60,323	$52,213	$65,711
	Percent Change	**-2.6%**	**-3.7%**	**-1.4%**
Summit County, Ohio	2010	222,330	$50,138	$67,534
	2013	219,214	$49,146	$66,648
	Percent Change	**-1.4%**	**-2.0%**	**-1.3%**

		Total households	Median household income (dollars)*	Mean household income (dollars)*
Secondary Service Area:				
Ashland County, Ohio	2010	20,382	$47,266	$56,637
	2013	20,083	$44,810	$56,601
	Percent Change	**-1.5%**	**-5.2%**	**-0.1%**
Erie County, Ohio	2010	31,795	$47,934	$63,781
	2013	32,113	$47,513	$61,821
	Percent Change	**1.0%**	**-0.9%**	**-3.1%**
Huron County, Ohio	2010	22,758	$49,321	$59,342
	2013	22,324	$48,152	$57,632
	Percent Change	**-1.9%**	**-2.4%**	**-2.9%**
Mahoning County, Ohio	2010	98,796	$42,479	$58,415
	2013	97,661	$40,745	$53,921
	Percent Change	**-1.1%**	**-4.1%**	**-7.7%**
Stark County, Ohio	2010	150,099	$47,135	$61,728
	2013	149,912	$45,333	$59,672
	Percent Change	**-0.1%**	**-3.8%**	**-3.3%**
Trumbull County, Ohio	2010	86,311	$43,913	$53,751
	2013	86,446	$41,872	$53,051
	Percent Change	**0.2%**	**-4.6%**	**-1.3%**
Wayne County, Ohio	2010	42,287	$50,889	$62,670
	2013	42,804	$48,201	$59,967
	Percent Change	**1.2%**	**-5.3%**	**-4.3%**

FIGURE 2: MOST ECONOMICALLY VULNERABLE UH CASE MEDICAL CENTER MARKET AREA RESIDENTS



Source: U.S. Decennial Census, American Community Survey

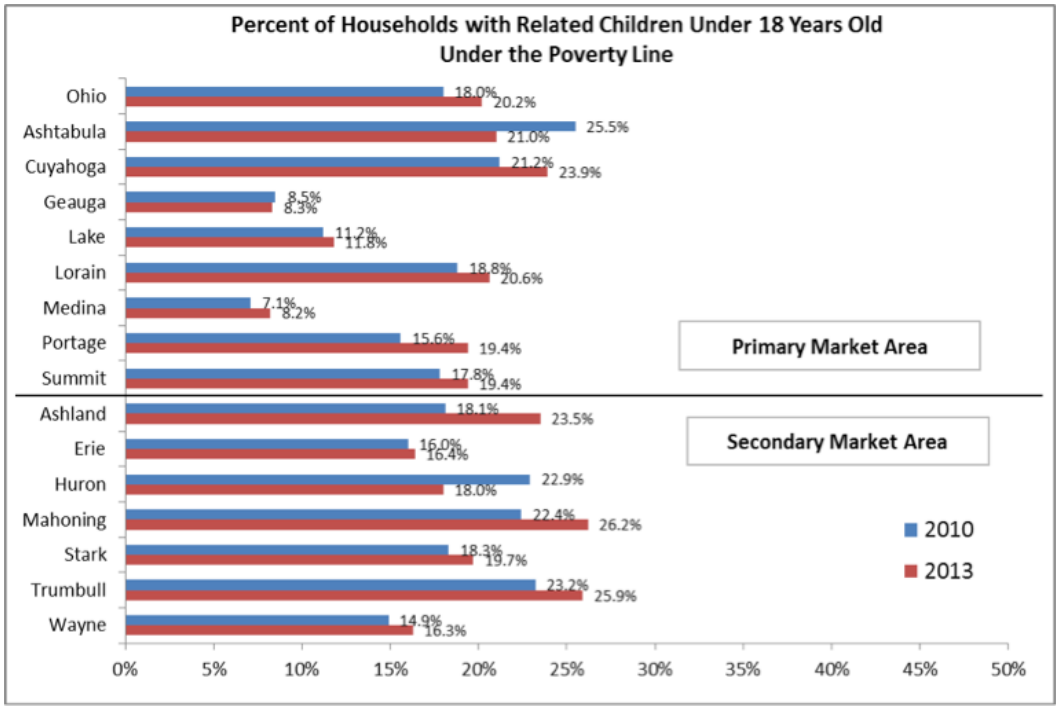
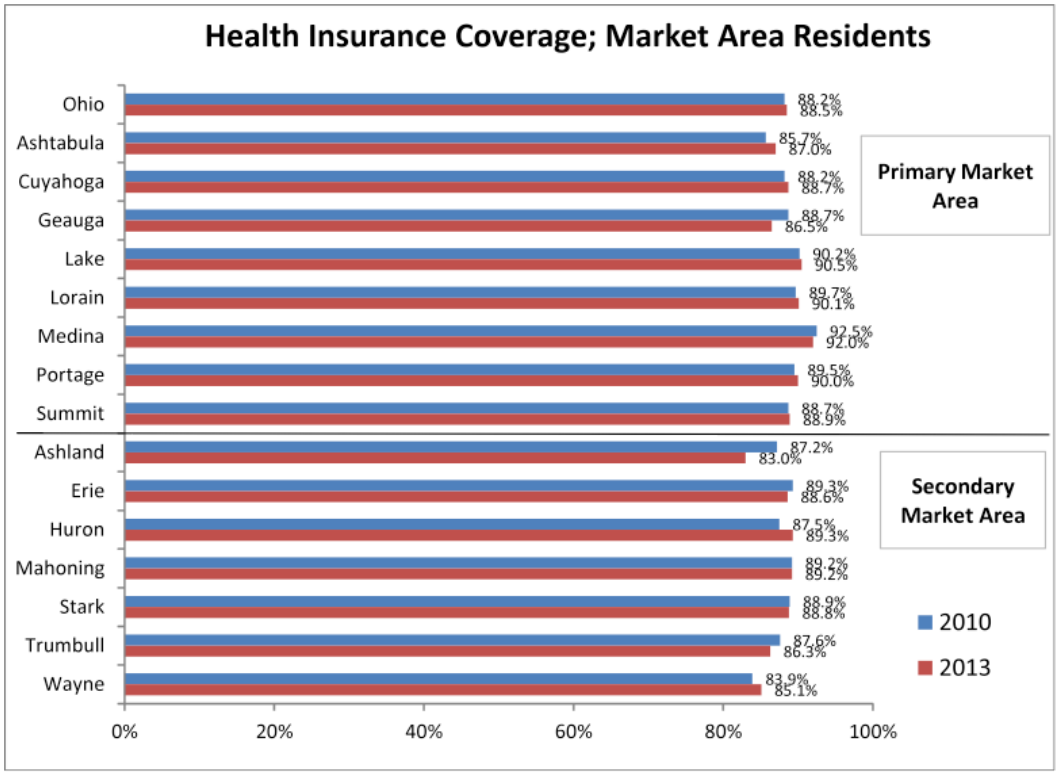
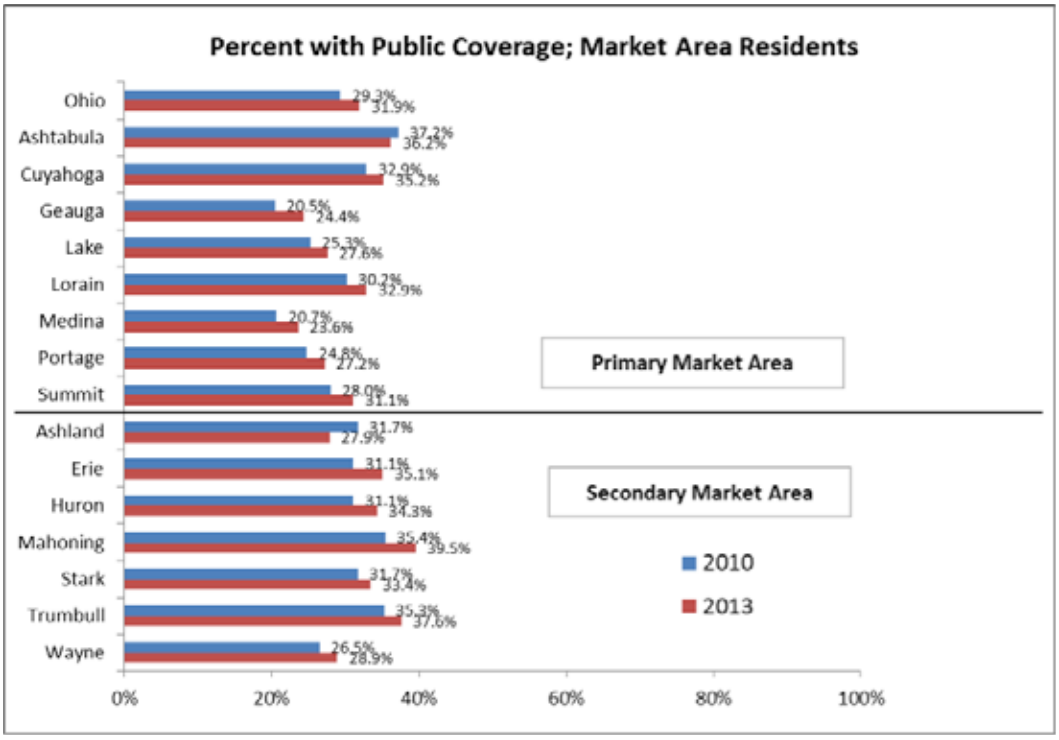


FIGURE 3: HEALTH INSURANCE COVERAGE; MARKET AREA RESIDENT



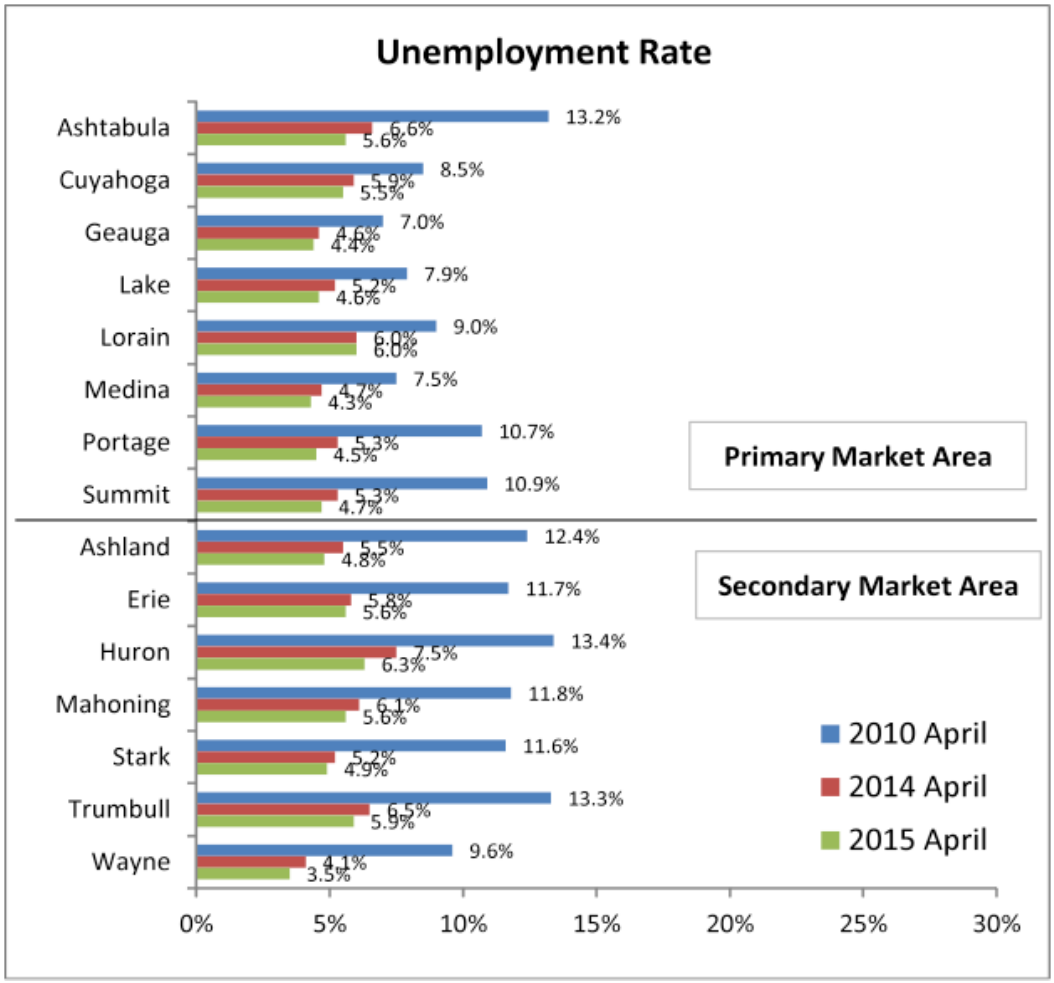
Source: U.S. Decennial Census, American Community Survey

FIGURE 4: PERCENT WITH PUBLIC COVERAGE; MARKET AREA RESIDENTS



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

FIGURE 5: UNEMPLOYMENT RATE



Source: U.S. Bureau of Labor Statistics

D. UH Case Medical Center Patients Served

In 2013, UH Case Medical Center had 34,732 discharged patients, illustrated in Table 12: UH Case Medical Center, 2013 Discharges, 2011 to 2013. Most (94.1%) were residents of the hospital's primary market area. The total number of patients in 2013 is a 5.7% increase from 2011 levels.

Table 13: UH Case Medical Center, 2013 Discharges, By Payer shows the type of health insurance coverage held by patients differed by primary and secondary markets, and by counties within those markets. Of all discharges in 2013, just over one-third (39.4%) were Medicare patients and 31.2% were Medicaid patients. The percentage of Medicare patients was lower in the primary market (39%) than the secondary market (45.1%). Similarly, the percentage of Medicaid-covered patients was higher in the primary market (32.3%) than in the secondary market (14.6%).

The counties with the highest proportion of Medicare patients were Ashtabula (55.2%) and Ashland (52.6%). The county with the highest proportion of Medicaid patients was Cuyahoga (38.3%).

The proportion of those covered by commercially available insurance was higher among those who reside in UH Case Medical Center's secondary market (29.1%) than its primary market (17.1%). The proportion of self-pay patients was low in all counties.

Figure 6: Age of UH Case Medical Center's Discharged Patients, 2013, by Market shows that in 2013, most (87.6%) patients discharged from UH Case Medical Center were adults (ages 18 and older); most of the remaining were newborns (not shown). The median age for primary market patient adult discharges in 2013 was 57; the median age for secondary market adult patient discharges was somewhat older at 60 years.

TABLE 12: UH CASE MEDICAL CENTER, 2013 DISCHARGES, 2011 TO 2013

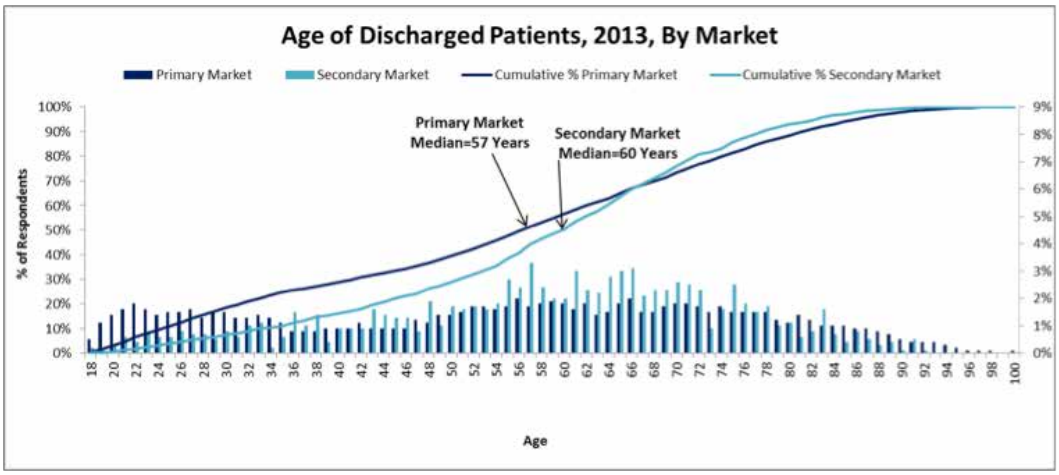
	Primary Market	Secondary Market	Total
2011	30,944	1,905	32,849
2012	32,880	1,984	34,864
2013	32,677	2,055	34,732

TABLE 13: UH CASE MEDICAL CENTER, 2013 DISCHARGES, BY PAYER

Service Area	Number of Discharges	Medicare	Medicaid	Commercial	Other	Self-Pay
Primary Market Area						
Ashtabula	1,400	55.2%	16.4%	18.9%	7.0%	2.4%
Cuyahoga	24,627	36.7%	38.3%	13.5%	9.4%	2.2%
Geauga	790	50.5%	8.1%	28.1%	12.0%	1.3%
Lake	2,053	45.6%	12.3%	27.4%	12.3%	2.4%
Lorain	1,292	44.0%	18.7%	27.9%	7.0%	2.4%
Medina	536	45.9%	7.5%	33.4%	11.6%	1.7%
Portage	653	38.9%	16.4%	31.7%	10.9%	2.1%
Summit	1,281	40.7%	11.9%	34.8%	11.6%	1.0%
Total Primary Market Area:	**32,677**	**39.0%**	**32.2%**	**17.1%**	**9.6%**	**2.1%**
Secondary Market Area						
Ashland	38	52.6%	7.9%	28.9%	10.5%	0.0%
Erie	196	40.3%	16.3%	35.2%	6.6%	1.5%
Huron	87	39.1%	17.2%	37.9%	5.7%	0.0%
Mahoning	377	40.6%	14.9%	32.6%	9.3%	2.7%
Stark	431	42.5%	17.1%	26.2%	11.9%	2.3%
Trumbull	815	49.2%	13.3%	27.7%	7.4%	2.5%
Wayne	103	49.5%	12.6%	19.4%	14.6%	3.9%
Total Secondary Market Area:	**2,055**	**45.1%**	**14.6%**	**29.1%**	**8.9%**	**2.3%**
Total Market:	**34,732**	**39.4%**	**31.2%**	**17.8%**	**9.5%**	**2.1%**

Source: Ohio Hospital Association discharge data

FIGURE 6: AGE OF UH CASE MEDICAL CENTER'S DISCHARGED PATIENTS, 2013, BY MARKET



Source: Ohio Hospital Association discharge data

E. Ambulatory Care Sensitive Discharges

Adults

Using discharge data from UH Case Medical Center, which includes the reason for patient admission into the hospital, 'ambulatory care sensitive discharges,' can be 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 14: Distribution of ACS Discharges, Primary Market Only, Age 18+ (Newborns Removed From Analysis) shows the number of adult discharges for UH Case Medical Center in 2013 and the percent that 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 19 different secondary diagnoses.

For UH Case Medical Center, 12.8% of adult discharges were ACS discharges of residents within the primary market area. The most common primary ACS diagnoses for UH Case Medical Center's discharged patients in 2013 were congestive heart failure (2.9%) and bacterial pneumonia (1.3%). In terms of secondary diagnoses in 2013, congestive heart failure comprised an additional 20.2% of discharges.

Almost one-fourth (22.6%) of discharged patients in 2013 were diabetic and almost one in two (42.7%) had a primary or secondary diagnosis of hypertension.

Table 14 shows the incidence of ACS cases among discharged patients for UH Case Medical Center in 2013. This information is useful in pointing out the proportion of discharged patients who may have avoided hospitalization if, for example, they had increased access to primary medical care.

Table 15: UH Case 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 Case Medical Center in 2013 compared to Cuyahoga County, Summit County and other nearby Northeast Ohio counties (hospitalizations for UH Case Medical Center and other hospitals, combined). The proportion of ACS cases is lower for UH Case Medical Center compared to all hospitals combined within both Cuyahoga County and other nearby counties.

UH Case Medical Center had lower rates of ACS discharges compared to the comparison counties. Another way to examine the data is to look at the incidence of ACS cases within UH Case Medical Center's market area, regardless of the hospital from which patients were discharged. This may provide a clearer picture of the relative need for primary care in this area. In UH Case Medical Center's market area, 12.8% of discharges are ACS cases, which is lower than the ACS discharge level in all surrounding counties.

A review of the more common ACS conditions by payer can shed light on particular primary care-related issues that are more or less common within certain subpopulations.

Table 16: UH Case Medical Center, Primary Diagnosis of Adult (Age 18+) ACS Versus Non-ACS Discharges in 2013, by Primary Payer shows that Congestive heart failure (4.4%), bacterial pneumonia (1.7%), COPD (1.6%) and kidney/urinary infections (1.6%) were the top ACS conditions among Medicare patients and these conditions were more common among Medicare patients than among those with most other sources of health coverage; this is likely associated with age. Diabetes and asthma were more common among Medicaid patients than among those with most other sources of insurance.

TABLE 14: DISTRIBUTION OF ACS DISCHARGES, PRIMARY MARKET ONLY, AGE 18+ (NEWBORNS REMOVED FROM ANALYSIS)

	Primary Diagnosis		Secondary Diagnosis	
	Number With Diagnosis	Percent With Diagnosis	Number With Diagnosis	Percent With Diagnosis
No ACS Condition	24,749	87.2%	n/a	n/a
Specific ACS Conditions:	**3,638**	**12.8%**		
Congestive Heart Failure (CHF)	827	2.9%	5,734	20.2%
Bacterial Pneumonia	371	1.3%	1,014	3.6%
Epilepsy	322	1.1%	1,064	3.7%
Cellulitis	326	1.1%	488	1.7%
Kidney/Urinary Infections	325	1.1%	1,864	6.6%
Chronic Obstructive Pulmonary Disease (COPD)	298	1.0%	2,579	9.1%
Diabetes	282	1.0%	6,427	22.6%
Asthma	245	0.9%	2,953	10.4%
Dehydration/Volume Depletion	171	0.6%	2,493	8.8%
Hypertension	129	0.5%	11,986	42.2%
Convulsions	104	0.4%	327	1.2%
Iron Deficiency Anemia	57	0.2%	1,007	3.5%
Severe ENT Infections	36	0.1%	249	0.9%
Angina	36	0.1%	529	1.9%
Gastroenteritis	32	0.1%	115	0.4%
Pelvic Inflammatory Disease	28	0.1%	86	0.3%
Dental Conditions	32	0.1%	293	1.0%
Other Tuberculosis	2	0.1%	5	0.0%
Acute Bronchitis: (only included if a secondary diagnosis of COPD is also present)	1	0.1%	3	0.0%
Hypoglycemia	5	0.1%	145	0.5%
Nutritional Deficiencies	9	0.1%	557	2.0%
Pulmonary Tuberculosis	0	0.0%	3	0.0%
Failure to Thrive	0	0.0%	11	0.0%

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

	UH Case Medical Center	Cuyahoga County	Summit County	Geauga County	Lake County	Portage County
No ACS Condition	87.2%	81.3%	81.9%	84.3%	83.2%	82.5%
ACS Condition, Total	12.8%	18.7%	18.1%	15.7%	16.8%	17.5%
Specific ACS Conditions:						
Congestive Heart Failure (CHF)	2.9%	3.8%	3.5%	3.4%	3.4%	3.5%
Chronic Obstructive Pulmonary Disease (COPD)	1.0%	2.5%	2.4%	1.9%	2.5%	2.6%
Bacterial Pneumonia	1.3%	2.6%	2.9%	2.4%	2.9%	3.1%
Kidney/Urinary Infections	1.1%	1.9%	2.1%	1.9%	2.0%	2.0%
Cellulitis	1.1%	2.1%	2.4%	2.3%	1.9%	2.2%
Diabetes	1.0%	1.4%	1.4%	0.8%	1.1%	1.2%
Asthma	0.9%	1.7%	1.0%	0.7%	0.8%	0.7%
Dehydration/Volume Depletion	0.6%	0.5%	0.7%	0.6%	0.5%	0.7%
Iron Deficiency Anemia	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
Hypertension	0.5%	0.4%	0.3%	0.2%	0.3%	0.3%
Angina	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Epilepsy	1.1%	0.7%	0.5%	0.5%	0.4%	0.4%
Nutritional Deficiencies	0.1%	0.02%	0.03%	0.01%	0.01%	0.04%
Gastroenteritis	0.1%	0.3%	0.3%	0.2%	0.3%	0.3%
Severe ENT Infections	0.1%	0.1%	0.1%	0.1%	0.1%	0.04%
Dental Conditions	0.1%	0.1%	0.1%	0.02%	0.1%	0.1%
Convulsions	0.4%	0.2%	0.2%	0.2%	0.3%	0.2%
Pelvic Inflammatory Disease	0.1%	0.1%	0.04%	0.0%	0.0%	0.0%
Hypoglycemia	0.1%	0.02%	0.01%	0.02%	0.02%	0.03%
Immunization-Related and Preventable Conditions	0.1%	0.001%	0.0%	0.01%	0.004%	0.0%

TABLE 16: UH CASE 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*
No ACS Primary Diagnosis	84.4%	88.6%	92.4%	88.5%	81.1%
Specific ACS Conditions:					
Congestive Heart Failure (CHF)	4.4%	1.8%	1.2%	2.1%	2.1%
Bacterial Pneumonia	1.7%	1.0%	1.1%	0.7%	2.2%
Cellulitis	1.1%	1.1%	1.0%	1.3%	2.5%
Kidney/Urinary Infections	1.6%	0.9%	0.6%	0.8%	0.6%
Asthma	0.7%	1.3%	0.3%	1.2%	1.9%
Chronic Obstructive Pulmonary Disease (COPD)	1.6%	0.9%	0.1%	0.5%	0.9%
Diabetes	1.0%	1.2%	0.6%	0.9%	2.4%

**Small number of discharged patients; interpret with care.*
Source: Ohio Hospital Association discharge data.
Source: Definition of ACS conditions: Billings et al 1993.

UH Case Medical Center Discharges

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

Table 17: UH Case 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 more than 17,000 different medical diagnostic codes. For specific diagnoses, only those that were relatively common are shown.

In 2013, the most common primary diagnostic category (17.1%) was diseases of the circulatory system. Heart failure was the most common primary diagnosis within that category (2.7%), but 19% of discharges had a secondary diagnosis of heart failure.

Diseases of the digestive system were the second most common (not related to childbirth) category (8.5%). One in five patients (18.1%) had a secondary diagnosis of disease of the esophagus.

Almost half of all discharges (40.3%) had a secondary diagnosis of essential hypertension. One in four (23.1%) adults discharged in 2013 had a secondary diagnosis of obesity and one-fourth (25.4%) 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 (27.5%) had a secondary diagnosis of nondependent drug abuse.

TABLE 17: UH CASE MEDICAL CENTER, PRIMARY AND SECONDARY DIAGNOSIS OF ADULTS (AGE 18+), DISCHARGED IN 2013

	Primary Diagnoses		Secondary Diagnoses	
	Number of Cases With Diagnosis*	Percent of All Adult Cases*	Number of Cases With Diagnosis	Percent of All Adult Cases**
Diseases of the circulatory system	**5,180**	**17.1%**		
Most common specific diagnoses in category:				
Heart failure	829	2.7%	5,705	19.0%
Cardiac dysrhythmias	693	2.3%	5,906	19.7%
Acute myocardial infarction	471	1.6%	345	1.1%
Other chronic ischemic heart disease	287	0.9%	5,456	18.2%
Essential hypertension			12,087	40.3%
Hypertensive renal disease			3,630	12.1%
Hypotension			2,196	7.3%
Previous myocardial infarction			2,033	6.8%
Complications of pregnancy, childbirth, and the puerperium	**4,305**	**14.2%**		
Most common specific diagnoses in category:				
Diseases of the digestive system	**2,576**	**8.5%**		
Most common specific diagnoses in category:				
Diseases of esophagus			5,421	18.1%
Functional digestive disease, not elsewhere classified			2,085	6.9%
Injury and poisoning	**2,396**	**7.9%**		
Neoplasms-malignant	**2,287**	**7.5%**		
Diseases of the musculoskeletal system and connective tissue	**2,041**	**6.7%**		
Most common specific diagnoses in category:				
Osteoarthrosis et al	773	2.5%	1,756	5.9%
Diseases of the respiratory system	**1,672**	**5.5%**		
Pneumonia, organism unspecified	372	1.2%	985	3.3%
Asthma			2,953	9.8%
Chronic airway obstruction, not elsewhere classified			2,052	6.8%
Other lung diseases			1,612	5.4%

	Primary Diagnoses		Secondary Diagnoses	
	Number of Cases With Diagnosis*	Percent of All Adult Cases*	Number of Cases With Diagnosis	Percent of All Adult Cases**
Mental disorders	**1,364**	**4.5%**		
Most common specific diagnoses in category:				
Affective psychoses	463	1.5%	1,345	4.5%
Schizophrenic disorders	376	1.2%	772	2.6%
Nondependent drug abuse			8,256	27.5%
Depressive disorder, not elsewhere classified			3,461	11.5%
Neurotic disorders			3,249	10.8%
Organic psychosis conditions (general)			1,532	5.1%
Diseases of the genitourinary system	**1,207**	**4.0%**		
Most common specific diagnoses in category:				
Acute renal failure	441	1.5%	2,538	8.5%
Other urinary tract disorder	293	1.0%	2,027	6.8%
Chronic renal failure			3,448	11.5%
Infectious and parasitic diseases	**1,196**	**3.9%**		
Most common specific diagnoses in category:				
Septicemia*	809	2.7%	581	1.9%
Bacterial infection in other diseases			2,488	8.3%
Endocrine, nutritional and metabolic diseases, and immunity disorders	**1,165**	**3.8%**		
Most common specific diagnoses in category:				
Diabetes mellitus	411	1.4%	7,636	25.4%
Fluid/electrolyte diseases	390	1.3%	10,418	34.7%
Diseases of lipoid metabolism			7,757	25.8%
Obesity/hyperalimentation			4,153	23.1%
Acquired hypothyroidism			3,064	10.2%
Diseases of mineral metabolism			2,447	8.2%
Symptoms, signs, and ill-defined conditions	**1,154**	**3.8%**		
Diseases of the blood and blood-forming organs	**997**	**3.3%**		
Most common specific diagnoses in category:				
Hereditary hemolytic anemia	617	2.0%	482	1.6%
Anemia not otherwise classified			6,109	20.4%
Purpura and other hemorrhagic conditions			1,704	5.7%

	Primary Diagnoses		Secondary Diagnoses	
	Number of Cases With Diagnosis*	Percent of All Adult Cases*	Number of Cases With Diagnosis	Percent of All Adult Cases**
Diseases of the nervous system	**885**	**2.9%**		
Most common specific diagnoses in category:				
Epilepsy	348	1.1%	1,064	3.5%
Organic sleep disorders			2,465	8.2%
Central pain			2,027	6.8%
Other brain conditions			1,901	6.3%
Other	**659**	**2.2%**		
Most common specific diagnoses in category:				
Organ replacement, not elsewhere classified			1,482	4.9%
Diseases of the skin and subcutaneous tissue	**437**	**1.4%**		
Most common specific diagnoses in category:				
Cellulitis/Abscess	307	1.0%	412	1.4%
Neoplasms-benign	**391**	**1.3%**		
Congenital anomalies	**85**	**0.3%**		
Diseases of the sense organs	**83**	**0.3%**		

**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. ACS Analysis of Vulnerable Populations

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. There are several such areas in the City of Cleveland and in UH Case Medical Center's primary and secondary markets (see body of report).

Area hospitals' discharge data can also be examined, to help understand the specific medical nature of this problem. An earlier analysis showed that UH Case Medical Center's inpatient discharges, as a group, had a lower prevalence of ambulatory care sensitive cases (12.8%) than Cuyahoga County on the whole (or any other county within UH Case Medical Center's primary market area – no lower than 15.7%). Table 18: Poverty Levels, by Race, Cuyahoga and Surrounding Counties, 2013* looks further into that data, however, to isolate UH Case Medical Center's discharges by race.

In Northeast Ohio, Blacks are three to six times more likely to live in poverty than Whites, depending on the county. One-third (33.5%) of Blacks in Cuyahoga County lived in poverty in 2013.

There are not socioeconomic indicators associated with hospital discharge data, but an evaluation of the association between race and hospital discharge findings can illuminate possible health care access issues within the economically vulnerable counties UH Case Medical Center serves.

Before examining UH Case Medical Center's data, it is useful to examine any race differences that exist statewide. Table 19: Most Common* ACS Conditions, By County, White versus Black Discharges, 2014 shows the prevalence of ACS discharges within the six counties in Ohio that contain a metropolitan area. These are the only geographic designations with a large enough racial minority population to allow for reliable analysis. Included here are Cuyahoga County, which is in UH Case Medical Center's primary market area, and Summit County, which is in UH Case Medical Center's secondary market area.

In all counties that contain a significant urban area in Ohio, the incidence of ACS cases is higher among Black discharged patients than White discharged patients. The difference ranges from a high of 2.6 percentage points (Lucas County) to a low of 1.3% (Summit and Hamilton counties). In Cuyahoga County, where UH Case Medical Center is located, 2.4% more Black discharged patients were admitted with a primary ACS diagnosis compared to White discharged patients. This may signal an issue with inadequate access to primary care among Blacks as compared to Whites, and in particular within Cuyahoga County and Lucas County.

This seems to be driven by specific ACS diagnoses. Most ACS diagnoses were more common among White discharged patients than among Black discharged patients in all or most counties. However, there are four important exceptions where an ACS condition (as a primary diagnosis for hospital admission) was more prevalent among Black than White patients in 2014 in each of the examined counties in Ohio:

1. Congestive heart failure
2. Asthma
3. Diabetes
4. Epilepsy

Table 20: ACS Conditions Which are More Prevalent Among Black Patients, City of Cleveland versus Cuyahoga County (Not Cleveland) versus Other Ohio Counties, Black versus White Discharges from All Hospitals, 2014 looks more closely at Cuyahoga County, and more specifically at Cleveland, where UH Case Medical Center is located. The table compares the prevalence of ACS cases (primary diagnosis) of discharges in the five Ohio counties that contain urban centers besides Cuyahoga County (Summit, Franklin, Montgomery, Hamilton and Lucas counties) and discharges in UH Case Medical Center's market area counties other than Cuyahoga County, discharges from Cuyahoga County who do not live in Cleveland, and, discharges from the City of Cleveland.

This data illustrates that ACS condition prevalence is highest in the City of Cleveland. ACS cases were more prevalent among Black discharged patients in 2014 than White discharged patients in all three geographic locations examined for these four medical diagnoses.

Asthma and diabetes were the ACS conditions that show the greatest disparity in prevalence between Blacks and Whites. However, discharges from hospitals outside of the City of Cleveland, but inside Cuyahoga County, show the greatest disparities between Blacks and Whites for these conditions. This may signal a lower level of access to and/or use of primary care for Black individuals in Cuyahoga County who live in the suburban areas.

The analyses in Tables 18, 19, and 20 describe the prevalence of ACS cases among Black and White discharges from any hospital within these specific geographic areas and illustrated that ACS prevalence for certain diagnoses was most different (higher for Blacks) in Cuyahoga County suburbs. It was higher for Blacks, however, in all geographies examined.

Table 21: ACS Conditions Which are More Prevalent Among Black Patients, City of Cleveland versus Cuyahoga County (Not Cleveland) versus Other Ohio Counties, Black versus White Discharges from UH Case Medical Center, 2014 shows UH Case Medical Center discharges only to examine the same type of data, which shows a somewhat different story.

Again, ACS diagnosis for congestive heart failure, asthma and diabetes were higher for Black discharges from UH Case Medical Center in 2014 than for White discharges. The opposite is true for those with a primary diagnosis of epilepsy (higher for Whites). Also, Blacks who were discharged from UH Case Medical Center in 2014 that live either in the City of Cleveland or in the suburbs of Cleveland (in Cuyahoga County) were similarly more likely to have any ACS condition than UH Case Medical Center discharges that live outside of Cuyahoga County.

The group with the highest ACS condition prevalence was those who live in the City of Cleveland, regardless of race. Within the City of Cleveland, cases of asthma showed the greatest disparity between Blacks and Whites. In Cleveland suburbs (Cuyahoga County), diabetes showed the greatest disparity between Blacks and Whites.

TABLE 18: POVERTY LEVELS, BY RACE, CUYAHOGA AND SURROUNDING COUNTIES, 2013*

	Percent Below Poverty Level	
Geography	**White**	**Black**
Cuyahoga County, Ohio	11%	33.5%
Erie County, Ohio	10.5%	33.7%
Lake County, Ohio	8.3%	25.3%
Lorain County, Ohio	11.3%	38.5%
Medina County, Ohio	6.8%	33.3%
Summit County, Ohio	11.4%	33.8%

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

TABLE 19: MOST COMMON* ACS CONDITIONS, BY COUNTY, WHITE VERSUS BLACK DISCHARGES, 2014

Discharges from All Hospitals

	Cuyahoga County (Cleveland)		Summit County (Akron)		Franklin County (Columbus)		Hamilton County (Cincinnati)		Lucas County (Toledo)		Montgomery County (Dayton)	
	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black
Number of discharges:	**92,242**	**55,467**	**36,986**	**9,715**	**64,071**	**22,662**	**56,220**	**28,778**	**37,120**	**12,589**	**41,207**	**13,617**
No ACS Condition as Primary Diagnosis*	83.5%	81.1%	85.4%	84.1%	85.7%	84.2%	87.0%	85.7%	83.7%	81.1%	86.5%	84.8%
ACS Condition as Primary Diagnosis, Total	16.5%	18.9%	14.6%	15.9%	14.3%	15.8%	13.0%	14.3%	16.3%	18.9%	13.5%	15.2%
Specific ACS Condition												
Congestive Heart Failure (CHF)	3.1%	3.7%	2.8%	3.7%	2.6%	2.7%	2.9%	3.3%	2.9%	3.5%	2.9%	3.5%
Bacterial Pneumonia	2.3%	2.0%	2.2%	1.8%	1.9%	1.8%	2.1%	1.4%	2.4%	2.0%	2.1%	1.6%
Chronic Obstructive Pulmonary Disease (COPD)	2.2%	1.9%	1.8%	1.3%	2.2%	1.3%	1.2%	0.9%	2.4%	1.8%	1.8%	1.4%
Asthma	1.2%	3.2%	0.8%	1.3%	0.8%	2.8%	0.7%	2.3%	1.0%	3.1%	0.8%	1.8%
Cellulitis	2.5%	1.3%	2.1%	1.4%	2.2%	1.4%	1.8%	1.0%	2.1%	1.4%	1.6%	1.1%
Diabetes	1. 0%	2.0%	1.0%	2.1%	1.2%	2.0%	1.1%	1.9%	1.2%	2.4%	1.3%	2.4%
Epilepsy	0.6%	1.0%	0.5%	0.8%	0.6%	0.9%	0.5%	0.6%	0.6%	1.2 %	0.5%	0.8%
Kidney/Urinary Infections	1.9%	1.3%	1.9%	1.5%	1.4%	0.9%	1.4%	0.9%	1.6%	1.1%	1.1%	0.9%

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

TABLE 20: ACS CONDITIONS WHICH ARE MORE PREVALENT AMONG BLACK PATIENTS
CITY OF CLEVELAND VERSUS CUYAHOGA COUNTY (NOT CLEVELAND) VERSUS OTHER OHIO COUNTIES
BLACK VERSUS WHITE DISCHARGES FROM ALL HOSPITALS, 2014

	Ohio Counties that Contain Urban Centers and UH Case Medical Center Market Area Counties (except for Cuyahoga County)			Cuyahoga County, Outside of Cleveland			Cleveland		
	White	Black	Difference	White	Black	Difference	White	Black	Difference
Number of discharges:	**274,641**	**103,609**		**85,615**	**42,427**		**24,809**	**25,931**	
No ACS Condition*	85.1%	84.0%	-1.1%	84.1%	81.4%	-2.7%	81.6%	80.8%	-0.8%
Any ACS Condition	14.9%	16.0%	1.1%	15.9%	18.6%	2.7%	18.4%	19.2%	0.8%
Specific ACS Condition									
Congestive Heart Failure (CHF)	3.0%	3.4%	0.4%	3.2%	3.7%	0.5%	3.1%	3.8%	0.7%
Asthma	0.8%	2.3%	1.5%	1.1%	3.0%	1.9%	1.7%	3.6%	1.9%
Diabetes	1.1%	2.1%	1.0%	0.9%	2.0%	1.1%	1.4%	1.9%	0.5%
Epilepsy	0.5%	0.8%	0.3%	0.6%	1.0%	0.4%	0.7%	1.1%	0.4%

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

TABLE 21: ACS CONDITIONS WHICH ARE MORE PREVALENT AMONG BLACK PATIENTS
CITY OF CLEVELAND VERSUS CUYAHOGA COUNTY (NOT CLEVELAND) VERSUS OTHER OHIO COUNTIES
BLACK VERSUS WHITE DISCHARGES FROM UH CASE MEDICAL CENTER, 2014

	Ohio Counties that Contain Urban Centers and UH Case Medical Center Market Area Counties (except for Cuyahoga County)			Cuyahoga County, Outside of Cleveland			Cleveland		
	White	Black	Difference	White	Black	Difference	White	Black	Difference
Number of discharges:	**9,337**	**954**		**5,857**	**9,662**		**1,356**	**7,166**	
No ACS Condition*	92.7%	90.4%	-2.3%	91.6%	87.7%	-3.9%	88.3%	84.0%	-4.3%
Any ACS Condition	7.3%	9.6%	+2.3%	8.5%	12.3%	+3.8%	11.7%	16.0%	+4.3%
Specific ACS Condition									
Congestive Heart Failure (CHF)	1.5%	2.6%	+1.1%	2.0%	2.8%	+0.8%	0.1%	0.5%	+0.4%
Asthma	0.04%	0.8%	+0.76%	0.2%	1.3%	+1.1%	2.1%	3.7%	+1.6%
Diabetes	0.2%	0.6%	+0.4%	0.2%	1.4%	+1.2%	0.1%	0.2%	+0.1%
Epilepsy	1.5%	0.9%	-0.6%	1.0%	0.9%	-0.1%	1.0%	0.8%	-0.2%

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

G. Greater University Circle Analysis

UH Case Medical Center has a primary market area that includes close to 3 million residents. Within that market area, there are almost 400,000 residents living in the area immediately surrounding UH Case Medical Center ("Greater University Circle" market area). The Greater University Circle market area includes 17 ZIP codes.

Shown in Table 22: Greater University Circle Market Area: Population Trends, the Greater University Circle market area has seen a 1.0 percent decrease in overall population from 2010 to 2013. Table 23: Demographic Trends in Greater University Circle Market Area: By Age shows that the proportion of those under age 19 decreased by 0.9 percent from 2011 to 2013.

The demographic composition of the population within the Greater University Circle market area was fairly stable from 2011 to 2013. The proportion of both White and Black residents decreased slightly (no more than 0.5%); the proportion of those who classify themselves as some 'other' race than White, Black, American Indian/Alaskan Native, Asian, or Native Hawaiian/Other Pacific Islander increased slightly (+0.7 percentage points) during that time period, shown in Table 24: Demographic Trends in Greater University Circle Market Area: By Race.

Table 25: Most Economically Vulnerable Greater University Circle Market Area Residents shows that on the whole, the economic status of households within the Greater University Circle market declined significantly in the two years between 2011 and 2013: 2.7 percent more households were living below the poverty line in 2013 compared to 2011. A greater proportion of Black households were impacted in this way (an increase of 2.7% to 44.1%) compared to White households (an increase of 2.5% to 24.5%). In 2013, about one in five (19.7%) University Circle market area residents were without health insurance coverage. Of those covered, 55.2 percent had public coverage.

Ambulatory Care Sensitive Discharges

Shown in Table 26: Distribution of ACS Discharges from Greater University Circle Market Only, Age 18+, 2013, in 2013, 17.6 percent of adult discharged patients who were residents of the Greater University Circle market area had ambulatory care sensitive (ACS) primary diagnoses. The most common ACS diagnosis was congestive heart failure (4.0%) followed by bacterial pneumonia (2.0%).

Comparing discharges from the Greater University Circle market area in 2013 to those outside of the Greater University Circle market area in Table 27: Distribution of Most Common ACS Discharges from Greater University Circle Market Area versus Non-University Circle Market Area Age 18+, 2013 shows that the incidence of ACS cases is significantly higher in the University Circle market area (17.6% versus 9.9%).

With the exception of epilepsy, the incidence of ACS conditions as a primary diagnosis is about twice as common among those who live in the Greater University Circle market area than the rest of the UH Case Medical Center total market area.

TABLE 22: GREATER UNIVERSITY CIRCLE MARKET AREA: POPULATION TRENDS

	2010	2011	2012	2013	4-year Trend
University Circle Market Area	395,436	402,598	395,545	391,474	-1.0%

Source: U.S. Decennial Census, American Community Survey

TABLE 23: DEMOGRAPHIC TRENDS IN GREATER UNIVERSITY CIRCLE MARKET AREA: BY AGE

Age Cohort	2011	2013	Percent Change
0 to 19	28.00%	27.10%	-0.90%
20 to 44	34.10%	34.50%	0.40%
45 to 64	26.00%	26.40%	0.40%
65 and Older	12.00%	12.10%	0.10%

Source: U.S. Census Bureau, American Community Survey 2011 & 2013 5-year Estimates

TABLE 24: DEMOGRAPHIC TRENDS IN GREATER UNIVERSITY CIRCLE MARKET AREA: BY RACE

Race	2011	2013	Percent Change
White	43.50%	42.90%	-0.60%
Black or African-American	49.70%	49.40%	-0.30%
American Indian and Alaska Native	0.30%	0.30%	0.00%
Asian	2.00%	2.20%	0.20%
Native Hawaiian and Other Pacific Islander	0.00%	0.00%	0.00%
Some other race	4.40%	5.10%	0.70%

Source: U.S. Census Bureau, American Community Survey 2011 & 2013 5-year Estimates

TABLE 25: MOST ECONOMICALLY VULNERABLE GREATER UNIVERSITY CIRCLE MARKET AREA RESIDENTS

Economic Vulnerability	2011	2013	Percent Change
Percent of All People Under the Poverty Line	32.4%	35.1%	2.7%
By Race			
White	22.0%	24.5%	2.5%
Black	41.4%	44.1%	2.7%

Source: U.S. Census Bureau, American Community Survey 2011 & 2013 5-year Estimates

TABLE 26: DISTRIBUTION OF ACS DISCHARGES FROM GREATER UNIVERSITY CIRCLE MARKET ONLY, AGE 18+, 2013

	Primary Diagnosis		Secondary Diagnosis	
	Number With Diagnosis	Percent With Diagnosis	Number With Diagnosis	Percent With Diagnosis
No ACS Condition	7,960	82.2%		
Specific ACS Conditions:	**1,727**	**17.6%**		
Congestive Heart Failure (CHF)	389	4.0%	2,309	23.8%
Bacterial Pneumonia	190	2.0%	342	3.5%
Asthma	161	1.7%	1,287	13.3%
Chronic Obstructive Pulmonary Disease (COPD)	161	1.7%	816	8.4%
Diabetes	156	1.6%	2,117	21.9%
Cellulitis	146	1.5%	156	1.6%
Kidney/Urinary Infections	138	1.4%	640	6.6%
Epilepsy	110	1.1%	413	4.3%
Dehydration/Volume Depletion	72	0.7%	941	9.7%
Hypertension	68	0.7%	3,514	36.3%
Iron Deficiency Anemia	36	0.4%	462	4.8%
Convulsions	26	0.3%	107	1.1%
Severe ENT Infections	18	0.2%	110	1.1%
Gastroenteritis	16	0.2%	41	0.4%
Angina	13	0.1%	179	1.8%
Pelvic Inflammatory Disease	12	0.1%	32	0.3%
Dental Conditions	6	0.1%	76	0.8%

TABLE 27: DISTRIBUTION OF MOST COMMON ACS DISCHARGES FROM GREATER UNIVERSITY CIRCLE MARKET AREA VERSUS NON-UNIVERSITY CIRCLE MARKET AREA AGE 18+, 2013

	University Circle Market Area	UH Case Medical Center Market Area Outside of University Circle Market Area
No ACS Condition	82.2%	90.1%
Specific ACS Conditions:	**17.6%**	**9.9%**
Congestive Heart Failure (CHF)	4.0%	2.4%
Bacterial Pneumonia	2.0%	0.9%
Asthma	1.7%	0.9%
Chronic Obstructive Pulmonary Disease (COPD)	1.7%	0.7%
Diabetes	1.6%	0.6%
Cellulitis	1.5%	0.9%
Kidney/Urinary Infections	1.4%	0.9%
Epilepsy	1.1%	1.1%

Source: OHA discharge data

H. Medically Underserved Areas, Federally Qualified Health Centers and Food Deserts

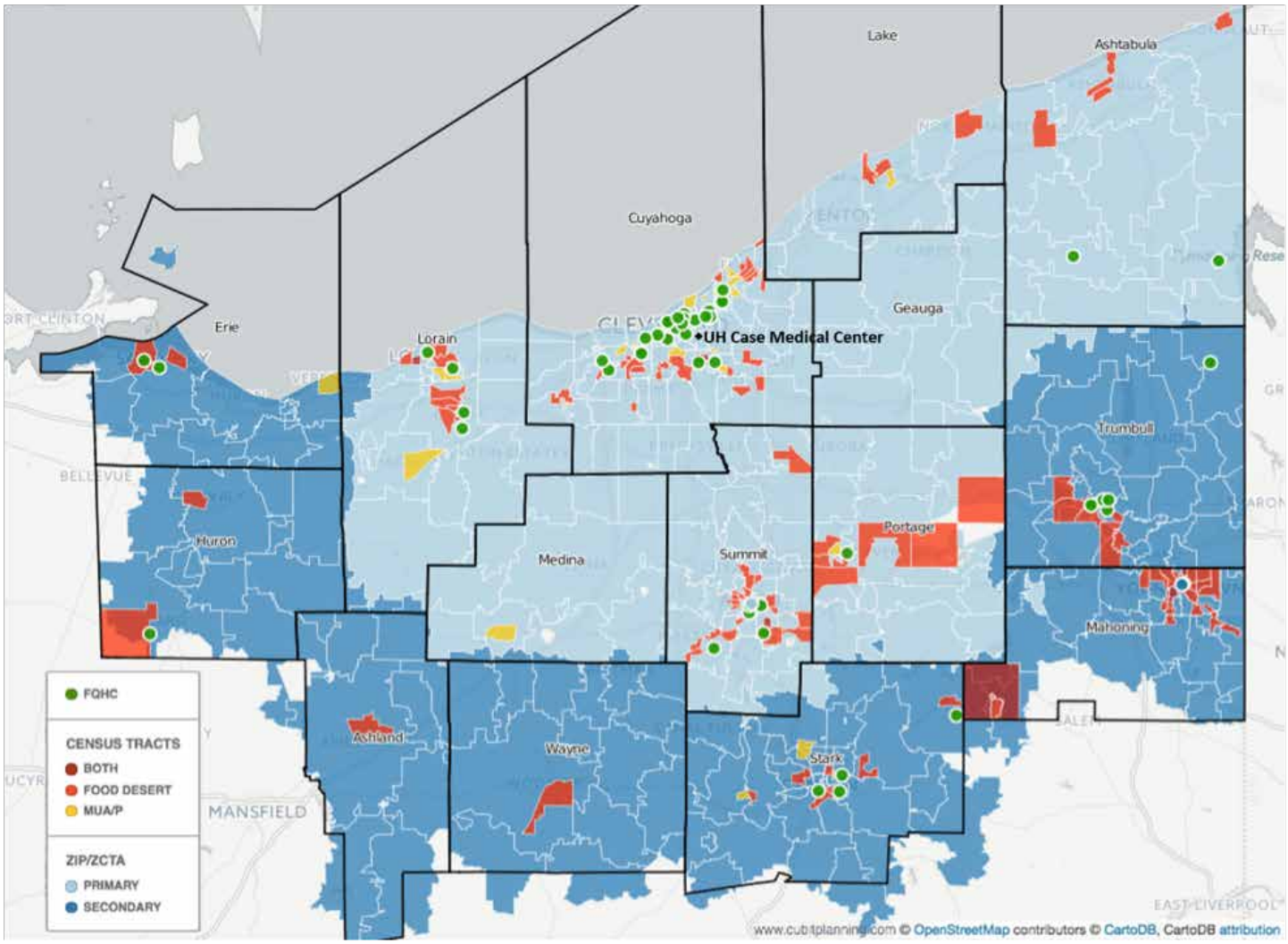
Medically underserved areas/populations are areas or populations designated by the U.S. Department of Health and Human Services' Health Resources and Services Administration (HRSA) as having insufficient primary care providers, a high infant mortality rate, high poverty or a high elderly population. There are several MUA/Ps within UH Case Medical Center's market areas. MUA/Ps tend to be more common in rural areas.

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 41 FQHCs in UH Case Medical Center's market area (one is a 'look-alike,' which is funded differently but provides the same services). All are in urban centers throughout the market area. Please see the appendix for a list of the FQHCs in UH Case 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 Case Medical Center's service area are located in both urban centers and rural areas.

The map in Figure 12: Medically Underserved Areas/ Populations, FQHCs and Food Deserts: UH Case Medical Center overlays medically underserved areas and food deserts in UH Case Medical Center's market areas to determine areas that may have the highest need for services. To provide further context, the map also pinpoints the location of FQHCs.

FIGURE 12: MEDICALLY UNDERSERVED AREAS/POPULATIONS, FQHCS AND FOOD DESERTS: UH CASE MEDICAL CENTER



I. Primary Analysis of Representative Sample of Market Area Population

To further understand UH Case Medical Center market area health needs, the following section presents the results of a county by county mail survey of adults, youth and parents of children (who reside in UH Case Medical Center's market area) regarding their health and access to health care.

Various randomized mail surveys of adults, youth (ages 12 to 18) and parents of young children (ages 0 to 11) were conducted in some of UH Case Medical Center's market area counties at various points in time from 2011 to 2015. These surveys provide behavioral and attitudinal data for populations within many of the counties served by UH Case Medical Center. Survey data are available for the counties and populations as listed in Table 7: Availability of County-Based Community Member Survey Data. These surveys were commissioned by groups, including public health and health care, on a county-by-county basis and completed by the Hospital Council of Northwest Ohio. Some counties chose to study only adults, while others survey youth and/or children. As such, data is only available for certain population groups in each county.

Population Health Status

This section describes the self-reported health status of some of the population within UH Case Medical Center's market area (Cuyahoga, Ashtabula, Geauga, Lorain, Medina and Portage counties). This is based on the survey data collected between 2011 and 2015. Survey respondents for the county-wide data were designated as residents of UH Case Medical Center's market area via their residential ZIP code. The sample size for each of these surveys of adults is approximately 400.

Table 28: Seek Primary Care Outside of County, shows the percent of respondents that report seeking primary medical care outside of the county was uncommon for those living in Cuyahoga County (3.2%), but not for those living in the other counties.

Figure 7: Self-Described General Health Status illustrates that a majority of those in all counties reported their 'overall health care' as at least good. Within that data, Geauga County and Medina County residents were most positive about their health.

When asked to describe physical and mental health status, respondents shared that on average, residents within UH Case Medical Center's market area, in counties surveyed, their physical health was 'not good' an average of two to five days, depending on the county. Medina County survey respondents reported the fewest number of days, on average, of not feeling well physically. This data is shown in Table 29: Self-Described Physical and Mental Health Status: Past 30 Days.

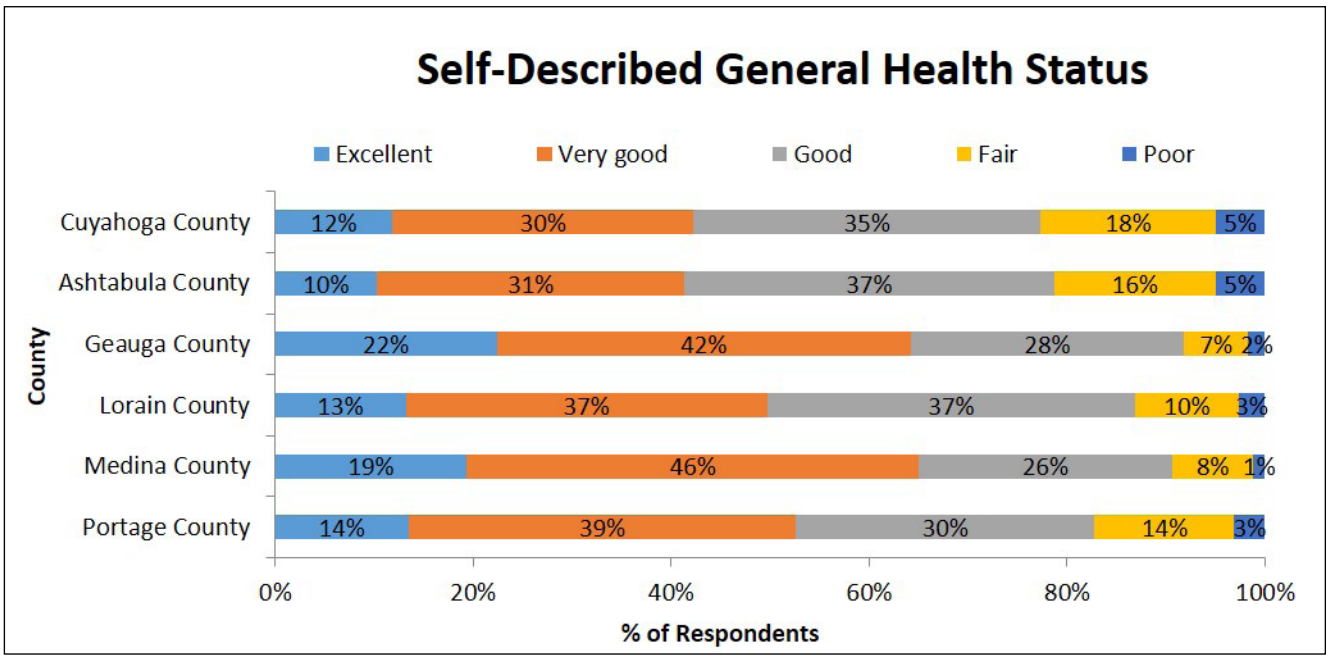
Survey respondents also reported their mental health as not being good between two and about five days across all counties surveyed. For them, these less-than-optimal health days prevented them from doing their normal activities (work, school) an average of about two to three days.

TABLE 28: SEEK PRIMARY CARE OUTSIDE OF COUNTY

County	Percent of Respondents
Cuyahoga County	3.2%
Ashtabula County	23.4%
Geauga County	37.8%
Lorain County	15.1%
Medina County	34.0%
Portage County	Not available

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

FIGURE 7: SELF-DESCRIBED GENERAL HEALTH STATUS



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 29: 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
Cuyahoga County			
Mean Number of Days	4.09	4.24	2.75
Proportion With At Least One Day	36.1%	36.1%	25.1%
Ashtabula County			
Mean Number of Days	4.76	5.38	3.26
Proportion With At Least One Day	41.0%	41.0%	26.2%
Geauga County			
Mean Number of Days	3.44	2.64	1.69
Proportion With At Least One Day	33.0%	33.0%	19.1%
Lorain County			
Mean Number of Days	3.27	3.65	2.13
Proportion With At Least One Day	33.3%	33.3%	19.1%
Medina County			
Mean Number of Days	2.27	4.04	1.84
Proportion With At Least One Day	38.4%	38.4%	22.7%
Portage County			
Mean Number of Days	3.69	4.74	2.36
Proportion With At Least One Day	43.9%	46.5%	27.7%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

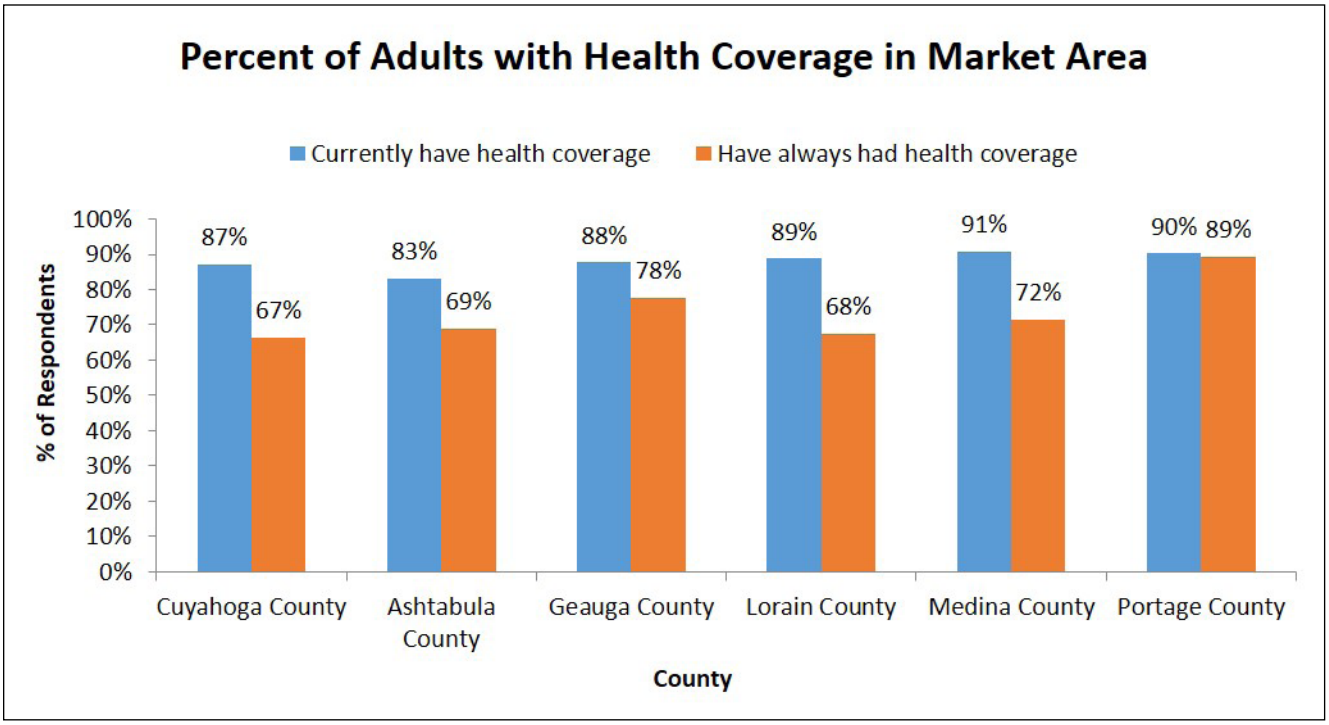
Health Care Coverage

Figure 8: Percent of Adults with Health Coverage in Market Area shows that between 83% and 91% of adults surveyed in UH Case Medical Center's market areas reported having health coverage, depending on the county. However, lack of access to health coverage was a common occurrence during some point in the adult lives of many of UH Case Medical Center's market area adult residents. Portage County respondents were most likely to report never being without coverage as an adult.

Figure 9: Access to Health Care illustrates the challenges respondents reported regarding accessing health care. A majority of adults in UH Case Medical Center's market area reported having a primary care provider (75% to 86%). Between one-fifth and one-third reported that their financial situation, combined with their level of health coverage, could prevent them from seeking needed medical care because of cost. Transportation was less frequently cited as a barrier to obtaining care, but was more commonly cited in Lorain County.

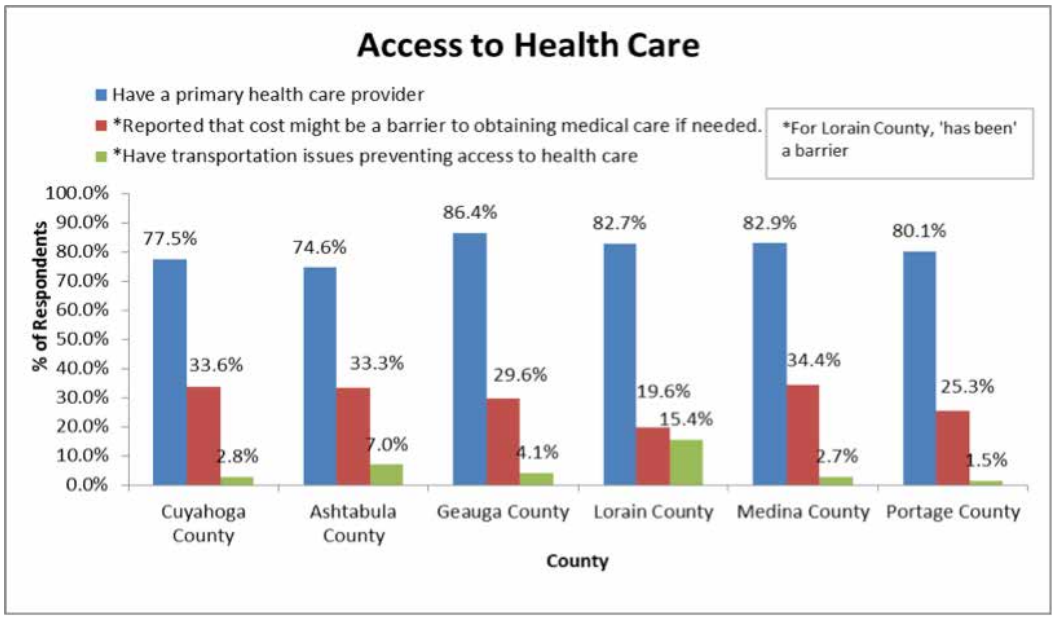
When asked where they seek care in a time of need, all survey respondents (100%) were able to name a location or source from which they primarily seek health care services or information, shown in Figure 10: Specific Sources of Care. The most common specific location where health care or information was primarily sought was a physician's office. In general, the second most common source for health care services or information was a hospital emergency department or urgent care facility. The use of a hospital emergency department as a primary place to seek care was most prevalent in Ashtabula County.

FIGURE 8: PERCENT OF ADULTS WITH HEALTH COVERAGE IN MARKET AREA



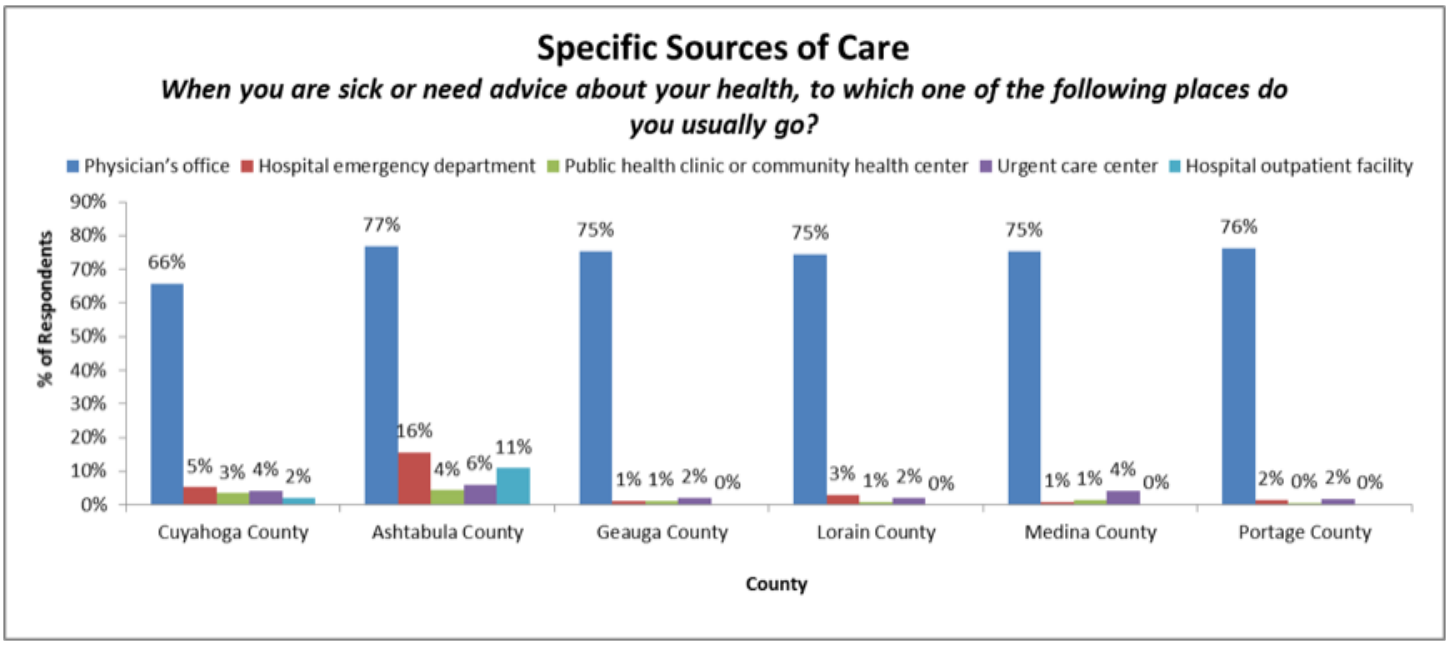
Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

FIGURE 9: ACCESS TO HEALTH CARE



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

FIGURE 10: SPECIFIC SOURCES OF CARE



Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

Health Care Utilization

Cost is often a barrier to obtaining care, and this is true even for those with health care coverage. Shown in Table 30: Percent of Adults Who Have Not Obtained Preventive Care Procedures or Other Medical Services Because of Cost, more than one-third (33.0%) of all respondents (who mostly had health care insurance) reported that cost might keep them from receiving health care if needed. Deductibles and copays are often a barrier to seeking care.

Many reported that cost has been a barrier to seeking various specific preventive or medical services. One in five in (21.4%) reported that cost has been a barrier to obtaining at least one of these types of medical services; fewer (one in 10) Geauga County respondents reported cost being a barrier to receiving care.

In addition, having health care coverage did not equate to having a primary care physician, as illustrated in Table 31: Percent of Adults with Primary Care Physician(s)/Health Care Provider(s). While most survey respondents had health care coverage, not all of them had a primary care provider. However, many of those without insurance at the time of the survey did have a primary care provider. This was most true in Portage County (56.8%) and least true in Medina County (23.3%).

Table 32: Incidence of Receiving Routine Health Care: UH Case Medical Center Primary and Secondary Market shows that seeking and obtaining preventive care (general medical or dental checkup) was completed by a majority of adults in UH Case Medical Center's market area. Overall, males were less likely to obtain prostate cancer screenings than females were to obtain breast or cervical cancer screenings. Many preventive tests are routinely obtained by fewer than half.

Certain unhealthy or risky behaviors are fairly prevalent among adults in UH Case Medical Center's market area, shown in Table 33: Incidence of Unhealthy/Risky Behaviors: UH Case Medical Center Primary and Secondary Market.

Survey results found that between 11.5% and 21.9%, depending on the county surveyed, were smokers at the time of the survey. In addition, 4.5% to 10.7% reported using illicit drugs recreationally. Recall that a large percentage of UH Case Medical Center patients (one-fourth) had a secondary diagnosis of nondependent drug abuse.

A significant proportion of households in UH Case Medical Center's market area reported that they store a firearm which is unlocked and loaded (2.4% to 4.8%).

Among the adult population, unhealthy consumption of alcohol (binge drinking) occurred two or more times for one-fourth to one-third of the adult population in the 30 days prior to being surveyed. Many reported binge drinking (five or more drinks) at least once a week.

Recall that obesity was very commonly diagnosed for UH Case Medical Center inpatients in 2013 (one in four discharged adults). Table 34: Self-Reported Overweight and Obese, shows that approximately that many in the general adult population in surveyed counties are also clinically obese.

Discharge data also showed that one in five of UH Case Medical Center's adult discharged patients in 2013 had a primary diagnosis of circulatory system disease. Another 59% had a secondary diagnosis of a circulatory system disease. 18% had a primary diagnosis of lung disease, which is often tied to smoking. One-fourth were diabetics. These and related conditions are strongly tied to lifestyle choices, as shown in Tables 33 and 34.

TABLE 30: PERCENT OF ADULTS WHO HAVE NOT OBTAINED PREVENTIVE CARE PROCEDURES OR OTHER MEDICAL SERVICES BECAUSE OF COST

	Cuyahoga County	Ashtabula County	Geauga County	Medina County
Pap smear test (females)	6.8%	9.8%	5.4%	4.0%
Mammogram (females)	7.7%	4.0%	12.8%	2.7%
Medications	9.6%	10.6%	6.9%	4.0%
Weight loss program	6.2%	5.5%	Not available	5.2%
Mental health treatment	4.6%	Not available	Not available	Not available
Colonoscopy	7.3%	13.0%	6.9%	6.7%
Surgery	3.6%	5.5%	3.3%	1.2%
Immunizations	3.2%	Not available	Not available	Not available
Family Planning	.6%	Not available	Not available	Not available
Smoking cessation	3.4%	6.7%	Not available	2.1%
Alcohol and drug treatment	1.2%	Not available	Not available	Not available
PSA test (males)	1.8%	3.9%	3.4%	1.2%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 31: PERCENT OF ADULTS WITH PRIMARY CARE PHYSICIAN(S)/HEALTH CARE PROVIDER(S)

	Cuyahoga County	Ashtabula County	Geauga County	Lorain County	Medina County	Portage County
Of All Respondents (Those With And Without Coverage)	77.5%	74.6%	86.4%	82.7%	82.9%	80.1%
Of Respondents Without Health Insurance Coverage	49.3%	43.8%	30.4%	52.5%	23.3%	56.8%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 32: INCIDENCE OF RECEIVING ROUTINE HEALTH CARE: UH CASE MEDICAL CENTER PRIMARY AND SECONDARY MARKET

Type of Routine Health Care Service	Cuyahoga County	Ashtabula County	Geauga County	Lorain County	Medina County	Portage County
Obtained routine checkup within past two years	81.0%	66.7%	74.1%	75.6%	71.0%	75.2%
Visited a dentist for a routine checkup within past two years	73.0%	55.6%	79.3%	74.6%	83.2%	76.9%
Recent blood pressure check (within past year)	84.9%	87.9%	85.7%	85.3%	85.5%	84.2%
Recent cholesterol check (within past year)	64.1%	63.5%	64.1%	69.2%	57.8%	55.8%
Received flu vaccine (within past year)	55.2%	48.2%	43.3%	43.3%	36.6%	57.9%
Recent clinical breast exam (females only, within past year)	63.9%	57.7%	37.4%	56.5%	62.5%	48.8%
Recent Pap smear (females only, within past year)	44.7%	27.6	48.2%	45.4	52.5%	31.6%
Recent mammogram (females only, within past year)	38.2%	36.3%	40.3%	38.9%	40.1%	35.8%
Recent Prostate-Specific Antigen test (males only, within past year)	35.7%	30.7%	32.6%	31.4%	35.0%	23.0%
Recent digital exam of prostate gland (males only, within past year)	36.4%	23.6%	29.7%	25.3%	34.9%	19.1%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 33: INCIDENCE OF UNHEALTHY/RISKY BEHAVIORS: UH CASE MEDICAL CENTER PRIMARY AND SECONDARY MARKET

Type of Unhealthy/Risky Behavior	Cuyahoga County	Ashtabula County	Geauga County	Lorain County	Medina County	Portage County
Smoke cigarettes	18.8%	21.9%	12.7%	21.9%	11.5%	12.8%
Used recreational drugs within past six months	9.3%	7.8%	4.5%	10.7%	6.0%	Not available
Have firearm(s) in home which is unlocked/loaded	2.4%	4.8%	3.3%	3.8%	Not available	4.6%
Do not always wear seat belt while in vehicle	15.4%	15.4%	9.3%	11.0%	Not available	Not available
Binge drinking, two or more times a month (within past 30 days)	39.6%	22.9%	25.1%	39.0%	41.4%	21.7%
Binge drinking once a week or more	16.5%	13.4%	9.2%	17.4%	15.1%	7.1%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 34: SELF-REPORTED OVERWEIGHT AND OBESE

	Percent Overweight (BMI 25 – 29.9)	Percent Obese (BMI 30+)
Cuyahoga County	43.1%	23.6%
Ashtabula County	36.0%	32.0%
Geauga County	37.8%	21.6%
Lorain County	35.0%	32.0%
Medina County	37.7%	23.2%
Portage County	30.1%	28.4%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

Survey of Youth

This section presents the results of surveys of Ashtabula, Geauga, Lake and Medina county youth regarding their health and safety behaviors and attitudes. Survey data were obtained from a 2011 survey of Ashtabula County youth, a 2011 survey of Geauga County youth, a 2014 survey of Lake County youth, and a 2012 survey of Medina County youth. Please see the appendix for a summary of youth survey results for Cuyahoga County, which was provided as supplemental information by the Cleveland Department of Public Health.

Almost one in four youth in UH Case Medical Center's primary market area overall live in single family homes. 4% of youth living in UH Case Medical Center's market area within Lake County reported not having enough food to eat in the home at least one day per week.

Table 35: Personal Safety: Risky Environments and Behaviors shows that teens in Ashtabula, Geauga, Lake and Medina counties often engage in risky behavior. Depending on the county, 15 to 36% of surveyed youth reported not choosing to wear a seatbelt always or most of the time while riding in a vehicle, and 14 to 20% had driven in a car with someone who had been drinking in the 30 days prior to the survey. 2 to 7% of youth survey respondents reported driving after drinking in the 30 days prior to the survey. Many (8% to 11%) carried a weapon in the 30 days prior to the survey.

About one-third of youth in Ashtabula and Lake Counties reported being sexually active, and 3 to 4% of Ashtabula and Lake County teens in UH Case Medical Center's market area were both sexually active and used no method of birth control during their most recent sexual encounter prior to the survey.

Table 36: Personal Safety: Harmed By Others shows that many teens in UH Case Medical Center's market area reported being physically harmed by boyfriends or girlfriends (6%) or adults or other caregivers (8% to 16%) within the year prior to the survey. Roughly one-fourth of surveyed youth had been in a physical fight, and about half reported being bullied, within the year prior to the survey.

Mental health issues were frequent diagnoses among UH Case Medical Center discharges in 2013. Surveyed youth reported frequent mental health issues also, shown in Table 37: Mental Health.

Table 38: Unhealthy Habits illustrates that unhealthy and often dangerous habits are not uncommon among UH Case Medical Center's market area youth. Smoking prevalence (10% to 15%) is almost at adult levels, and consumption of alcohol is even more common (19% to 31%).

Use of illegal drugs is also fairly common: 10 to 20% of youth in the hospital's market area reported using marijuana within the past 30 days. Lifetime use of cocaine, inhalants, heroin, methamphetamines, and steroid pills or shots ranged from 1% to 11% of surveyed youth, depending on the county and the substance. 2% of youth in Ashtabula and Geauga Counties have injected illegal drugs via a needle. Just over 1 in 10 surveyed youth in Geauga, Lake and Medina counties had been offered an illegal drug while at school within the year prior to being surveyed.

Consumption of soft drinks is very high among teens in some counties within UH Case Medical Center's market area, but particularly high in Ashtabula County, shown in Table 39: Nutrition. Obesity among youth is highest in Ashtabula County and lowest in Medina County.

Finally, Table 40: Parental Disapproval shows that not all youth are clear on parental disapproval regarding their choices (Lake and Medina county youth data only; Ashtabula or Geauga county data are not available). When asked whether or not their parents would disapprove of their use of various unhealthy or illegal substances, not all were affirmative.

TABLE 35: PERSONAL SAFETY: RISKY ENVIRONMENTS AND BEHAVIORS

	Ashtabula County	Geauga County	Lake County	Medina County
Rode in car, within past 30 days, with a driver who had been drinking alcohol	18%	17%	20%	14%
Wear seat belt while riding in a vehicle, not always or most of the time	23%	36%	Not available	15%
Drive a car after drinking alcohol (within past 30 days)	4%	7%	2%	4%
Carry a weapon (within past 30 days)	10%	11%	8%	10%
Sexually active	39%	Not available	30%	Not available
Is sexually active and used no form of birth control for most recent sexual activity	3%	Not available	4%	Not available

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 36: PERSONAL SAFETY: HARMED BY OTHERS

	Ashtabula County	Geauga County	Lake County	Medina County
Threated or injured by someone with a weapon on school property (within past year)	6%	5%	5%	7%
Physically harmed by boyfriend/girlfriend (within past year)	6%	6%	6%	6%
Physically harmed by adult or caregiver (within past year)	8%	12%	15%	16%
In a physical fight (within past year)	23%	23%	28%	23%
Bullied (physically, verbally, cyber, sexually) (within past year)	42%	55%	53%	54%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 37: MENTAL HEALTH

	Ashtabula County	Geauga County	Lake County	Medina County
Mental health, within the past year:				
Feelings of sadness or hopelessness every day for more than two weeks enough to stop normal activities	23%	19%	30%	25%
Attempted suicide which required treatment by a doctor or a nurse	2%	4%*	2%	2%
Engaged in self-hurting activity (cutting, etc.)	25%	Not available	Not available	Not available

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data
**Question was worded: "within past 12 months…actually attempt suicide."*

TABLE 38: UNHEALTHY HABITS

	Ashtabula County	Geauga County	Lake County	Medina County
Smoke cigarettes	15%	14%	12%	10%
Consumed alcohol within past 30 days	19%	31%	29%	22%
Binge drinking within past 30 days	14%	20%	15%	13%
Used marijuana within past 30 days	10%	14%	20%	12%
Used cocaine in lifetime	5%	4%	4%	4%
Used inhalants in lifetime	5%	8%	5%	11%
Used heroin in lifetime	1%	2%	1%	2%
Used methamphetamines in lifetime	2%	2%	2%	3%
Used steroid pills or shots in lifetime	4%	1%	2%	2%
Took prescription medications not prescribed to you in lifetime	8%	9%	7%	13%
Tried other recreational "party" drugs (ecstasy, cough syrup, GbH, etc.)	12%	Not available	10%	11%
Injected illegal drugs via a needle	2%	2%	Not available	Not available
Been offered illegal drugs on school property within past year	Not available	13%	11%	14%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 39: NUTRITION

	Ashtabula County	Geauga County	Lake County	Medina County
Drink at least one serving of a soft drink most days of the week	54%	Not available	29%	Not available
Drink at least one serving of an 'energy' drink most days of the week	Not available	Not available	16%	Not available
Ate at a fast food restaurant at least three days per week	Not available	Not available	20%	Not available
Overweight (not obese)	13%	7%	13%	9%
Obese	20%	10%	18%	9%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

TABLE 40: PARENTAL DISAPPROVAL

	Lake County	Medina County
Parents would disapprove of youth…		
smoking cigarettes	80%	88%
drinking alcohol	70%	79%
using marijuana	78%	86%
misusing prescription drugs	81%	88%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment

Survey of Households with Children (ages 0 to 11 years)

Mail surveys of random households with children were conducted in three different counties within UH Case Medical Center's market area. The objective was to describe access to health care for families with young children along with the prevalence of various health conditions among children.

Table 41: Type of Health Insurance shows that most (87.3%) children ages 0 to 11 in Geauga County have health insurance coverage, and almost all in Medina and Portage counties do. Health insurance provided by the survey respondent's employer or someone else's employer were the two most common types of health insurance cited. Government insurance sources were most common in Portage County. The Portage County survey was conducted in 2015, after implementation of the Affordable Care Act was underway. That survey found that 1% of children were insured through the Insurance Marketplace.

Table 42: Places Where Health Care Services, Health Information are Obtained shows that the great majority of children in Geauga County, within UH Case Medical Center's market area, obtained health care services from a doctor's office (90%); slightly fewer (88%) did so in Medina County and even fewer in Portage County (80.4%). In Portage County, parents were somewhat more likely to use 'multiple locations' for health care services for their child (including a doctor's office). Use of a hospital emergency room was not frequently relied on for nonemergent care.

While few respondents reported using a hospital emergency department as a typical place to obtain health care for children, many in Geauga County (17.1%) did report taking their child to the emergency room at least once in the year prior to the survey. One in four (25.5%) Medina County survey respondents reported taking their child to a hospital emergency room in the year prior to their survey. Most (14%) had only one occurrence of an emergency room visit.

Although most reported that a doctor's office was the chief place where health care is sought for their child(ren), one in five respondents in Geauga County reported that their child does not have someone that they think of as their child's "personal doctor or nurse," compared to one in four in Portage County. One in 10 children were found to not have a regular primary care provider in Medina County (not shown).

A small but significant proportion of respondents (10.5% to 12.9%, depending on the county) said that their child did not receive all of the medical care he/she needed in the year prior to the survey. The barriers to their child(ren) receiving care were extremely varied, but cost was the most commonly cited barrier to receiving care.

Another small but significant proportion of respondents reported that their child could not obtain the prescription drug he/she required (6.5% to 7.7%). The reasons for that were also many, but were dominated by high cost.

Respondents were shown a list of the most common health issues facing children and were asked if their child had ever been diagnosed with any of the issues, results are found in Table 43: Morbidity of Childhood Health Issues. The most commonly diagnosed health issue among children in the three participating counties was asthma (9.7% to 15.3%). The second most commonly diagnosed health issue was a speech/language delay (Medina and Portage counties only), followed by attention deficit disorder/attention deficit hyperactivity disorder.

TABLE 41: TYPE OF HEALTH INSURANCE

	Geauga County			Medina County			Portage County		
	Children Ages 0 to 5	Children Ages 6 to 11	Total	Children Ages 0 to 5	Children Ages 6 to 11	Total	Children Ages 0 to 5	Children Ages 6 to 11	Total
No health insurance coverage	11.5%	13.3%	**12.3%**	1.0%	0.7%	**0.8%**	0.0%	0.8%	**0.5%**
Your employer insurance	54.0%	50.9%	**52.6%**	62.7%	68.1%	**66.9%**	65%	64.9%	**64.9%**
Someone else's employer insurance	11.9%	12.8%	**12.3%**	14.7%	17.9%	**17.0%**	13%	12.7%	**12.8%**
You or someone else buys on your own	4.2%	7.8%	**5.8%**	5.9%	4.5%	**4.8%**	2.4%	3.5%	**3.1%**
Medicaid or State Children's Health Insurance Program (S-CHIP)	7.7%	5.5%	**6.7%**	9.8%	5.5%	**7.1%**	21.1%	18.8%	**19.6%**
Medicare	1.1%	1.8%	**1.5%**	2.0%	0.3%	**0.5%**	2.4%	3.8%	**3.4%**
Some other source of coverage	8.4%	6.9%	**7.7%**	3.9%	2.7%	**3.0%**	0.0%	0.0%	**0.0%**
Insurance Marketplace*							1.6%	0.8%	**1.0%**
Other	1.1%	0.9%	**1.0%**	0.0%	0.0%	**0.0%**	0.0%	0.0%	**0.0%**

**Only applicable after the implementation of the Affordable Care Act.*
Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 42: PLACES WHERE HEALTH CARE SERVICES, HEALTH INFORMATION ARE OBTAINED

	Geauga County			Medina County			Portage County		
	Children Ages 0 to 5	Children Ages 6 to 11	Total	Children Ages 0 to 5	Children Ages 6 to 11	Total	Children Ages 0 to 5	Children Ages 6 to 11	Total
A doctor's office	88.1%	92.2%	**90.0**	81.6%	90.3%	**88.0%**	80.1%	78.1%	**80.4%**
Multiple places including a doctor's office	6.5%	5.0%	**5.8%**	11.7%	7.6%	**8.7%**	7.4%	13.3%	**11.4%**
Urgent care center	0.8%	1.4%	**1.0%**	1.0%	0.3%	**0.5%**	1.7%	1.6%	**1.6%**
A public health clinic or community health center	0.8%	0.0%	**0.4%**	0.0%	0.0%	**0.0%**	3.3%	1.2%	**1.9%**
In-store health center	0.8%	0.0%	**0.4%**	1.0%	0.7%	**0,8%**	0.0%	1.6%	**1.1%**
Hospital emergency room	0.0%	0.0%	**0.0%**	1.0%	0.0%	**0.5%**	1.7%	1.8%	**1.1%**
Other	3.0%	1.4%	**2.4%**	3.7%	1.1%	**2.3%**	5.8%	2.4%	**2.5%**

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

TABLE 43: MORBIDITY OF CHILDHOOD HEALTH ISSUES

	Geauga County	Medina County	Portage County
Asthma	9.7%	11.0%	15.3%
Speech/Language delay	Not assessed	9.2%	11.0%
Attention deficit disorder or attention deficit hyperactivity disorder	7.1%	6.0%	7.3%
Developmental delay	6.3%	3.4%	5.5%
Pneumonia	5.2%	6.3%	4.3%
Behavioral or conduct problems	4.5%	2.9%	5.5%
Urinary tract infections	4.2%	3.9%	3.5%
Hearing problems	4.0%	1.6%	3.0%
Learning disability	4.0%	3.1%	6.3%
Anxiety problems	3.1%	4.4%	6.3%
Birth defect	3.1%	1.0%	2.8%
Bone, joint or muscle problems	2.7%	1.6%	1.0%
Head injury	2.6%	1.6%	1.5%
Vision problems (not corrected by glasses)	2.5%	1.6%	3.3%
Depression problems	2.1%	2.1%	2.0%
Genetic diseases	1.9%	0.5%	0.8%
Autism	1.3%	1.3%	1.8%
Epilepsy	1.0%	3.9%	0.8%
Digestive tract	0.6%	0.5%	0.3%
Appendicitis	0.6%	0.3%	0.0%
Diabetes	0.4%	0.8%	0.5%
Cancer	0.2%	0.5%	0.3%

Source: Hospital Council of Northwest Ohio Community Health Needs Assessment Data

J. 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 may indicate the existence of broader issues pertaining to access to care and maternal and child health. Here we show the infant mortality rates for all of the counties that fall within UH Case Medical Center's market area. Please see the Appendix for infant mortality data for the City of Cleveland.

Shown in Table 44: Infant Mortality Trends, 2007 to 2012, U.S., UH Case Medical Center Counties, Per 1,000 Births, of the counties that contain UH Case Medical Center's primary market area, Cuyahoga County had the highest infant mortality rate in 2012 (8.86 per 1,000 births). Rates were slightly lower in Ashtabula County (8.09). For both of these counties, the infant mortality rate was higher than in Ohio overall (7.57). For all other counties in UH Case Medical Center's primary market area, infant mortality rates were significantly lower.

In UH Case Medical Center's secondary market area, infant mortality rates were highest in Mahoning (10.81) and Stark (9.78) counties. Mahoning County had the highest infant mortality rate among all of the counties in UH Case Medical Center's market area.

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 all counties which are part of UH Case Medical Center's market area, with the exception of Geauga County for which reliable data are not available.

Note in Figure 11: Infant Mortality Trends, that the infant mortality rates for Blacks within many of UH Case Medical Center's primary market area counties (Ashtabula, Lake, Lorain, Medina and Portage) fluctuate a great deal from 2007 to 2012; this is because the absolute number of births for Blacks in these counties is low (fewer than 500), and small changes in the number of infant mortalities are reflected as large changes in infant mortality rates. The infant mortality rate for Blacks in Geauga County could not be calculated due to low numbers of Black births in that county. Figure 11 shows only the contrast between White and Black infant mortality rates for the geographic areas reported above where there are significant Black populations. This illustrates that there are large and consistent racial disparities in infant mortality rates, from 2007 to 2012, for Cuyahoga and Summit counties, Ohio, and the U.S. overall.

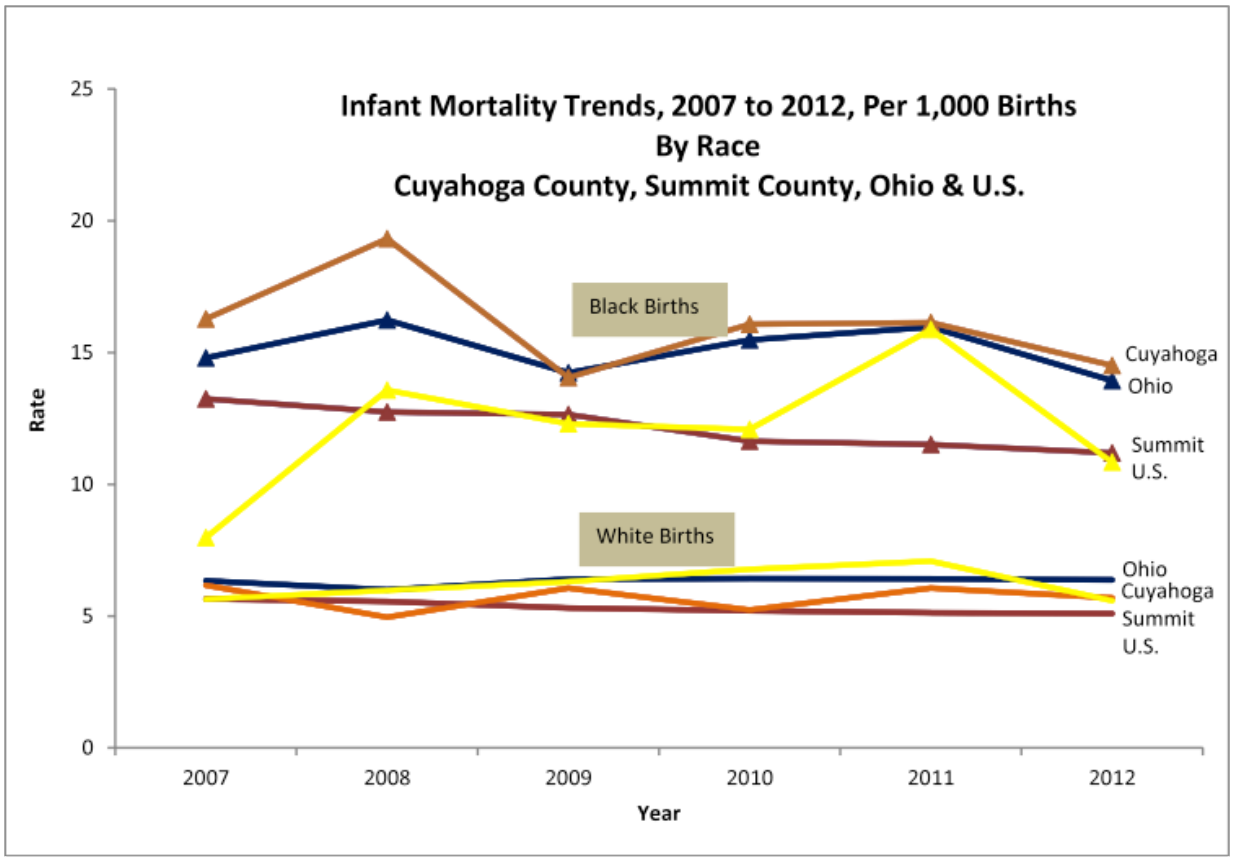
TABLE 44: INFANT MORTALITY TRENDS, 2007 TO 2012, U.S., UH CASE MEDICAL CENTER COUNTIES, PER 1,000 BIRTHS

Geography	Race	Infant Mortality Rate					
		'07	'08	'09	'10	'11	'12
United States Overall	**Total**	**6.75**	**6.61**	**6.39**	**6.15**	**6.07**	**5.98**
	White	5.64	5.55	5.30	5.20	5.12	5.09
	Black	13.24	12.74	12.64	11.63	11.51	11.19
Ohio Overall	**Total**	**7.71**	**7.70**	**7.67**	**7.68**	**7.87**	**7.57**
	White	6.34	6.00	6.40	6.42	6.41	6.37
	Black	14.79	16.23	14.23	15.47	15.96	13.93
UH Case Medical Center Primary Market Area							
Cuyahoga County	**Total**	**9.97**	**10.59**	**9.08**	**9.07**	**9.47**	**8.86**
	White	6.17	4.95	6.06	5.23	6.06	5.69
	Black	16.27	19.32	14.05	16.07	16.13	14.51
Ashtabula County	**Total**	**9.69**	**6.64**	**10.43**	**8.56**	**8.76**	**8.09**
	White	7.83	6.07	10.95	7.31	6.78	7.99
	Black	56.60*	21.74*	0.00*	76.92*	46.51*	26.32*
Summit County	**Total**	**6.23**	**7.49**	**7.57**	**8.04**	**8.91**	**6.67**
	White	5.63	5.97	6.30	6.77	7.08	5.58
	Black	7.97	13.57	12.29	12.08	15.87	10.84
Lorain County	**Total**	**8.37**	**6.84**	**7.31**	**8.31**	**5.20**	**6.26**
	White	7.50	4.20	4.52	6.32	3.64	6.39
	Black	14.99*	24.14*	24.79*	25.58*	18.96*	9.8*
Medina County	**Total**	**3.06**	**5.31**	**1.08**	**0.57**	**3.39**	**6.4**
	White	3.18	5.49	1.12	0.60	2.96	6.74
	Black	0.00*	0.00*	0.00*	0.00*	29.41*	0.00*
Geauga County	**Total**	**8.23**	**2.21**	**2.22**	**2.13**	**7.84**	**6.36**
	White	8.46	2.25	2.27	2.18	8.03	6.67
	Black	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*
Portage County	**Total**	**7.79**	**8.30**	**7.08**	**7.52**	**5.43**	**5.06**
	White	7.18	8.93	5.61	6.07	5.22	4.83
	Black	21.05*	0.00*	31.58*	20.83*	0.00*	10.20*
Lake County	**Total**	**8.31**	**6.71**	**3.38**	**2.53**	**3.95**	**4.12**
	White	8.15	5.63	3.70	1.96	4.08	4.34
	Black	14.39*	24.39*	0.00*	14.60*	8.62*	6.49*

Geography	Race	Infant Mortality Rate					
		'07	'08	'09	'10	'11	'12
UH Case Medical Center Secondary Market Area							
Mahoning County	**Total**	**8.72**	**8.87**	**10.86**	**11.58**	**6.94**	**10.81**
	White	6.19	7.05	6.80	10.35	6.85	5.97
	Black	16.42	14.03	22.09	16.95	7.27	23.65
Stark County	**Total**	**7.67**	**8.60**	**7.48**	**9.08**	**8.13**	**9.78**
	White	6.02	7.29	4.82	6.55	7.10	8.53
	Black	20.60	18.87	28.23*	28.02*	16.32*	19.69*
Trumbull County	**Total**	**9.03**	**8.08**	**9.68**	**9.98**	**8.13**	**8.62**
	White	7.90	6.39	9.45	8.24	6.44	7.40
	Black	19.31*	20.55*	12.05*	22.81*	18.66*	17.62*
Erie County	**Total**	**3.42**	**13.17**	**7.60**	**10.74**	**7.91**	**7.60**
	White	2.70	11.36	7.34	11.27	4.75	1.52
	Black	7.87*	24.39*	9.90*	9.62*	8.77*	35.4*
Wayne County	**Total**	**7.51**	**5.60**	**8.92**	**5.59**	**1.95**	**5.96**
	White	7.05	5.09	8.52	5.80	2.01	6.17
	Black	35.71*	37.04*	41.67*	0.00*	0.00*	0.00*
Huron County	**Total**	**5.78**	**4.58**	**6.50**	**4.04**	**8.61**	**5.53**
	White	5.90	4.67	6.68	4.42	9.16	5.94
	Black	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*
Ashland County	**Total**	**0.00**	**12.42**	**6.43**	**3.06**	**1.74**	**3.16**
	White	0.00	12.58	6.56	3.14	1.78	3.21
	Black	0.00*	0.00*	0.00*	0.00*	0.00*	0.00*

**Total number of births is less than 500; interpret with care*
***Source: Ohio Department of Health*

FIGURE 11: INFANT MORTALITY TRENDS



K. Incidence of Adult Health Issues

Table 45: Cancer Incidence by Cancer Type shows that prostate and breast are the two most common cancer diagnoses in all counties within UH Case Medical Center's market area. Cuyahoga County has the highest prostate cancer rate. Erie County has the highest breast cancer rate.

TABLE 45: 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)	Ashtabula County	50,511	89	149.2
	Cuyahoga County	609,670	1,076	156
	Geauga County	45,951	78	136.2
	Lake County	111,848	185	134.9
	Lorain County	147,670	234	144.3
	Medina County	84,261	131	145.9
	Portage County	78,578	123	147.1
	Summit County	261,864	361	122.5
	Ashland County	26,090	30	97.2
	Erie County	37,806	70	137.1
	Huron County	29,333	42	135.7
	Mahoning County	116,049	213	145.8
	Stark County	182,041	320	145.9
	Trumbull County	102,796	171	128.4
	Wayne County	56,424	61	97.1
	Ohio	5,624,513	8,272	135.8
	United States	150,740,224	220,000	142.3

Cancer Type	Report Area	Total Population	Average New Cases per Year	Annual Incidence Rate (Per 100,000 Population)
Breast Cancer (total population female only)	Ashtabula County	51,165	74	112.8
	Cuyahoga County	675,609	1,107	129.7
	Geauga County	47,525	73	120.6
	Lake County	117,897	202	132.5
	Lorain County	152,821	211	112.9
	Medina County	87,066	135	131.4
	Portage County	82,135	104	113.7
	Summit County	280,305	392	114.1
	Ashland County	27,241	38	113.5
	Erie County	39,417	71	136.6
	Huron County	30,480	41	117.5
	Mahoning County	124,082	211	124.1
	Stark County	194,101	286	114.6
	Trumbull County	108,607	176	122.1
	Wayne County	58,084	78	112.5
	Ohio	5,901,023	8,435	120
	United States	155,863,552	216,052	122.7
Lung Cancer	Ashtabula County	101,676	103	81.3
	Cuyahoga County	1,285,279	1,143	71.5
	Geauga County	93,476	62	54.2
	Lake County	229,745	226	77
	Lorain County	300,491	250	71.3
	Medina County	171,327	117	62.9
	Portage County	160,713	125	73.4
	Summit County	542,169	458	70.6
	Ashland County	53,331	40	60.8
	Erie County	77,223	75	71.6
	Huron County	59,813	51	75.6
	Mahoning County	240,131	225	67
	Stark County	376,142	327	68.1
	Trumbull County	211,403	233	80.9
	Wayne County	114,508	76	57.2
	Ohio	11,525,536	9,551	72.4
	United States	306,603,776	212,768	64.9

Cancer Type	Report Area	Total Population	Average New Cases per Year	Annual Incidence Rate (Per 100,000 Population)
Colon and Rectum Cancer	Ashtabula County	101,676	66	52
	Cuyahoga County	1,285,279	709	44.2
	Geauga County	93,476	47	41.6
	Lake County	229,745	125	42.7
	Lorain County	300,491	144	41.3
	Medina County	171,327	79	42.2
	Portage County	160,713	71	42.6
	Summit County	542,169	269	41.4
	Ashland County	53,331	30	46.6
	Erie County	77,223	58	55.3
	Huron County	59,813	37	57.2
	Mahoning County	240,131	161	47.8
	Stark County	376,142	190	39.9
	Trumbull County	211,403	145	50.9
	Wayne County	114,508	50	38.4
	Ohio	11,525,536	5,862	44.5
	United States	306,603,776	142,173	43.3
Cervical Cancer (total population female only)	Ashtabula County	51,165	6	10
	Cuyahoga County	675,609	61	8.3
	Geauga County	47,525	No data	No data
	Lake County	117,897	7	5.3
	Lorain County	152,821	14	8.6
	Medina County	87,066	No data	No data
	Portage County	82,135	6	7.8
	Summit County	280,305	15	5.3
	Ashland County	27,241	No data	No data
	Erie County	39,417	5	11.7
	Huron County	30,480	3	9.9
	Mahoning County	124,082	10	7.3
	Stark County	194,101	13	6.5
	Trumbull County	108,607	10	9.1
	Wayne County	58,084	4	6.4
	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

CONCLUSIONS

A. Priority Health Needs

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

Health Disparities

- Equity
- Poverty
- Education
- Unemployment
- Aging population
- Violence/safety
- Infant mortality

Access Barriers

- Cost of care
- Transportation barriers
- Poor access to mental health and primary care
  - High ED utilization
  - Health Literacy
  - Lack of resources

Lifestyle Barriers

- Obesity
- Nutrition
- Smoking
- Physical Activity

Chronic Disease Conditions

- Alzheimer's
- Cancer
- Diabetes
- Digestive Diseases
- Heart Disease
- Respiratory Diseases
- Mental illness

This list of health needs was compiled based on the variety of data assessed throughout this report. For example, issues like 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, focus groups and public health interviews. Health needs were categorized into four primary categories of health needs, which encompassed a broader list of specific, related needs.

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

A. Susan Blankschaen, Director, Hemodialysis & Ambulatory Services

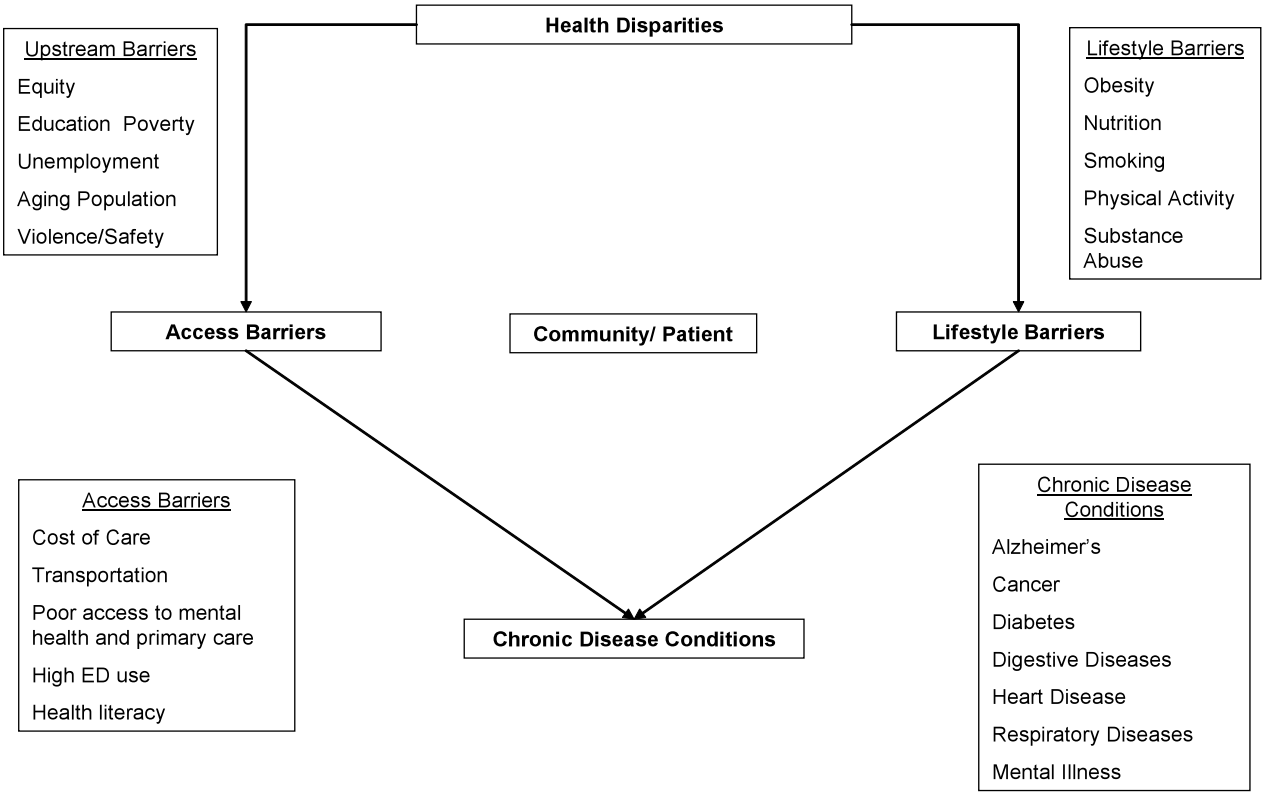
B. Chesley Cheatham, Community Outreach Manager, UH Seidman Cancer Center

C. Jonathan Lever, Senior Clinical Data Analyst, Institute for Healthcare Quality & Innovation

D. Johnie Rose, MD, PhD, Preventive Medicine Residency Program Director, Case Western Reserve University School of Medicine

The team met in July 2015 and together determined priorities, which were determined based on specific criteria, including (1) magnitude of the problem, (2) alignment of the problem with existing programs (both internal to UH and external in the community), and (3) feasibility of change. The team believes that these criteria will enable prioritization of needs to which we can affect the greatest impact. 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.

The UH Case Medical Center team understands that many of these health needs are interrelated. As such, it is impossible to address some, without addressing the others. To better understand these priorities and how they relate, the team compiled this map.



The upstream barriers and health disparities described here influence community access to the health system, especially primary care and mental health care. These access challenges are largely driven by the community's inability to pay for services and inability to travel to those services. These upstream barriers also influence the community's personal access to critical resources like healthy food and opportunities for physical activity, which are key lifestyle factors that drive health. This combination of access and lifestyle barriers drives the community's inability to properly manage chronic disease conditions, which require ongoing primary care relationships and special attention to diet, exercise and other routine habits.

The team believes that UH Case Medical Center's implementation efforts around Health System Access will be the driver of improvements in chronic disease management, healthier lifestyles and, ultimately, upstream health disparities.

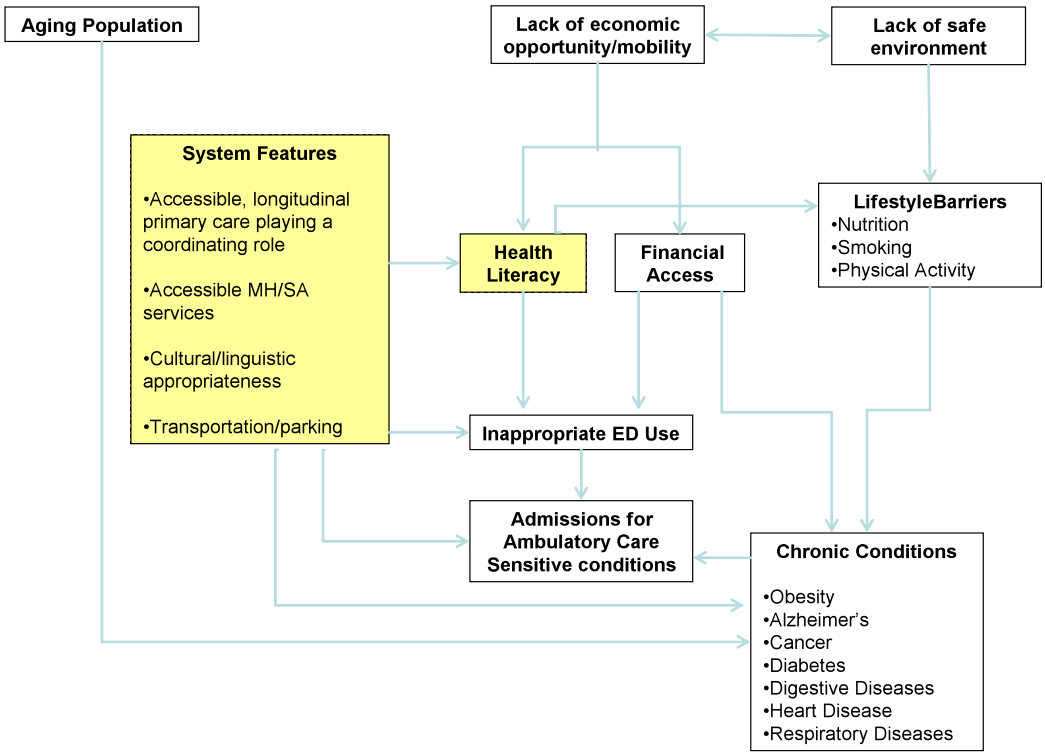
In framing these priorities, the UH Case Medical Center team considered efforts currently under way in the community that align with the identified community health needs. A key component of this was the recently released HIP-Cuyahoga (HIP-C) Community Health Improvement Plan (CHIP). HIP-C has prioritized four categories of health issues, to UH Case Medical Center's priority health needs categories align:

1. Eliminate structural racism as a social determinant of health (Health Disparities)
2. Increase access and opportunity for improved nutrition and physical activity (Lifestyle Barriers and Access Barriers)
3. Improve coordination between clinical care and public health to improve population health (Access Barriers)
4. Improve chronic disease management through the engagement of various sectors (Chronic Disease Conditions)

It is UH Case Medical Center's intent to coordinate with, and leverage the initiatives of HIP-C, in an effort to have broader-reaching initiatives with the opportunity for greater community impact.

There are numerous organizations in the community that are working to address a cadre of the needs identified in this CHNA. UH Case Medical Center intends to devote efforts to identifying these resources and determining opportunities for ongoing collaborations. Where existing resources fall short, UH Case Medical Center will implement programs to drive health improvement.

The chart below illustrates the relationships among the health needs identified above. As UH Case Medical Center begins to identify implementation strategies to influence community health, the items in yellow highlight areas of feasibility for interventions both as a hospital and in collaboration with community partners.



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:

UH Resources

HCAP Application Processing and Assistance
Clinical Laboratory Testing
Patient Access Financial Counseling
Pharmacy Services
Ronald McDonald CareMobile
Tapper Dental Clinic
340B Pharmaceutical Drug Access Program
Healthy Kids, Healthy Weight™
Family Learning Center Outpatient Education
Centering Pregnancy Program
Family Learning Center Preventative Care Classes
Infant Care PREEMIE
Art Therapy/Music Therapy
Social Services Support Groups
Transplant Support Groups
Pediatric Psychiatric Inpatient Unit
Cancer Awareness/Education
Child Life Community Education
Child Life Intervention Children
Community Safety Belt Promotion
Family Resource Center
Rainbow Injury Prevention Center

Representative Community Resources

Alzheimer's Association
American Diabetes Association
American Heart Association
American Jewish Committee Cleveland Chapter
American Liver Foundation
American Red Cross
Antioch Baptist Church
Autism Speaks
Bellefaire JCB
Benjamin Rose Institute on Aging
Boys & Girls Clubs of Cleveland
Breakthrough Schools
Burten, Bell, Carr Development, Inc.
CareSource
Centers for Families & Children
Children's Museum of Cleveland
Cleveland Department of Public Health
Cleveland Heights Office on Aging
Cleveland Housing Network
Cleveland Metropolitan Housing Authority
Cleveland Metropolitan School District
Cleveland Public Library
Cleveland Sight Center
Community Partnership on Aging, serves South Euclid, Lyndhurst, Highland Heights, Mayfield Village and Mayfield Heights
Council for Economic Opportunities in Greater Cleveland
Courageous Steps
Cuyahoga Child and Family Health Services Executive Committee
Cuyahoga County Board of Alcohol, Drug Addiction, and Mental Health Services
Cuyahoga County Board of Health
Cuyahoga County Department of Job and Family Services
Cuyahoga County Health Care Council/Joint Advisory Committee
Diabetes Partnership of Cleveland
Domestic Violence and Child Advocacy Center
Epilepsy Foundation of NE Ohio
Fatherhood Initiative
Fatima Family Center
Free Clinic of Greater Cleveland
Health Improvement Partnership – Cuyahoga
Hope on the Slopes
Hospice of the Western Reserve
Housing Research and Advocacy Center
Hunger Network of Greater Cleveland
Invest in Children
LGBT Center
Lifebanc
Louis Stokes Greater Cleveland Consortium for Violence Prevention
Medwish
Medworks Milestones Autism Organization
Midtown Cleveland

Minority Organ and Tissue Transplant Education Program
Molina Healthcare of Ohio, Inc.
Mt. Hermon Baptist Church
National Council of Jewish Women
Neighborhood Connections
Neighborhood Progress Inc.
Newbridge Cleveland
North Coast Health Ministry
Northeast Ohio Nursing Initiative
Northern Ohio Recovery Association
Ohio Organization of Nurse Executives
Olivet Baptist Church
Partnership for a Safer Cleveland
Partnership for Prevention Coalition
Rainey Institute
Rape Crisis Center
Recovery Resources
Ronald McDonald House of Cleveland
St. Clair Superior Development Corporation
St. Luke's Foundation
St. Martin De Porres
Starting Point
Stepstone Academy
The Children's Museum of Cleveland
The City Mission, homeless shelter and non-profit charity
The HARP Mission, based in Broadview Heights
Towards Employment
Universal Health Care Action Network
Warrensville Heights YMCA
Western Reserve Area Agency on Aging
Wingspan/Bellefaire JCB/Applewood
YWCA

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 Case 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 Case 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.

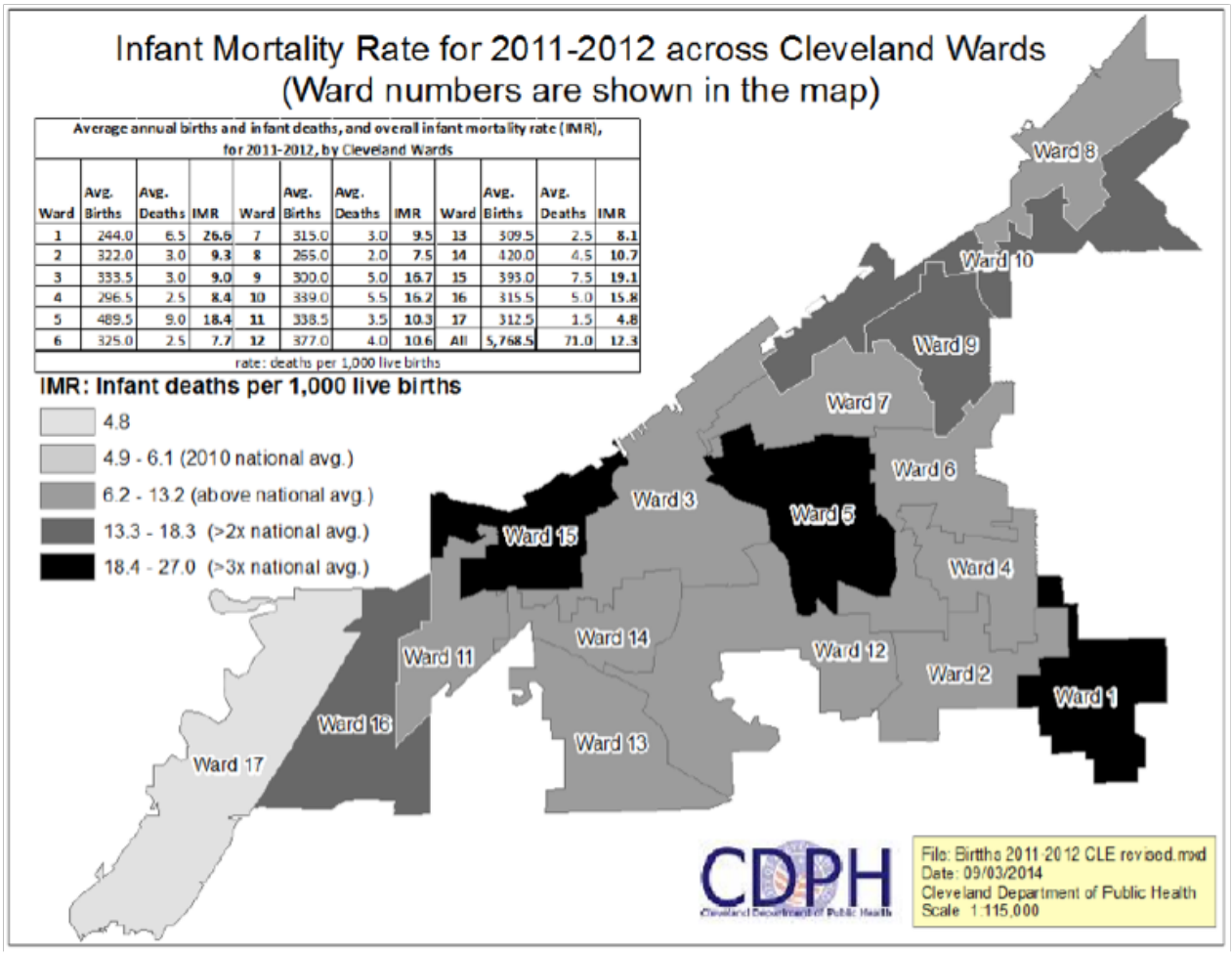
B. Infant Mortality in Cleveland

Magnitude of the Problem

In 2011 and 2012 combined, there were 11,537 births and 142 infant mortalities in Cleveland, Ohio (a resultant infant mortality rate of 12.3 per 1,000 births). Preliminary infant mortality rates for 2013 show no change in the overall rate within the City of Cleveland. Cause of death was obtained via the Cuyahoga County Medical Examiner's Office by the Cuyahoga County Board of Health. Infant mortality is defined as death within the first year of life among all live births.*

**Source: Infant Mortality in Cleveland – A Report for Cleveland City Council Health Committee, Cleveland Department of Health Office of Biostatistics, 2014.*

A review of infant mortality rates (IMRs) showed differences by ward. Wards 5, 15 and 1 showed the highest IMRs in 2011/2012: 18.4, 19.1 and 26.6 – all three to four times the national rate. Ward 5 had the highest number of infant deaths in 2011/2012, but Ward 1 had the highest rate of infant deaths. Ward 5 includes the Central, northern Kinsman and Buckeye-Slavic Village neighborhoods. Ward 15 includes parts of the Ohio City, Detroit-Shoreway and Edgewater neighborhoods. Ward 1 encompasses the Lee-Harvard, Lee-Seville and eastern Union-Miles neighborhoods.



Demographics

There are many risk factors for infant mortalities, but the infant mortality rate for Blacks, both nationally and within the City of Cleveland, is higher than that for Whites. In 2011/2012, the IMR for Black infants was 15.7 per 1,000 births compared to 11.84 for White infants and 10.87 for Hispanic infants.

However, there is a much smaller difference in neonatal death rates among races. Neonatal death is defined as the death of a baby within the first 28 days of life. In the City of Cleveland in 2011/2012, the neonatal death rate was slightly (8%) higher for White neonates than Black neonates and 20% higher for White neonates tha n for Hispanic neonates.

Prematurity incudes babies born with both very low and moderately low birth weights. The prematurity rate was 2.8 (very low birth weights) times and 1.5 (moderately low birth weights) times higher among Black infants than White infants in 2012.

Causes of Infant Mortality

Infant mortality is divided into four basic causes, which differ greatly in terms of prevalence:

INFANT MORTALITIES, CASES OF DEATH, CLEVELAND, 2008 TO 2012

Cause of Death Category	Percent of Infant Mortalities	Highest Rate in Any Ward
Prematurity or In-Utero Complications	57%	82%, Ward 10
Labor and Delivery-Related	15%	26%, Ward 15
Generally Preventable*	18%	30%, Ward 15
All other causes	10%	25%, Ward 3

**Sudden/unexplained infant death, noxious influences transmitted to placenta or breastmilk, exposure to narcotics, accidents, asphyxia, strangulation, suffocation, unspecified cause.*

Risk factors for premature births, the largest cause of infant mortality in the U.S., are*:

- **Race.** Black mothers are 60% more likely to deliver prematurely than White mothers.
- Chronic health problems in the mother, such as **high blood pressure, diabetes and clotting disorders**.
- **Cigarette smoking, alcohol use** or **illicit drug use** during pregnancy.
- Carrying **more than one baby** (twins, triplets or more).
- **Certain infections** during pregnancy.
- **Problems with the uterus or cervix**.

**Source: Centers for Disease Control and Prevention, 2015*

Also, mothers younger than 18 and older than 35 are more likely to have a premature delivery. However, age of the mother is not available for births examined in this analysis.

A Program That Has Impacted Infant Mortality Rates

In Cleveland, Cuyahoga County Public Housing MomsFirst Program clients have shown an improvement in infant mortality rates. MomsFirst is a free City of Cleveland program that offers case management and home visiting services to pregnant moms who meet certain criteria, from the time of their pregnancy until their baby reaches age 2. While there is great variability in infant mortality rates among program participants each year, generally the trend is down (improvement) from 2005 to 2012.

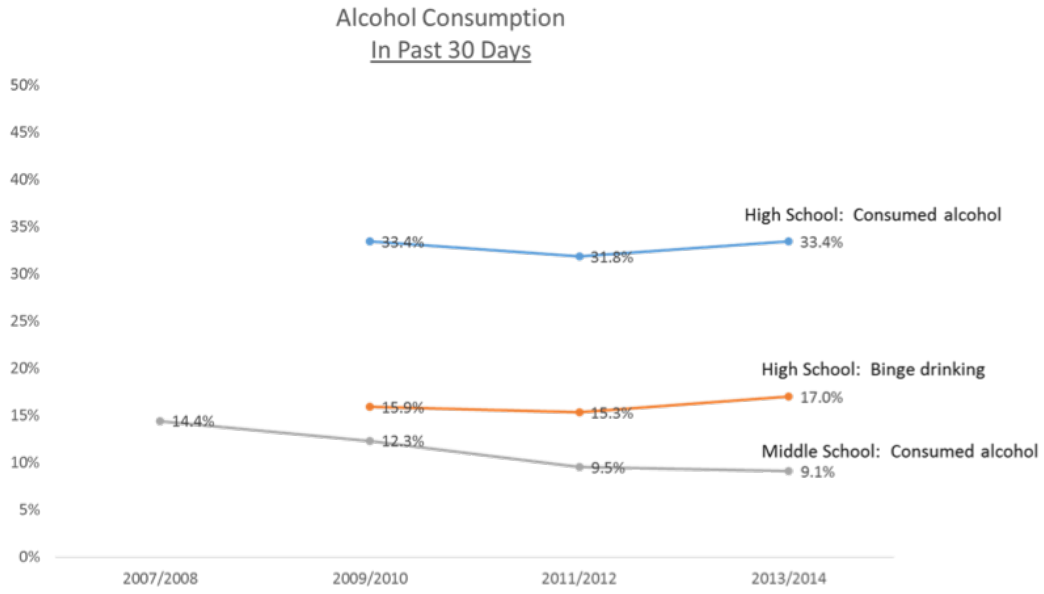
C. Survey Data of Cuyahoga County Middle School and High School Students on Healthy Behaviors and Attitudes

Trends, 2007 to 2014

Survey Background: The Healthy Neighborhoods Initiative is a longitudinal survey of Cuyahoga County youth (middle and high school students). Data are available every other year for middle or high school students from 2007 to 2014. Research is conducted by the Prevention Research Center for Healthy Neighborhoods at Case Western Reserve University.

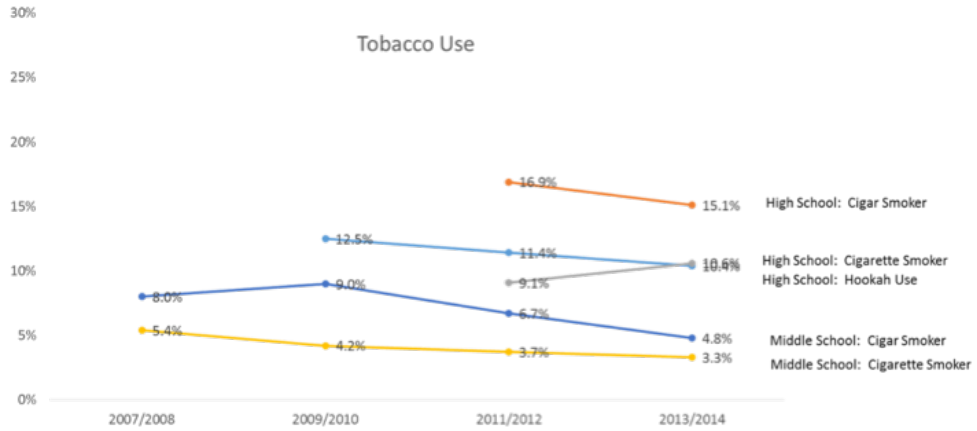
Alcohol Consumption

- One-third of high school students had consumed alcohol in the 30 days prior to the most recent survey. Middle school students were far less likely to have done so.
- About half of those who consumed alcohol described 'binge drinking.'
- Levels of alcohol consumption for high school students have been steady since 2009, but have been dropping for middle school students.



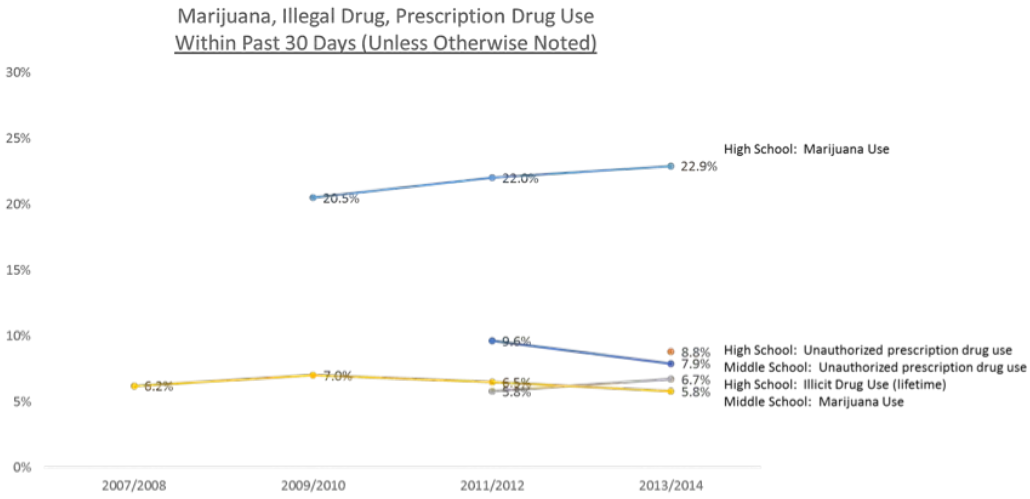
Tobacco Use

- Cigarette and cigar smoking are trending down for high school and middle school students in Cuyahoga County. Cigar smoking is more common than cigarette smoking; however, cigar smoking is less frequent than cigarette smoking (cigars are smoked less often than cigarettes) (not shown).



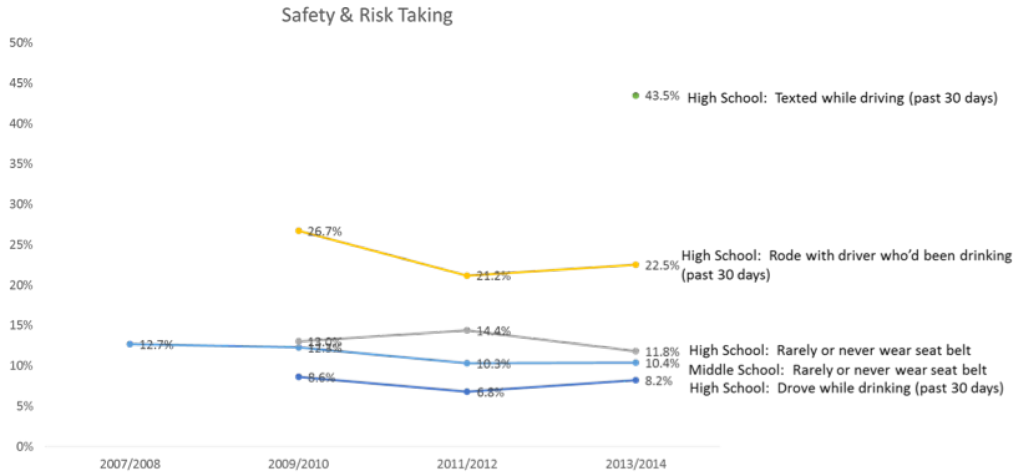
Drug Use

- Recent marijuana use by high school students has trended up for the past several years. Marijuana is used more commonly than other illicit drugs.



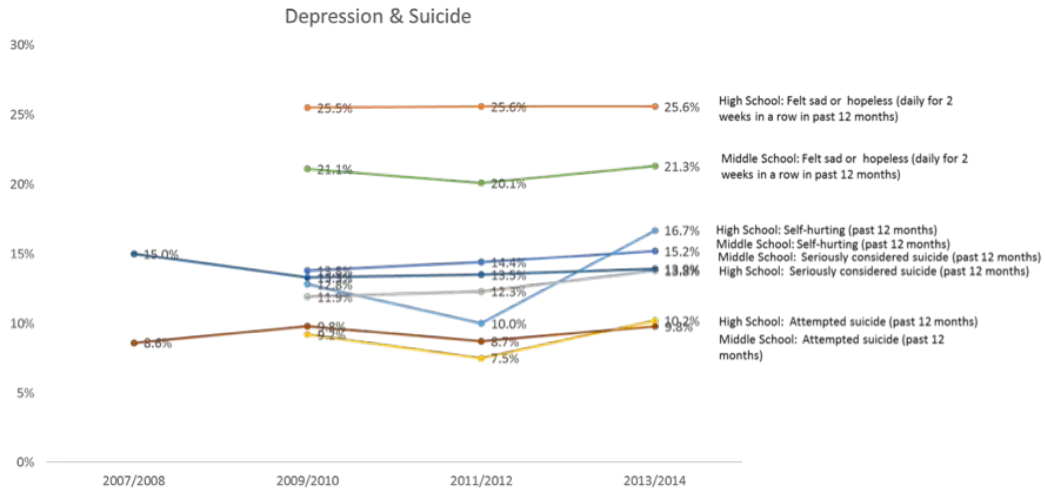
Safety and Risk Taking

- Texting while driving is common among about half of high school students.



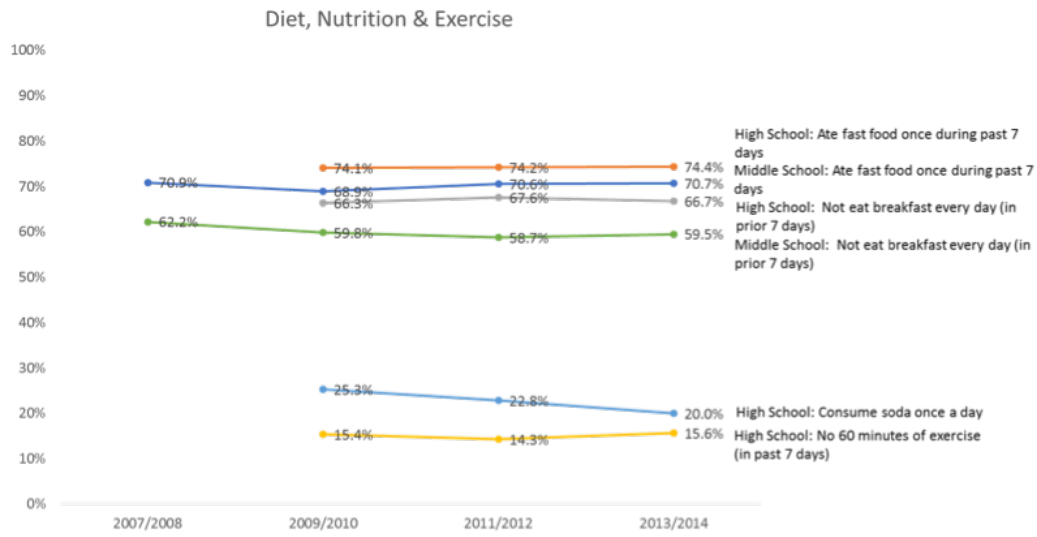
Emotional and Mental Health

- Signs of depression are common among high school students.
- Many (about one in 10) reported a suicide attempt. This seems high, but keep in mind that suicide is the third leading cause of death of teenagers in the U.S. (behind accidents and homicide).



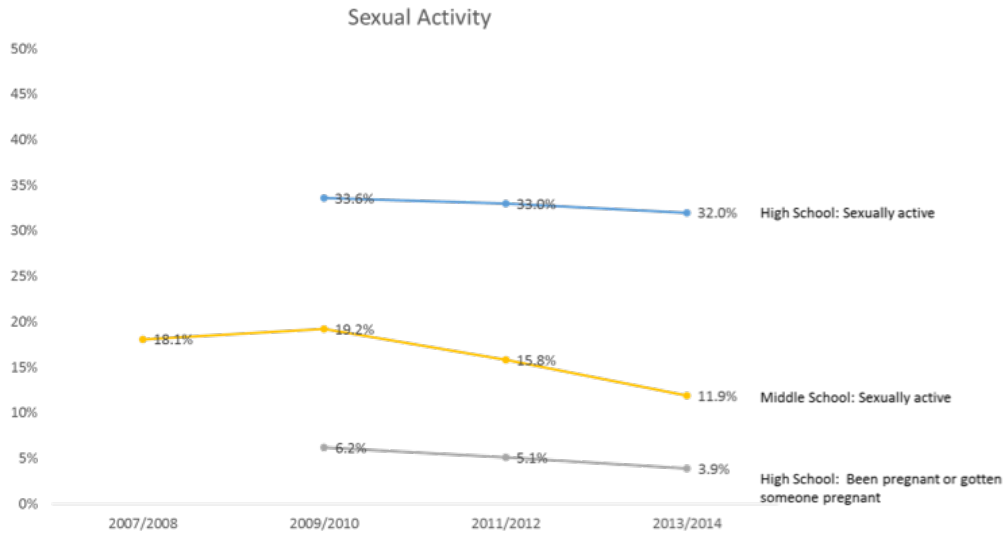
Diet and Exercise

- Regular exercise is fairly common among high school students, but so is playing organized sports.
- Fast food consumption is very high.



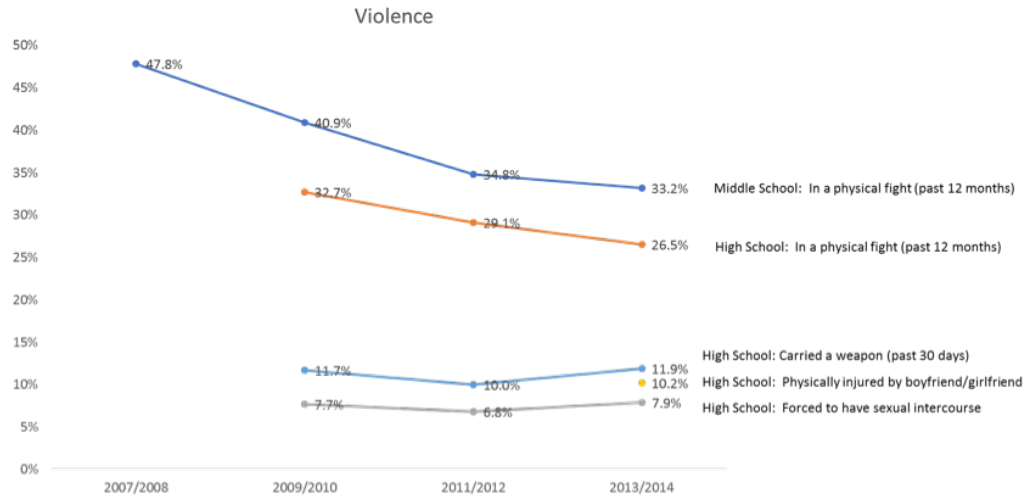
Sexual Activity

- About one-third of high school students in Cuyahoga County are sexually active. Sexual activity among middle school students is trending down.



Violence

- Fighting (physical) in middle schools is trending down, but is still fairly prevalent. High school students are less likely to have engaged in a physical fight in the year prior to the survey than middle school students.
- One in 10 high school students had carried a weapon in the 30 days prior to the survey.
- A significant minority of high school students had been forced to have sexual intercourse.



D. 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.

E. Discharges by Municipality/ZIP Code, 2013

UH CASE MEDICAL CENTER: HOSPITAL DISCHARGES – PRIMARY AND SECONDARY MARKET AREAS

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
Primary Market Area					
Cuyahoga	Lakewood (44107)	218	0.6%	51,899	1.3%
	Midpark (44130)	267	0.8%	50,416	1.3%
	Cleveland (44102)	407	1.2%	44,026	1.1%
	Pearlbrook (44109)	185	0.5%	41,372	1.0%
	West Park (44111)	171	0.5%	40,321	1.0%
	Cleveland Heights (44118)	1,652	4.8%	39,767	1.0%
	Lyndhurst/Mayfield (44124)	556	1.6%	37,971	0.9%
	Briggs (44134)	147	0.4%	37,945	0.9%
	Newburg (44105)	1,161	3.3%	37,857	0.9%
	Shaker Heights (44120)	1,597	4.6%	36,313	0.9%
	Beachwood (44122)	726	2.1%	34,654	0.9%
	South Euclid (44121)	1,124	3.2%	33,252	0.8%
	North Olmsted (44070)	155	0.4%	32,818	0.8%
	Westlake (44145)	234	0.7%	32,552	0.8%
	North Royalton (44133)	132	0.4%	30,335	0.8%
	Bedford (44146)	691	2.0%	29,676	0.7%
	Cranwood Station (44128)	763	2.2%	29,667	0.7%
	Parma (44129)	135	0.4%	29,260	0.7%
	Garfield Heights (44125)	343	1.0%	28,633	0.7%
	Puritas Park (44135)	159	0.5%	28,131	0.7%
	University Circle (44106)	1,699	4.9%	26,373	0.7%
	Strongsville (44136)	109	0.3%	25,775	0.6%
	Glenville-Bratenahl (44108)	1,963	5.7%	25,355	0.6%
	Solon (44139)	199	0.6%	24,154	0.6%
	Richmond Heights (44143)	507	1.5%	24,044	0.6%
	Cleveland (44104)	1,271	3.7%	23,307	0.6%
	Maple Heights (44137)	455	1.3%	23,080	0.6%
	East Cleveland (44112)	1,939	5.6%	22,593	0.6%
	Olmsted Falls (44138)	120	0.3%	21,907	0.5%
	Brooklyn (44144)	103	0.3%	21,654	0.5%
	Collinwood (44110)	1,010	2.9%	21,133	0.5%
	Independence (44131)	117	0.3%	20,361	0.5%
	Rocky River (44116)	111	0.3%	20,170	0.5%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
	Broadview Heights (44147)	108	0.3%	19,331	0.5%
	Berea (44017)	79	0.2%	19,266	0.5%
	Brook Park (44142)	88	0.3%	19,126	0.5%
	Cleveland (44113)	182	0.5%	18,933	0.5%
	Strongsville (44149)	97	0.3%	18,894	0.5%
	Cleveland (44103)	1,172	3.4%	17,990	0.5%
	Euclid (44123)	385	1.1%	16,675	0.4%
	Chagrin Falls (44022)	206	0.6%	16,655	0.4%
	Fairview Park (44126)	65	0.2%	16,641	0.4%
	Bay Village (44140)	60	0.2%	15,550	0.4%
	Euclid (44132)	395	1.1%	14,883	0.4%
	Brecksville (44141)	84	0.2%	13,875	0.3%
	Beachland Station (44119)	263	0.8%	12,435	0.3%
	Euclid (44117)	475	1.4%	10,367	0.3%
	Playhouse Square (44115)	270	0.8%	7,502	0.2%
	Public Square (44114)	98	0.3%	5,130	0.1%
	Willow Station (44127)	131	0.4%	4,581	0.1%
	Gates Mills (44040)	43	0.1%	3,191	0.1%
Summit	Barberton (44203)	62	0.2%	41,346	1.0%
	Stow (44224)	91	0.3%	38,443	1.0%
	Akron (44312)	38	0.1%	31,874	0.8%
	Cuyahoga Falls (44221)	38	0.1%	29,875	0.7%
	Hudson (44236)	124	0.4%	25,277	0.6%
	Akron (44313)	31	0.1%	24,611	0.6%
	Akron (44310)	22	0.1%	23,362	0.6%
	Akron (44319)	20	0.1%	22,616	0.6%
	Akron (44306)	21	0.1%	22,348	0.6%
	Akron (44305)	27	0.1%	21,899	0.5%
	Akron (44320)	20	0.1%	21,228	0.5%
	Northfield (44067)	157	0.5%	20,457	0.5%
	Twinsburg (44087)	251	0.7%	20,030	0.5%
	Akron (44314)	24	0.1%	18,950	0.5%
	Akron (44333)	46	0.1%	18,541	0.5%
	Cuyahoga Falls (44223)	32	0.1%	18,266	0.5%
	Tallmadge (44278)	13	0.0%	17,844	0.4%
	Akron (44301)	14	0.0%	15,700	0.4%
	Copley (44321)	28	0.1%	14,933	0.4%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
	Mogadore (44260)	22	0.1%	13,152	0.3%
	Macedonia (44056)	109	0.3%	11,326	0.3%
	Clinton (44216)	12	0.0%	9,665	0.2%
	Akron (44311)	10	0.0%	9,107	0.2%
	Akron (44303)	14	0.0%	7,635	0.2%
	Akron (44302)	3	0.0%	6,119	0.2%
	Richfield (44286)	35	0.1%	5,942	0.1%
	Akron (44307)	15	0.0%	5,830	0.1%
	Akron (44304)	5	0.0%	5,611	0.1%
	Munroe Falls (44262)	12	0.0%	4,981	0.1%
	Peninsula (44264)	6	0.0%	2,571	0.1%
	Akron (44308)	1	0.0%	735	0.0%
	Akron (44325)	0	0.0%		0.0%
Ashtabula	Ashtabula (44004)	317	0.9%	33,250	0.8%
	Conneaut (44030)	302	0.9%	16,875	0.4%
	Geneva (44041)	378	1.1%	14,766	0.4%
	Jefferson (44047)	79	0.2%	9,208	0.2%
	Andover (44003)	26	0.1%	4,962	0.1%
	Orwell (44076)	65	0.2%	4,599	0.1%
	Rock Creek (44084)	45	0.1%	3,623	0.1%
	Rome (44085)	42	0.1%	3,227	0.1%
	Kingsville (44048)	42	0.1%	2,843	0.1%
	Austinburg (44010)	51	0.1%	1,891	0.0%
	Windsor (44099)	16	0.0%	1,836	0.0%
	Dorset (44032)	11	0.0%	1,628	0.0%
	Pierpont (44082)	19	0.1%	1,354	0.0%
	Williamsfield (44093)	7	0.0%	1,104	0.0%
Lorain	Elyria (44035)	298	0.9%	63,911	1.6%
	North Ridgeville (44039)	162	0.5%	30,216	0.8%
	Lorain (44052)	155	0.4%	29,946	0.7%
	Avon Lake (44012)	109	0.3%	22,708	0.6%
	Avon (44011)	106	0.3%	21,440	0.5%
	Lorain (44055)	91	0.3%	20,373	0.5%
	Amherst (44001)	70	0.2%	20,358	0.5%
	Lorain (44053)	53	0.2%	17,551	0.4%
	Grafton (44044)	45	0.1%	15,509	0.4%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
	Sheffield Lake (44054)	49	0.1%	12,707	0.3%
	Oberlin (44074)	47	0.1%	11,829	0.3%
	Wellington (44090)	47	0.1%	11,467	0.3%
	Columbia Station (44028)	35	0.1%	8,380	0.2%
	Lagrange (44050)	25	0.1%	6,323	0.2%
Portage	Kent (44240)	79	0.2%	41,288	1.0%
	Ravenna (44266)	92	0.3%	33,702	0.8%
	Aurora (44202)	175	0.5%	19,598	0.5%
	Streetsboro (44241)	130	0.4%	16,214	0.4%
	Garrettsville (44231)	44	0.1%	8,625	0.2%
	Mantua (44255)	50	0.1%	8,416	0.2%
	Atwater (44201)	9	0.0%	6,456	0.2%
	Rootstown (44272)	9	0.0%	5,115	0.1%
	Kent (44243)	0	0.0%	4,239	0.1%
	Hiram (44234)	18	0.1%	4,234	0.1%
	Windham (44288)	17	0.0%	3,829	0.1%
	Diamond (44412)	7	0.0%	2,620	0.1%
	Deerfield (44411)	1	0.0%	2,082	0.1%
Medina	Medina (44256)	215	0.6%	62,303	1.6%
	Brunswick (44212)	181	0.5%	43,937	1.1%
	Wadsworth (44281)	53	0.2%	30,231	0.8%
	Hinckley (44233)	33	0.1%	7,714	0.2%
	Seville (44273)	18	0.1%	6,704	0.2%
	Lodi (44254)	3	0.0%	4,809	0.1%
	Valley City (44280)	10	0.0%	4,476	0.1%
	Spencer (44275)	4	0.0%	3,264	0.1%
	Litchfield (44253)	15	0.0%	3,241	0.1%
	Chippewa Lake (44215)	3	0.0%	2,288	0.1%
	Homerville (44235)	1	0.0%	2,070	0.1%
Geauga	Chardon (44024)	189	0.5%	23,430	0.6%
	Bainbridge (44023)	156	0.4%	17,374	0.4%
	Middlefield (44062)	121	0.3%	15,293	0.4%
	Chesterland (44026)	88	0.3%	11,218	0.3%
	Burton (44021)	63	0.2%	6,052	0.2%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
	Newbury (44065)	68	0.2%	4,487	0.1%
	Novelty (44072)	39	0.1%	4,227	0.1%
	Huntsburg (44046)	25	0.1%	2,339	0.1%
	Thompson (44086)	26	0.1%	2,277	0.1%
	Montville (44064)	15	0.0%	1,676	0.0%
Lake	Mentor (44060)	452	1.3%	60,780	1.5%
	Painesville (44077)	468	1.3%	56,334	1.4%
	Willoughby (44094)	322	0.9%	35,334	0.9%
	Eastlake (44095)	289	0.8%	33,613	0.8%
	Madison (44057)	269	0.8%	19,780	0.5%
	Wickliffe (44092)	200	0.6%	16,754	0.4%
	Perry (44081)	53	0.2%	6,779	0.2%
Subtotal Primary Market Area		**32,632**	**94.1%**	**2,847,156**	**71.2%**
Secondary Market Area					
Stark	Massillon (44646)	52	0.1%	46,219	1.2%
	Canton (44720)	36	0.1%	39,118	1.0%
	Alliance (44601)	45	0.1%	34,527	0.9%
	Uniontown (44685)	45	0.1%	28,116	0.7%
	Canton (44708)	41	0.1%	25,341	0.6%
	Louisville (44641)	19	0.1%	20,377	0.5%
	Canton (44709)	19	0.1%	19,019	0.5%
	Massillon (44647)	6	0.0%	18,850	0.5%
	Canton (44705)	27	0.1%	18,581	0.5%
	Canton (44706)	17	0.0%	18,558	0.5%
	Canton (44721)	14	0.0%	13,381	0.3%
	Canal Fulton (44614)	18	0.1%	12,454	0.3%
	Canton (44718)	8	0.0%	11,642	0.3%
	Minerva (44657)	3	0.0%	10,943	0.3%
	Hartville (44632)	9	0.0%	10,012	0.3%
	Canton (44710)	10	0.0%	9,640	0.2%
	Navarre (44662)	2	0.0%	9,461	0.2%
	Canton (44714)	9	0.0%	9,249	0.2%
	Canton (44703)	13	0.0%	8,862	0.2%
	Canton (44707)	7	0.0%	8,794	0.2%
	Canton (44730)	8	0.0%	6,339	0.2%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
	Canton (44704)	5	0.0%	3,826	0.1%
	Magnolia (44643)	4	0.0%	3,305	0.1%
	North Lawrence (44666)	2	0.0%	3,264	0.1%
	Waynesburg (44688)	0	0.0%	3,067	0.1%
	East Sparta (44626)	5	0.0%	2,957	0.1%
	Beach City (44608)	1	0.0%	2,638	0.1%
	Brewster (44613)	2	0.0%	2,247	0.1%
	Paris (44669)	2	0.0%	1,240	0.0%
	Canton (44702)	2	0.0%	1,014	0.0%
Mahoning	Youngstown (44512)	34	0.1%	34,019	0.9%
	Youngstown (44515)	34	0.1%	27,381	0.7%
	Youngstown (44514)	48	0.1%	22,095	0.6%
	Canfield (44406)	32	0.1%	21,622	0.5%
	Youngstown (44505)	20	0.1%	20,138	0.5%
	Youngstown (44511)	37	0.1%	19,935	0.5%
	Youngstown (44509)	17	0.0%	12,532	0.3%
	Struthers (44471)	27	0.1%	11,024	0.3%
	Youngstown (44502)	12	0.0%	10,219	0.3%
	Campbell (44405)	24	0.1%	8,138	0.2%
	Youngstown (44507)	6	0.0%	5,536	0.1%
	Youngstown (44504)	9	0.0%	5,303	0.1%
	Sebring (44672)	12	0.0%	4,769	0.1%
	New Middletown (44442)	13	0.0%	4,132	0.1%
	Beloit (44609)	6	0.0%	4,127	0.1%
	Lowellville (44436)	9	0.0%	3,692	0.1%
	North Jackson (44451)	6	0.0%	3,146	0.1%
	North Lima (44452)	1	0.0%	2,861	0.1%
	Berlin Center (44401)	4	0.0%	2,818	0.1%
	Lake Milton (44429)	7	0.0%	2,551	0.1%
	Youngstown (44510)	7	0.0%	2,543	0.1%
	Youngstown (44506)	4	0.0%	1,965	0.0%
	New Springfield (44443)	6	0.0%	1,945	0.0%
	North Benton (44449)	0	0.0%	1,292	0.0%
	Youngstown (44503)	1	0.0%	914	0.0%
	Petersburg (44454)	1	0.0%	900	0.0%
	Youngstown (44555)	0	0.0%		0.0%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
Trumbull	Warren (44483)	148	0.4%	26,047	0.7%
	Warren (44484)	89	0.3%	23,136	0.6%
	Niles (44446)	88	0.3%	20,310	0.5%
	Cortland (44410)	87	0.3%	17,331	0.4%
	Warren (44485)	72	0.2%	15,777	0.4%
	Girard (44420)	41	0.1%	15,368	0.4%
	Hubbard (44425)	24	0.1%	14,675	0.4%
	Warren (44481)	61	0.2%	10,819	0.3%
	Newton Falls (44444)	44	0.1%	10,489	0.3%
	Leavittsburg (44430)	20	0.1%	5,520	0.1%
	Mineral Ridge (44440)	11	0.0%	4,915	0.1%
	Masury (44438)	7	0.0%	4,443	0.1%
	Mc Donald (44437)	5	0.0%	4,127	0.1%
	Brookfield (44403)	7	0.0%	4,003	0.1%
	Southington (44470)	22	0.1%	3,859	0.1%
	Vienna (44473)	17	0.0%	3,769	0.1%
	West Farmington (44491)	28	0.1%	3,248	0.1%
	Bristolville (44402)	12	0.0%	2,924	0.1%
	Kinsman (44428)	10	0.0%	2,873	0.1%
	North Bloomfield (44450)	14	0.0%	2,733	0.1%
	Burghill (44404)	2	0.0%	1,708	0.0%
	Farmdale (44417)	3	0.0%	1,596	0.0%
	Fowler (44418)	3	0.0%	1,464	0.0%
Wayne	Wooster (44691)	24	0.1%	42,807	1.1%
	Orrville (44667)	24	0.1%	14,249	0.4%
	Rittman (44270)	12	0.0%	8,784	0.2%
	Doylestown (44230)	14	0.0%	8,161	0.2%
	West Salem (44287)	8	0.0%	7,806	0.2%
	Fredericksburg (44627)	0	0.0%	7,799	0.2%
	Apple Creek (44606)	6	0.0%	7,571	0.2%
	Dalton (44618)	2	0.0%	6,771	0.2%
	Shreve (44676)	1	0.0%	4,807	0.1%
	Creston (44217)	8	0.0%	4,031	0.1%
	Smithville (44677)	1	0.0%	2,523	0.1%
	Marshallville (44645)	1	0.0%	2,502	0.1%
	Burbank (44214)	2	0.0%	2,083	0.1%
	Sterling (44276)	0	0.0%	1,879	0.0%

	Municipalities & ZIP Codes	Number/percent of UH Case Medical Center Discharges* (2013)		2013 Population **	
		Number	Percent	Number	Percent
Huron	Norwalk (44857)	36	0.1%	23,499	0.6%
	Willard (44890)	13	0.0%	11,348	0.3%
	Wakeman (44889)	10	0.0%	6,699	0.2%
	New London (44851)	14	0.0%	5,169	0.1%
	Greenwich (44837)	4	0.0%	4,522	0.1%
	Monroeville (44847)	6	0.0%	3,655	0.1%
	Collins (44826)	3	0.0%	1,578	0.0%
	North Fairfield (44855)	1	0.0%	1,351	0.0%
Ashland	Ashland (44805)	27	0.1%	32,524	0.8%
	Loudonville (44842)	2	0.0%	5,513	0.1%
	Jeromesville (44840)	3	0.0%	3,721	0.1%
	Perrysville (44864)	0	0.0%	3,195	0.1%
	Sullivan (44880)	4	0.0%	3,118	0.1%
	Polk (44866)	1	0.0%	2,426	0.1%
	Nova (44859)	1	0.0%	1,161	0.0%
Erie	Sandusky (44870)	101	0.3%	41,126	1.0%
	Vermilion (44089)	40	0.1%	15,938	0.4%
	Huron (44839)	46	0.1%	12,586	0.3%
	Castalia (44824)	2	0.0%	3,673	0.1%
	Milan (44846)	2	0.0%	3,148	0.1%
	Berlin Heights (44814)	4	0.0%	2,800	0.1%
	Kelleys Island (43438)	1	0.0%	177	0.0%
Subtotal Secondary Market Area		**2,047**	**5.9%**	**1,150,472**	**28.8%**
Other Market					
Total		**34,679**	**100%**	**3,997,628**	**100%**

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

F. Federally Qualified Health Centers in Market

Health Centers	Address	Area
Ashtabula County		
Ashtabula Community Health Center	5266 State Route 45	Rome
Andover Primary Care	5594 State Route 7	Andover
Cuyahoga County		
Miles Broadway Health Center	9127 Miles Ave	Cleveland
East Cleveland Health Center	15201 Euclid Ave	Cleveland
Neighborhood Family Practice Mobile Van 1	3569 Ridge Rd	Cleveland
Asian Services In Action	3631 Perkins Ave Ste 2aw	Cleveland
Central Neighborhood Clinic	2916 Central Ave	Cleveland
St. Clair Clinic	1530 Saint Clair Ave Ne	Cleveland
NEON Dental Mobile Unit	15320 Euclid Ave	East Cleveland
Carl B. Stokes Clinic	6001 Woodland Ave	Cleveland
Neighborhood Health Care, Inc.	3569 Ridge Rd	Cleveland
Hough Health Center	8300 Hough Ave	Cleveland
Tremont Health Center	2358 Professor Ave	Cleveland
Norwood Health Center	1468 E 55th St	Cleveland
Mobile Clinic	1530 Saint Clair Ave Ne	Cleveland
Superior Health Center	12100 Superior Ave	Cleveland
The Free Medical Clinic of Greater Cleveland	12201 Euclid Ave	Cleveland
Neighborhood Family Practice at Puritas	14037 Puritas Avenue A & D	Cleveland
Riverview Towers Clinic	1795 W 25th St	Cleveland
Centers West Office Health Center	3929 Rocky River Dr	Cleveland
Detroit Shoreway Health Center	6412 Franklin Blvd	Cleveland
NEON Administration Center	4800 Payne Ave	Cleveland
Care Alliance - The Centers Clinic	4400 Euclid Ave	Cleveland
Collinwood Health Center	15322 Saint Clair Ave	Cleveland
Asian Services In Action - International Community Health Center	3820 Superior Ave E	Cleveland
Magnolia Clubhouse	11101 Magnolia Dr	Cleveland
Southeast Health Center	13301 Miles Ave	Cleveland
Neighborhood Health Care, Inc. Administrative Annex	3600 Ridge Rd	Brooklyn

Health Centers	Address	Area
Erie County		
Erie County Health Department	420 Superior St	Sandusky
Family Health Services of Erie County, Inc.	1912 Hayes Ave	Sandusky
Huron County		
Community Health Services Willard	3909 State Route 103 S	Willard
Lorain County		
Lorain County Health & Dentistry	1205 Broadway	Lorain
Wilkes Villa Public Housing	105 Louden Ct	Elyria
Lorain County Health & Dentistry	412 E River St	Elyria
Lorain County Health and Dentistry	3745 Grove Ave	Lorain
Mahoning County		
Youngstown Community Health Center	726 Wick Ave	Youngstown
Portage County		
AxessPointe Community Health Center/Kent	1993 State Route	
Stark County		
Good Samaritan Community Health Center	1390 S Arch Ave	Alliance
9th Street Family Health Center	408 9th St Sw	Canton
Head Start	3015 Mahoning Rd Ne	Canton
Canton Community Clinic Site	2725 Lincoln St E	Canton

G. 2014 – 2016 Implementation Strategy Objectives

Listed below are the programs and objectives outlined in UH Case Medical Center's 2014 – 2016 Implementation Strategy, as well as a status update reporting the progress in implementing these objectives.

1. Reduce rates of cardiovascular disease.

    a. The UH Harrington Heart & Vascular Institute plans to:

        i. Offer community nutrition classes. (STATUS: Ongoing)

        ii. Offer free educational sessions on cardiovascular health in a variety of community settings. (STATUS: Ongoing)

        iii. Offer free community screenings including a combination of body mass index, body fat analysis, blood pressure, heart attack risk assessments and other cardiovascular screenings at multiple community venues. (STATUS: Ongoing)

    b. The UH Neurological Institute will address vascular disease to prevent stroke through good cardiovascular health and plans to:

        i. Offer free health screenings and educational talks for the general public. (STATUS: Ongoing)

        ii. Offer free health and wellness events tailored to help individuals manage specific disorders. (STATUS: Ongoing)

        iii. Offer "Know Your Numbers" events, which provide free stroke risk assessments to community members. (STATUS: Ongoing)

        iv. Continue serving low-income populations through a neurological resident rotation at the Free Medical Clinic of Greater Cleveland. (STATUS: Ongoing)

2. Reduce infant mortality and improve infant health.

    a. The Centering Pregnancy Program ("CPP"), a joint program between UH MacDonald Women's Hospital ("MacDonald Hospital") and UH Rainbow Babies & Children's Hospital ("Rainbow"). (STATUS: Ongoing)

3. Reduce inappropriate emergency room use.

    a. Provide care coordination for sickle cell anemia services. (STATUS: Ongoing)

    b. Continue fast-track programs that support patients with chronic disease through the use of immediate clinic access and on-call registered nurse and physician support teams for programs such as solid organ transplant, heart failure, pulmonary hypertension, special immunology, bone marrow transplant and other oncology teams. This immediate and dedicated support permits patients to access professional advice and health care in a timely manner, thus avoiding unnecessary emergency room use. (STATUS: Ongoing)

    c. Deploy two teams from the Hospital House Calls Program consisting of physicians and nurse practitioners to provide continuity and acute home care for more than 200 Medicare and Medicaid dually eligible seniors in urban neighborhoods. This care model provides better care management and decreases the need to utilize the emergency room for minor illness treatment. (STATUS: Ongoing)

    d. Provide and promote patient participation in primary care through primary care clinics at the Hospital, including the Family Medicine Clinic and Douglas Moore Clinic, and the UH Otis Moss Jr. Health Center located in Cleveland's urban east side, to better meet the needs of the growing number of uninsured and underinsured patients in the area as well as the recent large influx of uninsured and Medicaid-covered patients who previously received care at a now closed inner-city hospital. These facilities, along with Rainbow, the Rainbow Ambulatory Practice Clinic and MacDonald Hospital Women's Health Center, are health professional shortage area (HPSA) designated facilities on the Hospital campus. (STATUS: Ongoing)

    e. Encourage and enable Family Medicine physician faculty to volunteer at the Free Medical Clinic of Greater Cleveland which provides care to the uninsured in a primary care setting, thus reducing unnecessary visits to the emergency room. (STATUS: Ongoing)

f. Continue efforts through the Douglas Moore Clinic, which provides resident education in the provision of primary care and chronic disease management in a collaborative multidisciplinary environment, and the UH Otis Moss Jr. Health Center, which promotes and provides family-centered care. Primary care is available to pediatric and adult patients. Obstetrical and other services are also provided at the center. In addition, UH Otis Moss Jr. Health Center provides numerous free community outreach health screening events, educational programs on topics such as teen violence and self-esteem, parenting, nutritional education and other topics to residents in low-income areas. Patients who are hospitalized or who come to the emergency room and do not have primary care providers are linked to these clinics to promote better health care and preventative services. (STATUS: Ongoing)

g. Offer classes at the UH Otis Moss Jr. Health Center to the public on chronic disease management to teach people how to take charge and become more active participants in their health and wellness. In addition, sessions have been held to improve health literacy about how to appropriately seek health care and help people make more informed decisions when seeking care. (STATUS: Ongoing)

h. Implement and evaluate a newly funded program at the Hunger Network food pantry locations and other nontraditional locations to provide health education about care options and disease management. (STATUS: Ongoing)

i. Continue efforts by the Hospital's patient access staff, which is highly effective at reducing inappropriate emergency department usage by enrolling patients in government programs such as Medicaid, State Children's Health Insurance Program or the UH Hospital Financial Assistance Program. (STATUS: Ongoing)

4. Addressing high cancer mortality rates.

   a. Provide screenings for lung, colon, breast and cervical cancer, and increase community educational offerings about the importance of screening and early treatment. (STATUS: Ongoing)

   b. Continue the Project T.E.M.P.L.E. (Teaching-Educating-Mentoring-Preventing-Learning-Empowering) and the breast health education and navigation service in conjunction with the Susan G. Komen Foundation. (STATUS: Ongoing)

   c. Continue the free Saturday Breast Exam mammography program for uninsured women. (STATUS: Ongoing)

   d. Continue the Mobile Mammography Project implemented by the UH Seidman Cancer Center outreach staff in collaboration with schools, churches and health centers to provide screening mammograms at a community site, at no cost to women without insurance, and follow-up where necessary. (STATUS: Ongoing)

H. 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:

I. 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?

Among the nation's leading academic medical centers, University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine, a nationally recognized leader in medical research and education.