



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, University Hospitals 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 St. John Medical Center, a Catholic hospital. UH St. John Medical Center is a 204-bed, acute-care facility. UH St. John Medical Center provides

a full range of services including UH Harrington Heart & Vascular Institute, UH Seidman Cancer Center, UH Neurological Institute, and is a UH Rainbow Babies & Children's Hospital pediatric site.

UH St. John Medical Center offers myriad programs and activities to address the surrounding community health needs. These activities range from support groups for caregivers, to wellness programs and health screenings for seniors, and a wide variety of education programs for the community.

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

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INTRODUCTION TO REPORT

This report identifies and assesses community health needs in the areas served by UH St. John Medical Center in accordance with regulations promulgated by the Internal Revenue Service pursuant to the Patient Protection and Affordable Care Act (ACA), 2010. This is the second UH St. John Medical Center community health needs assessment (CHNA) in response to that federal government regulation.

Prior to the ACA, UH St. John Medical Center had conducted needs assessments to determine pressing health needs in the community and consider how to allocate resources to respond to those needs. Provisions in the ACA standardized and formalized the community needs assessment work already being undertaken by UH St. John Medical Center.

The 2015 UH St. John 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. To assist with the assessment, UH St. John Medical Center retained The Center for Health Affairs and Cypress Research Group. More information about The Center for Health Affairs and Cypress Research Group is provided in the Appendix.

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).

UH St. John Medical Center's CHNA took into account input from persons and organizations representing the broad interests of the community through online surveys, interviews with community leaders, including mayors, school principals, directors of senior organizations, clergy and internal focus groups of emergency department staff and case management. Each of these gave their individual and collective assessments of the strengths and limits of community health services and identified the gaps in health needs within the community.

This report addresses the following broad topics:

- 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.

EXECUTIVE SUMMARY

Primary and Secondary Data

The collective data, including primary and secondary data collected and analyzed by Cypress Research Group, in conjunction with The Center for Health Affairs (CHA), captures an in-depth picture of the community needs in the primary and secondary areas served by UH St. John Medical Center. The narrative data provides a supporting snapshot obtained through interviews, surveys, and focus groups with local leaders and professionals for the data presented by Cypress and CHA. The following summary is an attempt to capture the most significant health and welfare issues within the UH St. John Medical Center service area.

Data indicates that the demographic trends with respect to gender, age and race of UH St. John Medical Center's primary and secondary service areas have experienced slight change from 2010 to 2013 (most recent data available). However, during this time frame median income both in Lorain County and Cuyahoga County decreased by -4.7%. The percentage of families under the poverty line in Lorain County remained the same at 11.4% and increased in Cuyahoga County from 13.1% to 14.4%.

In looking at the data from all the available sources, the following stand out as areas of unmet need.

- Statistics from 2011 show that the majority of adults in UH St. John Medical Center primary and secondary have health insurance and 89% report having a primary care physician and 83% report having had a routine health checkup within the previous two years. However, for those without insurance, only 50% report having a primary health care provider and 40% have had routine health checkup in the previous two years. (This data does not reflect Medicaid expansion or the availability of health insurance on the exchanges. However, data obtained through narrative reporting reflects a continued concern for the uninsured.)

- Ambulatory Care Sensitive Discharges:

Ambulatory care sensitive (ACS) conditions are conditions for which "good outpatient care can potentially prevent the need for hospitalization for which early intervention can prevent complications of more severe disease." Agency of Healthcare Research and Quality.

The majority of discharges (78.8%) from UH St. John Medical Center have no ACS condition. However, for those patients who do have primary ACS diagnoses, the most frequent are CHF, COPD, Bacterial Pneumonia, Cellulitis, Kidney/urinary infections, and Diabetes. CHF is the primary diagnosis for 3.4% of all discharges. Its percentage varies with each payer category as do other ACS primary diagnoses. Although UH St. John Medical Center does not have a CHF clinic, many individuals with a diagnosis of CHF are seen regularly in their physicians' offices. This could explain the wide variation in care for CHF based on payer category.

One with the greatest variances is Cellulitis. It is 2.9% of all ACS diagnoses discharges, but is the most frequent diagnosis for self-pay, charity, Medicaid, commercial, and "other" discharges patients. As the quantitative data analysis points out "...cellulitis is often associated with intravenous recreational drug use. 33% of patients with a cellulitis primary diagnosis also had a secondary diagnosis of drug abuse."

If secondary or non-primary diagnoses are considered, the numbers change considerably. For example, while CHF was the primary diagnosis in 3.4% of discharges, it was a secondary diagnosis in 34.1% of ACS diagnoses discharges. Other ACS diagnoses represent much higher percentages of discharges if both primary and secondary diagnoses are taken into account.

- According to quantitative data on UH St. John Medical Center discharges in 2013, almost one in four adults had a secondary diagnosis of neurosis or psychosis and 16.3% had a secondary diagnosis of depression.
- A secondary analysis of 2015 data from the Center for Disease Control and Prevention on population and safety events, found cancer to be the leading cause of death in both Lorain County and Cuyahoga County, followed by coronary heart disease. The most prevalent morbidity in adults and youth was obesity, with tobacco use being second. Depression and Alzheimer's also ranked high in morbidity for both counties.
- Data from 2013 on UH St. John Medical Center service area shows that individuals with lower household income, particularly annual income of under \$25,000 were far more likely to report their health as fair or poor (22%) compared to those of higher incomes.
- Adults without health insurance are far less likely to identify a primary care physician. They also report that they have had a routine checkup within the past two years at a much lower rate than those with health insurance. 50% of those without insurance report transportation to be a significant barrier to receiving need health care.
- Other concerns addressed in the quantitative data analysis include lack of education from a health care provider around life style issues such as healthy eating, smoking cessation and safe sexual practices. Unhealthy consumption of alcohol, along with a secondary diagnosis of nondependent drug abuse (21%) indicate a need for more one on one, as well as community education on the impacts of unhealthy behaviors and choices on overall health.

Narrative Data

The following data was captured in surveys, focus groups, and interviews with external sources including clergy, senior center directors, mayors, police, educators, and public health and community health services. Internal sources were case management, emergency department, and individual physicians.

- There was an overall concern for those who are economically challenged, particularly those without health care coverage.
- There is awareness that the west side of Cleveland has a growing problem with abuse of prescription drugs, heroin, and other opiates.
- Behavioral/mental health issues, especially depression among all age groups, is identified as a problem, but more importantly, there is a concern regarding access to needed mental health services.
- Obesity (all ages) is a concern.
- Educators are concerned about behavioral health issues and drug use.
- Transportation remains a significant challenge for seniors, for the economically challenged, and those with chronic mental and physical health issues. This negatively impacts their ability to access needed health care. There is a particular concern for dialysis patients who are challenged by the lack of affordable transportation.
- Chronic disease education, especially for diabetes is needed in the community.
- Cost of prescription drugs was mentioned with respect to seniors and the uninsured/underinsured.
- Coordination of health care services is a challenge – care coordination in community for recently discharged, especially elderly living alone, and special populations.
- For the older population, a comprehensive print resource guide of community services of all sorts is needed. Many, if not most, older people are not comfortable with or do not have access to computer resources.

INTRODUCTION TO DATA ANALYSIS

This report incorporates analyses of primary and secondary data. Also, it includes data collected through interviews, surveys, and focus groups of people who have an intimate knowledge of the challenges faced by the communities UH St. John Medical Center serves.

Primary Data

There were three main sources of primary data:

A. Survey Data

- A random survey of households in Lorain and Cuyahoga counties was conducted in 2011. A total of 1,045 surveys were completed in UH St. John Medical Center's primary or secondary market areas. Surveys were commissioned by Lorain County Health Partners and Cuyahoga County Health Partners and conducted by the Hospital Council for Northwest Ohio to capture a comprehensive picture of Lorain County and Cuyahoga County residents' health status.

B. Hospital Discharge Data

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

C. Qualitative Data

- Surveys, Focus Groups, and Interviews were conducted to capture members of the communities' sense of community and population needs.

Secondary Data

There were several sources of secondary data:

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

Information Gaps

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

Definition of Market Area

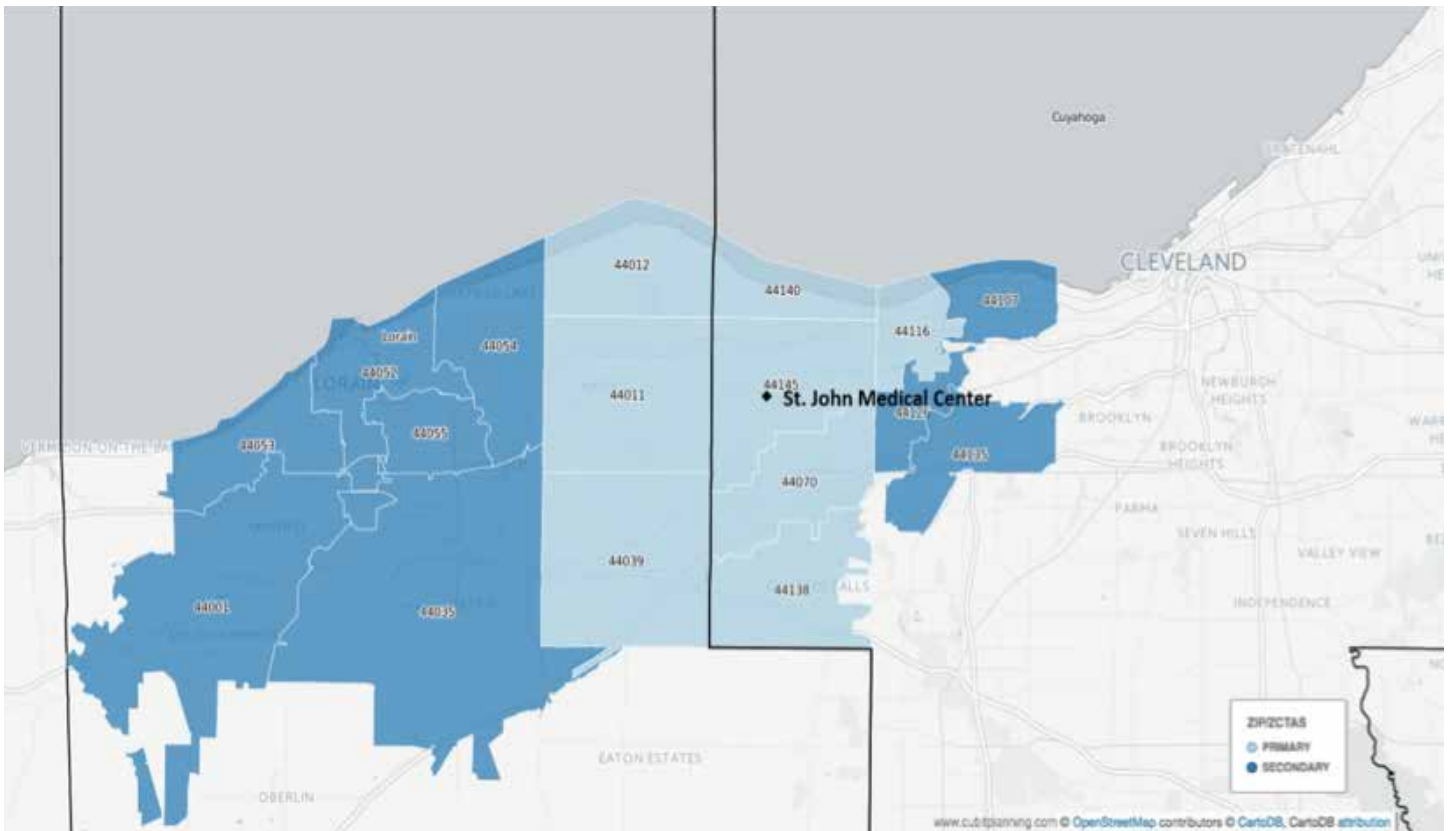
UH St. John Medical Center's market area includes 17 municipalities (eight in its primary market area and nine in its secondary market area).

UH ST. JOHN MEDICAL CENTER: HOSPITAL DISCHARGES – PRIMARY AND SECONDARY MARKET AREAS

Primary Market Area	Municipalities & ZIP Codes	Number/percent of UH St. John Medical Center Discharges* (2013)		2013 Population (American Community Survey, U.S. Census Projection)**	
		Number	Percent	Number	Percent
Lorain County	Avon (44011)	597	5.3%	21,440	4.9%
	Avon Lake (44012)	733	6.5%	22,708	5.2%
	North Ridgeville (44039)	1,355	12.1%	30,216	6.9%
Cuyahoga County	North Olmsted (44070)	1,287	11.5%	32,818	7.5%
	Rocky River (44116)	364	3.2%	20,170	4.6%
	Olmsted Falls (44138)	518	4.6%	21,907	5.0%
	Bay Village (44140)	474	4.2%	15,550	3.5%
	Westlake (44145)	2,108	18.8%	32,552	7.4%
Subtotal Primary Market		7,436	66.2%	197,361	45.0%
Secondary Market Area					
Lorain County	Amherst (44001)	95	0.8%	20,358	4.6%
	Elyria (44035)	575	5.1%	63,911	14.6%
	Lorain (44052)	226	2.0%	29,946	6.8%
	Lorain (44053)	95	0.8%	17,551	4.0%
	Sheffield Lake (44054)	385	3.4%	12,707	2.9%
	Lorain (44055)	169	1.5%	20,373	4.6%
Cuyahoga County	Lakewood (44107)	291	2.6%	51,899	11.8%
	Fairview Park (44126)	226	2.0%	16,641	3.8%
	Cleveland (44135)	124	1.1%	28,131	6.4%
Subtotal Secondary Market		2,186	19.5%	241,159	55.0%
Other Market		1,604	14.3%		
Total		11,226	100%	438,520	

*Ohio Hospital Association hospital discharge data, 2013

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



UH St. John Medical Center’s market area includes parts of Lorain County, Ohio and Cuyahoga County, Ohio. In terms of population, UH St. John Medical Center’s market areas cover 78.9% of the population in Lorain County and 17.3% of the population in Cuyahoga County.

In 2013, 85.7% of UH St. John Medical Center’s discharges were in either its primary (66.2%) or secondary (19.5%) market areas. In 2013, just under half (45%) of the population in UH St. John Medical Center’s market area lived in its primary market area. The remaining 55% lived in its secondary market area.

- UH St. John Medical Center is located in Westlake, and although only 7.4% of those who live in UH St. John Medical Center’s market area live in Westlake, 18.8% of patients discharged in 2013 were Westlake residents. Likewise, UH St. John Medical Center pulls heavily from North Ridgeville (population is 6.9% of the market area but 12.1% of the patient discharge population is from North Ridgeville).

UH ST. JOHN MEDICAL CENTER: EMERGENCY ROOM VISITS – PRIMARY AND SECONDARY MARKET AREAS

	Municipalities & ZIP Codes	Number of UH St. John Medical Center Emergency Room Visits (2014)*		2013 Population **	
Primary Market Area		Number	Percent	Number	Percent
Lorain County	Avon (44011)	1,331	3.8%	21,440	4.9%
	Avon Lake (44012)	1,642	4.7%	22,708	5.2%
	North Ridgeville (44039)	4,786	13.8%	30,216	6.9%
Cuyahoga County	North Olmsted (44070)	5,264	15.2%	32,818	7.5%
	Rocky River (44116)	865	2.5%	20,170	4.6%
	Olmsted Falls (44138)	1,862	5.4%	21,907	5.0%
	Bay Village (44140)	1,460	4.2%	15,550	3.5%
	Westlake (44145)	6,372	18.4%	32,552	7.4%
Subtotal Primary Market		23,582	68%	197,361	45.0%
Secondary Market Area					
Lorain County	Amherst (44001)	233	0.7%	20,358	4.6%
	Elyria (44035)	1,871	5.4%	63,911	14.6%
	Lorain (44052)	763	2.2%	29,946	6.8%
	Lorain (44053)	224	0.6%	17,551	4.0%
	Sheffield Lake (44054)	903	2.6%	12,707	2.9%
	Lorain (44055)	532	1.5%	20,373	4.6%
Cuyahoga County	Lakewood (44107)	641	1.8%	51,899	11.8%
	Fairview Park (44126)	677	2.0%	16,641	3.8%
	Cleveland (44135)	323	0.9%	28,131	6.4%
Subtotal Secondary Market		6,167	18%	241,159	55.0%
Other Market		4,911	14%		
Total		34,660	100%	438,520	100%

*UH St. John Medical Center

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

In 2014, 68% of UH St. John Medical Center’s emergency room visits came from its primary market area, while only 45% of the population in UH St. John Medical Center’s market area lived in its primary market area.

- UH St. John Medical Center’s emergency room draws the majority of its patients from Westlake, North Olmsted, and North Ridgeville. The proportion of ER visits from those municipalities is about twice that of the population within UH St. John Medical Center’s market area.

UH ST. JOHN MEDICAL CENTER MARKET AREA POPULATION TRENDS



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

- Lorain County's population increased by .9% from 2010 to 2014. Cuyahoga County's population decreased by 1.4% during that same time frame. However, UH St. John Medical Center's market area comprises only about 17% of Cuyahoga County in terms of total population.

TRENDS IN LORAIN COUNTY: BY GENDER, AGE AND RACE

	Lorain County			Cuyahoga County		
	2010	2013	Percent Change	2010	2013	Percent Change
Total Population	301,478	303,006	+0.5%	1,278,172	1,269,839	-1.3%
By Gender						
Males	49.2%	49.2%	0.0%	47.4%	47.5%	+0.1%
Females	50.8%	50.8%	0.0%	52.6%	52.5%	-0.1%
By Age Group						
0 – 19	26.9%	26.0%	-0.9%	25.6%	24.7%	-0.9%
20 – 44	30.6%	29.8%	-0.8%	31.1%	31.1%	0.0%
45 – 64	28.6%	28.9%	+0.3%	27.9%	28.4%	+0.5%
65+	14.0%	15.3%	+1.3%	15.5%	15.9%	+0.4%
By Race						
White	87.3%	88.7%	+1.5%	64.9%	63.9%	-1.0%
Black or African-American	10.3%	10.3%	0.0%	29.6%	29.7%	+0.1%
American Indian and Alaska Native	1.5%	1.1%	-0.4%	0.2%	0.2%	0.0%
Asian	1.3%	1.5%	-0.2%	2.6%	2.7%	+0.1%
Native Hawaiian and Other Pacific Islander	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
Some other race	3.0%	1.8%	-1.2%	0.9%	1.2%	+0.3%

Proportionately, there was little change in Lorain County's demographic composition from 2010 to 2013 and the total population decreased by .5%; Cuyahoga County's overall population decreased by 1.3% during that same time period. Proportionately, Lorain County's racial minority population decreased from 2010 to 2013 while Cuyahoga County's racial minority population increased.

ECONOMIC TRENDS IN LORAIN AND CUYAHOGA COUNTIES: INCOME AND POVERTY

	Lorain County			Cuyahoga County		
	2010	2013	Percent Change	2010	2013	Percent Change
Total Households	115,757	116,633	+0.8%	534,653	532,702	-0.4%
Less than \$10,000	6.7%	7.2%	+0.5%	10.2%	11.2%	+1.0%
\$10,000 to \$14,999	5.0%	5.7%	+0.7%	6.5%	6.9%	+0.4%
\$15,000 to \$24,999	10.0%	10.3%	+0.3%	12.1%	12.6%	+0.5%
\$25,000 to \$34,999	10.1%	10.8%	+0.7%	11.2%	11.3%	+0.1%
\$35,000 to \$49,999	15.0%	14.3%	-0.7%	14.3%	13.7%	-0.6%
\$50,000 to \$74,999	19.8%	19.4%	-0.4%	16.9%	16.6%	-0.3%
\$75,000 to \$99,999	13.6%	12.8%	-0.8%	10.9%	10.3%	-0.6%
\$100,000 to \$149,999	12.6%	12.9%	+0.3%	10.8%	10.2%	-0.6%
\$150,000 to \$199,999	4.5%	3.9%	-0.6%	3.6%	3.4%	-0.2%
\$200,000 or more	2.8%	2.7%	-0.1%	3.6%	3.7%	+0.1%
Median household income (dollars)	\$54,198	\$51,614	-4.7%	\$45,184	\$43,112	-4.6%
Mean household income (dollars)	\$67,349	\$66,066	-1.9%	\$64,552	\$63,340	-1.9%
Percent of households with Social Security	29.4%	31.7%	+2.3%	29.0%	30.4%	+1.4%
Mean Social Security income (dollars)	\$17,212	\$17,366	+0.9%	\$16,127	\$15,921	-1.3%
Percent with retirement income	22.5%	23.8%	+1.3%	18.5%	18.8%	+0.3%
Mean retirement income (dollars)	\$22,238	\$21,396	-3.7%	\$21,612	\$21,819	+0.9%
Percent with Supplemental Security income	5.0%	5.7%	+0.7%	5.3%	6.8%	+1.5%
Mean Supplemental Security income (dollars)	\$8,960	\$9,757	+8.9%	\$8,406	\$8,860	+5.4%
Percent with cash public assistance income	3.3%	2.7%	-0.6%	3.7%	4.3%	+0.6%
Mean cash public assistance income (dollars)	\$3,573	\$3,208	-10.2%	\$3,142	\$2,925	-6.9%
With Food Stamp/SNAP benefits in the past 12 months	12.4%	14.9%	+2.7%	14.5%	18.3%	+3.8%

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

- The number of households in Lorain County increased by .8% from 2010 to 2013, while the number of households in Cuyahoga County, which is much larger, decreased by .4% (only 16% of Cuyahoga County's population lives within UH St. John Medical Center's market area).
- The average (median) income has decreased in Lorain County by 4.7% from 2010 to 2013. The mean income decreased by 1.9%. While average income levels are lower in Cuyahoga County than in Lorain County, income levels in Cuyahoga County decreased by the same proportion as in Lorain County from 2010 to 2013.
 - As the populations in Lorain County and Cuyahoga County age, the proportion of households with Social Security and retirement income has increased from 2010 to 2013, although the increase has been larger in Lorain County than in Cuyahoga County. The mean retirement income decreased by 3.7% during that same time period in Lorain County, but increased by 0.9% in Cuyahoga County.
- There were fewer households receiving cash public assistance income in 2013 compared to 2010 in Lorain County (-0.6%), but an equal proportionate increase in households receiving cash public assistance in Cuyahoga County (+0.6%) during that same time period. The proportion of households receiving cash public assistance is very small in both counties, but higher in 2013 for Cuyahoga County than in Lorain County (4.3% compared to 3.7%). The size of cash public assistance decreased by 10.2% in Lorain County and 6.9% in Cuyahoga County from 2010 to 2013.

MOST ECONOMICALLY VULNERABLE LORAIN AND CUYAHOGA COUNTY RESIDENTS

	Lorain County			Cuyahoga County		
	2010	2013	Percent Change	2010	2013	Percent Change
Percent of families under the poverty line	11.4%	11.4%	0%	13.1%	14.4%	+1.3%
Percent of households with related children under 18 years under the poverty line	18.8%	20.6%	+1.8%	21.2%	23.9%	+2.7%
Percent of households with related children under 5 years (no older children) under the poverty line	25.4%	21.2%	-4.2%	21.5%	26.1%	+4.4%
Percent of married couple families under the poverty line						
Percent of married couple families under the poverty line	3.3%	3.7%	+0.4%	4.3%	5.1%	+1.2%
Percent of married couple families with related children under 18 years under the poverty line	4.5%	6.1%	+1.6%	5.6%	7.7%	+2.1%
Percent of married couple families with related children under 5 years (no older children) under the poverty line	6.6%	5.0%	-1.6%	4.5%	8.4%	+3.9%
Percent of families with female householder, no husband present, under the poverty line						
Percent of families with female householder, no husband present, under the poverty line	37.6%	36.6%	-1.0%	33.1%	34.2%	+1.1%
Percent of families with female householder, no husband present, with related children under 18 years, under the poverty line	48.0%	48.0%	0.0%	43.2%	45.7%	+1.5%
Percent of families with female householder, no husband present, with related children under 5 years (no older children), under the poverty line	60.1%	62.7%	+2.6%	46.7%	52.9%	+6.2%
Percent of all people in county under the poverty line:						
Of those under 18 years	22.2%	24.1%	+1.9%	26.1%	28.1%	+2.0%
Of those with related children under 18 years	21.9%	23.8%	+1.9%	25.8%	27.8%	+2.0%
Of those with related children under 5 years	28.8%	27.8%	-1.0%	30.4%	31.7%	+1.3%
Of those with related children 5 to 17 years	19.5%	22.4%	+2.9%	24.2%	26.3%	+2.1%
Living under poverty line, by age:						
Of those 18 years and over	11.5%	12.1%	+0.6%	14.6%	16.0%	+1.4%
18 to 64 years	12.4%	13.4%	+1.0%	15.6%	17.2%	+1.6%
65 years and over	7.1%	7.2%	+0.1%	10.8%	11.2%	+0.4%
Percent with health insurance coverage						
Percent with health insurance coverage	89.7%	90.1%	+0.4%	88.2%	88.7%	+0.5%
Percent with private health insurance	73.7%	70.9%	-2.8%	67.6%	65.6%	-2.0%
Percent with public coverage	30.2%	32.9%	+2.7%	32.9%	35.2%	+2.3%
Percent no health insurance coverage	10.3%	9.9%	+0.4%	11.8%	11.3%	-0.5%

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

The proportion of Lorain County residents with related children living below the poverty line increased by 1.8% from 2010 to 2013; that change was more severe in Cuyahoga County (affecting 2.7% of families). During that time, the proportion of people living in poverty increased by .9% in Lorain County and 1.4% in Cuyahoga County.

From 2010 to 2013, fewer residents in both Lorain and Cuyahoga counties had private health insurance and more had public coverage. The percent of Lorain County residents with public coverage increased by 2.7% and by 2.3% in Cuyahoga County during that time period.

The unemployment rate in Lorain County is the 16th highest in Ohio and was 6% in March of 2015. Similarly, the unemployment rate for Cuyahoga County was 5.5% in April of 2015 with Cuyahoga County ranking 30th highest in Ohio. (Source: U.S. Bureau of Labor Statistics 2015)

Lorain and Cuyahoga County Health Rankings

The Robert Wood Johnson Foundation produces an annual report which ranks counties based on two major indices of population health: health outcomes (length and quality of life) and health factors (health behaviors, clinical care, alcohol and drug use, social/environmental factors and physical environment). While UH St. John Medical Center does not include all of Lorain or Cuyahoga counties in its market area, it does include 79% of Lorain County and 17% of Cuyahoga County. Therefore, understanding where Lorain and Cuyahoga counties rank in Ohio in terms of health is useful.

	Lorain County, 2015	Cuyahoga County, 2015
Health Outcomes	28 of 88	65 of 88
Health Factors	43 of 88	50 of 88

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

The Centers for Disease Control and Prevention (U.S. Department of Health and Human Services) identified several areas which Lorain County and Cuyahoga County compare unfavorably to their peer counties (which closely match them in terms of demographic and physical factors). These are:

Lorain County	Cuyahoga County
Mortality	
• Alzheimer's deaths	• Cancer deaths
• Chronic lower respiratory disease deaths	• Coronary heart disease deaths
Morbidity	
• Gonorrhea	• Gonorrhea
• HIV	• Alzheimer's disease/dementia
• Older adult asthma	• Older adult asthma
• Older adult depression	• Preterm births
Health Care Access	
• Older adult preventable diseases	• Older adult preventable diseases

UH St. John Medical Center, Patients Served

HOSPITALIZATIONS, LORAIN COUNTY RESIDENTS
2011 TO 2013

UH ST. JOHN MEDICAL CENTER'S DISCHARGES VERSUS ALL OTHER OHIO HOSPITALS' DISCHARGES

		UH St. John Medical Center Primary Market	UH St. John Medical Center Secondary Market	Total UH St. John Medical Center Market
2011	Discharge from UH St. John Medical Center	8,370	2,220	10,590
	Discharge from Other Hospital	17,808	41,973	59,781
	Total Discharges, Market Area:	26,178	44,193	70,371
2012	Discharge from UH St. John Medical Center	7,930	2,220	10,150
	Discharge from Other Hospital	17,668	39,865	57,533
	Total Discharges, Market Area:	25,598	42,085	67,683
2013	Discharge from UH St. John Medical Center	7,436	2,186	9,622
	Discharge from Other Hospital	17,865	39,061	56,926
	Total Discharges, Market Area:	25,301	41,247	64,362
	Change in Discharges from UH St. John Medical Center, 2011 to 2013	-11.2%	-1.5%	-9.1%
	Change in Discharges from Other Hospitals, 2011 to 2013	0.3%	-6.9%	-4.8%
	Overall Change in Discharges, All of UH St. John Medical Center market area (for all hospitals)	-3.4%	-6.7%	-5.4%

Source: Ohio Hospital Association discharge data

- For all of those who reside within UH St. John Medical Center's market area, the number of discharges from any area hospital has decreased by 5.4% from 2011 to 2013. The number of discharges from UH St. John Medical Center during that period decreased by 9.1%.

UH ST. JOHN MEDICAL CENTER, 2013 DISCHARGES, BY PAYER AND MARKET AREA
(PERCENT OF TOTAL DISCHARGES)

	Medicare	Medicaid	Commercial	Other	Self-Pay	Charity	Total
UH St. John Medical Center Primary Market	41.9%	4.8%	16.7%	0.6%	1.2%	1.1%	66.2%
UH St. John Medical Center Secondary Market	6.6%	5.3%	6.4%	0.3%	0.6%	0.3%	19.5%
Discharged from UH St. John Medical Center, but do not reside in primary or secondary markets	4.3%	2.5%	6.7%	0.2%	0.4%	0.3%	14.3%
Total:	52.8%	12.6%	29.8%	1.1%	2.2%	1.7%	100%

- In 2013, 52.8% of UH St. John Medical Center's discharges were Medicare patients. Of those, most (41.9%) reside in UH St. John Medical Center's primary market.

UH ST. JOHN MEDICAL CENTER, 2013 DISCHARGES, BY PAYER

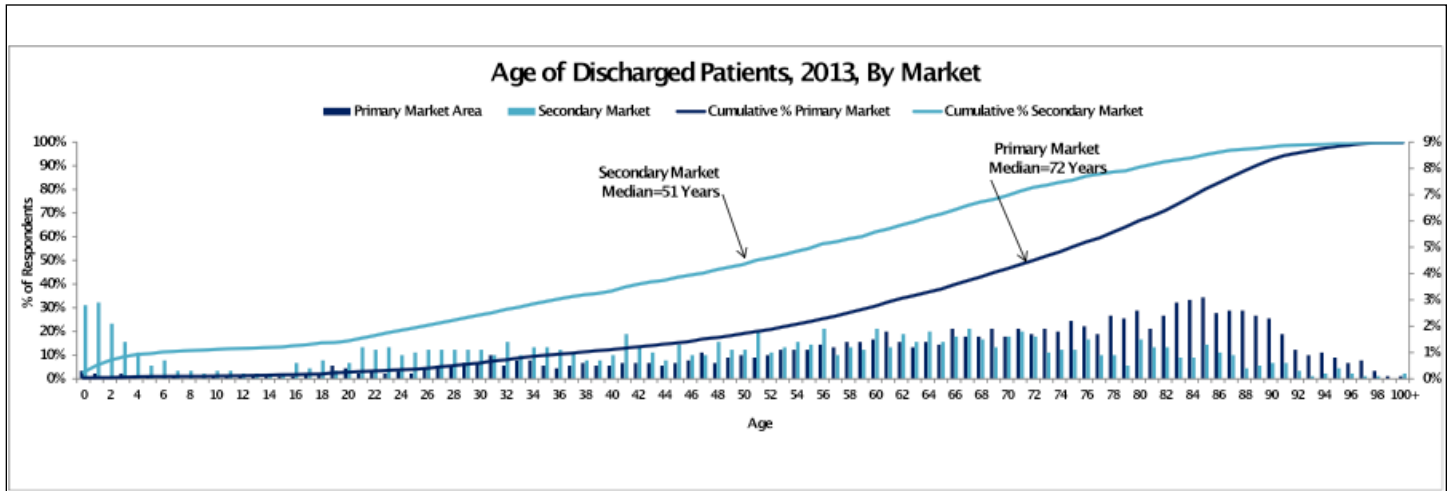
	Total Number of Discharges	Medicare	Medicaid	Commercial	Other	Self-Pay	Charity Care	Total
Primary Market Area								
Avon (44011)	597	60.8%	7.2%	28.3%	2.0%	0.8%	0.8%	100.0%
Avon Lake (44012)	733	62.6%	5.5%	27.7%	0.8%	1.8%	1.6%	100.0%
North Ridgeville (44039)	1,355	54.2%	8.9%	30.3%	1.4%	2.8%	2.4%	100.0%
North Olmsted (44070)	1,287	60.5%	9.6%	25.0%	0.6%	2.6%	1.7%	100.0%
Rocky River (44116)	364	69.0%	5.8%	23.4%	0.3%	0.8%	0.8%	100.0%
Olmsted Falls (44138)	518	57.9%	9.5%	29.5%	0.4%	1.7%	1.0%	100.0%
Bay Village (44140)	474	65.0%	4.2%	27.0%	0.8%	1.7%	1.3%	100.0%
Westlake (44145)	2,108	71.4%	5.9%	19.1%	0.5%	1.2%	1.8%	100.0%
Subtotal Primary Market	7,436	63.2%	7.3%	25.2%	0.8%	1.8%	1.7%	100.0%
Secondary Market Area								
Amherst (44001)	95	17.9%	21.1%	56.8%	1.1%	3.2%	0.0%	100.0%
Elyria (44035)	575	24.3%	36.5%	31.8%	1.7%	4.0%	1.6%	100.0%
Lorain (44052)	226	23.0%	48.2%	21.2%	1.3%	4.0%	2.2%	100.0%
Lorain (44053)	95	29.5%	30.5%	37.9%	1.1%	0.0%	1.1%	100.0%
Sheffield Lake (44054)	385	46.2%	14.0%	33.5%	1.3%	3.4%	1.6%	100.0%
Lorain (44055)	169	18.3%	58.0%	20.1%	1.2%	1.2%	1.2%	100.0%
Lakewood (44107)	291	40.9%	12.4%	42.6%	0.3%	2.4%	1.4%	100.0%
Fairview Park (44126)	226	48.2%	10.6%	35.8%	0.4%	1.8%	3.1%	100.0%
Cleveland (44135)	124	54.8%	13.7%	25.8%	4.0%	0.8%	0.8%	100.0%
Subtotal Secondary Market	2,186	33.9%	27.3%	33.0%	1.3%	2.8%	1.6%	100.0%
Total Market	9,522	56.5%	11.8%	27.0%	1.0%	2.1%	1.7%	100.0%

Source: Ohio Hospital Association discharge data

- The geographic areas with the greatest proportion of Medicare patients were Rocky River (69.0%) and Westlake (71.4%).
- The areas with the largest proportion of Medicaid patients were in Lorain (ZIP codes 44052, 48.2%, and 44055, with 58.0%).

Patient Demographics: Age

AGE OF UH ST. JOHN MEDICAL CENTER'S DISCHARGED PATIENTS, 2013, BY MARKET



Source: Ohio Hospital Association discharge data

- Those from UH St. John Medical Center's primary market are significantly older, on average (median of 72 years), than those who live in UH St. John Medical Center's secondary market (median age of 51).
- 62.1% of patient discharges from UH St. John Medical Center's primary market area were patients over age 65, and 30.4% of patient discharges from UH St. John Medical Center's secondary market area were patients over age 65

Ambulatory Care Sensitive Discharges

Adults

Using discharge data from UH St. John Medical Center, which includes the reason for patient admission into the hospital, we can identify “ambulatory care sensitive discharges.” 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.

The table below shows the number of adult discharges for UH St. John Medical Center in 2013 and the percent of which were ACS cases. This includes primary diagnosis cases only. For UH St. John Medical Center overall, 21.2% of the discharges were ACS discharges of residents within the primary and secondary market areas combined. Those in the primary market area were slightly more likely (by 2.2 percentage points) to have an ACS condition. This may signal lower availability or access to primary care within the primary market area as compared to the secondary market area.

UH ST. JOHN MEDICAL CENTER'S PRIMARY AND SECONDARY MARKET AREAS, PRIMARY DIAGNOSIS OF ADULT (AGE 21+) ACS DISCHARGES IN 2013

	Primary Market	Secondary Market	Total
No ACS Condition	78.4%	80.6%	78.8%
Congestive Heart Failure (CHF)	3.7%	1.9%	3.4%
Chronic Obstructive Pulmonary Disease (COPD)	3.2%	3.7%	3.3%
Bacterial Pneumonia	3.6%	2.0%	3.3%
Cellulitis	2.8%	3.6%	2.9%
Kidney/Urinary Infections	2.8%	1.6%	2.5%
Diabetes	1.7%	1.6%	1.7%
Asthma	0.9%	2.0%	1.1%
Hypertension	0.7%	0.8%	0.7%
Epilepsy	0.6%	0.7%	0.7%
Convulsions	0.4%	0.2%	0.4%
Gastroenteritis	0.3%	0.8%	0.4%
Dehydration/Volume Depletion	0.4%	0.1%	0.3%
Severe ENT Infections	0.1%	0.2%	0.2%
Iron Deficiency Anemia	0.1%	0.1%	0.1%
Dental Conditions	0.1%	0.1%	0.1%
Angina	.01%	0.1%	.01%
Hypoglycemia	.01%	.02%	.01%
Pelvic Inflammatory Disease	.01%	0.0%	.01%

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.

- In 2013, the most common ACS diagnosis for UH St. John Medical Center's discharges was congestive heart failure (3.4%), which was less common in the hospital's secondary market area (1.9%) compared to the primary market area (3.7%). Chronic obstructive pulmonary disease (COPD) was the second most common ACS condition (3.3%) followed by bacterial pneumonia (3.3%).

UH ST. JOHN MEDICAL CENTER'S MARKET AREAS VERSUS CONTIGUOUS COUNTIES, PRIMARY DIAGNOSIS OF ADULT (AGE 21+) ACS DISCHARGES IN 2013

Interpretation of ACS incidence data is helped by comparisons to other geographic areas. Below we show that, when compared to other nearby counties on the whole, UH St. John Medical Center's market has slightly more ACS cases (21.2% compared to a minimum of 15.0% in Ashland County).

	UH St. John Medical Center's Market	Lorain County	Erie County	Huron County	Cuyahoga County	Medina County	Ashland County	Summit County
No ACS Primary Diagnosis	78.8%	82.4%	82.5%	81.8%	81.3%	83.2%	85.0%	81.9%
Congestive Heart Failure (CHF)	3.4%	3.2%	3.7%	3.3%	3.8%	2.9%	2.2%	3.5%
Chronic Obstructive Pulmonary Disease (COPD)	3.3%	3.1%	2.7%	3.1%	2.5%	2.1%	2.7%	2.4%
Bacterial Pneumonia	3.3%	2.7%	3.4%	3.8%	2.6%	3.4%	2.8%	2.9%
Cellulitis	2.9%	2.1%	2.0%	2.4%	2.1%	2.2%	1.8%	2.4%
Kidney/Urinary Infections	2.5%	1.7%	1.7%	1.6%	1.9%	2.1%	2.1%	2.1%
Diabetes	1.7%	1.3%	1.1%	1.2%	1.4%	1.0%	1.1%	1.4%
Asthma	1.1%	1.0%	0.6%	0.4%	1.7%	0.9%	0.5%	1.0%
Epilepsy	0.7%	0.5%	0.5%	0.5%	0.7%	0.4%	0.2%	0.5%
Dehydration/Volume Depletion	0.3%	0.4%	0.3%	0.6%	0.5%	0.6%	0.4%	0.7%
Hypertension	0.7%	0.3%	0.2%	0.0%	0.4%	0.2%	0.2%	0.3%
Gastroenteritis	0.4%	0.5%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%
Convulsions	0.4%	0.4%	0.2%	0.2%	0.2%	0.2%	0.3%	0.2%
Iron Deficiency Anemia	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Angina	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Severe ENT Infections	0.1%	0.1%	0.01%	0.05%	0.1%	0.1%	0.0%	0.1%
Dental Conditions	0.1%	0.1%	0.1%	0.1%	0.1%	0.03%	0.1%	0.1%
Pelvic Inflammatory Disease	0.02%	0.02%	0.03%	0.02%	0.06%	0.03%	0.03%	0.04%
Nutritional Deficiencies	0.01%	0.04%	0.0%	0.03%	0.02%	0.04%	0.0%	0.03%
Hypoglycemia	0.01%	0.02%	0.01%	0.02%	0.02%	0.0%	0.03%	0.01%
Acute Bronchitis: (only included if a secondary diagnosis of COPD is also present)	0.0%	0.0%	0.0%	0.0%	0.002%	0.01%	0.0%	0.0%
Immunization-Related and Preventable Conditions	0.0%	0.003%	0.0%	0.02%	0.001%	0.01%	0.0%	0.0%
Other Tuberculosis	0.0%	0.0%	0.0%	0.0%	0.004%	0.0%	0.0%	0.0%

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

For all discharges there are both primary and non-primary diagnoses ("secondary" diagnoses). Patients can have up to 14 different secondary diagnoses. A review of the incidences of secondary diagnosis is important, as it can illuminate health conditions which may contribute to the risk of needing hospitalization but may not be the specific reason for hospitalization.

UH ST. JOHN MEDICAL CENTER, PRIMARY AND SECONDARY DIAGNOSIS OF ADULT (AGE 21+)
ACS DISCHARGES IN 2013

	Primary Diagnosis is ACS Condition	Secondary Diagnosis is ACS Condition
No ACS	78.8%	17.6%
Congestive Heart Failure (CHF)	3.4%	34.1%
Chronic Obstructive Pulmonary Disease (COPD)	3.3%	17.6%
Bacterial Pneumonia	3.3%	7.4%
Cellulitis	2.9%	3.5%
Kidney/Urinary Infections	2.5%	10.5%
Diabetes	1.7%	30.1%
Asthma	1.1%	8.7%
Hypertension	0.7%	55.8%
Epilepsy	0.7%	3.0%
Convulsions	0.4%	1.0%
Gastroenteritis	0.4%	0.8%
Dehydration/Volume Depletion	0.3%	16.7%
Severe ENT Infections	0.2%	1.0%
Iron Deficiency Anemia	0.1%	4.1%
Dental Conditions	0.1%	0.6%
Angina	0.0%	3.3%
Pelvic Inflammatory Disease	0.0%	0.2%
Hypoglycemia	0.0%	0.6%
Nutritional Deficiencies	0.0%	4.6%

Source: Ohio Hospital Association discharge data.

Source: Definition of ACS conditions: Billings et al. 1993.

- While congestive heart failure was the most common primary ACS diagnosis, one third of those discharged in 2013 had a secondary diagnosis of congestive heart failure. Hypertension, a contributing factor to many chronic health conditions, was a secondary diagnosis for 55.8% of the adult discharges.
- Diabetes, while the primary diagnosis for only 1.7% of adult patients in 2013, was a secondary diagnosis for 30.1% of patients discharged from UH St. John Medical Center that same year.

UH ST. JOHN MEDICAL CENTER'S PRIMARY DIAGNOSIS OF ADULT (AGE 21+) ACS VERSUS NON-ACS DISCHARGES IN 2013, BY PRIMARY PAYER

ACS diagnoses were more common among Medicare patients, in particular congestive heart failure, COPD, and bacterial pneumonia. In contrast, cellulitis was the most common ACS diagnosis among Medicaid, commercial insurance and self-pay patients. Note that cellulitis is often associated with intravenous recreational drug use. 33% of patients with a cellulitis primary diagnosis also had a secondary diagnosis of drug abuse (not shown).

	Total	Medicare	Medicaid	Commercial	Other	Self-Pay	Charity
No ACS Primary Diagnosis	78.8%	76.4%	80.6%	84.4%	85.3%	80.7%	76.5%
Congestive Heart Failure (CHF)	3.4%	4.7%	1.1%	1.1%	1.3%	1.7%	0.7%
Chronic Obstructive Pulmonary Disease (COPD)	3.3%	4.1%	2.1%	1.9%	0.0%	1.7%	2.0%
Bacterial Pneumonia	3.3%	3.8%	2.9%	2.3%	4.0%	2.3%	3.4%
Cellulitis	2.9%	2.4%	4.6%	3.4%	4.0%	5.1%	6.0%
Kidney/Urinary Infections	2.5%	3.5%	0.9%	0.9%	1.3%	1.7%	0.7%
Diabetes	1.7%	1.4%	1.4%	2.2%	1.3%	2.8%	2.7%
Asthma	1.1%	0.9%	2.7%	1.2%	0.0%	1.1%	3.4%
Hypertension	0.7%	0.8%	0.5%	0.5%	1.3%	0.0%	0.0%
Epilepsy	0.7%	0.6%	1.1%	0.7%	0.0%	1.1%	2.0%
Convulsions	0.4%	0.4%	0.6%	0.3%	1.3%	0.6%	0.7%
Gastroenteritis	0.4%	0.2%	0.9%	0.6%	0.0%	0.0%	0.7%
Dehydration/Volume Depletion	0.3%	0.4%	0.0%	0.2%	0.0%	0.0%	0.0%
Severe ENT Infections	0.2%	0.1%	0.3%	0.3%	0.0%	0.0%	1.3%
Iron Deficiency Anemia	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Dental Conditions	0.1%	0.0%	0.2%	0.0%	0.0%	1.1%	0.0%
Angina	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%
Hypoglycemia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pelvic Inflammatory Disease	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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

Pediatrics

UH ST. JOHN MEDICAL CENTER MARKET AREAS VERSUS NEARBY COUNTIES: PEDIATRIC PRIMARY ACS AND NON-ACS DIAGNOSIS OF PEDIATRIC (AGE <21) DISCHARGES IN 2013

	UH St. John Medical Center Discharges (Primary & Secondary Markets)	Lorain County	Erie County	Huron County	Cuyahoga County	Medina County	Ashland County	Summit County
No ACS Primary Diagnosis	77.1%	88.1%	91.8%	90.3%	89.7%	93.7%	95.8%	93.2%
Hypertension	5.7%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Bacterial Pneumonia	5.0%	1.7%	1.1%	3.0%	1.1%	0.8%	1.0%	0.7%
Asthma	4.9%	2.0%	1.2%	1.4%	2.5%	0.8%	0.0%	1.8%
Severe ENT Infections	2.0%	0.9%	0.2%	0.1%	0.5%	0.1%	0.6%	0.2%
Kidney/Urinary Infections	1.6%	0.9%	0.4%	0.8%	0.4%	0.6%	0.1%	0.3%
Dehydration/Volume Depletion	1.5%	1.0%	0.3%	0.7%	0.8%	0.4%	0.1%	0.5%
Gastroenteritis	0.9%	0.3%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%
Dental Conditions	0.5%	0.1%	0.2%	0.1%	0.1%	0.2%	0.0%	0.1%
Diabetes	0.4%	0.9%	1.6%	0.3%	1.0%	1.0%	0.7%	0.7%
Epilepsy	0.1%	1.4%	0.9%	1.2%	1.4%	0.9%	0.5%	0.5%
Convulsions	0.1%	0.8%	0.8%	0.7%	0.6%	0.1%	0.2%	0.3%
Iron Deficiency Anemia	0.1%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Failure to Thrive	0.1%	0.2%	0.3%	0.1%	0.2%	0.2%	0.0%	0.2%
Congenital Syphilis	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Immunization-Related and Preventable Conditions	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
Chronic Obstructive Pulmonary Disease (COPD)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%
Congestive Heart Failure (CHF)	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Angina	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cellulitis	0.0%	1.6%	1.2%	1.3%	1.3%	0.9%	0.4%	1.1%
Hypoglycemia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nutritional Deficiencies	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Pelvic Inflammatory Disease	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%

Source: Ohio Hospital Association discharge data.

Source: Definition of ACS conditions: Billings et al. 1993.

In 2013, 10% of UH St. John Medical Center discharged patients were under age 21 (1,044). More than half of those (53%) were healthy newborns. Removing healthy newborns from the analysis, 22.9% of the pediatric cases had an ACS primary diagnosis. This compares unfavorably to the same pediatric statistic in several nearby counties, suggesting that UH St. John Medical Center serves a geographic area which may have a relative paucity of primary care for those under age 21.

- In Lorain County, there were 5,242 residents under age 21 who were hospitalized (in some hospital within the area) in 2013. Of those, 11.9% of hospitalizations were for ACS diagnostic conditions as a primary diagnosis. Lorain County and Cuyahoga County (10.3%) had similar levels of pediatric ACS cases in 2013.
- Within UH St. John Medical Center's market area, the most common pediatric ACS primary diagnosis was hypertension (5.7%).

UH St. John Medical Center Discharges

In this section, we again examine UH St. John Medical Center's discharge data from 2013. These data provide primary and secondary diagnosis information for each patient discharged in 2013. Here we seek to identify particular diagnoses or diagnostic categories which can shed light on how public health or preventive care initiatives could impact the overall health of Lorain County residents.

Below we show the number and percentage of discharges based on the major diagnostic category of adult patients' primary diagnoses. There are over 17,000 different medical diagnostic codes. For specific diagnoses, we show only those which were relatively common.

- In 2013, the most common primary diagnostic category (21.0%) was circulatory system diseases. In addition, close to half of patients had a secondary diagnosis of essential hypertension (44.0%) and other chronic ischemic heart disease (34.7%). Another 48.5% had a secondary diagnosis of lipoid metabolism disease (most commonly high cholesterol levels).
- More than 15% of 2013 adult discharges had a secondary diagnosis of obesity and 30.9% were diabetic.
- Very few (1.9%) of UH St. John Medical Center adult patients were admitted primarily due to a malignant neoplasm in 2013.
- Approximately one in four adults discharged in 2013 had a secondary diagnosis of neurosis or psychosis and 16.3% had a secondary diagnosis of depression.
- Nondependent drug use was very common as a secondary diagnosis (21.2%).

UH ST. JOHN MEDICAL CENTER, PRIMARY AND SECONDARY DIAGNOSIS OF ADULTS (AGE >21),
DISCHARGED IN 2013

	Primary Diagnosis*	Secondary Diagnosis**
Diseases of the circulatory system	21.0%	
Most common specific diagnoses in category:		
Cardiac Dysrhythmias	4.3%	31.8%
Heart Failure	3.3%	26.8%
Acute Myocardial Infarction	2.9%	2.4%
Other Chronic Ischemic Heart Disease	1.5%	34.7%
Essential Hypertension	0.7%	44.0%
Hypertensive Renal Disease	0.4%	21.0%
Previous Myocardial Infarction		13.0%
Diseases of the digestive system	13.3%	
Most common specific diagnoses in category:		
Diseases of the Esophagus	0.6%	21.0%
Diseases of the Respiratory System	11.8%	
Most common specific diagnoses in category:		
Chronic Bronchitis/COPD (Subtotal)	3.1%	2.7%
Pneumonia, organism unspecified	3.1%	5.6%
Asthma	1.1%	6.9%
Other Lung Diseases	0.9%	5.2%
Chronic Airway Obstruction	0.07%	10.1%
Injury and poisoning	8.0%	
Most common specific diagnoses in category:		
Subtotal: Bone Fracture	3.5%	
Subtotal: Poisoning	1.1%	0.01%
Diseases of the Genitourinary System	7.3%	
Most common specific diagnoses in category:		
Acute Renal Failure	3.1%	9.4%
Other Urinary Tract Disorder	2.4%	9.4%
Hyperplasia of Prostate	0.8%	4.9%
Chronic Renal Failure	2.0%	15.2%
Infectious and Parasitic Diseases	7.1%	
Most common specific diagnoses in category:		
Septicemia	5.3%	2.1%
Bacterial Infection NEC		8.2%

	Primary Diagnosis*	Secondary Diagnosis**
Complications of Pregnancy, Childbirth, and the Puerperium	6.0%	
Diseases of the Musculoskeletal System and Connective Tissue	6.0%	
Most common specific diagnoses in category:		
Osteoarthritis	2.8%	9.1%
Symptoms, Signs, and Ill-defined conditions	4.8%	
Diseases of the Skin and Subcutaneous Tissue	3.2%	
Most common specific diagnoses in category:		
Cellulitis/Abscess	2.8%	2.4%
Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorders	3.2%	
Most common specific diagnoses in category:		
Diabetes Mellitus	1.9%	30.9%
Fluid/Electrolyte Disease	0.8%	60.4%
Disease of Mineral Metabolism	0.08%	28.5%
Acquired Hypothyroidism	0.01%	18.9%
Obesity/Hyperalimentation	0.01%	15.4%
Protein/Caloric Malnutrition		8.7%
Disease of Lipoid Metabolism (cholesterol)		48.5%
Diseases of the Nervous System	1.9%	
Neoplasms-malignant	1.9%	
Mental Disorders	1.8%	
Most common specific diagnoses in category:		
Nondependent Drug Abuse	0.2%	21.2%
Neurotic Disorders	0.1%	18.1%
Affective Psychoses	0.1%	5.6%
Other Organic Psychological Conditions	0.1%	13.1%
Depressive Disorder, not elsewhere classified		16.3%
Diseases of the Blood and Blood-forming Organs	1.0%	0.2%
Most common specific diagnoses in category:		
Anemia NEC/NOS*	0.5%	34.5%
White Blood Cell Disorders	0.09%	23.1%
Purpura & other Hemorrhagic Conditions	0.06%	7.58%
Neoplasms-benign	0.5%	
Other conditions	0.2%	0.04%

*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.

Pediatrics

In the table below we show the number and percent of UH St. John Medical Center's pediatric discharges (under age 21) in 2013 based on the major diagnostic category of pediatric patients' primary and secondary diagnoses. Note that healthy newborns were removed from this analysis.

- Of the pediatric discharges from UH St. John Medical Center in 2013 who were not healthy newborns, 8.6% were inpatients because of conditions which arose during birth.

- The most common diagnostic category for pediatric patients in 2013 was diseases of the respiratory system. Bronchitis and asthma (as a secondary diagnosis) were the most common diseases of the respiratory system.
- The second most common primary diagnostic category was diseases of the skin and subcutaneous tissue; this was mostly accounted for by cellulitis/abscess cases.
- Diseases of the digestive system were the third most common primary diagnostic category (9.6%).

	Primary Diagnosis*	Secondary Diagnosis**
Diseases of the Respiratory System	36.7%	
Acute Bronchitis/Bronchiolitis	6.8%	6.0%
Asthma		16.8%
Diseases of the Skin and Subcutaneous Tissue	12.8%	
Cellulitis/Abscess	10.4%	2.7%
Diseases of the Digestive System	9.6%	
Complications of Pregnancy, Childbirth, and the Puerperium	8.6%	
Long Gestation/High Birthweight	2.2%	17.2%
Infectious and Parasitic Diseases	6.6%	
Bacterial Infection		13.6%
Conditions Originating in the Perinatal Period	6.6%	
Perinatal Jaundice	5.3%	13.3%
Endocrine, Nutritional and Metabolic Diseases, and Immunity Disorders	5.0%	
Diseases of the Genitourinary System	4.2%	
Injury and Poisoning	3.6%	
Symptoms, Signs, and Ill-defined Conditions	1.8%	
Diseases of the Blood and Blood-forming Organs	1.6%	
Diseases of the Sense Organs	1.0%	
Mental Disorders	0.6%	
Diseases of the Nervous System	0.6%	
Neoplasms-benign	0.2%	
Diseases of the Circulatory System	0.2%	
Diseases of the Musculoskeletal System and Connective Tissue	0.2%	

*Total includes all diagnoses within this category.

**These are duplicated counts; patients may have more than one secondary diagnosis.

Source: Ohio Hospital Association discharge data.

Secondary Analysis of Population Health and Safety Events

In the following section we present the results of a survey of Lorain County and Cuyahoga County adults (who reside in UH St. John Medical Center's market areas) regarding their health and access to healthcare. Before we examine those data, it is important to gain an understanding of the most prevalent types of mortality and morbidity of chronic diseases and other health-impacting events.

Cancer is the leading cause of death for adults in Lorain and Cuyahoga counties, followed by coronary heart disease. Strokes, accidents, diabetes, and kidney disease combined account for fewer deaths than cancer and/or coronary heart disease deaths. Note that annually roughly 226 Lorain County adults, per 100,000 adults, are victims of violent crime compared to approximately 560 Cuyahoga County adults per 100,000 adults.

MOST PREVALENT CAUSES OF DEATH OR IMPAIRED HEALTH – ADULTS ANNUAL, PER 100,000 ADULTS

	Lorain County	Cuyahoga County
Cancer Deaths	190.3	196.1
Coronary Heart Disease Deaths	131.7	151.3
Stroke Deaths	40.3	38.7
Accidental Deaths (including motor vehicle)	29	32.1
Motor Vehicle Deaths	8	5.7
Diabetes Deaths	25.6	23.1
Kidney Disease Deaths	14.8	15
Violent Crime (homicide, rape, assault)	225.6	559.7

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

Linked to the most common death rates are common habitual behaviors. Almost one-third of Lorain County adults are obese (BMI > 30) and almost 1 in 4 are tobacco smokers. Slightly more than 1 in 4 adults in Cuyahoga County are obese, and 1 in 5 is a tobacco smoker.

MOST PREVALENT MORBIDITY – ADULTS AND YOUTH

	Lorain County	Cuyahoga County
Obesity	29.4%	25.4%
Smokers	22.7%	19.3%
Older Adult Depression	14.8%	14.0%
Older Adult Asthma	5.0%	5.2%
Alzheimer's Disease (among older adults)	11.3%	14.4%
Teen Births (of females ages 15 to 19)	3.8%	3.9%
Preterm Births	11.7%	14.4%

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

Primary Analysis of Representative Sample of Market Area Population

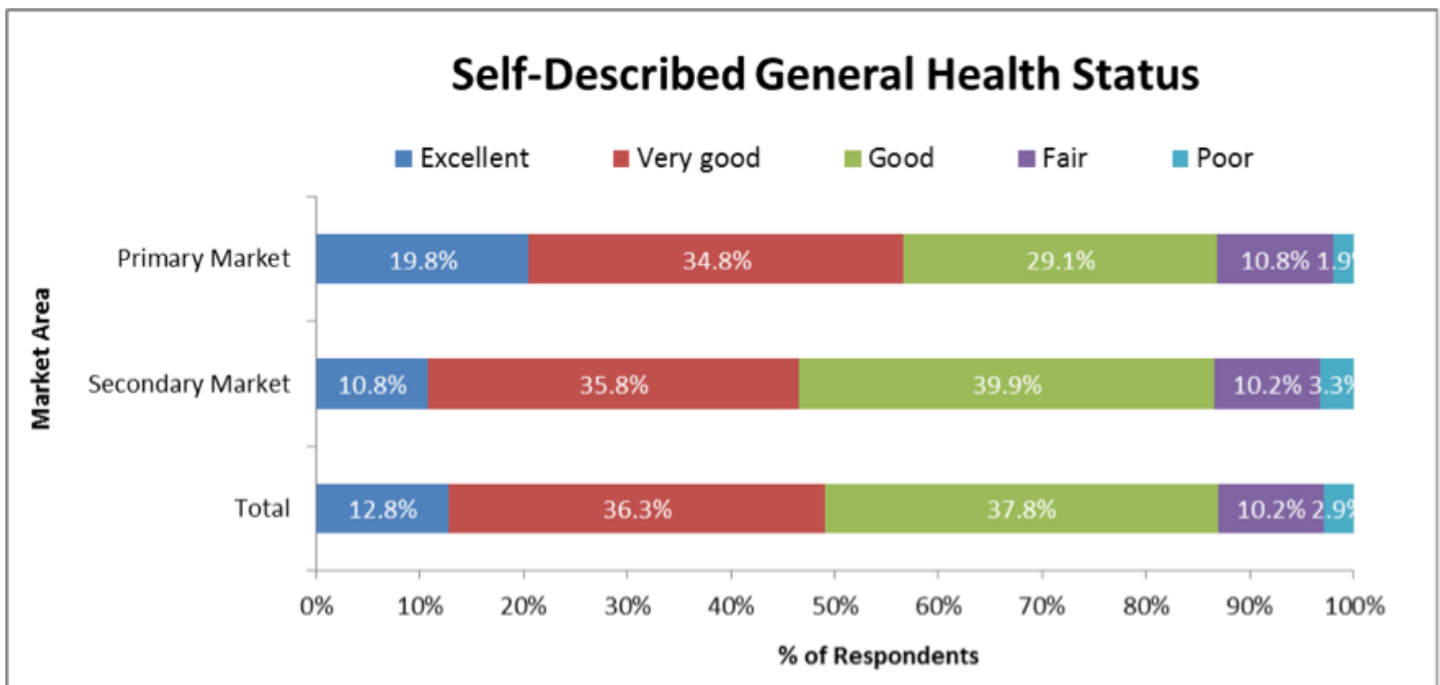
In the previous section we provided evidence from UH St. John Medical Center's discharge data that its market area residents may lack full access to primary care. The proportion of ACS cases in UH St. John Medical Center's in 2013 (cases which ostensibly could have been prevented through improved primary care) was higher in UH St. John Medical Center's primary and secondary market areas than in the counties surrounding Lorain County. This was true for adult and pediatric residents.

Seeking medical and/or dental care outside of their county of residence is common among those in UH St. John Medical Center's market area. 75% of adults in UH St. John Medical Center's primary market area and 31% of those in its secondary market chose to seek medical care outside of their county of residence in 2011.

Population Health Status

In this section, we describe the health status of the population within UH St. John Medical Center's market area. This is based on the survey data collected in 2011. Survey respondents for the county-wide data were designated a resident of the market area via their residential ZIP code.

SELF-DESCRIBED GENERAL HEALTH STATUS



- Fewer than 13% of UH St. John Medical Center's total primary and secondary market area adult population described their health as 'excellent.' However, most (87%) described their general health as at least 'good.'
- Those in the primary market area were more likely to describe their health as at least 'very good' (54%) compared to those in the secondary market area (47%).

Though not displayed in the table above, market area residents who were most likely to describe their health as 'fair' or 'poor' were:

- Individuals who lived in the urban market area (19%) compared to those (11%) in either the suburban or rural parts of the market area.
- Individuals with lower household incomes. One in five of those with household incomes under \$25,000 reported having 'fair' or 'poor' health (22%) compared to 10% of those with higher household incomes.

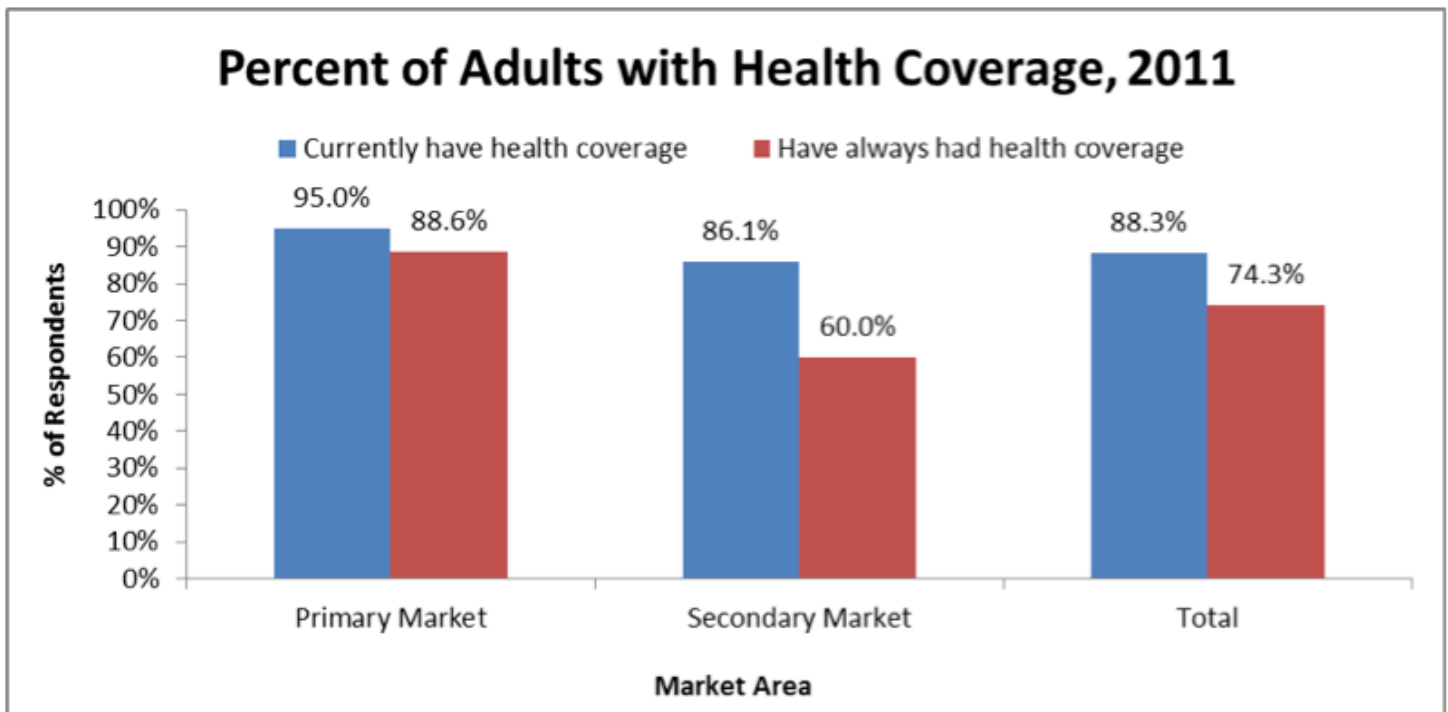
SELF-DESCRIBED PHYSICAL AND MENTAL HEALTH STATUS: PAST 30 DAYS
(MEAN NUMBER OF DAYS/MEDIAN NUMBER OF DAYS)

	Physical health 'not good'	Mental health 'not good'	Poor physical or mental health prevented normal activities
UH St. John Medical Center Primary Market Area (n=733)			
Mean Number of Days	3.2 days	3.4 days	2.1 days
Proportion With At Least One Day	30%	29%	17%
UH St. John Medical Center Secondary Market Area (n=544)			
Mean Number of Days	3.4 days	4.0 days	2.3 days
Proportion With At Least One Day	33%	36%	22%
UH St. John Medical Center Total Market Area (n=1,277)			
Mean Number of Days	3.2 days	3.6 days	2.3 days
Proportion With At Least One Day	32%	34%	20%

- Those within UH St. John Medical Center's total market area reported that their physical health was 'not good' an average (mean) of 3.2 days during the previous 30 days. On average, this group reported that their mental health was 'not good' an average (mean) of 3.6 days. For them, these less-than-optimal health days prevented them from doing their normal activities (work, school) an average of 2.3 days within that 30-day period. Note that most (68%) reported zero days with physical health problems within the 30-day period, and 66% reported zero days with any mental health issues. 80% reported that their physical or mental health didn't keep them from any of their normal activities within the past 30 days.

Health Care Coverage

PERCENT OF ADULTS WITH HEALTH COVERAGE, 2011



- A majority of adults in UH St. John Medical Center's market areas (primary and secondary) have health coverage.
- The U.S. Census (American Community Survey, 2013) found that 10.1% of adults in Lorain County and 11.8% of adults in Cuyahoga County were without health insurance, which matches the survey data almost exactly.
- Those adults most likely to not have health insurance:
 - Live in ZIP codes 44035 (16%), 44052 (17%) and 44055 or 44052 (19%);
 - Are under age 30 (17%);
 - Are smokers (21%);
 - Are employed part-time (14%) or are out-of-work/a student (28%);
 - Have household incomes below \$25,000 (25%).
- Lack of access to health coverage is a common occurrence during some point in the adult lives of many of UH St. John Medical Center's market area adult residents: 88.6% of those in the primary market area but only 60% of those in the secondary market area always had health coverage.

ADULTS WITH HEALTH INSURANCE COMPARED TO ADULTS WITHOUT IN UH ST. JOHN MEDICAL CENTER'S
PRIMARY AND SECONDARY SERVICE AREAS

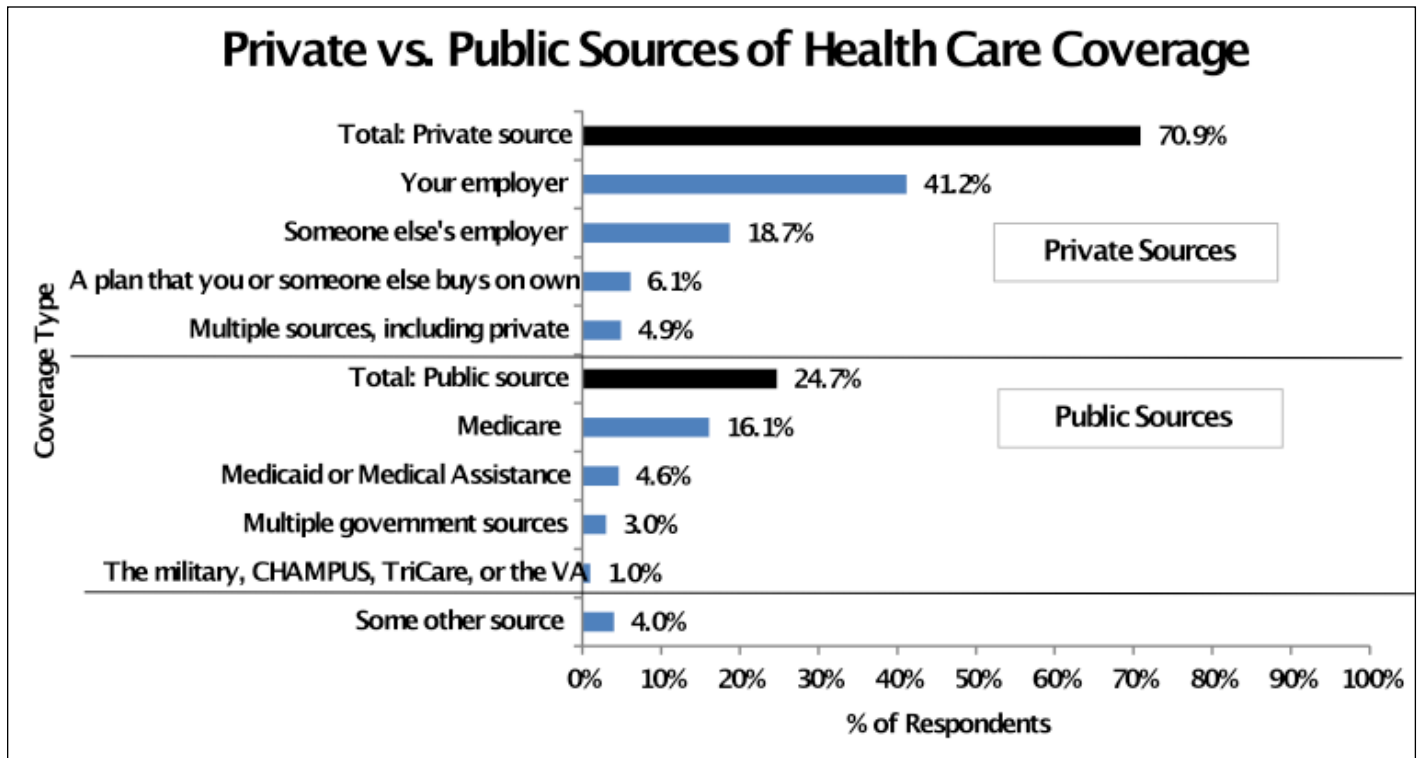
	With Health Insurance (n=836)	Without (n=105)
Have a primary health care provider	89%	50%
Have obtained a routine health checkup within past two years	83%	40%
Have transportation issues preventing access to health care	14%	50%
Required doctor's care within previous 12 months but did not seek care because of cost	13%	63%
Location where health care or information is primarily sought:		
Public Health or Community Health Center	0.5%	1.9%
Lorain County Free Clinic (Lorain County Only)	0.2%	0%
Hospital Emergency Room	2.0%	15.1%
Smoke cigarettes	18%	35%
Used recreational drugs within six months	10%	13%

- Adults without health insurance are far less likely to have someone they consider their primary care provider compared to those who have health insurance (50% versus 89%). Almost all of those who have health insurance have also had a routine checkup within the two years prior to the survey (83%); this is much lower for those without insurance (40%).
- Uninsured adults are very likely to also report having transportation issues when seeking health care (half of those without insurance reported having transportation issues).
- Uninsured adults are also much more likely to cite a hospital emergency room (15.1%) as where they would seek care if they needed it than a public health or community health center (1.9%) or the Lorain County Free Clinic (0%).
- Those without health insurance report higher rates of smoking tobacco and recreational drug use.

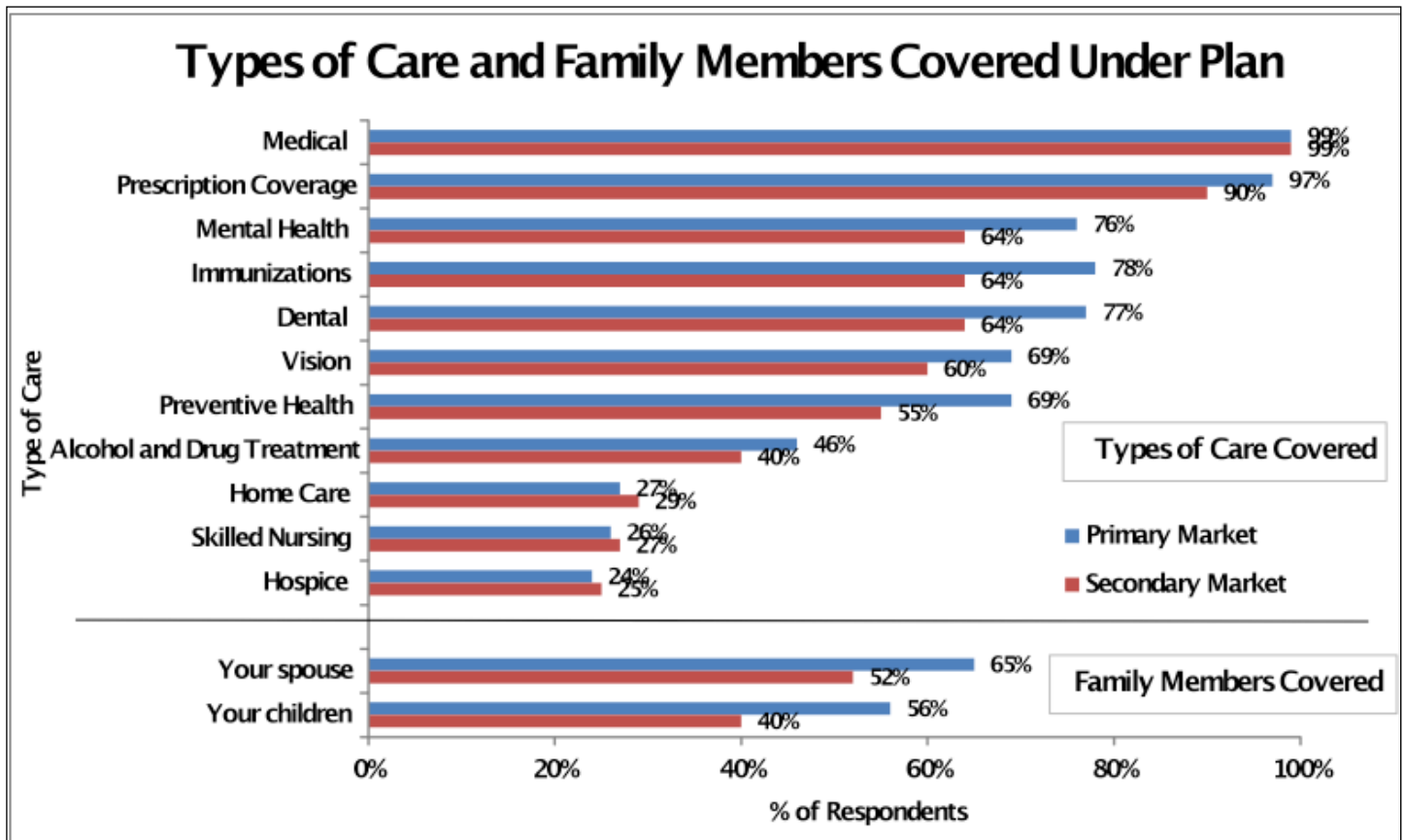
REASON FOR NO HEALTH CARE COVERAGE

	Primary and Secondary Market
Couldn't afford to pay the premiums	28%
Lost job or changed employers	21%
Became a part-time or temporary employee	11%
I chose not to buy health care coverage	8%
Became ineligible (aged out or left school)	5%
Employer doesn't/ stopped offering coverage	5%
Spouse or parent lost job or changed employers	4%
Lost Medicaid eligibility	9%
Benefits from employer/former employer ran out	3%
Became divorced or separated	2%
Spouse or parent died	2%
Insurance company refused coverage	1%
Other	4%

- Slightly more than one in four adults within UH St. John Medical Center's market area without health care coverage lost it (at some point in time) because they couldn't pay the premiums (28%) or because of a job loss or change (21%). Another 11% lost coverage due to a reduction in work hours. 5% of respondents lost coverage because their employers stopped offering it or didn't offer it.



- Most of those with health care coverage obtain it either through their own employer or through another person's employer-provided coverage.
- Approximately 25% of those in UH St. John Medical Center's market obtain their health coverage from some government source. Medicare and Medicaid are both more common in the hospital's secondary market area.



- Health care coverage almost universally includes medical care, and a great majority of those with coverage have a prescription plan as part of their coverage.
- Only about two out of three of those covered in the secondary market have plans which include mental health and/or immunizations; these types of coverage are more common in the primary market (roughly three out of four of those covered). Slightly fewer have plans that include dental, vision and/or preventive health.
- A minority of those covered have plans which cover alcohol and drug treatment, home care, skilled nursing and/or hospice care.
- Just over half (65% in the primary market and 52% in the secondary market) of those with health care coverage say their plans also can include their spouses. Approximately half (56%) in the primary market say their children can be or are covered by their plans; fewer (40%) of those covered in the secondary market reported that their plans included children of policyholders.

Health Care Utilization

DID NOT SEEK DOCTOR'S CARE WITHIN PAST 12 MONTHS (BUT NEEDED IT) BECAUSE OF COST

	Primary Market	Secondary Market	Total Market
Do Not Have Health Care Coverage	66.7%	62.4%	62.9%
Have Health Care Coverage	9.4%	14.2%	13.0%

- Among those without health care coverage, it was very common to have needed to see a doctor, but not seen a doctor, because of cost in the 12 months prior to the survey (62.9% of those in UH St. John Medical Center's total market area who do not have coverage, or 19% of all adults in the hospital's market).
- However, even those with health care coverage said that cost was a barrier to seeking needed care. Almost 1 in 10(9.4%) of those in UH St. John Medical Center's market (who have health care coverage) cited this issue. Deductibles and copays were often a barrier to seeking care.

PERCENT OF ADULTS WITH PRIMARY CARE PHYSICIAN(S)

	Primary Market	Secondary Market	Total Market
Have Health Care Coverage (n=1090)	93%	86%	87%
Do Not Have Health Care Coverage (n=131)	64%	47%	49%

- Most (but not all) of adults with health care coverage in UH St. John Medical Center's market areas have a provider for primary care (87%). Almost half of those without coverage do also, reinforcing that many of these adults have had coverage previously. Those in the hospital's primary market area are more likely to have a primary care provider than those in the secondary market, regardless of coverage status.

INCIDENCE OF RECEIVING ROUTINE HEALTH CARE: UH ST. JOHN MEDICAL CENTER'S PRIMARY & SECONDARY MARKETS

	With Health Insurance	Without Health Insurance
Obtained routine checkup within past two years	83%	40%
Visited a dentist for a routine checkup within past two years	77%	47%
Recent cholesterol check (within past year)	90%	58%
Recent blood pressure check (within past year)	90%	58%
Received flu vaccine	46%	16%
Recent eye examination (within past year)	56%	26%
Skin cancer check	29%	8%
Recent mammogram (females only, within past year)	35%	16%
Recent clinical breast exam (females only, within past year)	55%	46%
Recent Pap smear (females only, within past year)	45%	38%
Recent Prostate-Specific Antigen test (males only, within past year)	40%	10%
Recent digital exam of prostate gland (males only, within past year)	32%	6%
Have obtained HIV test	30%	44%

Obtaining preventive care (tests for common health conditions) was fairly common among residents within UH St. John Medical Center's markets. But there are large differences between those with and without health insurance coverage. Those with coverage were about twice as likely to have had a recent general checkup or general dental checkup. Blood pressure and cholesterol checks – both very low-cost preventive measures – were very commonly received by those with health care coverage. Only 58% of those without coverage, on the other hand, received these preventive measures.

Although roughly eight in 10 surveyed adults had obtained a medical checkup within the year prior to the survey, for many that checkup did not include discussions about diet, exercise, injury prevention, or healthy sexual practices. Likewise, most were not counseled on the importance of family history as it relates to health or their immunization status.

HEALTH CARE PROVIDERS' COMMUNICATION OF KEY HEALTH SUPPORTING BEHAVIORS, UH ST. JOHN MEDICAL CENTER PRIMARY & SECONDARY MARKET AREAS

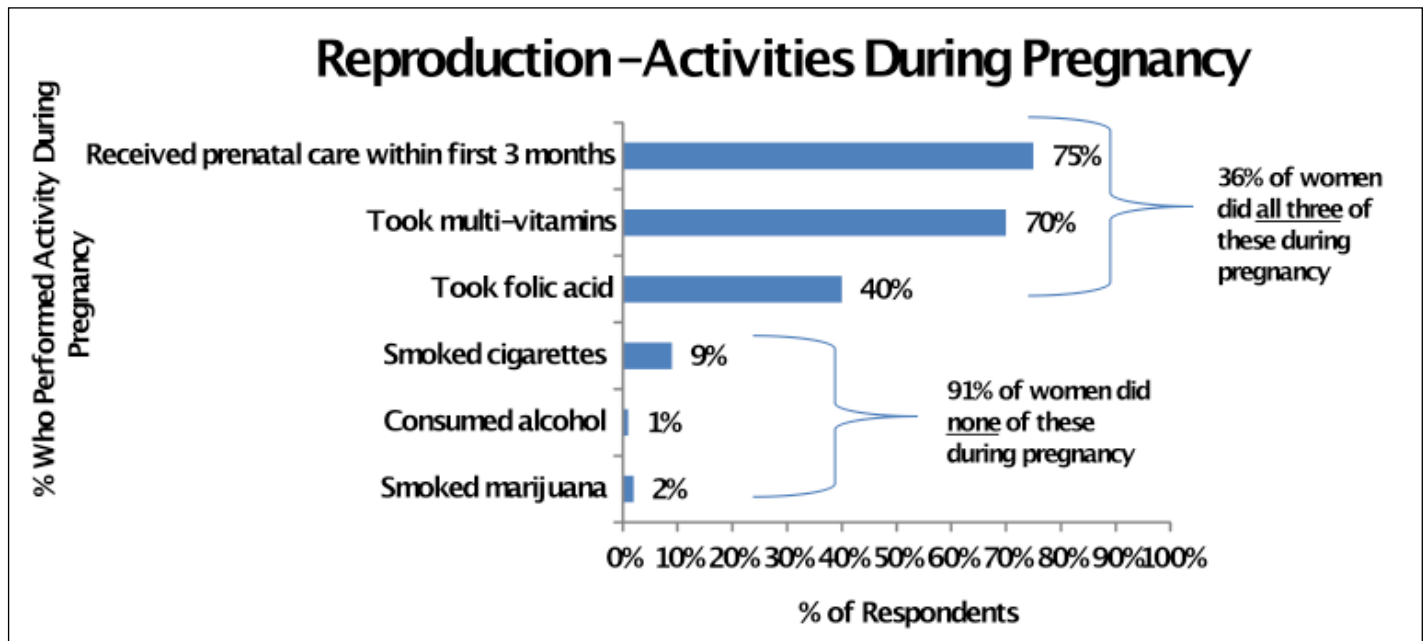
	Within Past Year	Before Past Year	Never
Diet or eating habits	38%	18%	45%
Physical activity or exercise	42%	18%	41%
Injury prevention such as safety belt use, helmet use, or smoke detectors	8%	8%	84%
Sexual practices, including family planning, sexually transmitted diseases, AIDS, or the use of condoms	11%	9%	80%
Significance of family health history	21%	19%	59%
Immunizations	23%	16%	60%
Quitting tobacco use (current smokers only)	45%	23%	32%

While obesity was very common among those hospitalized at UH St. John Medical Center in 2013 (15%), not all of those who are obese have had discussions with a healthcare providers about that: within the survey data we see that 23% of obese (BMI of 30+) adults in the hospital's market areas have never been counseled by health care professionals regarding their weight. Likewise, only about half (45%) of smokers have been counseled by a health care professional during the past year about quitting tobacco use. One-third (32%) of smokers have never in their lifetimes been counseled by a medical professional on the importance of quitting smoking.

Recall that slightly more than one in five of UH St. John Medical Center's adult discharged patients in 2013 had a primary diagnosis of coronary heart disease. Another 48% had a secondary diagnosis of coronary heart disease. 5% had a primary diagnosis of COPD. Both of these conditions are strongly tied to lifestyle choices. Lorain County has a higher-than-average proportion of both tobacco smokers and obese adults, suggesting there is room for improvement on these health indicators through communication from health care workers and/or other prevention programs.

Reproduction

23% of the adult female survey respondents had been pregnant within the five years prior to the survey.



Infant Mortality

This indicator reports the rate of deaths to infants less than one year of age per 1,000 births. This indicator is relevant because high rates of infant mortality indicate the existence of broader issues pertaining to access to care and maternal and child health.

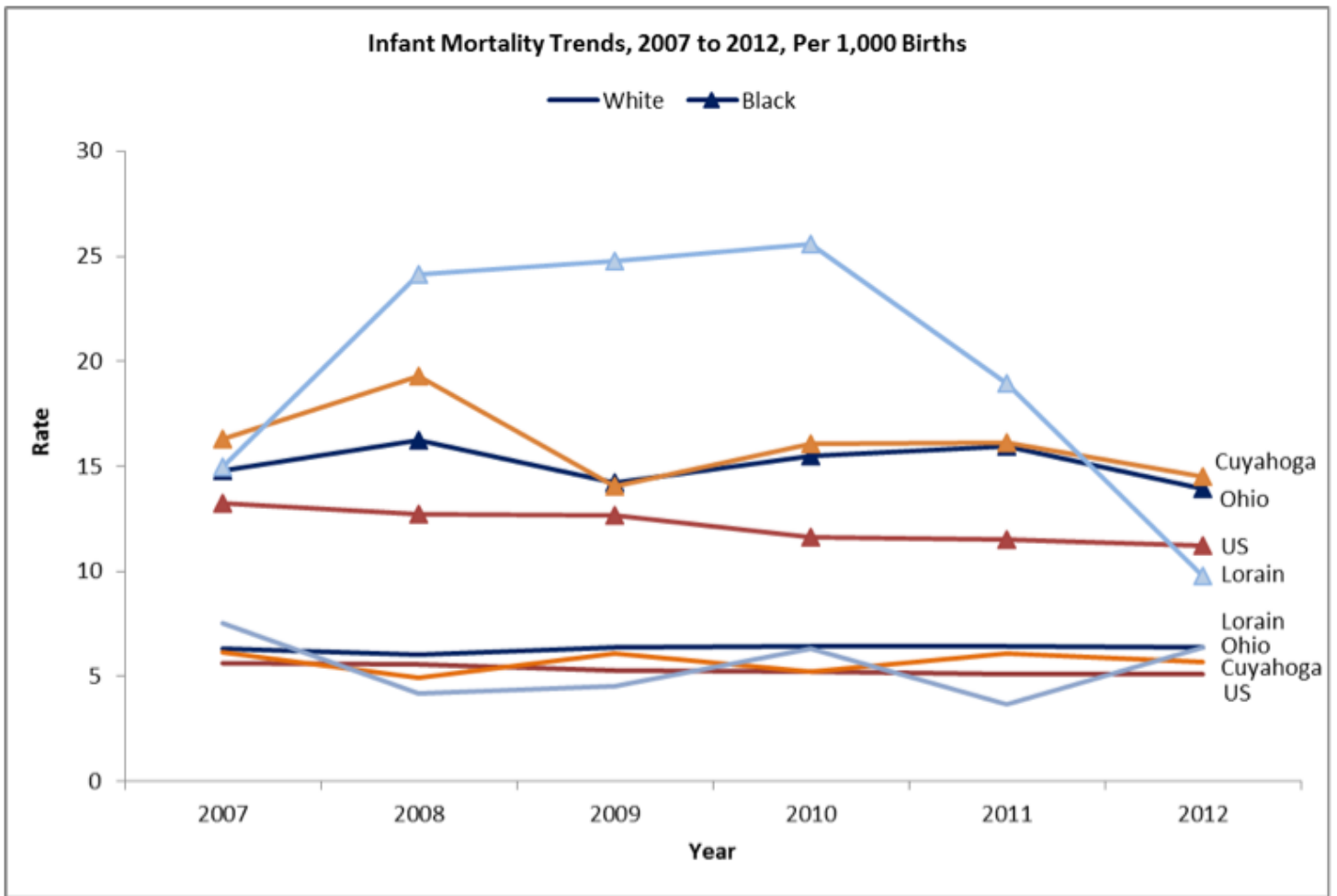
The infant mortality rate in Lorain County is on par with that in Ohio, but higher than that in the United States overall. The infant mortality rate in Cuyahoga County is higher than Lorain County. This difference is largely due to the much higher infant mortality rate among Blacks in Cuyahoga County.

- Infant mortality rates among Blacks have been significantly higher in the U.S. for several years. According to the most recently available data, the infant mortality rate among Blacks was almost twice as high as that for Whites in 2012. This disparity is also true for Lorain and Cuyahoga counties. Note that the infant mortality rate for Blacks within Lorain County fluctuates a great deal from 2007 to 2012 because the absolute number of births for Blacks in Lorain County is low (no more than 497 in any of the years), and small changes in the number of infant mortalities are reflected as large changes in the percentage of infant mortalities. The absolute number of Black births in Cuyahoga County is much higher through all data years, making the infant mortality rates less volatile. However, higher infant mortality rates among Blacks in both Lorain and Cuyahoga counties is of great concern.

INFANT MORTALITY TRENDS, 2007 TO 2012, U.S., LORAIN COUNTY, AND SURROUNDING COUNTIES, PER 1,000 BIRTHS*

Below we show the infant mortality rate of Lorain and Cuyahoga counties compared to each of their surrounding counties.

Geography	Race	Infant Mortality Rate						Number of Births					
		'07	'08	'09	'10	'11	'12	'07	'08	'09	'10	'11	'12
United States Overall	Total	6.75	6.61	6.39	6.15	6.07	5.98	4,316,233	4,247,694	4,130,665	3,999,386	3,953,590	3,952,841
	White	5.64	5.55	5.3	5.2	5.12	5.09	3,336,626	3,274,163	3,173,293	3,069,315	3,020,355	2,999,820
	Black	13.24	12.74	12.64	11.63	11.51	11.19	675,676	670,809	657,618	636,425	632,901	634,126
Ohio Overall	Total	7.71	7.7	7.67	7.68	7.87	7.57	150,784	148,592	144,569	139,034	138,024	138,284
	White	6.34	6	6.4	6.42	6.41	6.37	121,267	118,901	115,328	107,189	104,906	106,004
	Black	14.79	16.23	14.23	15.47	15.96	13.93	25,959	26,131	25,433	23,469	23,252	23,696
Lorain County	Total	8.37	6.84	7.31	8.31	5.2	6.26	3,586	3,654	3,420	3,371	3,464	3,356
	White	7.5	4.2	4.52	6.32	3.64	6.39	3,067	3,098	2,873	2,692	2,746	2,661
	Black	14.99	24.14	24.79	25.58	18.96	9.8	467	497	484	391	422	408
Erie County	Total	3.42	13.17	7.6	10.74	7.91	7.6	876	835	789	745	759	789
	White	2.7	11.36	7.34	11.27	4.75	1.52	742	704	681	621	631	656
	Black	7.87	24.39	9.9	9.62	8.77	35.4	127	123	101	104	114	113
Huron County	Total	5.78	4.58	6.5	4.04	8.61	5.53	865	874	769	743	697	723
	White	5.9	4.67	6.68	4.42	9.16	5.94	847	857	748	678	655	673
	Black	0	0	0	0	0	0	15	14	15	12	6	12
Ashland County	Total	0	12.42	6.43	3.06	1.74	3.16	703	644	622	653	576	632
	White	0	12.58	6.56	3.14	1.78	3.21	690	636	610	636	562	623
	Black	0	0	0	0	0	0	3	3	4	4	4	2
Medina County	Total	3.06	5.31	1.08	0.57	3.39	6.4	1,963	1,884	1,844	1,752	1,768	1,719
	White	3.18	5.49	1.12	0.6	2.96	6.74	1,888	1,822	1,779	1,676	1,692	1,632
	Black	0	0	0	0	29.41	0	46	33	30	21	34	37
Cuyahoga County	Total	9.97	10.59	9.08	9.07	9.47	8.86	16,450	16,249	15,525	15,108	14,993	14,787
	White	6.17	4.95	6.06	5.23	6.06	5.69	9,233	9,092	8,746	7,842	7,750	7,554
	Black	16.27	19.32	14.05	16.07	16.13	14.51	6,576	6,573	6,192	5,912	5,829	5,789



*Source: Ohio Department of Health

Unhealthy Behaviors

A large number of UH St. John Medical Center patients (21%) had a secondary diagnosis of nondependent drug abuse. Based on survey data, among the adult population unhealthy consumption of alcohol (binge drinking) occurred two or more times in 30% of the adult population in the 30 days prior to the survey. 21% of survey respondents reported that they smoke cigarettes (31% used some type of tobacco); half (48%) reported failed attempts to quit smoking during the year prior to the survey.

INCIDENCE OF UNHEALTHY BEHAVIORS AMONG ADULTS IN UH ST. JOHN MEDICAL CENTER'S PRIMARY AND SECONDARY MARKETS

Binge drinking, two or more times a month	• 30% of adults in market areas
Driving a vehicle after consuming alcohol	• 3%
Use of tobacco	• 21%
Attempts to quit using tobacco	• 48% of adult smokers attempted to quit within the past twelve months
Use of illicit drugs and/or non-prescribed mood-altering drugs	• 11% of the adult population reported non-prescribed or illicit drug use
Sexual behavior while impaired by alcohol or drugs	• 17% (during lifetime)
Use of seat belt while in a vehicle	• 11% at least sometimes do not wear a seat belt
Store a loaded and unlocked firearm in home	• 31% keep a firearm in home; 8% of firearms are kept loaded and 10% are kept unlocked.

Incidence of Health Issues

Many of those in UH St. John Medical Center's market areas who were surveyed have been diagnosed with a chronic disease.

- Of adults in UH St. John Medical Center's market area 16% have been diagnosed with asthma, 27% have been diagnosed with arthritis and 12% have been diagnosed with diabetes (12% in secondary market area).
- Also, 12% of adults in the hospital's market area have a known circulatory disease: 6% have had a heart attack or myocardial infarction; 6% have angina or coronary heart disease, and 2% have had a stroke.

High blood pressure impacts one-third (34%) of the market area's adults, as do high blood cholesterol levels (35%). One in five (19%) market area adults have both high blood pressure and high cholesterol levels.

Many Lorain County adults have also been impacted by a serious health event:

- 6% had an incidence of depression lasting two or more weeks within the past year; 8% cite depression as something which often limits their activities;
- 9% have been a victim of some type of abuse (physical, sexual, financial and/or emotional) within the past year;
- 9% have had a cancer diagnosis at some point.

Prostate and breast are the two most common cancer diagnoses, by far, both in Lorain and Cuyahoga counties and in Ohio. Note that prostate cancer rates in Cuyahoga and Lorain counties are slightly higher than rates in the U.S. overall and in Ohio. Lorain County has lower breast, cervical and colon/rectal cancer rates compared to Ohio and the U.S. Cuyahoga County has slightly lower rates of lung and colon/rectum cancers compared to Ohio.

CANCER INCIDENCE BY CANCER TYPE

Cancer Type	Report Area	Total Population	Average New Cases per Year	Annual Incidence Rate (Per 100,000 Population)
Prostate Cancer (total population Male only)	Cuyahoga County, OH	609,670	1,076	156
	Lorain County	147,670	234	144.3
	Ohio	5,624,513	8,272	135.8
	United States	150,740,224	220,000	142.3
Breast Cancer (total population Female only)	Cuyahoga County, OH	675,609	1,107	129.7
	Lorain County	152,821	211	112.9
	Ohio	5,901,023	8,435	120
	United States	155,863,552	216,052	122.7
Lung	Cuyahoga County, OH	1,285,279	1,143	71.5
	Lorain County	300,491	250	71.3
	Ohio	11,525,536	9,551	72.4
	United States	306,603,776	212,768	64.9
Colon and Rectum	Cuyahoga County, OH	1,285,279	709	44.2
	Lorain County	300,491	144	41.3
	Ohio	11,525,536	5,862	44.5
	United States	306,603,776	142,173	43.3
Cervical (total population Female only)	Cuyahoga County, OH	675,609	61	8.3
	Lorain County	152,821	14	8.6
	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

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

- 9% of adults consider their day-to-day stress level to be 'high.'
- 26% of surveyed adults lack a support system such as childcare back-up, financial assistance, etc.
- 66% experienced some type of major stressful event within the past year (household member death, hospitalized or jailed; job loss; homelessness; changed residences; self or child was slapped or hit; household member abused drugs or alcohol).

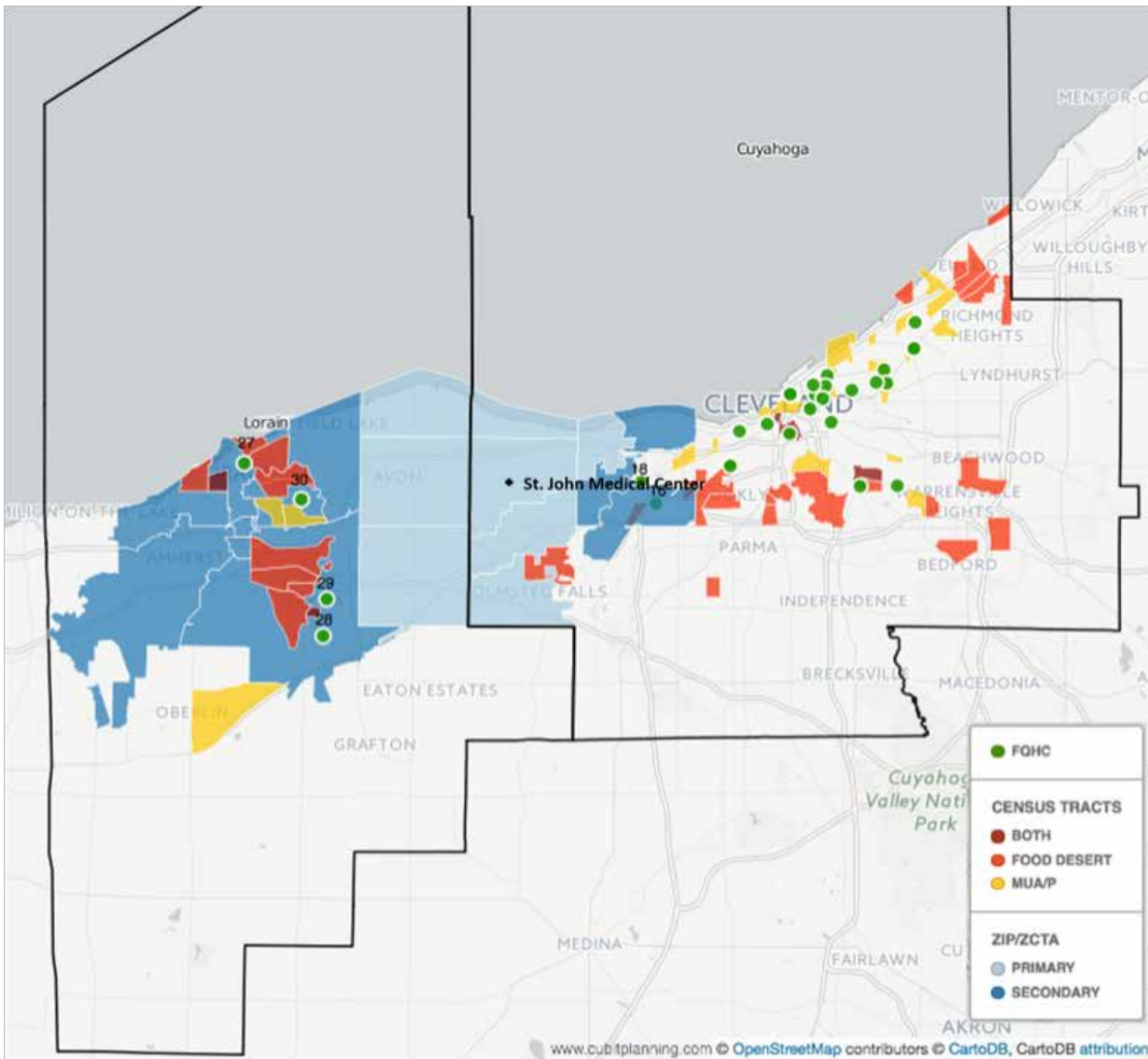
Medically Underserved Areas, Federally Qualified Health Centers and Food Deserts

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. Understanding areas that are deemed to be medically underserved is helpful when planning where to target resources to improve health.

There are four Federally Qualified Health Centers (FQHCs) in Lorain County. There are two each in the cities of Lorain and Elyria that are within UH St. John Medical Center's secondary market area. There are also two FQHCs in Cuyahoga County (Cleveland) that are within UH St. John Medical Center's secondary 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. Food deserts are often characterized as locations having only fast food restaurants and convenience stores and where the limited healthy food that is available is offered at a high price.

There are several food deserts and MUAs/MUPs in Lorain County that are within UH St. John Medical Center's market area. Cuyahoga County does have several MUAs/MUPs and food desert census tracts, but none of them are in UH St. John Medical Center's market area. In this map we overlay medically underserved areas and food deserts to determine areas that may have the highest need for services. To provide further context, the map also pinpoints the location FQHCs. Roughly 16.5% of the Lorain County population lives in a census tract that is considered to be a medically underserved area. In Lorain County, 11.5% of the population lives in a census tract that is considered to be a food desert and 5.2% of the population lives in a census tract that is considered to be both a food desert and a medically underserved area.



FQHCs IN UH ST. JOHN MEDICAL CENTER'S MARKET AREAS:

Map Code	FQHC Name and Address
16	Neighborhood Family Practice at Puritas, 14037 Puritas Ave. A & D, Cleveland Ohio 44135
18	Centers West Office Health Center, 3929 Rocky River Dr., Cleveland, Ohio 44111
27	Lorain County Health & Dentistry, 1205 Broadway, Lorain, Ohio 44052
28	Wilkes Villa Public Housing, 105 Loudon Ct., Elyria, Ohio 44035
29	Lorain County Health and Dentistry, 3745 Grove Ave., Lorain, Ohio 44055
30	Lorain County Health & Dentistry, 412 E. River St., Elyria, Ohio 44035

Primary (Narrative) Data Assessment

Primary data was obtained through surveys, interviews, and focus groups. The following organizations were contacted and invited to participate in interviews or focus groups, or they received a survey to complete and return electronically.

Law Enforcement

*(*individual interviews)*

North Olmsted Police Dept.*

North Ridgeville Police Dept.

Westlake Police Dept.*

UH St. John Medical Center Security*

Clergy

*(invited to focus group; *individually interviewed)*

St. Ladislaus Catholic Church, Westlake

St. Raphael Catholic Church, Bay Village

St. Richard's Catholic Church, N. Olmsted

St. Peter Catholic Church, N. Ridgeville*

Grace Baptist Church, N. Ridgeville

North Olmsted Methodist Church, N. Olmsted*

Elyria First United Methodist, Elyria

St. Demetrios Greek Orthodox Church, Rocky River

St. Paul Lutheran Church, Westlake*

Bay Presbyterian, Bay Village

Abbe Road Baptist Church, North Elyria

Bethany Baptist, Elyria

West Shore Unitarian Universalist Church, Rocky River

Senior Centers

(sent online surveys, invited to focus group;

**responded to survey/attended focus group)*

Avon Senior Center, Avon

Avon Lake Senior Center, Avon Lake

Dwyer Memorial Center, Bay Village

North Olmsted Senior Center, N. Olmsted*

North Ridgeville Senior Center, N. Ridgeville*

Rocky River Senior Center, Rocky River

Westlake Senior Center, Westlake*

Mental Health and Health Centers

*(responded to online survey; *individual interviews)*

Cuyahoga County Board of Health – Opiate Task Force*,

Parma

North Coast Health Ministry, Lakewood*

Lorain County Board of Mental Health, Lorain

Lorain Free Clinic, Lorain

Educators

*(sent online surveys; *responded to survey)*

Westlake Public Schools, Westlake

Bay Village Public Schools, Bay Village*

Elyria Catholic High School, Elyria*

North Olmsted Public Schools, N. Olmsted

North Ridgeville Public Schools, N. Ridgeville

Hospice

Hospice of Western Reserve

UH St. John Medical Center Internal Focus Groups and interviews

- UH St. John Medical Center Case Management/Social Work (focus group)
- UH St. John Medical Center Emergency Department (focus group)
- Diabetes Educator (individual interview)
- Physicians (individual interviews)

Primary Data/Narrative Data

UH St. John Medical Center started reaching out to their primary and secondary service areas in February, 2015. Interviews continued through June and the online survey was posted through the end of July. UH St. John Medical Center conducted surveys, interviews, and focus groups to gather information from various external groups such as clergy, educators, mayors, senior center directors, health centers, the Cuyahoga Public Health Departments, etc. in the primary and secondary service areas. Interviews and focus groups were also conducted internally with case management, the emergency department, and individual physicians. An online survey was posted on the UH St. John Medical Center Internet site with 39 respondents.

There is a wide range of socio-economic levels within the UH St. John Medical Center primary and secondary services areas (see statistical data). UH St. John Medical Center is attuned to the needs of the various populations, but in particular to those who are vulnerable medically, socially, and economically. UH St. John Medical Center's service areas have a significant number of elderly, so this group of community members receives particular attention. As is true with so many communities, there is a rise in the use of heroin and other opiates. This is a public health issue that has great implications across all socio-economic groups. Chronic illness is a challenge for a large percentage of the population, but those without health insurance or other resources (finances, transportation, and social support) are particularly challenged in caring for themselves.

Health centers such as North Coast Health attempt to ensure that the most economically and medically vulnerable have access to primary care, to Medicaid and other insurance, prescription assistance, as well as mental health services within the western Cuyahoga County area. Most of their service area falls within UH St. John Medical Center's Primary and Secondary Service areas.

The Free Clinic in Lorain County provides a range of services to Lorain residents, including primary care, vision, prescription drug programs, and referral services. Lorain County Board of Mental Health is a public agency that plans, funds, monitors and evaluates services for Lorain County residents with mental illness.

Public Health and Community Health Services:

In Lorain County, there is a great need for access to affordable and timely medical care for adults between 19 – 65 years old. Lack of insurance, lack of transportation to and from health care and mental health facilities, and lack of providers especially for the chronically mentally ill are significant problems. Survey data supports the narrative data that lack of transportation is a barrier to care. 50% of surveyed adults without health insurance (and fourteen percent of adults with health insurance) in UH St. John Medical Center's primary and secondary service areas cited having transportation issues that prevent access to health care. Although Medicaid expansion has covered many who previously did not have health care coverage, some find it difficult to find providers willing to take Medicaid. Language barriers loom large for a growing immigrant population, so there is a growing need for more health care and mental health care providers who speak Spanish and Middle Eastern languages. Income levels have remained stagnant and in many cases have gone down in the past few years. Agencies, particularly in Lorain County, have the ability to expand services, but due to a shortage of needed health care workers, they are not able to do so.

In Cuyahoga County, the greatest needs identified include behavioral health, especially for depression, chronic disease management, and more dental care availability for those without insurance and limited incomes. Other health challenges identified were hypertension and diabetes management, obesity education and programs, and transportation to clinics and other health care services.

Cuyahoga County Opiate Task Force is working to raise public awareness, promote community action and provide education related to the dangers and devastating effects of drug abuse. It was created by the Cuyahoga County Public Health Department to create a healthier community by reducing accidental fatalities associated with opiate abuse through collaborative partnerships that focus on prevention, treatment and recovery. Their goal for education is to reach as many groups as possible. Health care providers, educators, social service organizations, and clergy are of particular focus because of the wide reach into the community that these groups have. The Opiate Task Force is comprised of professionals from drug treatment, recovery, education, health care, law, medicine, mental health and public health. The task force confirmed the concern articulated by so many in UH St. John Medical Center's primary and secondary service areas that this is a problem that continues to grow in these communities. They encourage UH St. John Medical Center to become a participant in their endeavor to educate physicians, staff, and the communities UH St. John Medical Center serves.

Law Enforcement:

Interviews took place with police departments in UH St. John Medical Center primary service area. UH St. John Medical Center security, North Olmsted police chief, and Westlake's Captain Turner had in person interviews. In spite of numerous efforts, North Ridgeville's police chief was unable to meet with someone from UH St. John Medical Center. Mental illness was identified as a significant issue for law enforcement. There are not enough resources, especially for those who display "nuisance behavior." Many of the mentally ill in UH St. John Medical Center's primary service area are homeless even though they are likely to be from the area.

Most common reasons for police reports are domestic violence, theft, and child endangerment. However, calls related to heroin and other opiates have increased. Most of the police departments have NARCAN and have used it on a number of occasions. The age range for opiate usage is between 19 yrs. and 40 yrs. North Olmsted indicated that assistance with regular CPE training and AED training would be very helpful.

Senior Centers:

Senior center directors have a particular insight into the challenges and gaps in health care and community support faced by the elderly who live in the community, whether within their own homes or with other family members.

Surveys and a focus group were methods used to gather information about the gaps in service and concerns about the needs and challenges of older people living in their own homes, or the homes of family members. A number of centers within UH St. John Medical Center's primary service area were sent surveys and invited to a focus group. Follow-up phone calls were made to centers that had not responded to the survey. North Ridgeville and North Olmsted both returned the surveys and attended the focus group. Westlake senior center responded to the survey, but the director was unable to attend the focus group.

Transportation, especially to physician appointments and other necessary trips remains a challenge in many communities. Westlake and N. Olmsted Sr. Centers are able to help provide transportation to physician appointments and scheduled shopping trips, other communities do not have access to this type of program. The cost of senior living, especially assisted living is a great concern for older people, their families, and professionals working with the elderly.

Each of the senior centers offers a variety of services for the elderly from snow shoveling to provision of vouchers for fresh fruits and vegetables at the farmer's market. Coordination of services and a central resource center were both mentioned a number of times as a significant need. Many seniors do not have access or are unable to use the computer, so they either need some sort of directory or a live person to whom they can speak.

The Senior Centers see a huge gap in care for those who don't qualify for Medicare and/or Medicaid and don't have insurance through work or find the insurance on the exchanges too expensive. Prescription drug costs present an ongoing financial challenge. In general, the income of the elderly and near elderly, is going down and they are looking for assistance in many ways. Also, there is a gap in home care services. Patients recently discharged from the hospital, especially elderly who live alone, often need help with ADLs and light housekeeping. Mental health services and dementia assessment programs are difficult to access. Lakewood's program is closing and the other one in area is a SW Hospital, a significant distance for those without transportation.

Education:

Superintendents, principals, and counselors received surveys regarding challenges in their schools and school districts. The focus was primarily on teenagers. None of the schools who responded had significant ethnic diversity, but there was concern regarding economic disparity and in particular the economic challenges and loss of health care insurance due to loss of employment that many families were facing. For one school district it did not appear that there were any easily accessed health care services, nor good resources for mental health care. There is a family service agency, but they assess and refer out often to private agencies. The primary concern for many is exposure to drugs. They have drug education, but realize the problem is very large and they don't have enough resources devoted to this concern. Along with the challenges related to drug use, there is concern about the students' general mental health. A counselor expressed her worry about depression and anxiety among their high school population.

Clergy:

A focus group was organized with invitations sent to 14 pastors. Only a few responded affirmatively so the decision was made to have individual interviews with a smaller number representing a number of the communities in UH St. John Medical Center's primary service area. For each, the biggest concern was the spiritual life of their congregation. For some, care around end of life and the spiritual needs associated with this time were of particular concern. For others, the biggest challenge was meeting the needs (spiritual and otherwise) of the elderly in their parish. Mental health services and the lack of good coordination of these, especially for youth and the uninsured, were identified as a great need. Although none expressed that they had knowledge of individuals or families having problems with drugs other than alcohol, they recognized that it was a big issue in the community and probably it just went unrecognized in their parishes. One priest expressed great concern about the amount of economic insecurity in his parish and the health and mental health problems associated with this. Another pastor was concerned about food insecurity, not because there wasn't access, but with limited incomes many were forced to make choices between other needs and healthy food.

One congregation had numerous services available for the elderly and disabled in their congregation, e.g., rides to doctor appointments and other necessary trips, help with household chores and maintenance.

Those interviewed also recognized many strengths of their communities. Excellent schools and good public services were frequently mentioned. Parks and recreational facilities were also recognized as a benefit. Some saw the multiplicity of churches as a plus for their community.

Themes:

In summary of external narrative data the following themes were identified, often by multiple participants:

- There is an overall concern for those who are economically challenged, particularly those without health care coverage.
- There is awareness that like other geographic areas, the west side of Cleveland has a growing problem with the abuse of prescription drugs, heroin, and other opiate drugs.
- Behavioral/mental health issues, especially depression, among all age groups are identified as a problem, but more importantly, there is a concern regarding access to needed mental health services.
- Chronic illnesses, especially diabetes, were of concern.
- Transportation remains a significant challenge for seniors, for the economically challenged, and those who have chronic mental and physical health issues. This negatively impacts their ability to access needed health care.
- There is a particular concern for dialysis patients who are challenged by the lack of affordable transportation and access to necessary education and services.
- Obesity was a concern for both the adult population and children.
- Cost of prescription drugs was mentioned with respect to seniors and the uninsured/underinsured.
- Coordination of health care services is a challenge.
- For the older population, a comprehensive resource for community services of all sorts is needed. Many, if not most, older people are not comfortable with or do not have access to computer resources.

Internal Primary (Narrative) Data

Focus Group – Case Management/Social Work:

The groups most often served by case management and social work are elderly patients, young people with multiple issues, the uninsured, those with chronic illness, palliative care patients, and newly diagnosed patients. There were a number of significant concerns voiced by this focus group: cost of prescriptions, high copays, no insurance, cost to patient and short length of stays for observation patients, no follow through with patient once discharged, noncompliance with meds, doctor appointments, elderly going home with no one to care for them, etc.

Substance abuse is a major concern, especially heroin/opiate pill abuse, but also alcohol abuse. People are often discharged outside of the UH St. John Medical Center primary and secondary service areas for psychiatric care, drug abuse, and nursing homes that serve the need of particular ethnic/language elderly populations. The services most challenging to access are mental health, inpatient psychiatry, and drug/alcohol rehab.

Case managers and social workers expressed great concern about the financial burden on patients who are designated observation patients in the hospital and financial limits to their ability to access services they need post discharge.

Focus Group – Emergency Department:

The emergency department staff identified financial concerns especially Observation Status as a significant issue. Some patients leave AMA once they become aware of the costs they will be responsible for. Insurance requirements (e.g., Healthspan and the VA) for pre-authorization are also a significant issue. Living arrangements for the elderly that are being discharged from the emergency department is often a concern. Behavioral health services and facilities, especially for the elderly, are seen as a major challenge. Often patients are kept for hours/days waiting for a bed in a behavioral health facility or unit. The emergency department has seen an increase in drug overdoses and drug abuse.

Physician Interviews:

Dr. Seitz – Emergency Department

Dr. Eilenfeld – Family Practice, Palliative Care

Dr. Llerena – Internal Medicine, Geriatrics

Dr. Seitz stated that his primary concern is appropriate inpatient and outpatient services for behavior health. Dr. Eilenfeld thought that the need for follow-up could be mitigated by an outpatient care coordinator. This person could facilitate movement through the system and post discharge needs, as well as being able to keep an eye on populations that are high risk. Affordability of prescription drugs is a problem for her patients, as well as the ability to receive behavioral health at a cost on a sliding scale. Not only behavioral health, but accessible outpatient PM&R is a challenge for seniors. Dr. Llerena echoed the concern for the elderly that are in their homes. She, too, mentioned that a coordinator or navigator (like hospice has) could help seniors have the services and follow up they need.

Online community survey:

UH St. John Medical Center offered an online survey on the UH St. John Medical Center Internet website in order to give the general public an opportunity to participate in assessing the general health and access to health care of the community. The survey consisted of 10 health- and age-related questions. 39 individuals participated in the survey. 55- to 64-year-olds made up the largest percentage (30.77%) of respondents. Of the respondents, 89.74% said they received routine care from their primary care physician. When offered a list of possible health status issues most prevalent in the community, the following were seen as major problems: care for the elderly (43.24%), obesity (35.14%), substance abuse and basic medical care needs ranked evenly (32.43%). Mental or behavior health, Diabetes, Cancer, and Heart disease also received significant rankings. 74% of the respondents had private/commercial insurance.

Existing Resources for Health and Non-Health Related Needs:

1. Diabetes management and education
 - a. YMCA – diabetes prevention program
 - b. Diabetes Partnership of Cleveland
2. Obesity – adults and children
 - a. Cooking Matters at the Store
 - b. Good Food on a Limited Budget
 - c. Weight Watchers
 - d. CWR University's Urban Health Initiative and Prevention Research Center for Healthy Neighborhoods
 - e. The Cuyahoga County Board of Health
3. Behavioral health services
 - a. Nord Center – Lorain County
 - b. Lorain County Board of Mental Health – Lorain County
 - c. Applewood Centers – Cuyahoga Co. and Lorain County
 - d. Lutheran Family Services
 - e. Catholic Charities of the Diocese of Cleveland
 - f. MetroHealth Medical Center
 - g. North Coast Behavioral Healthcare
 - h. Southwest General Health Center, UHHS Oakview Behavioral Health Center
4. Needs/gaps for uninsured and underinsured
 - a. UH St. John Medical Center Outreach prescription drug assistance program
 - b. Lorain Free Clinic
 - c. North Coast Health Ministry
5. Drug use – prescription drugs, heroin, other opiates
 - a. Cuyahoga County Board of Health – Opiate Task Force
 - b. ADAMHS Board of Cuyahoga County
 - c. Catholic Charities
 - d. LCADA – Lorain County
 - e. West Shore Enforcement Bureau
6. Cost of prescription drugs
 - a. UH St. John Medical Center Outreach prescription drug assistance program
 - b. Lorain Free Clinic
 - c. North Coast Health Ministry
7. Transportation
 - a. Paratransit – RTA
 - b. Westlake Community transportation for handicapped and older community members
 - c. City of North Olmsted Senior Services transportation
8. Community Resource services
 - a. City of Westlake website
 - b. City of N. Olmsted website
 - c. City of Bay Village website
 - d. City of Elyria website

CONCLUSIONS

Summary/Themes:

In assessing the statistical data, external narrative data, and internal data, there were some often-repeated concerns or themes. These are the areas or gaps that UH St. John Medical Center should consider in creating an implementation plan.

Health-related themes:

- Diabetes management and education
- Obesity – adults and children
- Behavioral health services – more and more accessible services for all segments of the community, both inpatient and outpatient.
- Drug use – particularly misuse of prescription drugs, over prescribing of opiates, increase in heroin use and associated deaths, education for providers, parents, the community at large
- Concern for the uninsured and underinsured
- Service coordination for seniors in the community
- Cost of prescription drugs

Non-health related themes:

- Lack of transportation remains a major theme
- Resources for community services/call center (?) for those who don't use or have access to computer

Suggestions for implementation:

The UH St. John Medical Center CHNA Advisory Group makes the following suggestions for implementation (based on identified need, but also UH St. John Medical Center's ability to address the issue):

- **Diabetes** education that is available to the community
- **Obesity** education, perhaps focused on particular age group. Could be connected to diabetes program
- **Heroin and other opiates.** Work with Cuyahoga County Opiate Task Force to provide community education, but also provide internal education and support (e.g., Emergency Department, Residents, etc.)
- **Comprehensive resource guide** for community services. Limited call service for assistance.

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 St. John 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

Founded in 1997, Cypress Research Group focuses on quantitative analysis of primary and secondary market and industry data. Industry specialties include healthcare, 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 community health needs assessments.

UH St. John 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.

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.