



University Hospitals



Rainbow Babies
& Children's Hospital



2012 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. The most current assessments were completed by an external health care consulting service working with UH and include quantitative and qualitative data that serve to guide both our community benefit and strategic planning.

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

The following document is a detailed CHNA for University Hospitals Rainbow Babies & Children's Hospital (UH Rainbow Babies & Children's Hospital). UH Rainbow Babies & Children's Hospital is a 244-bed, full-service pediatric hospital and academic medical center that is solely dedicated to the health care needs of children. A trusted leader in children's health care for more than 125 years, UH Rainbow Babies & Children's Hospital consistently ranks among the top children's hospitals in the nation.

UH Rainbow Babies & Children's Hospital offers myriad programs and activities to address the surrounding community health needs. These include child safety programs through the Rainbow Injury Prevention Center and Healthy Kids, Healthy Weight™, a free child obesity treatment program, as well as leading-edge treatment and research programs in clinical areas such as cystic fibrosis, pediatric sickle cell disease, and neonatology.

Additionally, UH has responded to community health needs as part the Vision 2010 strategic plan. This monumental community investment of more than \$1 billion over five years reaffirms a strong commitment to the UH community. This plan included building UH Ahuja Medical Center, UH Seidman Cancer Center, several outpatient health centers, expanding the UH Rainbow Babies & Children's Hospital Neonatal Intensive Care Unit, and renovating and expanding the adult and pediatric Centers for Emergency Medicine at UH Case Medical Center.

UH Rainbow Babies & Children's Hospital strives to meet the health needs of its community. Please read the document's introduction below to better understand the health needs that have been identified.

TABLE OF CONTENTS

INTRODUCTION	1
EXECUTIVE SUMMARY	2
COMMUNITY-WIDE NEEDS	3
PRIORITY NEEDS IN CUYAHOGA COUNTY	5
PRIORITY NEEDS IN OTHER PRIMARY SERVICE AREA COUNTIES	6
APPENDIX	A-1
QUALIFICATIONS OF VERITÉ HEALTHCARE CONSULTING	A-2
STUDY METHODS	A-3
A. ANALYTIC METHODS	A-3
B. DATA SOURCES	A-4
C. INFORMATION GAPS	A-5
D. COLLABORATING ORGANIZATIONS	A-5
DEFINITION OF COMMUNITY ASSESSED	A-6
SECONDARY DATA ASSESSMENT	A-11
A. DEMOGRAPHICS	A-11
B. ECONOMIC INDICATORS	A-14
1. People in Poverty	A-15
2. Unemployment Rates	A-15
3. State Budget Cuts	A-16
4. Household Income	A-17
C. AMBULATORY CARE SENSITIVE DISCHARGES	A-26
1. County-Level Analysis	A-27
2. Facility-Level Analysis	A-28
D. COUNTY AND STATE-LEVEL HEALTH STATUS AND ACCESS INDICATORS	A-29
E. ZIP CODE AND CENSUS TRACT LEVEL INDICATORS	A-42
F. MEDICALLY UNDERSERVED AREAS AND POPULATIONS	A-45
G. HEALTH PROFESSIONAL SHORTAGE AREAS	A-47
H. DESCRIPTION OF OTHER FACILITIES AND RESOURCES WITHIN THE COMMUNITY	A-48
I. REVIEW OF OTHER RECENT COMMUNITY HEALTH NEEDS ASSESSMENTS	A-53
1. Lake County Community Health Assessment	A-53
2. The Center for Community Solutions	A-53
3. Child and Family Health Services	A-54
4. The Center for Health Affairs	A-55
PRIMARY DATA ASSESSMENT	A-57
A. INTERVIEW FINDINGS	A-57
B. COMMUNITY INPUT	A-61
1. Identification of Public Health Experts	A-62
2. Identification of Health or Other Departments or Agencies	A-65
3. Identification of Community Leaders and Representatives	A-65
4. Identification of Other Persons Representing the Broad Interests of the Community	A-67
PRIORITIZATION PROCESS AND CRITERIA	A-68
ASSESSMENT SUMMARY	A-69

INTRODUCTION

This report identifies and assesses community health needs in the areas served by UH Rainbow Babies & Children's Hospital in accordance with regulations promulgated by the Internal Revenue Service pursuant to the Patient Protection and Affordable Care Act, 2010.

UH Rainbow Babies & Children's Hospital recognizes that a community health needs assessment (CHNA) is required to meet current government regulation. This assessment is intended to fulfill this purpose although final guidance has not yet been published and has been provided only on an anticipatory basis.

Prior to the enactment of the new legislation, UH Rainbow Babies & Children's Hospital had conducted needs assessments to determine community needs and resources to meet those needs.

The 2012 CHNA, initiated by UH Rainbow Babies & Children's Hospital, sets out the needs and does not address whether those needs are currently met by one or more community benefit programs already in existence. Rather, this assessment will serve as a foundation for developing an implementation strategy 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 service area.

The UH Rainbow Babies & Children's Hospital CHNA is the foundation for an implementation strategy as required by the applicable regulations. UH Rainbow Babies & Children's Hospital is taking a leadership role as both the CHNA and implementation strategy are not required to be completed until 2013.

To assist with the assessment, UH retained Verité Healthcare Consulting, LLC (Verité). More information on Verité is provided in the Appendix.

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

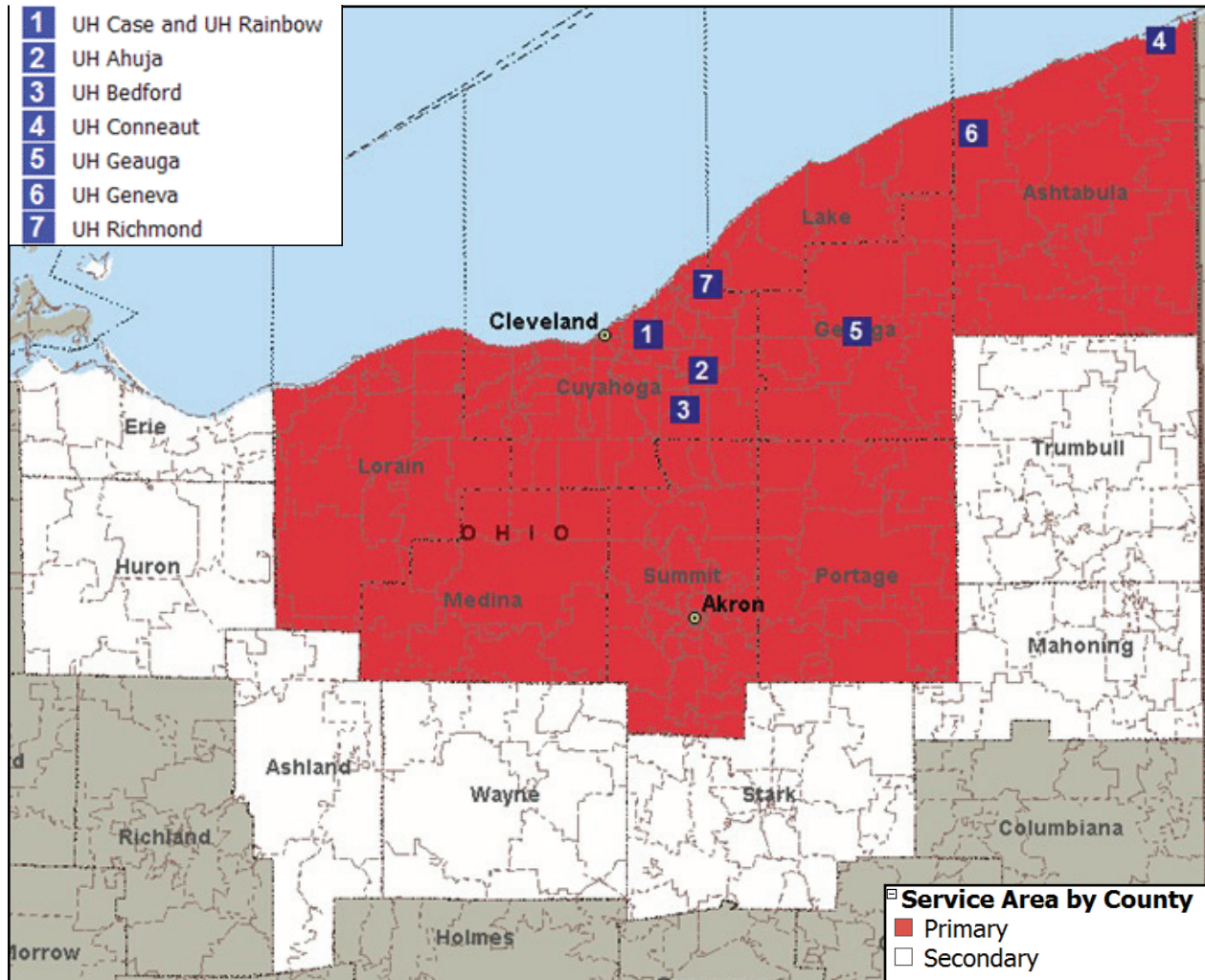
- Who in the community is most vulnerable in terms of health status or access to care?
- What are the unique health status and/or access needs for these populations?
- Where do these people live in the community?
- Why are these problems present?

The question of how the organization 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, including secondary data (regarding demographics, health status indicators, and measures of health care access), assessments prepared by other organizations in recent years, and primary data derived from interviews with persons who represent the broad interests of the community, including those with expertise in public health.

The following topics and data have been assessed:

- Demographics;
- Economic issues, e.g., poverty, unemployment, and state budget changes;
- Community issues, e.g., availability of healthcare facilities and resources, 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 for non-emergent care;
- Health disparities indicators; and
- Availability of healthcare facilities and resources.



UH Rainbow Babies & Children’s Hospital Community By the Numbers

- 8 Primary Service Area (PSA) Counties: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, Summit
- 7 Secondary Service Area (SSA) Counties: Ashland, Erie, Huron, Mahoning, Stark, Trumbull, Wayne
- Population under 18, 2010: 915,427
- 32% of community population resides in Cuyahoga County
- 91% of inpatient discharges originate from the PSA; 58% from Cuyahoga County
- Population change 2010-2015:
 - 6% decrease in population under 18, the most rapid decline of any age group
- 50% of community discharges were for patients with Medicaid; these patients more prevalent in Ashtabula, Cuyahoga, and Summit counties
- 24% of households with incomes < \$25,000
- Population by race, 2010-2015:
 - African American communities proximate to the hospital
 - Projected decline in white and African American populations
 - Anticipated increase in other non-white populations
- There exists a wide range of health status and access challenges across the community

While the UH Rainbow Babies & Children's Hospital community benchmarks favorably on a variety of health indicators compared to national and state averages, this assessment focuses on the priority problems that impact the overall health of the pediatric community.

UH Rainbow Babies & Children's Hospital's service area extends into eight primary service area (PSA) counties: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit, and seven secondary service area (SSA) counties: Ashland, Erie, Huron, Mahoning, Stark, Trumbull, and Wayne. Key findings from analyses of the PSA counties are as follows.

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

- Cuyahoga and Ashtabula counties had higher poverty rates in 2010 than the national and state average; Summit County had a higher poverty rate than the national average.
- Ashtabula County also reported a higher unemployment rate in August 2011 than national and state averages.
- The greatest proportions of lower-income households in 2010 were located in Ashtabula, Cuyahoga, and Summit counties.

A comparatively large portion of uninsured discharges was found in Geauga County due to a large uninsured Amish population.

Like many states, Ohio has been enacting budget cuts that are affecting health and human services providers. These changes include reductions in Medicaid rates, decreases in general revenue fund appropriations to community based organizations, and others.

At UH Rainbow Babies & Children's Hospital, 9 percent of discharges were found to be Ambulatory Care Sensitive (ACS) or potentially preventable if patients are accessing primary care resources at optimal rates; 92 percent are for patients aged 0 to 17. The most common conditions were: pediatric asthma, pediatric urinary tract infection, and pediatric diabetes short-term complications. In the UH Rainbow Babies & Children's Hospital community, ACS discharges are also prevalent for uninsured patients.

The UH Rainbow Babies & Children's Hospital PSA has many access issues. Twenty-seven PSA ZIP codes in Cuyahoga, Lorain, Portage, and Summit counties have been designated as Medically Underserved Areas or Medically Underserved Populations. Ashtabula, Cuyahoga, Lorain, Medina, and Summit counties each contain primary medical care, mental health, and/or dental Health Professional Shortage Areas (HPSAs). Fourteen medical-facility HPSAs provide pediatric and/or maternal and infant health services.

Community-Wide Needs

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

The table that follows describes the health issues identified through the assessment as priorities across the entire community served by the hospital. These problems affect at least four of the eight PSA counties. Health issues are listed in alphabetical order.

Documentation of the findings presented in this summary is provided in the Appendix.

Access to Care

- **Lack of Affordable and Accessible Care**
Community residents identified a growing lack of insurance coverage, a lack of physicians and specialists, a lack of preventive care, and a lack of outpatient services as key access problems.
- **Lack of Affordable and Accessible Dental Care**
Community residents frequently mentioned difficulty accessing affordable dental care due to a growing lack of dental insurance coverage, high insurance co-pays and deductibles, and general financial hardship.
- **Lack of Affordable and Accessible Prescription Medications**
Community residents frequently mentioned difficulty accessing affordable prescription medications due to growing uninsurance, high insurance co-pays and deductibles, and general financial hardship.
- **Declines in Governmental and Philanthropic Funding Sources**
Safety net providers describe themselves as operating “at capacity” and are increasingly stretched due to higher demand and declines in governmental and philanthropic funding.
- **Lack of Transportation to Health Services**
Community residents, particularly low-income and rural populations, report difficulty finding transportation to health services and facilities.

Health Behaviors*

- **Poor Dietary Behaviors**
A high percentage of young males reported taking diet pills, powders, or liquids to lose weight.
- **High Rates of Sexual Violence**
A high percentage of males reported ever being physically forced to have sexual intercourse.
- **Prevalent Alcohol and Drug Use**
A higher percentage of young males reported ever using methamphetamines, steroid pills, or shots. Higher percentages of both males and females reported ever using heroin and using a needle to inject any illegal drug.

Health Conditions

- **Prevalent Diet and Exercise - Related Conditions**
High rates of obesity, childhood obesity, diabetes, diabetes mortality, and a lack of diet and exercise are present in much of the community.

Infant and Maternal Care

- **High Rates of Black Non-Hispanic Infant Mortality**

Mental and Behavioral Health

- **Poor Mental and Behavioral Health Status and Lack of Services**
The community lacks mental and behavioral health services. The community also suffers from high rates of suicide and poor mental and behavioral health status.

Community Outreach

- **Lack of Health Education**
Many community residents lack basic health literacy and healthy lifestyle knowledge. Residents often do not know where to seek care for non-emergent issues and how to access services available in the community.

Social and Economic Factors

- **High Rates of Unemployment and Financial Hardship**
Due to the recent downturn in the economy and in employment, many households are struggling financially. This has led to food and housing insecurity, delays in obtaining any health care, and noncompliance with drug regimens.

**Due to a lack of county-level pediatric data, the above youth behavioral issues are based on state-level data collected by the CDC's YRBSS survey. The behavioral indicators included were greater than 50 percent worse than the national average.*

PRIORITY NEEDS IN CUYAHOGA COUNTY

Cuyahoga County is the largest and most urban county in the UH Rainbow Babies & Children's Hospital community. It accounts for 44 percent of the total PSA population and 32 percent of the 15-county population. It also accounts for 58 percent of the hospital's discharges.

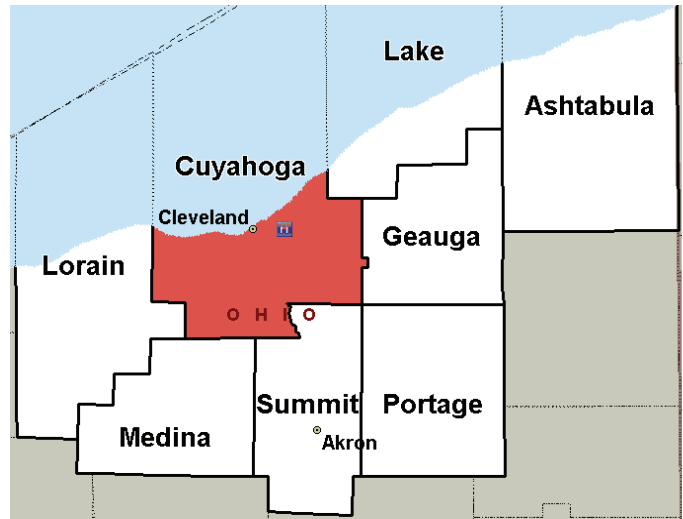
Compared to the other PSA counties, Cuyahoga County has the highest rate of poverty and a comparatively high proportion of residents who are Medicaid recipients. These factors contribute to unique access challenges in the area.

Other characteristics of Cuyahoga County are as follows:

- Between 2010 and 2015, the pediatric population in Cuyahoga County is expecting a 9% decrease in population.
- At 27% in 2009, Cuyahoga County had a higher percentage of persons under age 18 living in poverty than the state or nation.
- 4% of Cuyahoga County pediatric discharges were ACS in 2010, the highest of the PSA counties. The county had a comparatively large percentage of ACS discharges for Medicaid recipients.
- Cuyahoga County has the greatest concentration of ZIP codes with "mid to high" and "high" needs in regards to access to healthcare.
- The county contains mental health, dental, and primary medical care HPSA areas and populations.

The county ranked unfavorably on a variety of health status and access indicators. The table to the right lists priority health issues specific to the pediatric population in Cuyahoga County.

When assessing these issues, it is important to note the probable connections between behavioral, social, economic, and environmental factors and health status. For example, high rates of unsafe sex may be correlated with high rates of infant mortality and infant health risk factors.



Health Behaviors

- **High Rates of Unsafe Sex**

Infant and Maternal Care

- **High Rates of Black Perinatal Mortality**
- **High Rates of Hispanic Infant Mortality**
- **High Rates of Infant Mortality**
- **High Rates of Neonatal Infant Mortality**
- **High Rates of Post-Neonatal Infant Mortality**
- **High Rates of Single Mothers**
- **High Rates of Teen Pregnancy**
- **High Rates of Very Low Birth Weight Infants**

Physical Environment

- **Poor Air Quality**
- **Poor Community Safety**
Poor community safety and high homicide rates were reported in the county.

Social and Economic Factors

- **Low Educational Achievement**
- **High Rates of Emergency Room Use**
- **Lack of Family and Social Support**
Resources are needed for those who lack family and social support.

PRIORITY NEEDS IN OTHER PSA COUNTIES

There are both similar and unique community health needs in the other seven PSA counties:

- In 2010, 40% of the UH Rainbow Babies & Children’s Hospital community population lived in these seven counties.
- 32% of UH Rainbow Babies & Children’s Hospital’s inpatient discharges originated from these seven counties.
- 6% of UH Rainbow Babies & Children’s Hospital’s emergency department visits originated from these seven counties.
- Ashtabula, Geauga, Lake, Lorain, Portage, and Summit counties are expecting declines in the pediatric population between 2010-2015. Medina County is expecting growth.
- In 2009, Ashtabula and Lorain counties had a higher percentage of persons under age 18 living in poverty than the state or nation; Summit County had a higher poverty rate than the national average.
- In 2010, the percent of people who are low-income residents was highest in Ashtabula and Summit counties.
- Ashtabula County had a large concentration of ZIP codes with “mid to high” or “high” need in regards to access to healthcare. Geauga county ZIP codes had the lowest need.
- HPSA areas and populations are located in Ashtabula, Lorain, Medina, and Summit counties.

The other PSA counties ranked poorly on various health status and access indicators. The table to the right lists priority health issues specific to the pediatric population in these counties.

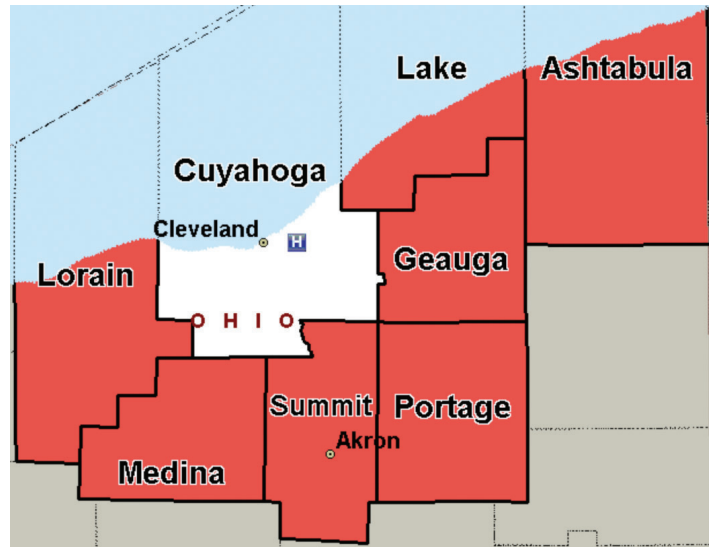
As in Cuyahoga County, there are probable connections between identified behavioral, social, economic, and environmental factors and health status. For example, poverty and being uninsured likely contribute to high rates of emergency room use in Ashtabula County.

Health Behaviors

- **High Rates of Smoking** (Ashtabula, Geauga, Lake)
Data show high rates of smoking and teen tobacco use.

Infant and Maternal Care

- **High Rates of Births to Women Age 40-54** (Gauga, Lake, Medina)
- **High Rates of Black Perinatal Mortality** (Lorain, Summit)



- **High Rates of Hispanic Infant Mortality** (Lorain)
- **High Rates of Infant Mortality** (Ashtabula, Summit)
- **High Rates of Low and Very Low Birth Weight Infants** (Summit)
- **High Rates of Neonatal Infant Mortality** (Lorain, Summit)
- **High Rates of Post-Neonatal Infant Mortality** (Ashtabula)
- **High Rates of Premature Births** (Summit)
- **High Rates of Single Mothers** (Lorain)
- **High Rates of White Non-Hispanic Infant Mortality** (Ashtabula, Lorain, Summit)
- **Lack of Prenatal Care in the First Trimester** (Gauga)

Mortality

- **High Rates of Child Motor Vehicle Death (1-14)** (Ashtabula, Geauga, Portage)

Physical Environment

- **Poor Air Quality** (Lake, Summit)
- **Poor Community Safety** (Ashtabula, Summit)

Social and Economic Factors

- **Low Educational Achievement** (Ashtabula)
- **High Rates of Emergency Room Use** (Ashtabula)
- **Lack of Family and Social Support** (Lorain)

APPENDIX

UH Rainbow Babies & Children's Hospital Community Health Needs Assessment

VERITÉ HEALTHCARE CONSULTING, LLC

April 5, 2012

QUALIFICATIONS OF VERITÉ HEALTHCARE CONSULTING

Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves as a national resource that assists healthcare organizations, hospital associations, and policy makers with community benefit reporting, planning, community health needs assessment, program assessment, and policy and guidelines development. Verité is a recognized, national thought leader in community benefit and in the evolving expectations that tax-exempt healthcare organizations are being required to meet.

Verité has also been engaged by organizations to conduct or assist in the preparation of community health needs assessments (CHNAs).

The CHNA prepared for UH Rainbow Babies & Children's Hospital was directed by the firm's president and managed by a senior-level consultant. Associates and research analysts supported the work. The firm's president, as well as all senior-level consultants and associates, hold graduate degrees in relevant fields.

More information on the firm and its qualifications can be found at www.VeriteConsulting.com

STUDY METHODS

A. Analytic Methods

This report begins by identifying the communities (counties) served by UH Rainbow Babies & Children's Hospital. Findings based on various quantitative analyses regarding health needs in those areas are discussed, followed by a review of health assessments conducted by other organizations in recent years.

The assessment then considers information obtained from interviews with stakeholders who represent the broad interests of the community, including public health officials and experts, and UH Rainbow Babies & Children's Hospital-affiliated clinicians, administrators, and staff. These interviews were conducted in March, April, May, and June of 2010 and in November and December of 2011. The report concludes with a summary of findings, taking into account all quantitative and qualitative information.

The assessment also quantifies and analyzes ambulatory care sensitive (ACS) discharges. The ACS discharges methodology quantifies inpatient admissions for diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, asthma, and other conditions that, in theory, could have been prevented if adequate ambulatory (primary) care resources were available and accessed by consumers.¹ Findings from the ACS analysis are presented at the county and UH hospital level of detail.

The methodologies for quantifying ACS discharges have been well-tested for more than a decade. Disproportionately large numbers of ACS discharges indicate potential problems with the availability or accessibility of ambulatory care services. The Agency for Healthcare Research and Quality (AHRQ), part of the U.S. Department of Health and Human Services, publishes software and methodologies for assessing ACS discharges. The AHRQ software was applied to analyze the prevalence of ACS discharges in geographic areas served by UH Rainbow Babies & Children's Hospital.

The ACS analysis provides a single indicator of potential problems - allowing comparisons to be made reliably across geographic areas and hospital facilities. This analysis also allows demonstrating a possible "return on investment" from interventions that reduce admissions (for example, for uninsured or Medicaid patients) through improved access to ambulatory care resources.

Identifying priority community health needs involves benchmarking and trend analysis. Statistics for several health status and health access indicators thus were analyzed and compared to state-wide and national benchmarks or goals. The assessment considers multiple data sources, including indicators from state and federal agencies. Multiple

¹ See: <http://www.ahrq.gov/data/hcup/factbk5> for more information on this methodology.

data sources and stakeholder views are important to assessing the level of consensus that exists regarding community health needs. If alternative data sources including interviews support similar conclusions, then confidence is increased regarding the most problematic community health needs in an area.

B. Data Sources

CHNAs seek to identify the priority health status and access issues for particular geographic areas and populations. Accordingly, the following topics and data are assessed:

- Demographics, e.g., numbers and locations of vulnerable people;
- Economic issues, e.g., poverty and unemployment rates, and impacts of state budget changes;
- Community issues, e.g., homelessness, housing, environmental concerns, transportation and traffic, crime, and availability of social services;
- 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., uninsurance rates, ACS discharges, and use of emergency departments for non-emergent care;
- Health disparities indicators; and
- Availability of healthcare facilities and resources.

Verité relied on UH's current service area definitions to identify the communities to be assessed. The definitions were based on the geographic origins of hospital discharges.

Data sets for quantitative analyses included:

- Demographic data provided by UH for 2000, 2010, and 2015 from Claritas, Inc.;
- Unemployment data from the U.S. Bureau of Labor Statistics for 2010 and 2011;
- Poverty data from the U.S. Census Bureau for 2010;
- Data from the U.S. Health Resources and Services Administration (HRSA) from August 2011 regarding federally qualified health centers, medically underserved areas and populations, and health professional shortage areas;
- Discharge data provided by UH for the nine months ended September 30, 2010 from the Ohio Hospital Association;

- Findings reported in other needs assessments that analyzed communities served by UH Rainbow Babies & Children’s Hospital and that were published between 2008 and 2011; and
- Health status and access indicators available from:
 - County Health Rankings, 2010 and 2011;
 - Community Health Status Indicators Project, 2009;
 - Ohio Department of Health, 2010;
 - U.S. Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS), 2009;
 - Catholic Healthcare West Community Needs Index, 2011; and
 - U.S. Department of Agriculture (USDA), 2009.

C. Information Gaps

To the best of Verité’s knowledge, no information gaps have affected UH Rainbow Babies & Children’s Hospital’s ability to reach reasonable conclusions regarding community health needs.

D. Collaborating Organizations

For this assessment, UH Rainbow Babies & Children’s Hospital collaborated with UH Ahuja Medical Center, UH Bedford Medical Center, UH Case Medical Center, UH Conneaut Medical Center, UH Geauga Medical Center, UH Geneva Medical Center, and UH Richmond Medical Center.

DEFINITION OF COMMUNITY ASSESSED

This section identifies the community assessed by UH Rainbow Babies & Children's Hospital.

UH Rainbow Babies & Children's Hospital's Primary Service Area (PSA) is comprised of eight counties: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit. UH Rainbow Babies & Children's Hospital's Secondary Service Area (SSA) is comprised of another seven counties: Ashland, Erie, Huron, Mahoning, Stark, Trumbull, and Wayne (**Table 1**). All of these PSA and SSA counties were included in this assessment.

Table 1: Service Area Population, 2010

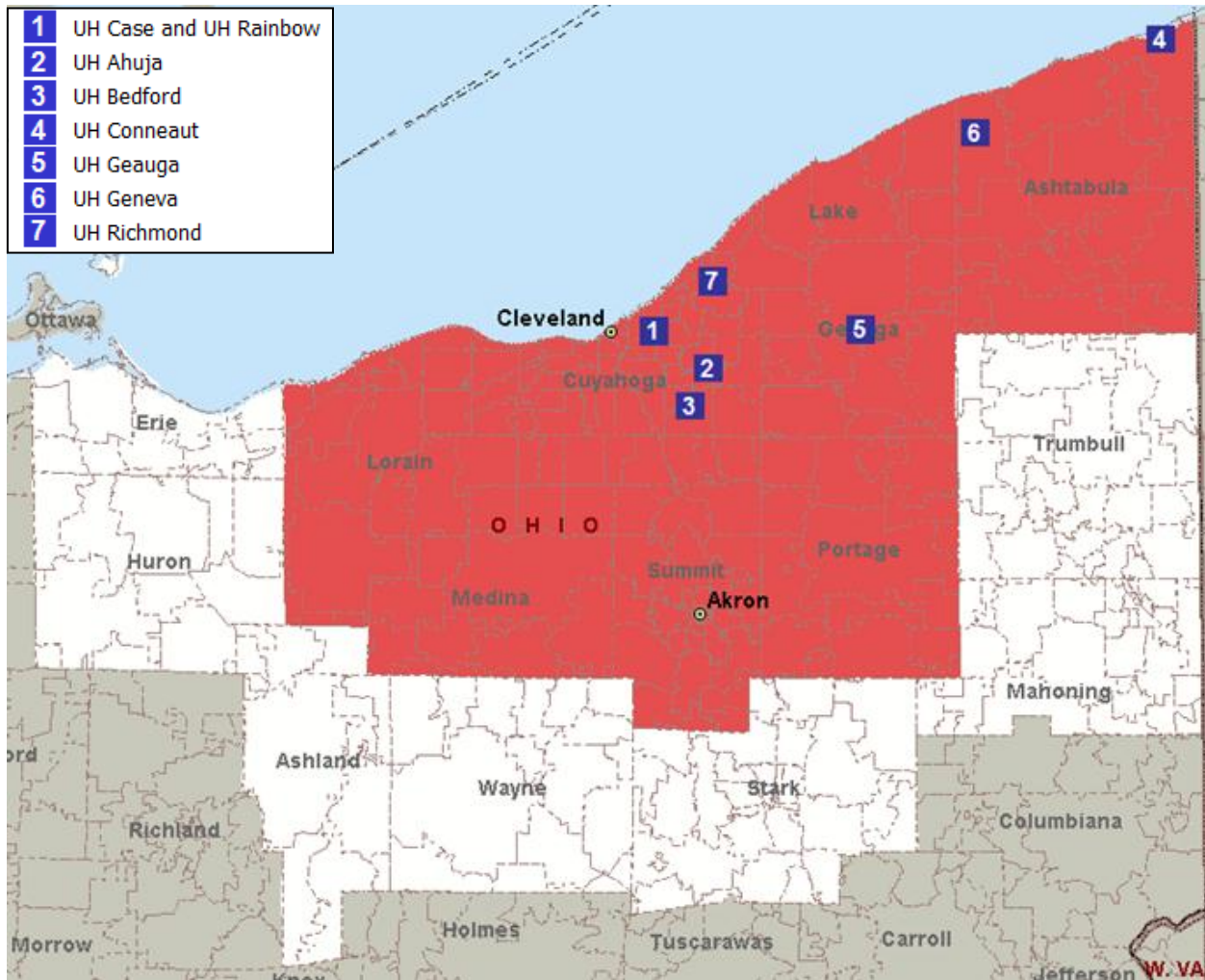
UH Rainbow Babies & Children's Hospital		
Service Area	County	Population Aged 0-17
Primary	Ashtabula	23,151
	Cuyahoga	295,009
	Gauga	21,486
	Lake	51,137
	Lorain	70,040
	Medina	41,619
	Portage	31,494
	Summit	129,178
	Subtotal	663,114
Secondary	Ashland	12,341
	Erie	17,433
	Huron	14,896
	Mahoning	49,060
	Stark	85,459
	Trumbull	42,747
	Wayne	30,377
	Subtotal	252,313
Total	915,427	

Source: Claritas, Inc., 2011.

In 2010, the UH Rainbow Babies & Children's Hospital PSA included about 663,000 persons under the age of 18 and its SSA included a population of approximately 252,000 persons under the age of 18 for a total service area population of approximately 915,000 under the age of 18. With approximately 295,000 residents, Cuyahoga County accounted for nearly 32 percent of UH Rainbow Babies & Children's Hospital's service area population.

Figure 1 presents a map that shows the communities served by the hospital.

Figure 1: Service Area Map



▣ **Service Area by County**

- ▣ Primary
- ▣ Secondary

Sources: Microsoft MapPoint and UH.

The community was defined based on the geographic origins of UH Rainbow Babies & Children’s Hospital inpatients. In 2010, approximately 91 percent of the hospital’s inpatients originated from the PSA (**Table 2**). Cuyahoga County accounted for approximately 58 percent of UH Rainbow Babies & Children’s Hospital’s discharges in 2010.

Table 2: UH Rainbow Babies & Children's Hospital Inpatient Discharges by County and Service Area, Nine Months Ended September 30, 2010

UH Rainbow Babies & Children's Hospital			
Service Area	County	Discharges	Percent of Total
Primary	Ashtabula	322	5.5%
	Cuyahoga	3,390	58.3%
	Geauga	211	3.6%
	Lake	559	9.6%
	Lorain	481	8.3%
	Medina	89	1.5%
	Portage	116	2.0%
	Summit	101	1.7%
	Subtotal	5,269	90.7%
Secondary	Ashland	10	0.2%
	Erie	81	1.4%
	Huron	35	0.6%
	Mahoning	46	0.8%
	Stark	40	0.7%
	Trumbull	76	1.3%
	Wayne	13	0.2%
	Subtotal	301	5.2%
Combined		5,570	95.9%
All Other Areas		240	4.1%
Total		5,810	100.0%

Source: OHA discharge data, 2011.

The service area definitions were confirmed by examining the geographic origin of emergency department encounters by county (**Table 3**).

Table 3: Emergency Department Visits by County and Service Area, Nine Months Ended September 30, 2010

UH Rainbow Babies & Children's Hospital			
Service Area	County	Emergency Department Visits	Percent of Total
Primary	Ashtabula	136	0.8%
	Cuyahoga	16,688	92.5%
	Geauga	111	0.6%
	Lake	411	2.3%
	Lorain	211	1.2%
	Medina	51	0.3%
	Portage	63	0.3%
	Summit	118	0.7%
	Subtotal	17,789	98.6%
Secondary	Ashland	7	0.0%
	Erie	18	0.1%
	Huron	9	0.0%
	Mahoning	16	0.1%
	Stark	10	0.1%
	Trumbull	18	0.1%
	Wayne	3	0.0%
	Subtotal	81	0.4%
Combined		17,870	99.0%
All Other Areas		179	1.0%
Total		18,049	100.0%

Source: OHA, 2011.

Table 3 is based on 2010 data from the Ohio Hospital Association. The 2010 data included only those emergency department patients who were not admitted as inpatients.

In 2010, 99 percent of all UH Rainbow Babies & Children's Hospital emergency department visits originated from its primary and secondary service areas. Residents from Cuyahoga County accounted for approximately 93 percent of the visits. Within Cuyahoga County, 12 ZIP codes accounted for approximately 74 percent of UH Rainbow Babies & Children's Hospital emergency department visits (**Table 4**).

**Table 4: Emergency Department Visits by ZIP Code and Service Area,
Nine Months Ended September 30, 2010**

UH Rainbow Babies and Children's Hospital				
ZIP Code	Town	County	Emergency Department Visits	Percent of Total
44108	Glenville-Bratenahl	Cuyahoga	1,859	10.3%
44104	Cleveland	Cuyahoga	1,679	9.3%
44120	Shaker Heights	Cuyahoga	1,350	7.5%
44112	East Cleveland	Cuyahoga	1,288	7.1%
44105	Newburg	Cuyahoga	1,273	7.1%
44103	Cleveland	Cuyahoga	1,145	6.3%
44118	Cleveland Heights	Cuyahoga	1,077	6.0%
44106	University Circle	Cuyahoga	961	5.3%
44110	Collinwood	Cuyahoga	930	5.2%
44121	South Euclid	Cuyahoga	667	3.7%
44128	Warrensville Heights	Cuyahoga	580	3.2%
44115	Playhouse Square	Cuyahoga	580	3.2%
Subtotal			12,229	74.2%
All Other Areas			5,820	25.8%
Total			18,049	100.0%

Source: OHA, 2011.

SECONDARY DATA ASSESSMENT

This section assesses secondary data regarding community health needs in UH Rainbow Babies & Children's Hospital's community.

A. Demographics

Population change plays a determining role in the types of health and social services communities need. Overall, the pediatric population living in the 15 PSA and SSA counties is expected to decline by 5.5 percent between 2010 and 2015. Cuyahoga County is anticipated to lose 25,668 persons; only two counties are expected to add population during this period (**Table 5**).

Table 5: Regional Population by County, 2000-2015

UH Rainbow Babies & Children's Hospital					
County	Total County Population Aged 0-17			Change	
	2000	2010	2015	2000-2010	2010-2015
Ashland	13,027	12,341	12,356	-5.3%	0.1%
Ashtabula	26,949	23,151	22,106	-14.1%	-4.5%
Cuyahoga	349,899	295,009	269,341	-15.7%	-8.7%
Erie	20,504	17,433	16,579	-15.0%	-4.9%
Geauga	24,474	21,486	20,421	-12.2%	-5.0%
Huron	16,350	14,896	14,560	-8.9%	-2.3%
Lake	54,987	51,137	49,311	-7.0%	-3.6%
Lorain	72,136	70,040	69,106	-2.9%	-1.3%
Mahoning	60,317	49,060	44,364	-18.7%	-9.6%
Medina	41,145	41,619	41,820	1.2%	0.5%
Portage	34,791	31,494	30,220	-9.5%	-4.0%
Stark	94,390	85,459	82,647	-9.5%	-3.3%
Summit	140,524	129,178	123,041	-8.1%	-4.8%
Trumbull	52,548	42,747	39,103	-18.7%	-8.5%
Wayne	32,776	30,377	30,223	-7.3%	-0.5%
Total	1,034,817	915,427	865,198	-11.5%	-5.5%
Relevant Counties	744,905	663,114	625,366	-11.0%	-5.7%
PSA Counties	744,905	663,114	625,366	-11.0%	-5.7%
SSA Counties	289,912	252,313	239,832	-13.0%	-4.9%
Service Area	1,034,817	915,427	865,198	-11.5%	-5.5%

Source: Claritas, Inc., 2011.

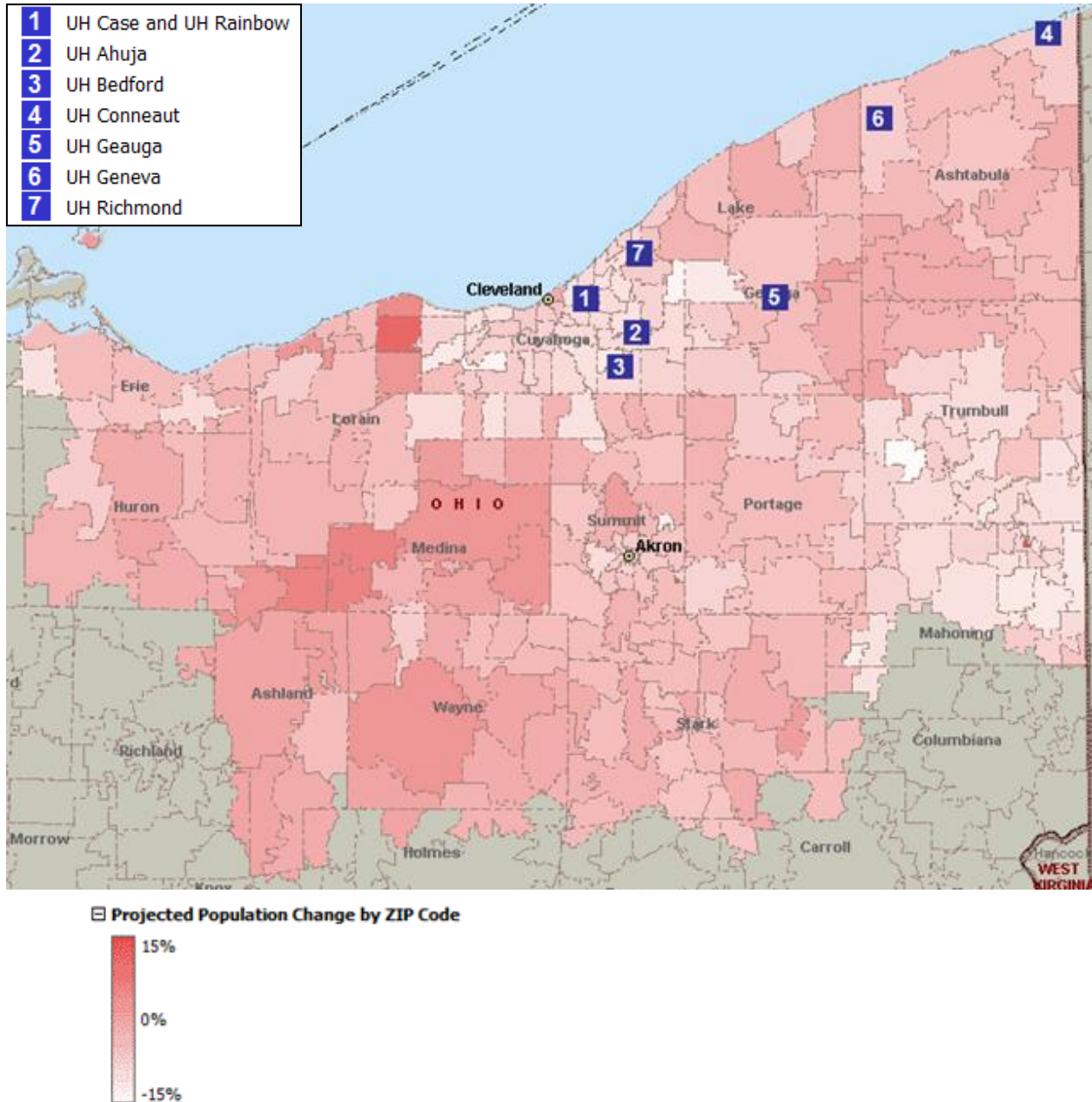
*Counties highlighted in bold represent UH Rainbow Babies & Children's Hospital PSA counties.

The U.S. Census Bureau indicates that the total population of Ohio increased by 1.6 percent between 2000 and 2010. In the United States, population increased by about

ten percent. This contrasts with a decline in the UH Rainbow Babies and Children’s Hospital community.

Figure 2 shows the anticipated pediatric population change by ZIP code from 2010 to 2015. The area most proximate to UH Rainbow Babies & Children’s Hospital as well as areas within Trumbull and Mahoning counties show the greatest anticipated population decline (or lowest population growth) in the service area.

Figure 2: UH Rainbow Babies & Children’s Hospital Pediatric Population Change by ZIP Code, 2010-2015



Sources: Microsoft MapPoint and Claritas, Inc., 2011.

Table 6 indicates that the population aged 0 to 17 is expected to decline more rapidly than the service area as a whole.

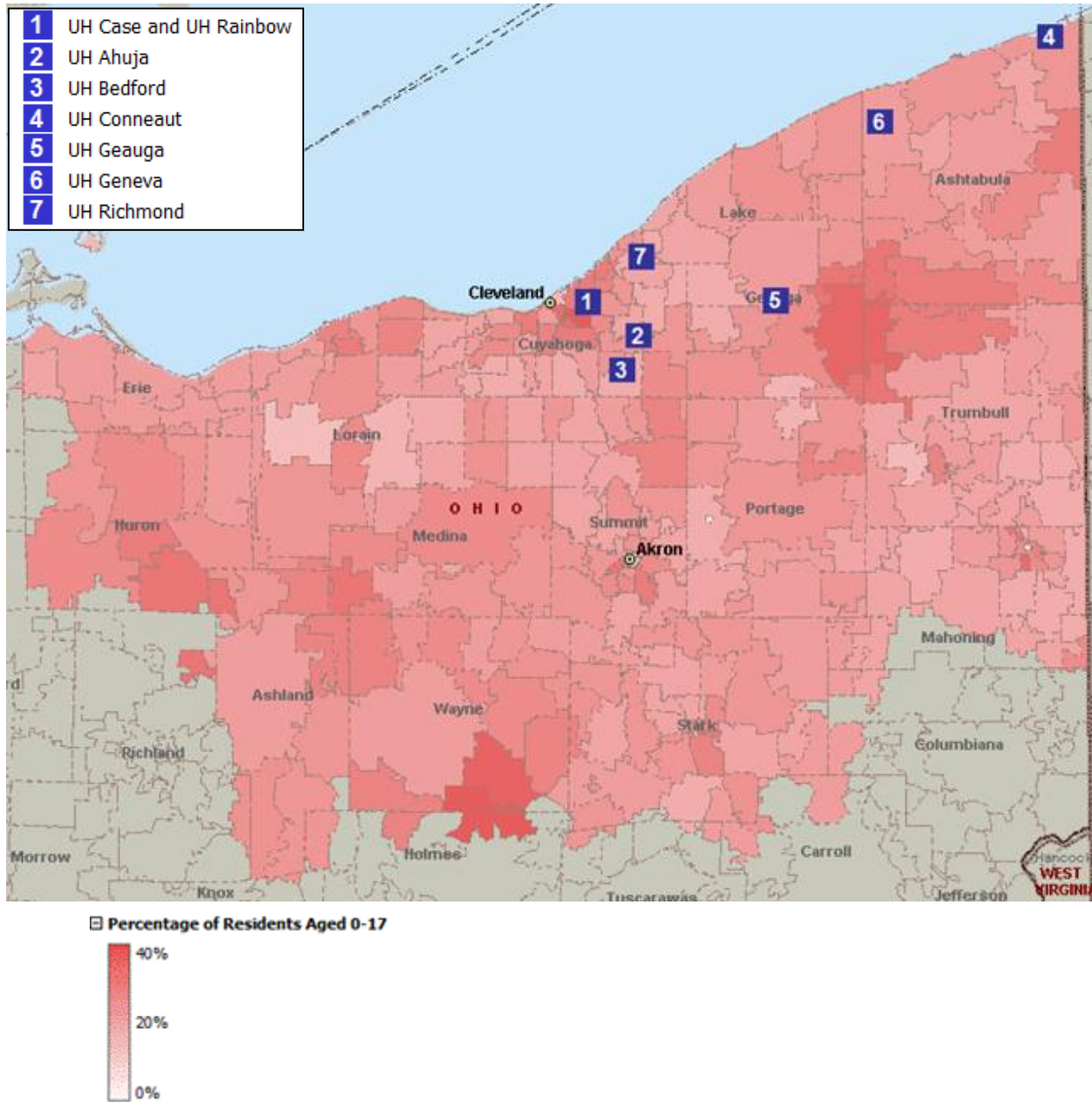
Table 6: Distribution of Population by Age Cohort, 2000-2015

UH Rainbow Babies & Children's Hospital					
Age/Sex Cohort	Service Area Population			Percent Change in Population	
	2000	2010	2015	2000-2010	2010-2015
Primary Service Area					
0-17	25.3%	23.1%	22.2%	-11.0%	-5.7%
Female, 18-44	19.2%	17.1%	16.6%	-12.9%	-5.3%
Male, 18-44	18.3%	16.7%	16.4%	-11.4%	-3.7%
45-64	23.0%	28.3%	28.4%	20.3%	-1.8%
65+	14.2%	14.8%	16.4%	1.4%	8.7%
Total	2,947,127	2,873,436	2,814,427	-2.5%	-2.1%
75+	7.0%	7.2%	7.4%	0.9%	1.1%
Secondary Service Area					
0-17	24.9%	22.4%	21.8%	-13.0%	-4.9%
Female, 18-44	18.1%	16.5%	16.2%	-11.3%	-4.3%
Male, 18-44	17.7%	16.6%	16.5%	-9.1%	-2.7%
45-64	23.9%	28.1%	27.4%	13.9%	-4.7%
65+	15.4%	16.4%	18.1%	3.6%	7.8%
Total	1,162,493	1,127,546	1,101,661	-3.0%	-2.3%
75+	7.5%	8.2%	8.5%	5.5%	1.8%
Combined Service Areas					
0-17	25.2%	22.9%	22.1%	-11.5%	-5.5%
Female, 18-44	18.9%	17.0%	16.5%	-12.5%	-5.0%
Male, 18-44	18.2%	16.6%	16.4%	-10.8%	-3.4%
45-64	23.2%	28.2%	28.1%	18.4%	-2.6%
65+	14.6%	15.3%	16.9%	2.1%	8.4%
Total	4,109,620	4,000,982	3,916,088	-2.6%	-2.1%
75+	7.1%	7.5%	7.7%	2.3%	1.3%

Source: Claritas, Inc., 2011.

The proportion of the population aged 0 to 17 is comparable across service area counties (**Figure 3**).

Figure 3: Percentage of Residents Aged 0 to 17, 2010



Sources: Microsoft MapPoint and Claritas, Inc., 2011.

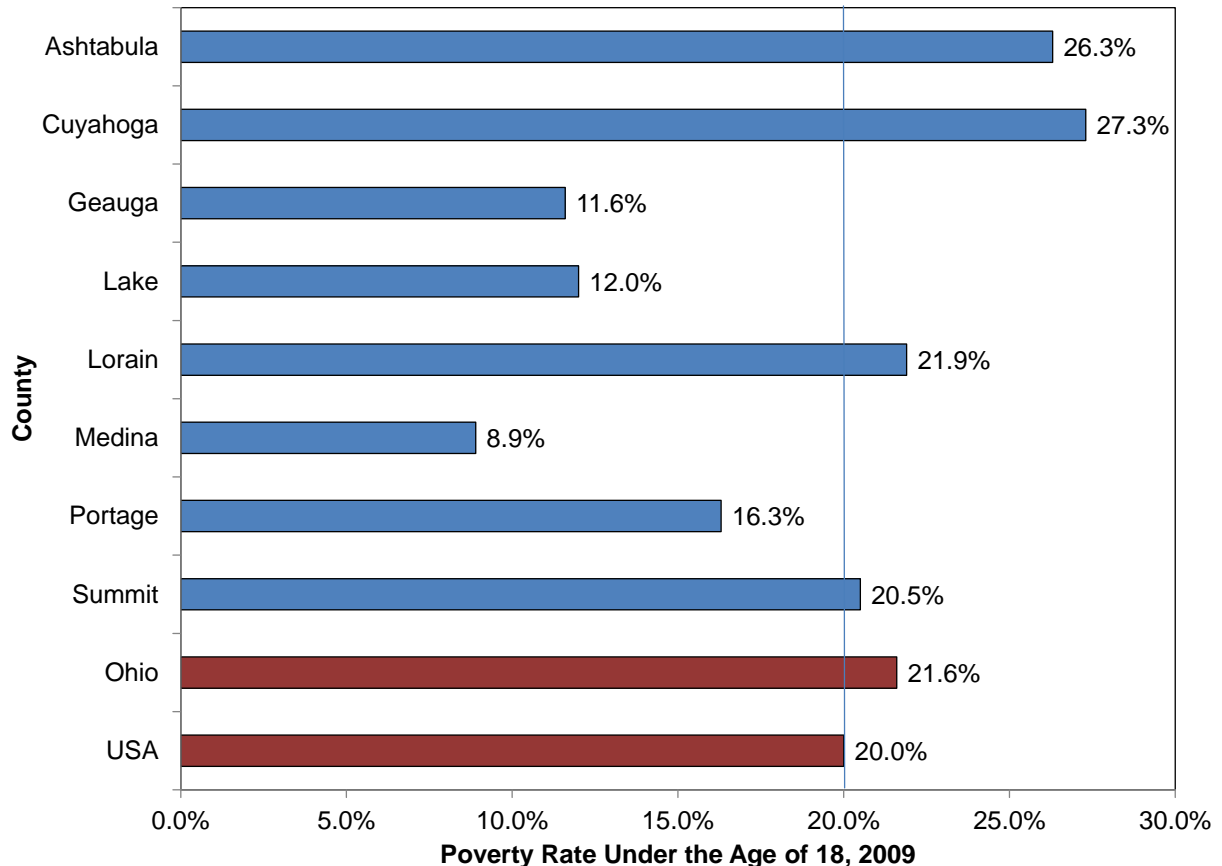
B. Economic Indicators

The following topics were assessed to examine various economic indicators with implications for health: people in poverty, unemployment rates, state budget cuts, and household income.

1. People in Poverty

Many health needs are associated with poverty. According to the U.S. Census, in 2009, 20 percent of people under the age of 18 in the U.S. lived in poverty and about 22 percent in Ohio. Cuyahoga, Ashtabula, and Lorain counties reported poverty rates in 2009 for persons under the age of 18 that were higher than national and state averages in that year (**Figure 4**).

Figure 4: Percent of People Under the Age of 18 in Poverty, 2009

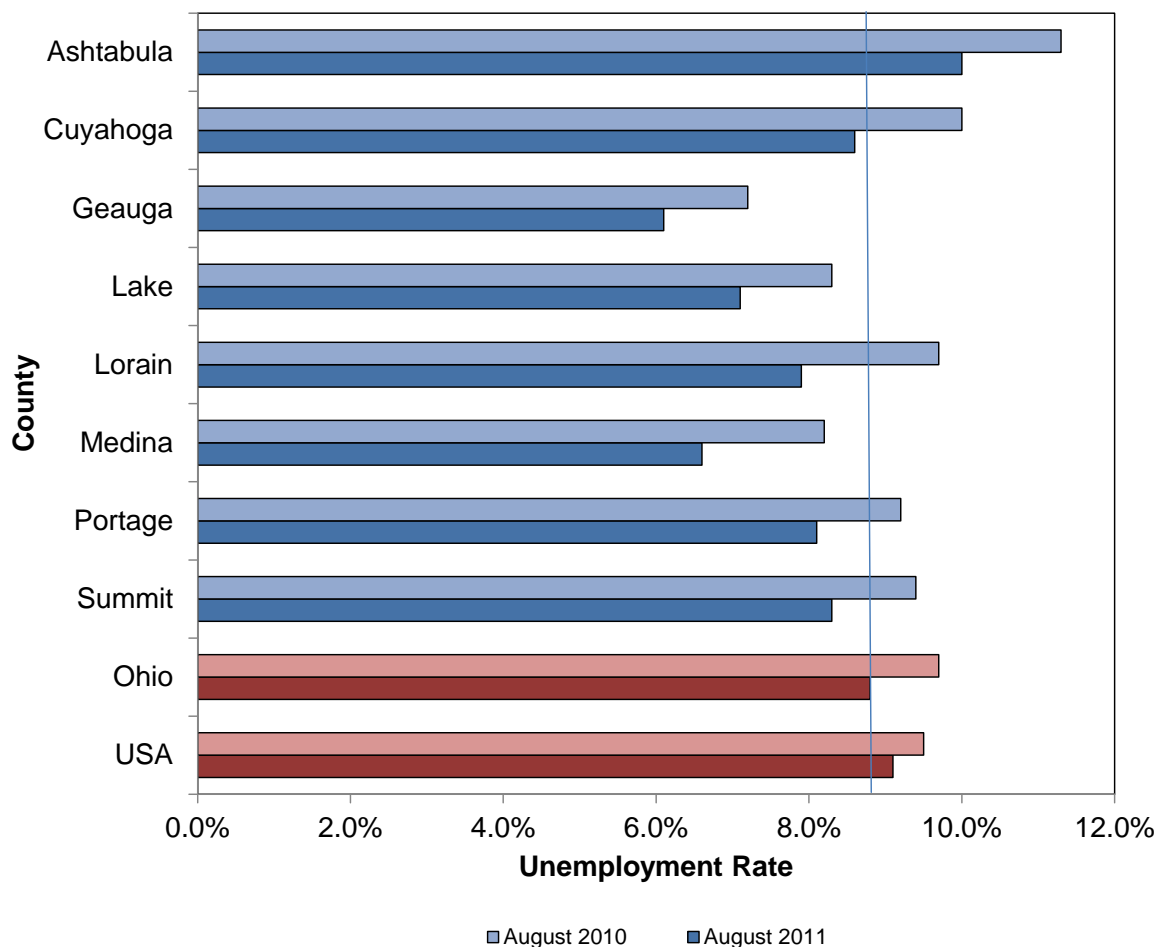


Source: U.S. Census Bureau, 2010.

2. Unemployment Rates

Ashtabula County reported a higher unemployment rate (in August 2011) than the national or state averages (**Figure 5**).

Figure 5: Unemployment Rates, 2010 - 2011



Source: U.S. Bureau of Labor Statistics, 2011.

3. State Budget Cuts

The recent recession has had major implications not only for employment but also for state budget resources devoted to health, public health, and social services. In the 2012-2013 budget, the state of Ohio reduced Medicaid reimbursements, increased fees assessed to hospitals, and reduced funding for resources appropriated for health and human services. The State’s budget reductions pertaining to the pediatric population include the following:

Hospitals

- An increase in the hospital assessment tax from 1.38 percent to 2.80 percent;²

² Ohio Legislative Service Commission, Budget in Brief, H.B. 153 – As Enacted.

Other Health and Human Services

- A decrease in general revenue fund appropriations to \$2.0 billion in FY 2012 (4.9 percent less than FY 2011) and a further decrease for FY 2013;³ and
- Reallocation of funds to the Department of Job and Family Services from the department of Alcohol and Drug Addictions Services and Mental Health in FY 2013.⁴

As described later in this report, stakeholders interviewed for this assessment expressed significant concerns about the impact of these funding cuts for health and social services agencies across the community.

4. Household Income

Across the 15-county region, 24 percent of households are estimated to have had incomes less than \$25,000 in 2010; 52 percent had incomes less than \$50,000 (**Table 7**).

³ State of Ohio, The Executive Budget Fiscal Years 2012 and 2013, The Jobs Budget: Transforming Ohio for Growth, Book Three: The Budget Summary, Prepared by the Office of Budget and Management.

⁴ Ohio Legislative Service Commission, Budget in Brief, H.B. 153 – As Enacted.

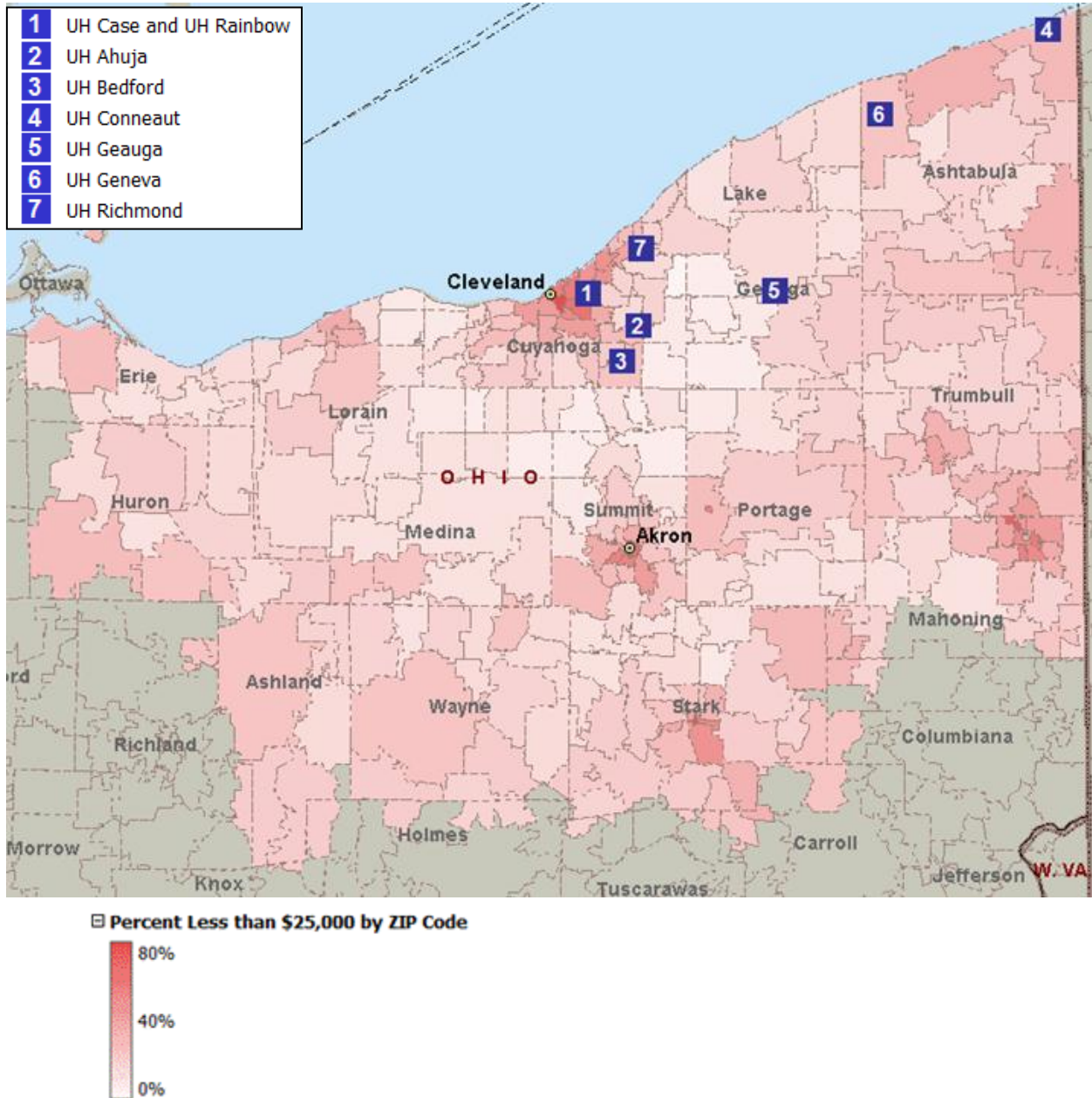
Table 7: Percent of Households with Incomes Less than \$25,000 and \$50,000 by County, 2010

UH Rainbow Babies & Children's Hospital				
Service Area	County	Numbers of Households, 2010	\$0-\$24,999	\$0-\$49,999
Primary	Ashtabula	38,757	27.9%	59.4%
	Cuyahoga	527,017	27.1%	54.4%
	Geauga	31,614	13.3%	36.1%
	Lake	95,362	16.3%	43.3%
	Lorain	112,059	20.8%	47.6%
	Medina	63,947	13.0%	35.6%
	Portage	57,595	20.9%	48.3%
	Summit	226,503	23.2%	50.3%
	Subtotal	1,152,854	23.4%	50.4%
Secondary	Ashland	20,355	24.0%	55.0%
	Erie	33,109	22.6%	51.2%
	Huron	22,071	21.7%	52.6%
	Mahoning	95,448	30.6%	59.8%
	Stark	152,439	24.9%	55.6%
	Trumbull	82,215	27.3%	58.3%
	Wayne	44,126	20.8%	51.8%
	Subtotal	449,763	25.8%	56.1%
Total		1,602,617	24.0%	52.0%

Source: Claritas, Inc., 2011.

The greatest proportions of lower-income households in 2010 were located in Mahoning, Ashtabula, Trumbull, and Cuyahoga counties (**Figure 6**).

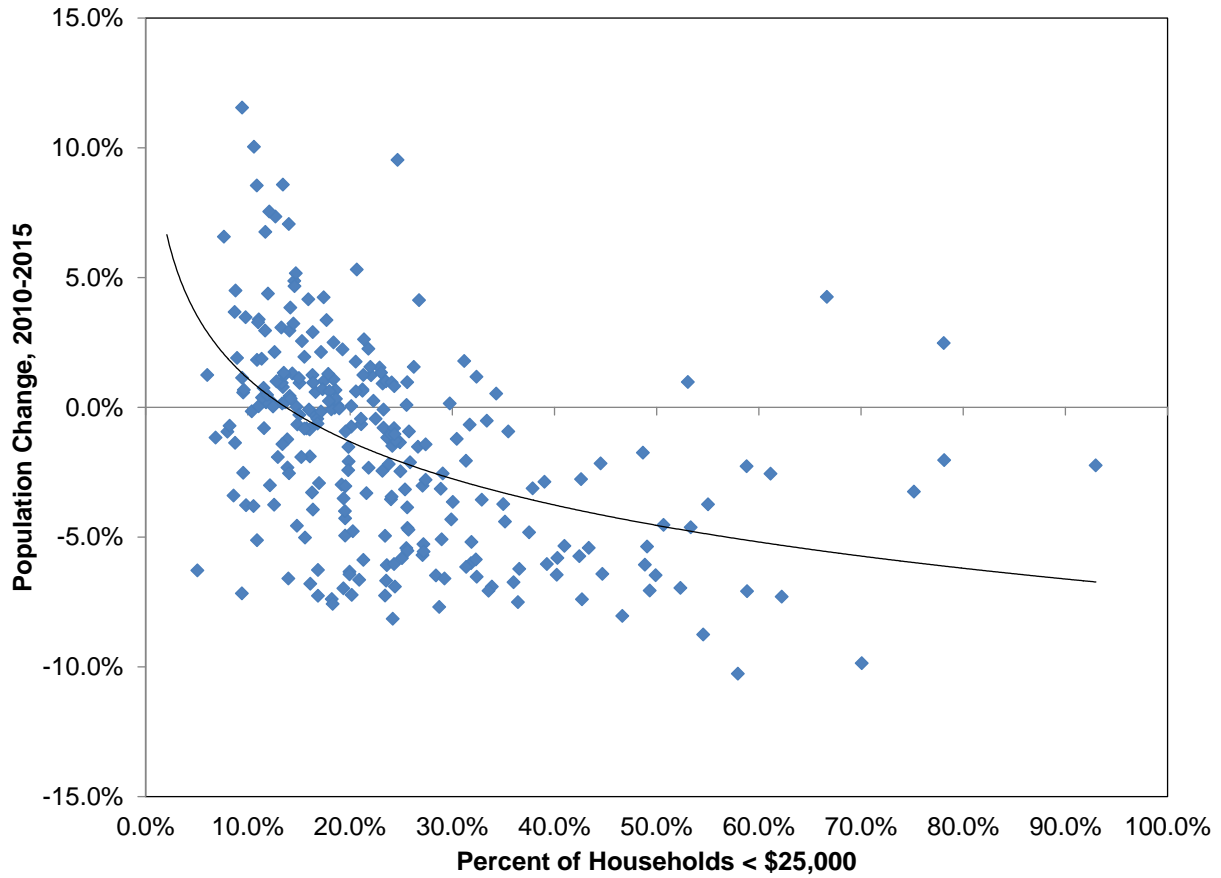
Figure 6: Percent of Households with Incomes Less than \$25,000 by ZIP Code, 2010



Sources: Microsoft MapPoint and Claritas, Inc., 2011.

Analysis of the demographics across the eight-county PSA indicates that ZIP codes with a preponderance of lower-income households are expected to incur the most significant declines in population (**Figure 7**).

Figure 7: Percent of Households < \$25,000, 2010 vs. Population Change by ZIP Code, 2010-2015



Source: Analysis of data from Claritas, Inc., 2011.

As a proxy for where uninsured consumers and Medicaid recipients live, **Table 8** portrays the distribution of pediatric discharges by county and by payer.

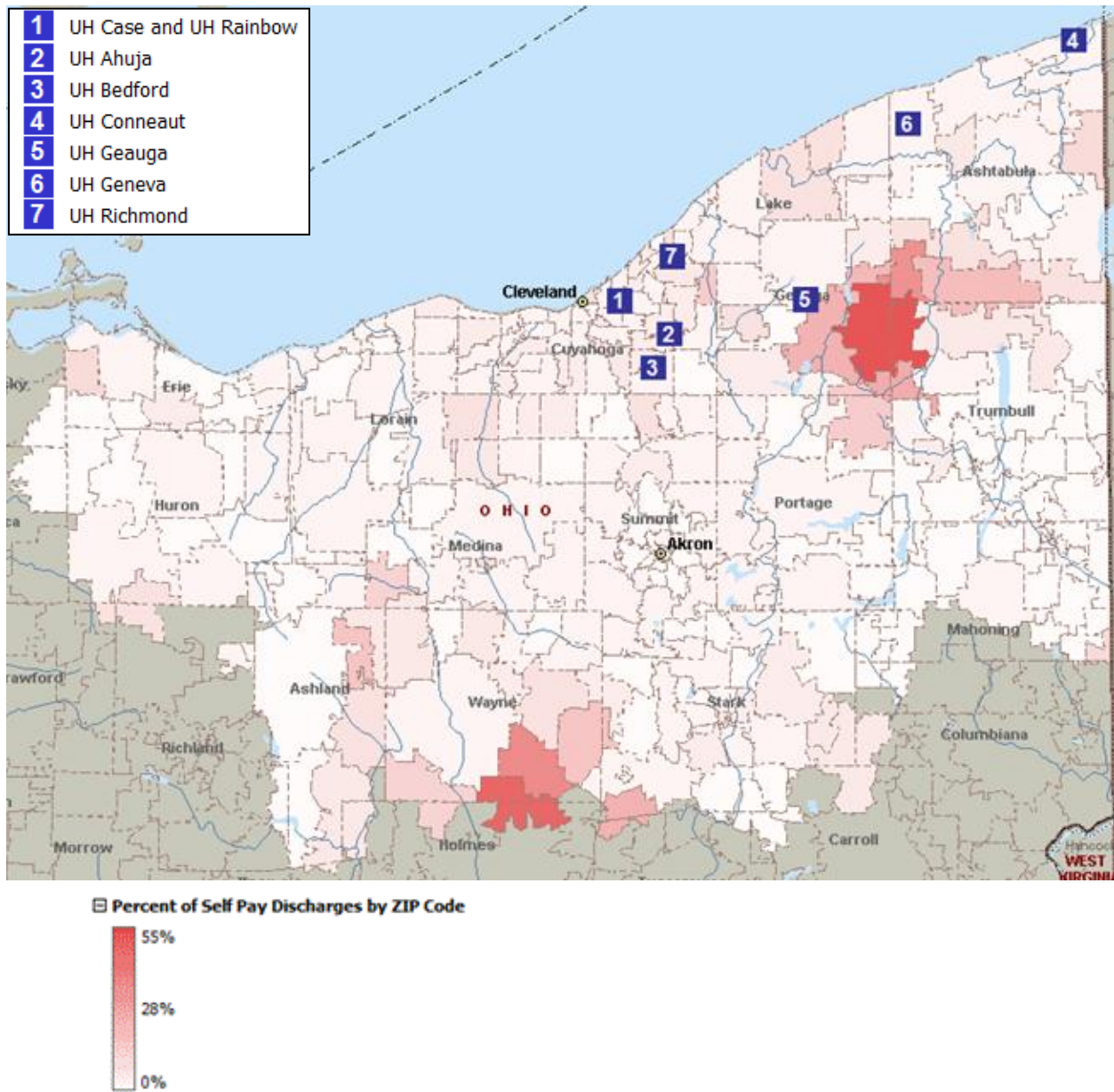
Table 8: Distribution of Pediatric Discharges by PSA County and Payer, Nine Months Ended September 30, 2010

UH Rainbow Babies & Children's Hospital						
County	Number of Discharges	Medicare	Medicaid	Self Pay	Private	Other
Ashtabula	1,303	0.1%	58.6%	4.9%	33.5%	2.8%
Cuyahoga	18,695	0.1%	56.6%	3.6%	35.9%	3.8%
Geauga	1,033	0.0%	22.8%	20.0%	51.2%	5.9%
Lake	2,746	0.1%	28.1%	4.1%	63.3%	4.3%
Lorain	3,912	2.2%	48.5%	2.4%	45.0%	1.9%
Medina	1,756	0.0%	24.6%	2.1%	70.3%	3.0%
Portage	1,754	0.1%	43.2%	2.5%	52.3%	2.0%
Summit	6,445	0.1%	51.6%	1.8%	44.9%	1.6%
Total	37,644	0.3%	49.9%	3.6%	43.1%	3.2%

Source: Analysis of OHA discharge data, 2010.

A comparatively large proportion of uninsured discharges was found in Geauga County. Approximately 43 percent of pediatric discharges from UH Rainbow Babies & Children's Hospital's PSA were for patients with commercial coverage; the greatest proportions of private discharges originated from Medina, Lake, Portage, and Geauga counties (**Figures 8 and 9**). Approximately 50 percent of pediatric discharges were for patients with Medicaid. Medicaid recipients were more prevalent in Ashtabula, Cuyahoga, and Summit counties (**Figure 10**).

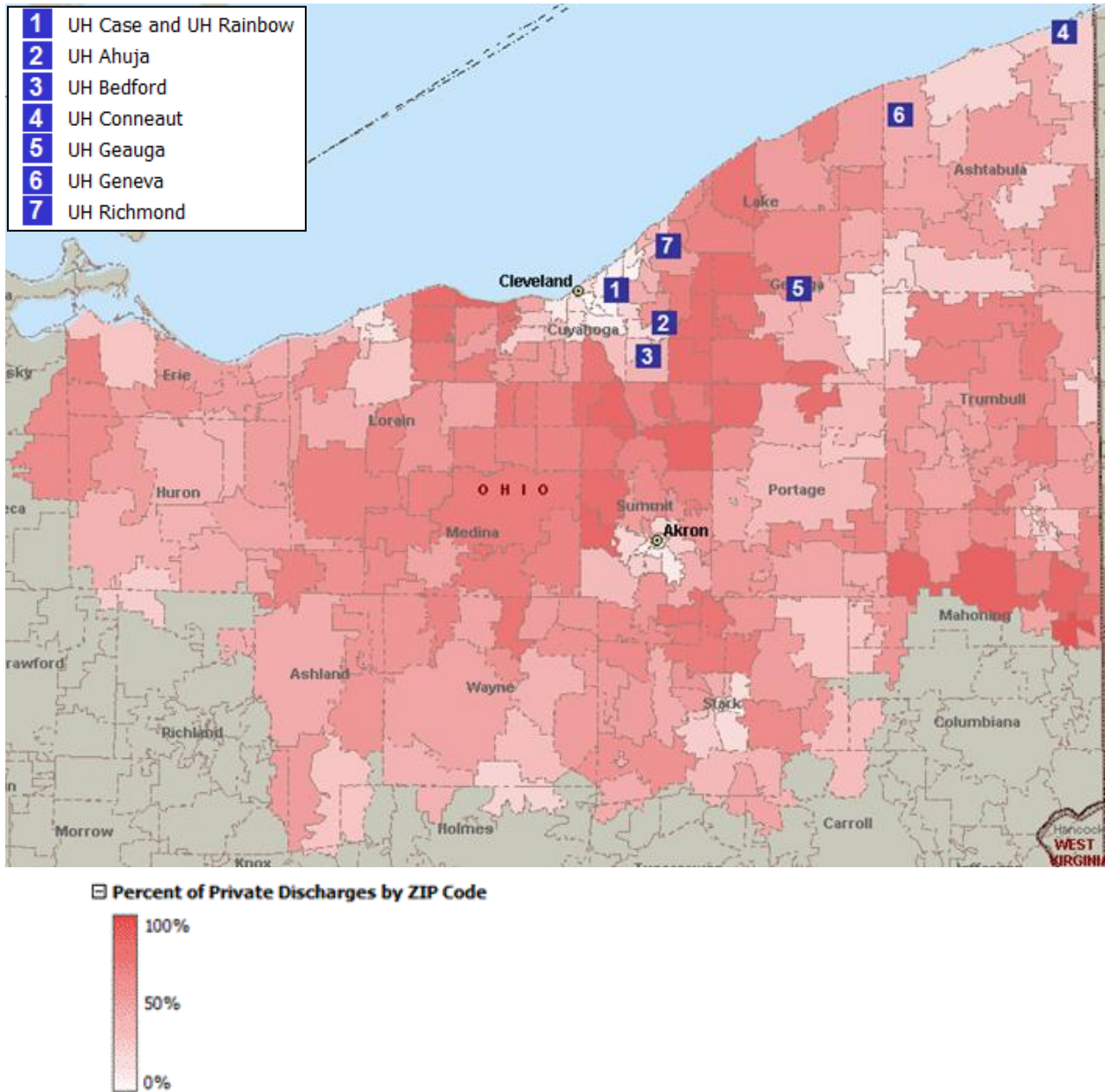
Figure 8: Percentage of Self Pay Pediatric Discharges by ZIP Code, 2010



Sources: Microsoft MapPoint and OHA discharge data, 2011.

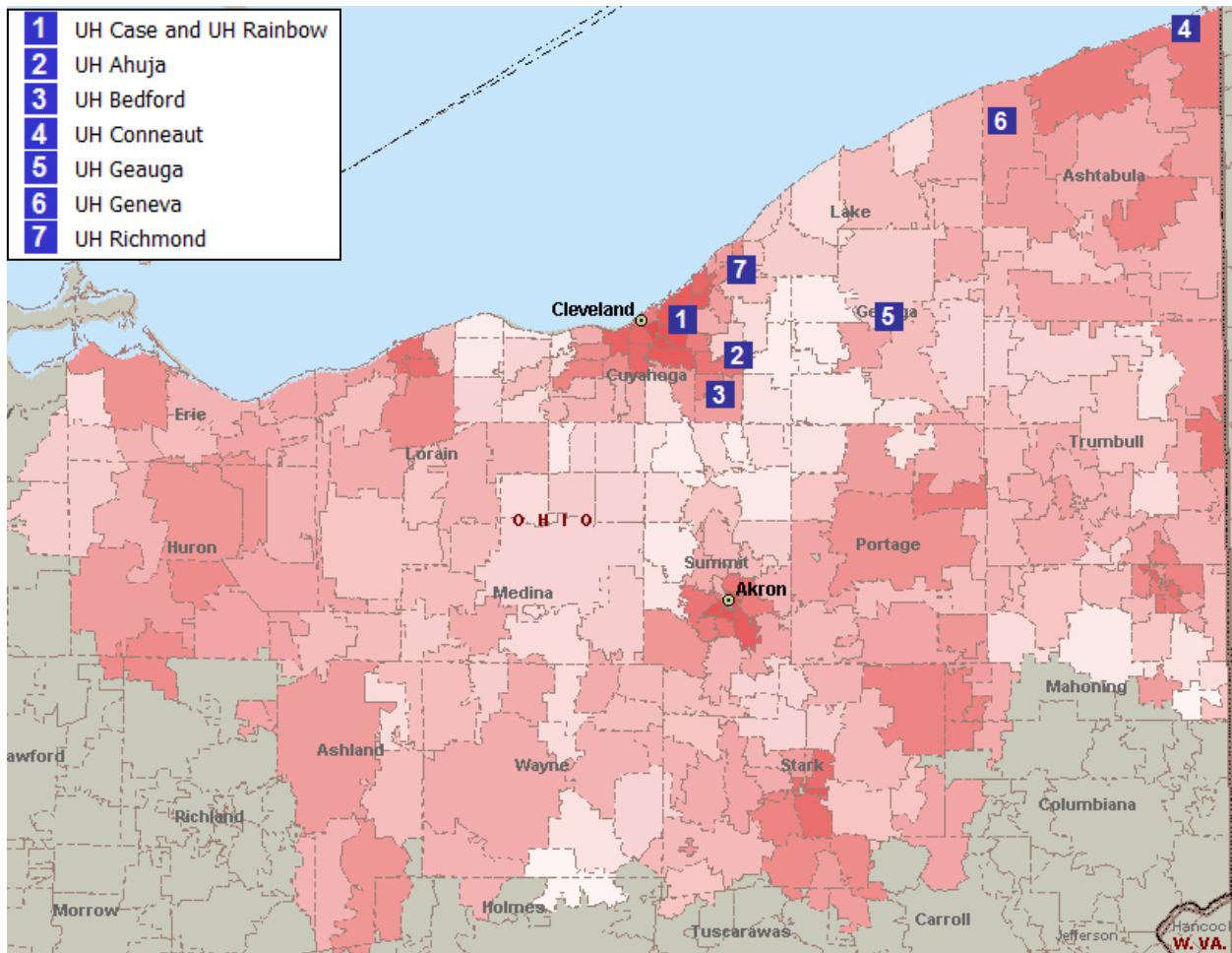
Figure 8 shows the presence of a large Amish community in Geauga County.

Figure 9: Percentage of Private Pediatric Discharges by ZIP Code, 2010

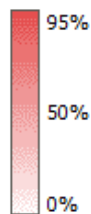


Sources: Microsoft MapPoint and OHA discharge data, 2011.

Figure 10: Percentage of Medicaid Pediatric Discharges by ZIP Code, 2010



■ Percent of Medicaid Discharges by ZIP Code



Sources: Microsoft MapPoint and OHA discharge data, 2011.

Across the 15-county region served by UH Rainbow Babies and Children’s Hospital, 81 percent of the 2010 population was reported to be white and 15 percent African American. These statistics for the population aged 0 to 17 were 74 percent and 19 percent, respectively. Projections indicate that certain non-white populations are expected to grow at above average rates in the UH Rainbow Babies & Children’s Hospital service area (**Table 9**).

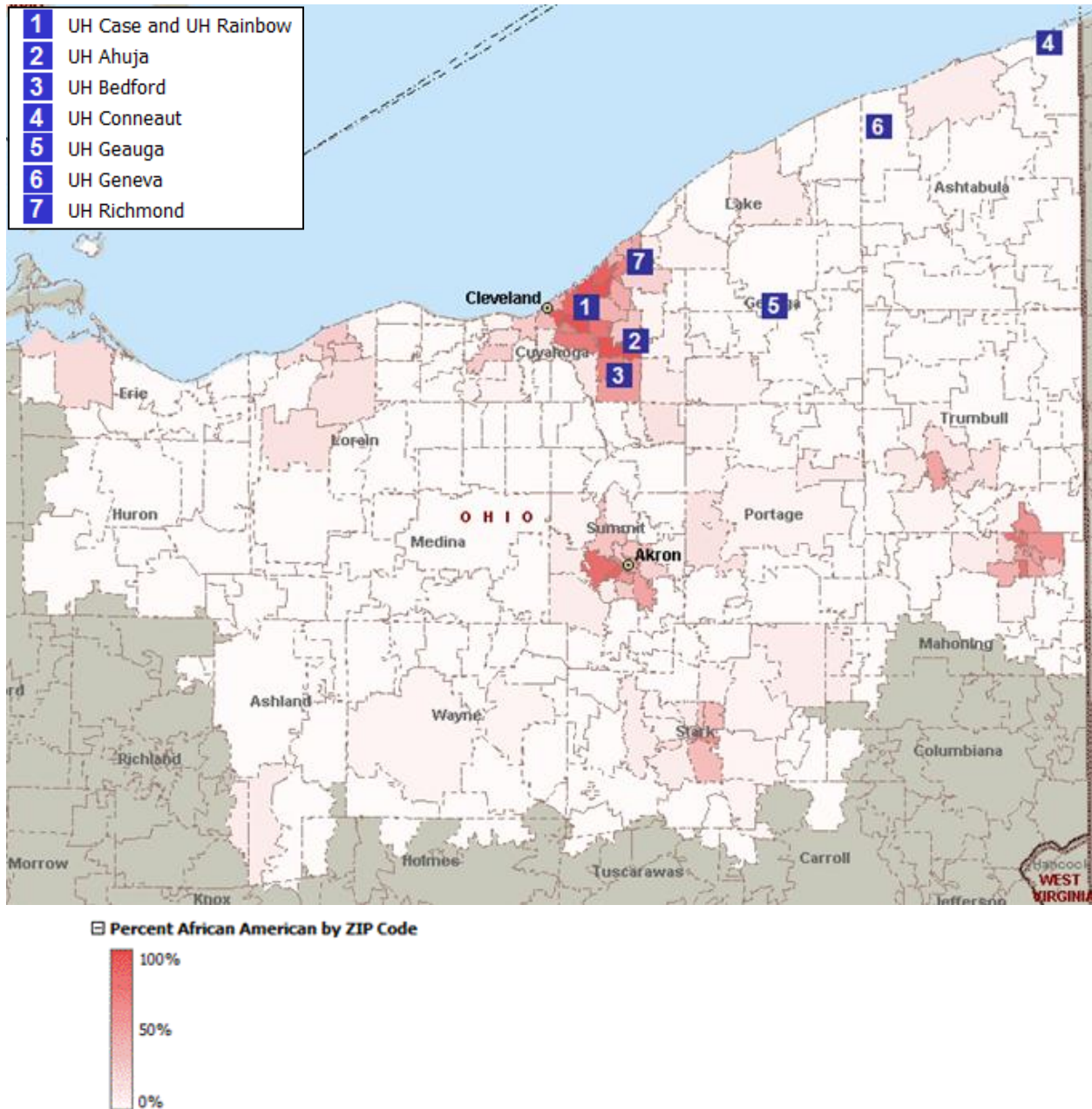
Table 9: Distribution of Pediatric Population by Race, 2000-2015

UH Rainbow Babies & Children's Hospital					
Ethnic/Racial Cohort	Service Area Population, Aged 0 to 17			Percent Change in Population	
	2000	2010	2015	2000-2010	2010-2015
Primary Service Area					
African American	21.2%	21.5%	21.7%	-9.9%	-4.9%
Asian	1.3%	1.9%	2.1%	30.0%	6.8%
Multi-racial	2.8%	3.5%	3.9%	10.5%	5.6%
Other	2.0%	2.6%	2.9%	17.9%	5.6%
White	72.7%	70.6%	69.4%	-13.6%	-7.2%
Total	744,905	663,114	625,366	-11.0%	-5.7%
Secondary Service Area					
African American	11.0%	11.2%	11.2%	-11.2%	-5.0%
Asian	0.5%	0.9%	1.0%	53.1%	10.5%
Multi-racial	2.6%	3.5%	4.0%	18.3%	7.6%
Other	1.1%	1.5%	1.7%	20.1%	7.3%
White	84.9%	82.9%	82.2%	-15.0%	-5.9%
Total	289,912	252,313	239,832	-13.0%	-4.9%
Combined Service Area					
African American	18.4%	18.7%	18.8%	-10.1%	-4.9%
Asian	1.1%	1.6%	1.8%	33.1%	7.4%
Multi-racial	2.8%	3.5%	3.9%	12.5%	6.1%
Other	1.7%	2.3%	2.6%	18.3%	5.9%
White	76.1%	74.0%	72.9%	-14.0%	-6.8%
Total	1,034,817	915,427	865,198	-11.5%	-5.5%

Source: Claritas, Inc., 2011.

African Americans aged 0-17 appear to be most prevalent in the areas directly surrounding UH Rainbow Babies & Children's Hospital (**Figure 11**).

Figure 11: Areas with Highest Concentration of African American Residents Aged 0 to 17, 2010



Sources: Microsoft MapPoint and Claritas, Inc., 2011.

C. Ambulatory Care Sensitive Discharges

This section examines the frequency of ACS discharges within the UH Rainbow Babies & Children’s Hospital community and at UH Rainbow Babies & Children’s Hospital.

1. County-Level Analysis

Disproportionately large numbers of ACS discharges indicate potential problems with the availability or accessibility of ambulatory (primary) care services. **Table 10** indicates for the UH Rainbow Babies & Children's Hospital PSA how many pediatric discharges in 2010 were found to be ACS, by county and by primary payer.

Table 10: Pediatric ACS Discharges as a Percent of Total by County and Payer, Nine Months Ended September 30, 2010

County	Medicare	Private	Medicaid	Self-Pay	Other	All Payers
Ashtabula	0.0%	1.8%	2.6%	3.1%	2.7%	2.4%
Cuyahoga	10.0%	3.2%	4.6%	1.5%	3.1%	3.9%
Geauga	0.0%	2.5%	3.4%	1.0%	6.6%	2.6%
Lake	0.0%	2.9%	3.8%	1.8%	4.2%	3.2%
Lorain	4.6%	2.9%	4.0%	3.3%	5.3%	3.5%
Medina	0.0%	1.9%	2.1%	0.0%	3.8%	2.0%
Portage	0.0%	2.9%	3.4%	0.0%	2.9%	3.1%
Summit	0.0%	2.5%	3.8%	2.5%	2.9%	3.1%

PSA Counties	5.0%	2.8%	4.2%	1.6%	3.5%	3.5%
--------------	------	------	------	------	------	------

Northern Ohio

ACS Discharges	6	629	994	34	48	1,711
Total Discharges	138	22,695	24,678	1,714	1,464	50,689

ACS %	4.3%	2.8%	4.0%	2.0%	3.3%	3.4%
-------	------	------	------	------	------	------

Source: Analysis of OHA discharge data using AHRQ software, 2011.

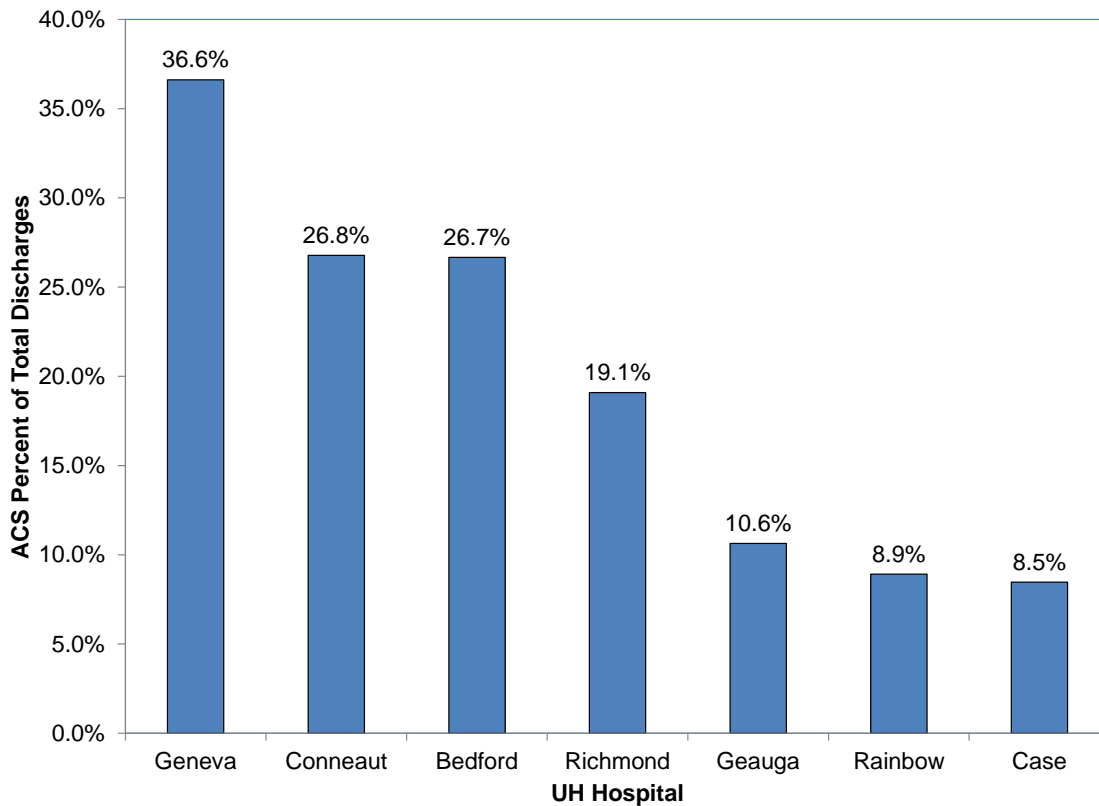
The table indicates that across the UH Rainbow Babies & Children's Hospital PSA, 3.5 percent of total pediatric discharges in 2010 were ACS. The proportion is highest for Medicare and Medicaid. The overall percentage for the counties that comprise the UH Rainbow Babies & Children's Hospital PSA is slightly higher than the 15-county region as a whole. Within the UH Rainbow Babies & Children's Hospital PSA, Cuyahoga County had the highest rate of Medicaid discharges for ACS conditions; Lorain County had the highest rate of self pay (uninsured) discharges for ACS conditions.

Further analysis at the ZIP code level indicates that there are proportionately more ACS discharges in areas where lower-income residents are concentrated; proportionately fewer ACS discharges are associated with ZIP codes with higher levels of private insurance coverage.

2. Facility-Level Analysis

Figure 12 indicates that about 9 percent of UH Rainbow Babies & Children's Hospital's discharges in 2010 were for ACS conditions. Across all UH hospitals, 11.6 percent of discharges were ACS in 2010.

Figure 12: ACS Discharges as Percent of Total by UH Hospital, Nine Months Ended September 30, 2010



Source: Analysis of OHA discharge data using AHRQ software, 2011.

Table 11 indicates that UH Rainbow Babies & Children's Hospital's ACS discharges in 2010 were concentrated in three conditions: pediatric asthma, pediatric urinary tract infection, and pediatric diabetes short-term complication.

Table 11: Distribution of ACS Discharges by Condition and Facility, Nine Months Ended September 30, 2010

Condition	UH							
	Bedford	Case	Conneaut	Geauga	Geneva	Rainbow	Richmond	Total
Congestive Heart Failure	24.5%	27.9%	29.9%	23.1%	15.0%		23.7%	22.7%
Bacterial Pneumonia	16.8%	15.1%	24.5%	23.4%	35.2%	5.2%	14.4%	17.0%
Urinary Tract Infection	20.1%	12.4%	6.1%	12.8%	17.7%	1.2%	13.7%	12.8%
Chronic Obstructive Pulmonary Disease	11.8%	6.8%	21.1%	12.0%	14.7%		18.0%	9.7%
Adult Asthma	9.9%	9.1%	2.7%	6.4%	4.4%	0.2%	5.5%	7.1%
Diabetes Long-term Complication	7.0%	7.8%	3.4%	3.6%	2.8%		11.7%	6.3%
Dehydration	4.3%	7.0%	2.7%	9.7%	4.7%	0.4%	3.4%	5.6%
Pediatric Asthma				0.2%		54.6%		5.5%
Hypertension	2.1%	6.3%		3.4%	0.6%	0.4%	3.1%	3.8%
Diabetes Short-term Complication	1.3%	4.1%	2.7%	1.2%	2.2%	0.4%	2.4%	2.6%
Pediatric Urinary Tract Infection						16.2%		1.6%
Pediatric Diabetes Short-term Complication						11.0%		1.1%
Perforated Appendix	0.9%	0.9%	1.4%	1.6%	1.1%	0.4%	0.5%	0.9%
Uncontrolled Diabetes	0.9%	0.9%	2.7%	0.6%	0.6%		1.7%	0.9%
Angina Without Procedure	0.4%	0.9%	2.0%	0.8%	1.1%		1.7%	0.9%
Pediatric Gastroenteritis				0.2%		5.8%		0.6%
Pediatric Perforated Appendix				0.3%		4.1%		0.4%
Accidental Puncture or Laceration		0.2%	0.7%	0.5%		0.2%		0.2%
Iatrogenic Pneumothorax		0.2%		0.2%				0.1%
Hospital Acquired Infections		0.1%		0.2%				0.1%
Foreign Body Left In During Procedure		0.1%						0.1%
Low Birth Weight Rate								
Total Cases	770	2,129	147	641	361	518	582	5,148

Source: Analysis of OHA discharge data using AHRQ software, 2010.

In 2010, 92 percent of UH Rainbow Babies & Children's Hospital's ACS discharges were associated with persons aged 0 to 17 (**Table 12**).

Table 12: Distribution of ACS Discharges by Age Group and Facility, Nine Months Ended September 30, 2010

Facility	0 - 17	18-39	40 - 64	65+	Total Cases
UH Bedford	0.0%	5.7%	24.3%	70.0%	770
UH Case	0.0%	11.2%	40.2%	48.6%	2,129
UH Conneaut	0.0%	1.4%	26.5%	72.1%	147
UH Geauga	0.6%	5.0%	25.3%	69.1%	641
UH Geneva	0.0%	5.5%	21.1%	73.4%	361
UH Rainbow	91.7%	7.9%	0.2%	0.2%	518
UH Richmond	0.0%	5.0%	31.6%	63.4%	582
Total	9.3%	7.9%	29.2%	53.6%	5,148

Source: Analysis of OHA discharge data using AHRQ software, 2010.

D. County and State-Level Health Status and Access Indicators

The following secondary data sources were used to examine county and state-level health status and access to care indicators in the UH Rainbow Babies & Children's Hospital PSA:

1. County Health Rankings, 2010 and 2011;

2. Community Health Status Indicators Project, 2009;
3. Ohio Department of Health, 2010; and
4. U.S. Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Surveillance System (YRBSS), 2007.

County Health Rankings: The first source is *County Health Rankings*, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. *County Health Rankings* examines a variety of health status indicators and ranks each county in each state in terms of health factors and health outcomes. The health outcomes measure is a composite based on mortality and morbidity statistics, and the health factors measure is a composite of several variables known to affect health outcomes: health behaviors, clinical care, social and economic factors, and physical environment.

County Health Rankings is updated annually. *County Health Rankings 2010* relies on data from 2000 to 2008, with most data originating in 2005 to 2007. *County Health Rankings 2011* relies on data from 2001 to 2009, with most data originating in 2006 to 2008.

Table 13 provides a summary analysis of the rankings for the PSA counties served by UH Rainbow Babies & Children's Hospital. Rankings for Ohio were converted into quartiles to indicate how each county ranks versus others in the state. **Table 13** illustrates the quartile into which each county fell by indicator in the 2011 edition, and also illustrates whether a county's ranking worsened or improved from 2010. For example, for the 2011 edition, Ashtabula County was in the top one-half of Ohio counties for the overall rate of morbidity; however, its rankings worsened for this indicator from the previous year.

Table 13: County-Level Health Status and Access Indicators, UH Rainbow Babies & Children’s Hospital Primary Service Area (Part I)

Indicator	2011	Rank Change	2011	Rank Change	2011	Rank Change	2011	Rank Change
	Ashtabula		Cuyahoga		Geauga		Lake	
Health Outcomes		↓						
Mortality								↓
Morbidity		↓		↓		↓		
Health Factors		↓						
Health Behaviors		↓				↓		↓
Smoking						↓		
Diet and Exercise		↓						↓
Alcohol Use		↓				↓		↓
Unsafe Sex								↓
Clinical Care		↓						
Access to Care		↓		↓				
Quality of Care		↓		↓				↓
Social & Economic Factors		↓						
Education		↓		↓				↓
Employment								
Income		↓						↓
Family and Social Support						↓		
Community Safety								↓
Physical Environment		↓		↓				↓
Air Quality								
Built Environment		↓				↓		↓

Key	
>50th Percentile	
25th to 49th Percentile	
<25th Percentile	
↓	Ranking Worsened Between 2010 and 2011

Source: *County Health Rankings*, 2010 and 2011.

Table 13: County-Level Health Status and Access Indicators, UH Rainbow Babies & Children’s Hospital Primary Service Area (Part II)

Indicator	2011	Rank Change	2011	Rank Change	2011	Rank Change	2011	Rank Change
	Lorain		Medina		Portage		Summit	
Health Outcomes						↓		
Mortality						↓		
Morbidity						↓		↓
Health Factors								
Health Behaviors		↓				↓		↓
Smoking				↓		↓		
Diet and Exercise		↓		↓				↓
Alcohol Use		↓		↓				
Unsafe Sex				↓				↓
Clinical Care						↓		↓
Access to Care						↓		↓
Quality of Care						↓		↓
Social & Economic Factors						↓		
Education						↓		↓
Employment								↓
Income								
Family and Social Support						↓		↓
Community Safety		↓		↓		↓		↓
Physical Environment								
Air Quality								
Built Environment		↓				↓		

Key	
>50th Percentile	
25th to 49th Percentile	
<25th Percentile	
↓	Ranking Worsened Between 2010 and 2011

Source: *County Health Rankings*, 2010 and 2011.

For the UH Rainbow Babies & Children’s Hospital PSA, indicators that most frequently ranked in the bottom one-half of Ohio counties include Smoking, Unsafe Sex, Family and Social Support, Community Safety, and Air Quality. These indicators were most prevalent in Ashtabula, Cuyahoga, Lorain, and Summit counties.

Indicators that worsened between the 2010 and 2011 editions include Morbidity, Diet and Exercise, Alcohol Use, Quality of Care, Education, Community Safety, and Built Environment. These trends were most prevalent in Ashtabula, Lake, Portage, and Summit counties.

Ashtabula County ranked the most unfavorably with 18 indicators in the bottom one-half of Ohio counties, followed by Cuyahoga County with 11 indicators.

Community Health Status Indicators: The second analysis is based on findings from the *Community Health Status Indicators (CHSI) Project*, provided by the U.S. Department of Health and Human Services. The CHSI Project compares many health status and access indicators to both the median rates in the U.S. and to rates in “peer counties” across the U.S.

Counties are considered “peers” if they share common characteristics such as population size, poverty rate, average age, and population density. For example, 33 counties in 14 states are considered peers of Cuyahoga County, OH, including Franklin County (OH), Allegheny County (PA), and Bronx County (NY).

Table 14 highlights the analysis of CHSI health status indicators. Cells in the table are shaded if, on that indicator, a county compared unfavorably both to the U.S. as a whole and to the group of specified peer counties.

Table 14: Unfavorable Health Status Indicators, UH Rainbow Babies & Children’s Hospital PSA Counties

Indicator	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit
Births to Unmarried Women								
Births to Women 40-54								
Births to Women Under 18								
Prenatal Care								
Premature Births								
Low Birth Weight								
Very Low Birth Weight								
Infant Mortality								
Neonatal Infant Mortality								
Hispanic Infant Mortality								
White non-Hispanic Infant Mortality								
Post Neonatal Infant Mortality								
Black non-Hispanic Infant Mortality								

Key	
	Unfavorable

Source: The *Community Health Status Indicators* Project, 2009.

Overall, Portage, Medina, Geauga, and Lake counties compared relatively favorably to U.S. and peer county benchmarks. Ten of the indicators were unfavorable for Cuyahoga County; seven were unfavorable for Summit County, six for Lorain County, and five for Ashtabula County.

Table 15 analyzes the CHSI results to identify those health status problems that potentially are affecting the greatest number of residents across the UH Rainbow Babies & Children’s Hospital PSA counties. For example, the rate of premature births benchmarked unfavorably in two out of eight counties, and those two counties were home to just over 1.8 million people. Births to unmarried women benchmarked unfavorably in two of the counties, and those counties were home to just over 1.5 million people. Accordingly, premature births is presented above births to unmarried women in **Table 15**.

Table 15: Unfavorable Health Status Indicators, Weighted by County Population – UH Rainbow Babies & Children’s Hospital PSA

Indicator	Number of Counties (n = 8)	Population 2010
Black non-Hispanic Infant Mortality	5	2,460,946
Infant Mortality	4	2,226,389
Neonatal Infant Mortality	4	2,226,389
Premature Births	2	1,828,062
Low Birth Weight	2	1,828,062
Very Low Birth Weight	2	1,828,062
Births to Unmarried Women	2	1,568,363
Hispanic Infant Mortality	2	1,568,363
Post Neonatal Infant Mortality	2	1,371,004
Births to Women Under 18	1	1,270,520
White non-Hispanic Infant Mortality	3	955,869
Births to Women 40-54	3	497,360
Prenatal Care	1	89,974

Source: The *Community Health Status Indicators* Project, 2009.

Table 15 indicates that infant mortalities, premature births, and low birth weights are among the health status problems affecting the most people in the eight-county PSA.

The findings based on county-level indicators in **Tables 13, 14, and 15** show that the most significant health status issues have varied from county to county; however, “root causes” such as smoking and obesity, as well as a lack of health education or supply of key health care resources (e.g., primary care physicians), are common themes.

Ohio Department of Health: The third set of health status and health access indicators is maintained by the Ohio Department of Health. The state maintains a publicly-available data warehouse including indicators regarding a number of health status

issues. **Table 16** summarizes these variables for the UH Rainbow Babies & Children's Hospital PSA. Following the methodology of the Ohio Department of Health, the counties were grouped and ranked into thirds. This data warehouse also indicates whether counties had achieved certain Healthy People 2010⁵ goals using an average of 2006-2008 rates. **Table 17** indicates whether or not counties had achieved these goals.

⁵ Healthy People 2010 is a national health promotion and disease prevention agenda established in January 2000 by the U.S. Department of Health and Human Services.

Table 16: Ohio Department of Health, Health Status Indicators

Indicator	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit
Maternal and Child Health Indicators								
Prenatal care in first trimester								
Rate of adolescent births (ages 15-17)								
Very low birth weight, all births								
Very low birth weight, singleton births								
Very low birth weight infants delivered at Level III facilities								
Perinatal mortality rate								
Ratio of black to white perinatal mortality rate								
Infant mortality rate								
Neonatal mortality rate								
Postneonatal mortality rate								
Child death rate (1-14 years)								
Child motor vehicle crash death rate (ages 1-14 years)								

Ranking Based on Distribution of Ohio Counties	
Top and Middle Third of Counties	
Bottom Third of Counties	

Source: Ohio Department of Health data warehouse, 2010.

Table 17: Ohio Department of Health, Variation from Healthy People 2010 Goals

Indicators	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit
Maternal and Child Health Indicators								
Prenatal care in first trimester								
Infant mortality rate								
Neonatal mortality rate								
Perinatal mortality rate								
Postneonatal mortality rate								
Ratio of black to white perinatal mortality rate								
Very low birth weight, all births								

Key	
HP 2010 Met	
0% to 25% Worse than HP 2010 Goal	
25% to 50% Worse than HP 2010 Goal	
>50% Worse than HP 2010 Goal	

Source: Ohio Department of Health data warehouse, 2010.

According to the Ohio Department of Health data, the UH Rainbow Babies & Children's Hospital PSA had numerous comparatively unfavorable health status indicators in 2008. Three indicators, prenatal care, very low birth weight, and ratio of black to white perinatal mortality rate, ranked in the bottom third of counties in four counties. More than three counties were greater than 50 percent worse than the Healthy People 2010 goal for:

- Postneonatal mortality rate; and
- Ratio of black to white perinatal mortality rate.

Two Maternal and Child Health (MCH) indicators, neonatal mortality and very low birth weight, were greater than 25 percent worse than the Healthy People 2010 goal in all but one county. Very few goals for other indicators were achieved in the region.

Youth Risk Behavior Surveillance System: The fourth analysis is based on data collected by the CDC's YRBSS. This system is based on national, state, territorial, tribal, and district school-based surveys that gather data from young adults on health-risk behaviors such as tobacco use, unhealthy dietary behaviors, and the prevalence of obesity and asthma. The survey is conducted every two years; however, not all states participate each year. In 2007, 44 states, including Ohio, participated.

Analysis of YRBSS data can identify health issues and trends, and provide state and nation-wide comparisons. **Table 18** compares the prevalence of various indicators in Ohio and the U.S. Indicators are shaded if values compare unfavorably to U.S. averages. Shading is based on percent difference in an indicator from the U.S. average.

Table 18: Prevalence of YRBSS Indicators and Variation from the U.S. in Ohio, 2007 (Part I)

Indicator		Ohio Total	Ohio Female	Ohio Males	U.S. Total	U.S. Female	U.S. Males
Unintentional Injuries and Violence	Rarely or never wore a seatbelt	14.3%	10.9%	17.5%	11.1%	8.5%	13.6%
	Rode with a driver who had been drinking alcohol one or more times	22.8%	21.7%	23.6%	29.1%	28.8%	29.5%
	Drove when drinking alcohol one or more times	9.5%	7.9%	10.9%	10.5%	8.1%	12.8%
	Felt unsafe at or on their way to or from school on at least 1 day	3.8%	4.1%	3.5%	5.5%	5.6%	5.4%
	Threatened/injured with a weapon on school property one or more times	8.3%	6.1%	10.2%	7.8%	5.4%	10.2%
	Felt sad or hopeless (almost every day for 2 or more weeks)	25.1%	30.4%	20.0%	28.5%	35.8%	21.2%
	Attempted suicide one or more times	7.2%	9.4%	4.9%	6.9%	9.3%	4.6%
	Suicide attempt that had to be treated by a doctor or nurse	2.3%	3.1%	1.5%	2.0%	2.4%	1.5%
	Carried a gun on at least 1 day	4.5%	1.5%	7.3%	5.2%	1.2%	9.0%
	Injured in a physical fight one or more times	3.8%	2.7%	5.0%	4.2%	2.9%	5.5%
Ever physically forced to have sexual intercourse	10.2%	13.0%	7.2%	7.8%	11.0%	4.5%	
Tobacco Use	Ever tried cigarette smoking	51.2%	50.2%	52.1%	50.3%	48.8%	51.8%
	Smoking a whole cigarette for the first time before age 13 years	14.3%	12.6%	15.9%	14.2%	11.9%	16.4%
	Smoked cigarettes on at least 1 day	21.6%	19.6%	23.7%	20.0%	18.7%	21.3%
	Smoked cigarettes on 20 or more days	10.3%	8.9%	11.6%	8.1%	7.4%	8.7%
	Smoked more than 10 cigarettes per day	15.2%	10.5%	18.9%	10.7%	7.1%	13.8%
	Did not try to quit smoking cigarettes	51.4%	48.9%	53.5%	50.3%	44.9%	54.9%
	Usually obtained their own cigarettes by buying them in a store	19.4%	15.5%	23.0%	16.0%	11.3%	20.0%
	Used chewing tobacco, snuff, or dip on at least 1 day	9.8%	2.3%	17.0%	7.9%	2.3%	13.4%
Alcohol & Other Drug Use	Ever had at least one drink of alcohol on at least 1 day	76.0%	77.1%	74.9%	75.0%	75.7%	74.3%
	Drank alcohol for the first time before age 13 years	20.3%	17.5%	23.1%	23.8%	20.0%	27.4%
	Had five or more drinks of alcohol in a row on at least 1 day	28.8%	26.5%	31.0%	26.0%	24.1%	27.8%
	Ever used marijuana one or more times	33.0%	31.0%	35.0%	38.1%	34.5%	41.6%
	Tried marijuana for the first time before age 13 years	8.5%	6.7%	10.3%	8.3%	5.2%	11.2%
	Ever used any form of cocaine one or more times	8.3%	7.0%	9.5%	7.2%	6.5%	7.8%
	Ever used heroin one or more times	3.5%	2.8%	4.1%	2.3%	1.6%	2.9%
	Ever used methamphetamines one or more times	5.9%	4.8%	7.0%	4.4%	4.1%	4.6%
	Ever took steroid pills or shots without a prescription one or more times	5.0%	3.3%	6.6%	3.9%	2.7%	5.1%
Ever used a needle to inject any illegal drug one or more times	3.1%	2.6%	3.6%	2.0%	1.3%	2.6%	

Key	
Better than U.S. Average	
<25% worse than U.S.	
25% to 50% worse than U.S.	
>50% worse than U.S.	

Source: CDC YRBSS, 2009.

Table 18: Prevalence of YRBSS Indicators and Variation from the U.S. in Ohio, 2007 (Part II)

Indicator		Ohio Total	Ohio Female	Ohio Males	U.S. Total	U.S. Female	U.S. Males
Sexual Behaviors	Ever had sexual intercourse	44.5%	44.2%	44.9%	47.8%	45.9%	49.8%
	Had sexual intercourse for the first time before age 13 years	6.3%	4.1%	8.5%	7.1%	4.0%	10.1%
	Drank alcohol or used drugs before last sexual intercourse	22.5%	18.4%	26.9%	22.5%	17.7%	27.5%
	Did not use a condom during last sexual intercourse	39.9%	44.6%	35.0%	38.5%	45.1%	31.5%
	Did not use birth control pills during last sexual intercourse	82.6%	81.5%	83.8%	84.0%	81.3%	86.9%
	Were never taught in school about AIDS or HIV infection	11.2%	11.0%	11.5%	10.5%	9.8%	11.3%
	Did not use birth control pills or Depo-Provera before last sexual intercourse	79.4%	77.0%	81.7%	81.2%	76.7%	86.0%
Dietary Behaviors	Drank a can, bottle or glass of soda or pop at least one time per day	30.3%	23.8%	36.6%	33.8%	29.0%	38.6%
	Drank less than three glasses per day of milk	85.4%	90.0%	80.9%	85.9%	91.2%	80.6%
	Ate fruit or drank 100% fruit juices less than two times per day	73.8%	72.6%	75.4%	67.8%	70.2%	65.4%
	Ate vegetables less than three times per day	89.4%	88.5%	90.5%	86.8%	87.5%	86.1%
	Described themselves as slightly or very overweight	30.1%	35.0%	24.8%	29.3%	34.5%	24.2%
	Went without eating for 24 hours or more to lose weight	11.2%	14.2%	8.4%	11.8%	16.3%	7.3%
	Took diet pills, powders, or liquids to lose weight	7.8%	8.1%	7.4%	5.9%	7.5%	4.2%
Physical Activity	Physically active at least 60 minutes per day on less than 5 days	55.3%	64.3%	46.4%	65.3%	74.4%	56.3%
	Did not attend physical education classes in an average week	64.3%	69.2%	59.7%	46.4%	50.6%	42.3%
	Did not attend physical education classes daily	73.8%	77.3%	70.4%	69.7%	72.7%	66.8%
	Did not play in sports teams	43.3%	46.4%	40.2%	43.7%	49.6%	37.9%
	Watched television 3 or more hours per day	32.0%	31.4%	32.8%	35.4%	33.2%	37.5%
	Used computers 3 or more hours per day	22.7%	20.6%	24.8%	24.9%	20.6%	29.1%
	Ever told by a doctor or nurse that they had asthma	21.3%	21.3%	21.3%	20.3%	20.7%	19.9%

Key	
Better than U.S. Average	
<25% worse than U.S.	
25% to 50% worse than U.S.	
>50% worse than U.S.	

Source: CDC YRBSS, 2009.

Across Ohio, indicators regarding tobacco, alcohol, and other drug use were frequently reported as being worse than the U.S. Female youth reported being worse than the U.S. on 33 indicators, while male youth reported being worse on 28 indicators.

Seven indicators in Ohio were reported as being greater than 50 percent worse than the U.S:

- The percent of male youth who have been physically forced to have sexual intercourse;
- The percent of youth who have ever used heroin one or more times;
- The percent of female youth who have ever used heroin one or more times;
- The percent of male youth who have ever used methamphetamines one or more times;
- The percent of youth who have ever used a needle to inject illegal drugs;
- The percent of female youth who have ever used a needle to inject illegal drugs; and
- The percent of male youth who have taken diet pills, powders, or liquids to lose weight.

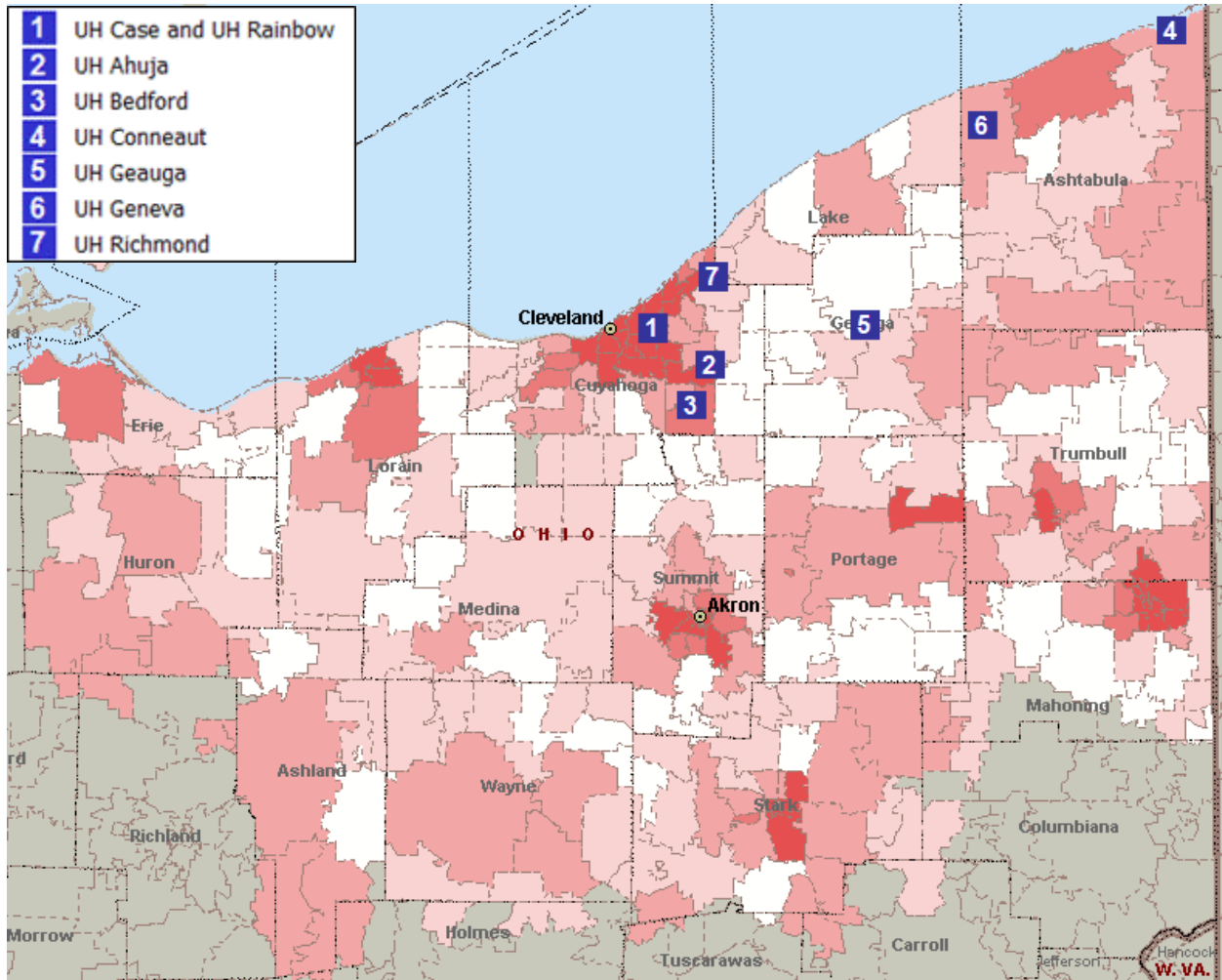
E. ZIP Code and Census Tract Level Indicators

The following secondary data sources were used to examine ZIP code and census tract level indicators in the UH Rainbow Babies & Children’s Hospital community:

1. Catholic Healthcare West; and
2. U.S. Department of Agriculture.

Catholic Healthcare West: Catholic Healthcare West, a hospital system based in California, developed the *Community Needs Index*, a standardized index that measures certain access variables by county and ZIP code. The *Community Needs Index* represents a score assigned to each ZIP code, ranging from “Lowest Need” (1-1.7), to “Highest Need” (4.2-5). **Figure 13** presents the *Community Needs Index* (CNI) score for each ZIP code in the UH Rainbow Babies & Children’s Hospital community.

Figure 13: Community Needs Index Score by ZIP Code



☐ CNI Score by ZIP Code

- High Need
- Middle to High
- Middle
- Low to Middle
- Low Need

Sources: Microsoft MapPoint and Catholic Healthcare West *Community Needs Index*, 2011.

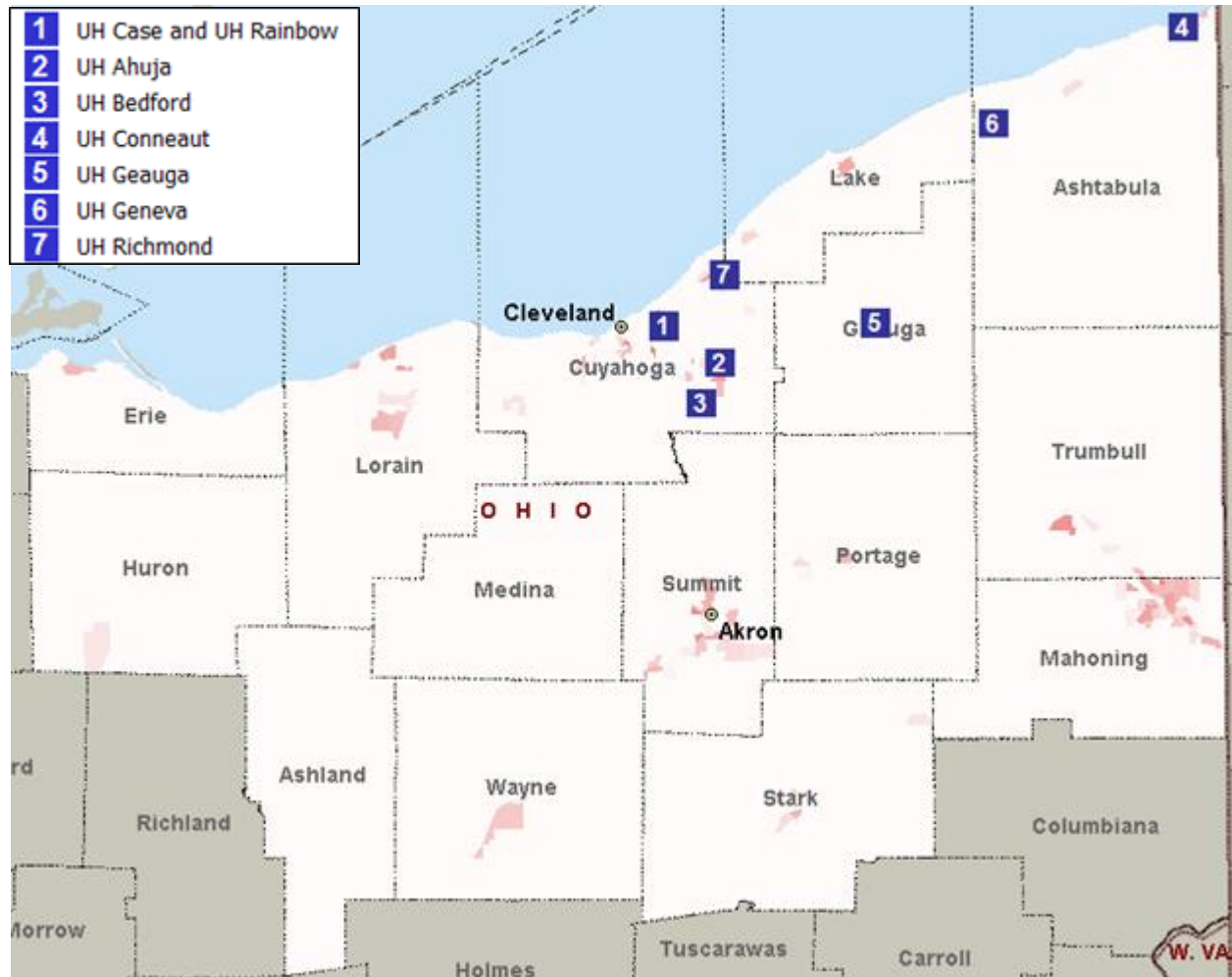
*Some ZIP codes do not have a designated CNI score; these ZIP codes are not shaded on the map.

Based on the weighted average of the CNI scores for all ZIP codes in each PSA county, it appears that Cuyahoga County has the highest score indicating the greatest need, followed by Ashtabula County. Geauga had the lowest score indicating the lowest need (Figure 13).

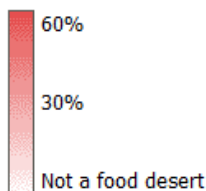
U.S. Department of Agriculture: The USDA Economic Research Service has estimated the number of people in each census tract that live “more than 1 mile from a

supermarket or large grocery store in urban areas and more than 10 miles from a supermarket or large grocery store in rural areas.”⁶ Many government-led initiatives aim to increase the availability of nutritious and affordable foods to people living in these “food deserts.” **Figure 14** indicates the percent of children living in food deserts in the UH Rainbow Babies & Children’s Hospital community.

Figure 14: Percent of Children Living in Food Deserts by Census Tract



Percent of Children in a Food Desert by Census Tract



Sources: Microsoft MapPoint and U.S. Department of Agriculture, 2009.

⁶ <http://www.ers.usda.gov/data/fooddesert/documentation.html>

F. Medically Underserved Areas and Populations

HRSA has calculated an Index of Medical Underservice (IMU) score for communities across the U.S. The IMU score calculation includes the ratio of primary medical care physicians per 1,000 persons, the infant mortality rate, the percentage of the population with incomes below the poverty level, and the percentage of the population older than 64. IMU scores range from zero to 100 where 100 represents the least underserved and zero represents the most underserved.⁷

Any area or population receiving an IMU score of 62.0 or below qualifies for Medically Underserved Area (MUA) or Medically Underserved Population (MUP) designation. Federally Qualified Health Centers (FQHCs) may be established to serve MUAs and MUPs. Populations receiving an MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. When a population group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP designation if “unusual local conditions which are a barrier to access to or the availability of personal health services exist and are documented, and if such a designation is recommended by the chief executive officer and local officials of the State where the requested population resides.”⁸

Forty-four ZIP codes within the UH Rainbow Medical Center primary and secondary service areas qualify as MUAs; these areas are located in Cuyahoga, Lorain, Mahoning, Stark, Summit, and Trumbull counties. Three areas have been designated as MUPs in Erie and Portage counties (**Table 19**).

⁷ Guidelines for Medically Underserved Area and Population Designation.” U.S. Department of Health and Human Services, Health Resources and Services Administration. <http://bhpr.hrsa.gov/shortage/muaguide.htm>.

⁸ *Ibid.*

Table 19: MUAs and MUPs by County, ZIP Code, and Town, 2011

Service Area	County	ZIP Code	Town	Number of Census Tracts		
				MUA	MUP	
Primary	Ashtabula	None				
		44102	Cleveland	22		
		44103	Cleveland	28		
		44104	Cleveland	22		
		44105	Newburg	18		
		44106	University Circle	12		
		44108	Glenville-Bratenahl	13		
		44109	Pearlbrook	10		
		44110	Collinwood	10		
		44111	West Park	7		
		44112	East Cleveland	6		
		44113	Cleveland	12		
		44114	Public Square	1		
		44115	Playhouse Square	7		
		44118	Cleveland Heights	1		
		44119	Beachland Station	1		
		44120	Shaker Heights	7		
		44125	Garfield Heights	1		
		44128	Warrensville Heights	1		
		Geauga	None			
		Lake	None			
			44035	Elyria	2	
		Lorain	44052	Lorain	5	
			44055	Lorain	2	
		Medina	None			
		Portage	44240	Kent		4
			44301	Akron	2	
		44302	Akron	1		
	Summit	44304	Akron	1		
		44305	Akron	1		
		44306	Akron	4		
Secondary	Ashland	None				
	Erie*	44870	Sandusky		1	
		44871	Sandusky		1	
	Huron	None				
		44401	Berlin Center	1		
		44405	Campbell	1		
		44502	Youngstown	8		
		44504	Youngstown	4		
	Mahoning	44505	Youngstown	5		
		44506	Youngstown	1		
		44507	Youngstown	2		
		44509	Youngstown	1		
		44511	Youngstown	2		
		44601	Alliance	1		
		44646	Massillon	4		
	Stark	44647	Massillon	2		
		44702	Canton	3		
		44704	Canton	1		
		44705	Canton	3		
		44430	Leavittsburg	1		
Trumbull	44446	Niles	1			
	44481	Warren	2			
	Wayne	None				

Source: Health Resources and Services Administration, U.S. Department of Health and Human Services, 2011.

*Sandusky City in Erie County is designated as an MUP. Sandusky City includes two ZIP codes and 14 census tracts.

G. Health Professional Shortage Areas

An area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary care, dental care, or mental health care professionals is found to be present.

HPSAs can be: “(1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility.”⁹

In the UH Case Medical Center PSA, areas and populations designated as HPSAs as of August 2011 include:

Ashtabula County

- Fifteen townships within Ashtabula County are designated as primary medical care HPSAs. These townships include: Andover, Cherry Valley, Colebrook, Dorset, Hartsgrove, Lenox, Morgan, New Lyme, Orwell, Richmond, Rome, Trumbull, Wayne, Williamsfield, and Windsor.
- The entire county and the low-income population of the county are designated as dental HPSAs.
- The entire county is designated as a mental health HPSA.

Cuyahoga County

- The homeless population in Northwest Cuyahoga County, the low-income population of Lee Miles, and areas including the West Side of Cleveland, East Cleveland, South Broadway, Hough/Norwood/Glenville, Mt. Pleasant/Union-Miles/Corlett, and Western Collinwood are designated as primary care HPSAs.
- The town of Glenville, the population of West Cleveland and Western Collinwood, and the low-income populations in Lee Miles, Central/Fairfax/Kinsman, Hough/Norwood, Downtown/North Broadway, South Broadway, East Cleveland, and Mt.Pleasant/Buckeye-Shaker are designated as dental HPSAs.
- The Medicaid-eligible population residing in the West Side of Cleveland is designated as a mental health HPSA.

⁹ HRSA, Bureau of Health Professionals. “Health Professional Shortage Area Designation Criteria.” <http://bhpr.hrsa.gov/shortage/hpsacrit.htm>.

Lorain County

- Six townships: Brighton, Huntington, Lagrange, Penfield, Rochester, and Wellington, are designated as primary medical care HPSAs.
- A dental HPSA exists for a population in East Lorain.

Medina County

- Medina County includes two townships designated as primary care HPSAs: Homer and Spencer.

Summit County

- Summit County has one population designated as a primary medical care HPSA: the low-income population of Southeast Akron.
- The low-income population of Central Akron is designated as a dental HPSA.

H. Description of Other Facilities and Resources within the Community

The UH Case Medical Center community contains a variety of resources that are available to meet the health needs identified through this CHNA. These resources include facilities designated as HPSAs, hospitals, FQHCs, and other agencies and organizations.

In addition to areas and populations that can be designated as HPSAs, a facility can receive federal HPSA designation and a resultant, additional Medicare payment if it provides primary medical care services to an area or population group identified as having inadequate access to primary care, dental, or mental health professionals and service capacity. Fourteen distinct facilities and health centers designated as HPSAs in five of the service area counties provide pediatric and/or maternal and infant health services (**Table 20**). Many of these have received multiple designations.

Table 20: Facilities and Health Centers Designated as HPSAs in the UH Rainbow Babies & Children’s Hospital Community, 2011

Service Area	County	HPSA Name	HPSA Designation
Primary	Cuyahoga	Free Clinic of Greater Cleveland	Primary Medical Care
		Neighborhood Family Practice	Primary Medical Care
		Neighborhood Health Care	Dental
			Mental Health
			Primary Medical Care
		Northeast Ohio Neighborhood Health Services	Dental
			Mental Health
			Primary Medical Care
	Primary Medical Care		
	UH Family Health Practice	Primary Medical Care	
		Primary Medical Care	
	UH Rainbow and Babies Children's Hospital	Primary Medical Care	
		Primary Medical Care	
	Lorain	Lorain County Health and Dentistry	Dental
Mental Health			
Primary Medical Care			
Summit	Akron Community Health Resources, Inc.	Dental	
		Primary Medical Care	
		Mental Health	
		Primary Medical Care	
	Akron General Medical Center	Primary Medical Care	
		Primary Medical Care	
		Primary Medical Care	
	Summa Internal Medicine Center	Primary Medical Care	
		Primary Medical Care	
		Primary Medical Care	
Secondary	Mahoning	Ohio Northeast Health System, Inc.	Dental
			Mental Health
	Canton Community Clinic, Inc.	Canton Community Clinic, Inc.	Primary Medical Care
			Dental
			Mental Health
			Primary Medical Care

Source: U.S. Health Resources and Services Administration, 2011.

Fourteen of the service area counties contain at least one hospital that provides obstetrics, newborn care, general pediatric services, specialty pediatric services, and/or intensive pediatric services. Cuyahoga County contains 14 hospitals; Erie contains none (**Table 21**).

**Table 21: Information on Hospitals in the
UH Rainbow Babies & Children's Hospital Community, 2011**

Service Area	County	Hospital Name	Town
Primary	Ashtabula	Ashtabula County Medical Center	Ashtabula
	Cuyahoga	Cleveland Clinic	Cleveland
		Cleveland Clinic Children's Hospital For Rehab	Cleveland
		Euclid Hospital	Euclid
		Fairview Hospital	Cleveland
		Hillcrest Hospital	Mayfield Heights
		Huron Hospital	Cleveland
		Lakewood Hospital	Lakewood
		Marymount Hospital	Garfield Heights
		Metro Health Medical Center	Cleveland
		Parma Community General Hospital	Parma
		Southwest General Health Center	Middleburg Heights
		St John Medical Center	Westlake
		UH Case Medical Center	Cleveland
		UH Rainbow Babies And Children's Hospital	Cleveland
	Geauga	UH Geauga Medical Center	Chardon
	Lake	Lake Health	Concord
	Lorain	EMH Regional Medical Center	Elyria
		Mercy Regional Medical Center	Lorain
	Medina	Medina Hospital	Medina
Portage	Robinson Memorial Hospital	Ravenna	
Summit	Akron Children's Hospital	Akron	
	Akron General Medical Center	Akron	
	Summa Health System Barberton Hospital	Barberton	
	Summa Health Systems Hospitals	Akron	
	Summa Western Reserve Hospital	Cuyahoga Falls	
Secondary	Ashland	Samaritan Hospital - Peoples Hospital	Ashland
	Huron	Fisher-Titus Hospital	Norwalk
	Mahoning	St Elizabeth Health Center	Youngstown
		Akron's Children's Hospital - Mahoning Valley	Boardman
	Stark	Affinity Medical Center	Massillon
		Alliance Community Hospital	Alliance
		Aultman Hospital	Canton
		Mercy Medical Center	Canton
	Trumbull	St Joseph Health Center	Warren
		Trumbull Memorial Hospital	Warren
	Wayne	Dunlap Memorial Hospital	Orrville
Wooster Community Hospital		Wooster	

Sources: Ohio Directory of Registered Hospitals, Ohio Department of Health, 2011, CMS Impact File, 2012, American Hospital Directory, and hospital facility websites, 2011.

FQHCs were created by Congress to promote access to ambulatory care in areas designated as “medically underserved.” These clinics receive cost-based reimbursement for Medicare and also receive grant funding under Section 330 of the

Public Health Service Act. FQHCs also receive a prospective payment rate for Medicaid services (based on reasonable costs).

Fifteen entities designated as FQHCs provide pediatric and/or maternal and infant health services (**Table 22**).

Table 22: FQHCs in the UH Rainbow Babies & Children’s Hospital Community, 2011

Service Area	County	FQHC
Primary	Cuyahoga	Collinwood Health Center
		East Cleveland Health Center
		Neighborhood Health Care, Inc.
		Northeast Ohio Neighborhood Health Services
Primary	Lorain	Norwood Health Center
		Southeast Health Center
		Superior Health Center
		Tremont Health Center
Primary	Lorain	Lorain County Health And Dentistry
	Portage	Portage County Health Center
	Summit	Akron Community Health Resources
	Secondary	Huron
Mahoning		Youngstown Community Health Center
Stark		Canton Community Clinic Site
	Good Samaritan Community Health Center	

Source: U.S. Health Resources and Services Administration, 2011.

As of 2011, a range of other agencies and organizations are available in each county to assist in meeting health needs, including county health departments, mental health boards, and human services departments (**Table 23**).

**Table 23: Other Agencies and Organizations in the
UH Rainbow Babies & Children’s Hospital Community, 2011**

Service Area	County	Organization/Agency
Primary	Ashtabula	Ashtabula County Health Department United Way of Ashtabula County
	Cuyahoga	Achievement Centers for Children Bellefaire JCB Center for Families and Children Cuyahoga County of Ohio-Health and Human Services Cuyahoga County Alcohol, Drug Addiction and Mental Health Services Board Cuyahoga Health Department Cleveland Department of Public Health The Free Medical Clinic of Greater Cleveland The Gathering Place United Way of Cleveland
	Geauga	Geauga County General Health District Geauga Board of Mental Health and Recovery Services United Way Services of Geauga County
	Lake	Lake County General Health District United Way of Lake County
	Lorain	Lorain County Board of Mental Health Lorain Free Clinic Lorain County General Health District North Coast Health Ministry United Way of the Greater Lorain County
	Medina	Medina County Health Department United Way of Medina County
	Portage	Health Department-Portage County Portage County Mental Health and Recovery Board United Way of Portage County
	Summit	Summit County Alcohol, Drug Addiction and Mental Health Services Board Summit County Health Department United Way of Summit County
Secondary	Ashland	Ashland County Health and Human Services Ashland County-City Health Department Mental Health and Recovery Services; Behavioral Services United Way of Ashland County
	Erie	Department of Mental Health-Erie Erie County Department of Health Erie County Department of Human Services United Way of Erie County
	Huron	Huron Behavioral Health Services Huron County Department of Human Services Huron Health Department United Way of Huron
	Mahoning	Mahoning County Health Department United Way of Mahoning & Youngstown
	Stark	Stark County Health Department United Way of Stark County
	Trumbull	Trumbull County Health Department Trumbull County Mental Health and Recovery Board United Way of Trumbull County
	Wayne	United Way of Wayne and Holmes County Wayne County (Ohio) Health Department Wayne County Department of Human Services

Source: Verité research.

I. Review of Other Recent Community Health Needs Assessments

Verité also considered the findings of other needs assessments published since January 2008. Four such assessments have been conducted in the UH Rainbow Babies & Children's Hospital area.

1. Lake County Community Health Assessment

In January 2011, the Lake County General Health District published the 2011 Lake County Community Health Assessment¹⁰ (LCCHA). The LCCHA was based on a 72 question survey that was administered both online and in person.

Key conclusions were:

- Over 60 percent of respondents agreed or strongly agreed that there are many available options for accessing health care in Lake County.
- Health problems believed most important in the county were adult obesity, drug addiction, mental health, child obesity, and aging problems.
- The majority of respondents, nearly 63 percent, chose alcohol and drug abuse as the most unhealthy behavior.
- In order of importance, the major community issues that respondents believed impact quality of life are unemployment, affordable health services, low income/poverty, inadequate health insurance, and unsupervised youth/children.
- About 27 percent of females reported they had an unexpected pregnancy.
- About 22 percent of individuals between the ages of 18 and 53 mentioned they had problems accessing healthcare.
- About 23 percent of respondents stated that they were current smokers. African American males were most likely to be current smokers.

2. The Center for Community Solutions

In January 2010, the Center for Community Solutions published the *Northeast Ohio Family Health Program Needs Assessment Plan*.¹¹ That report discussed demographic, economic, and public health indicators to assess challenges facing family planning services.

¹⁰ Lake County General Health District, *The 2011 Lake County Community Health Assessment, September 2011*.
http://www.lcghd.org/Comm_Hlth_Assmt

¹¹ The Center for Community Solutions. *Northeast Ohio Family Health Program Needs Assessment Plan*. January 5, 2010.
http://www.communitysolutions.com/assets/1/AssetManager/NA_Final%20010510.pdf

The assessment focused on Ashtabula, Cuyahoga, Geauga, Lake, and Lorain counties. Key findings were:

- In 2007, 44 percent of Ohio pregnancies that resulted in live births were unintended; this rate is higher than the national average and the Healthy People 2010 Goal for such births.
- About 43 percent of women were using contraception when they became pregnant.
- Unintended pregnancies were most common in African American women, young women under age 20, women with less than 12 years of education, unmarried women, and women who receive Medicaid.
- Nearly 11 percent of all live births in the five-county area and 19 percent of live births in Cleveland in Cuyahoga County were to teens.
- Nearly 9 percent of births in Ashtabula and Geauga counties were less than 18 months apart, the highest rate in the five-county area.
- Both the rate of births to low-weight babies and the rate of premature births have increased in the last ten years.
- Nearly 51 percent of female-headed households with children in 2007 were below the poverty level.
- Nearly 26 percent of women in Ashtabula County were Medicaid recipients in 2006. This compares to 22 percent statewide and 14 percent in the U.S.

The assessment also found other needs such as helping people with the administrative challenges associated with Title X funding and Medicaid Waivers, affordable contraceptives, greater access to public transportation, and better access to affordable primary and specialty care in rural counties.

3. Child and Family Health Services

In 2010, the Cuyahoga County Board of Health produced an update to the *Cuyahoga County Child and Family Health Services Community Health Indicators Project*.¹² The project compiled information since 1999 on a variety of maternal and child health indicators to examine trends over time. The Board also measures progress towards meeting Healthy People 2010 goals.

¹² The Cuyahoga County Board of Health. *Cuyahoga County Child and Family Health Services Community Health Indicators Project: 2010 Update*.
http://www.ccbh.net/ccbh/export/sites/default/CCBH/pdf/CFHS_Report/CFHS_Indicators_2010_Update.pdf

The most recent assessment found the following:

- Reducing the prevalence of smoking during pregnancy;
- Preventing elevated childhood blood lead levels;
- Reducing neonatal mortality, infant mortality, and postneonatal mortality, and reducing racial disparities in infant mortality;
- Enhancing availability of adequate prenatal care;
- Reducing premature births;
- Reducing the number of low birth weight babies and very low birth weight babies;
- Reducing perinatal mortality and racial disparity in perinatal mortality;
- Assuring that more infants receive prenatal care in first trimester; and
- Reducing neural tube defects.

4. The Center for Health Affairs

The Center for Health Affairs (CHA), a health care association in Cleveland, Ohio, sponsored and published a needs assessment of Northeastern Ohio in 2007.¹³ That assessment was updated by the recently published *Health Facts 2009*.¹⁴

Health Facts 2009 reviewed a range of healthcare related topics including demographics, health related behaviors, health status, affordability of healthcare, access to hospital facilities, and other topics.

Key findings included:

- Nearly 20 percent of Ohioans were obese; the percentage of Ohio residents classified as obese has been steadily increasing over the past 8 years.
- Nearly 28 percent of Ohioans smoked cigarettes. The highest use rate was among 18 to 24 year olds. Annual health care costs in Ohio directly caused by smoking were in excess of \$4 billion in 2007.
- People over the age of 65 and those with annual incomes under \$20,000 spent a greater percentage of their income on health.

¹³ CHA defines "Northeastern Ohio" as Cuyahoga, Lorain, Medina, Ashtabula, Lake, Geauga, Erie, Huron, Ashland, Wayne, Summit, Portage, and Trumbull counties.

¹⁴ The Center for Health Affairs. *Health Facts 2009*. http://www.cure-path.com/NR/rdonlyres/AD4CABB2-0A6E-4015-A701-769900EC3881/11118/Health_Facts_20092.pdf

- Wage increases have not kept up with increases in health insurance premiums over the last seven years.

The Center's 2007 report *Community Health Needs Analysis & Assessment Summary*,¹⁵ described the state of the region's population health, identified major health issues, and recommended necessary actions.

Key findings included:

- In 2006, the proportion of adults who were overweight was 41 percent.
- About 27.8 percent of adults studied reported that they smoked cigarettes in 2003-2004, almost identical to the statewide rate.
- From 2003 to 2004, 15.5 percent of Northeast Ohio adults (more than 400,000) were without health insurance at some time in the previous year.
- In FY 2005, almost half of all children under age five and more than one in three school-aged children five to 18 were enrolled in Medicaid or SCHIP.

¹⁵ The Center for Health Affairs. *Community Health Needs Analysis & Assessment Summary*.
<http://www.communitysolutions.com/images/upload/resources/Summary.pdf>

PRIMARY DATA ASSESSMENT

A. Interview Findings

This section discusses findings from 44 interviews conducted with external stakeholders (those not directly affiliated with UH) and with internal staff (including UH employees and members of UH Rainbow Babies & Children's Hospital medical staff).

The interviews sought community input on health needs in communities served by UH Rainbow Babies & Children's Hospital and on the types of program interventions or resources that could address identified concerns.

Primary Issues

Stakeholders from the UH Rainbow Babies & Children's Hospital community identified the following issues, which are ordered based on the frequency and intensity of responses:

- Children have been negatively impacted by high rates of unemployment and underemployment in the community as evidenced by increased food insecurities, increased homelessness, and shared housing, such as merged households of seniors, adult children, and grandchildren.
- The recession has led the state of Ohio to reduce funding for health and social services and has reduced the ability of foundations to provide grants. These reductions along with the increased demand for services are creating significant stress upon health care providers and agencies.
- Violence is a notable health issue for children and youth, especially in low-income, inner-city neighborhoods in Cuyahoga County.
- Food access and food insecurity issues are contributing to poor dietary behaviors that result in obesity and related diseases.
- Children, especially uninsured children, have difficulty finding a medical home because of the lack of pediatricians in certain communities. This issue is particularly true in Lake County.
- Diseases associated with lifestyle behaviors are prevalent, such as childhood obesity and childhood onset of Type 2 diabetes.
- Teenage pregnancy, teenage tobacco use, and childhood obesity, combined with other unhealthy lifestyle choices, are prevalent in the service area.
- Substance addiction is significant, including the use of low cost heroin and misuse of prescription drugs by adolescents.

- Suicides by children and youth have increased.
- There is insufficient access to perinatal and labor-and-delivery services in rural counties. This issue was especially mentioned for Ashtabula, Geauga, Medina, and Trumbull counties.
- Many children and their caregivers lack basic health knowledge, such as where to seek care for non-emergent issues and how to access public and private services available throughout the community.
- Health disparities are prevalent in the community; increased poverty among the African American population is contributing to poorer health and fewer treatment options.
- Different groups have needs that differ from other populations, such as bilingual needs of Hispanic populations, communication requirements of individuals who are deaf, and culturally appropriate care of the Amish community in Ashtabula, Geauga, Mahoning, Portage, and Trumbull counties.
- Low reimbursement rates of government payers negatively impact providers' abilities to participate in Medicaid and to provide uncompensated care.
- Little integration and coordination exist between medical and mental/behavioral health services that impact the overall health of individuals, such as the physical side effects of psychotropic medications.
- Enhanced data collection efforts, such as over-sampling minority populations, may be necessary to measure fully the needs of minority community members, such as the homelessness.

Barriers to Access

The most frequently mentioned barriers to accessing care, as ordered by frequency or intensity of responses, are as follows:

- Increasing numbers of high deductible health plans, and reductions in prescription drug coverage, mental health coverage, and dental coverage have decreased the affordability of services.
- Caregivers are not fully aware of the breadth and depth of services provided by local hospitals and community organizations.
- Clinicians and social service providers are not fully aware of the services provided by other organizations.

- Services are not effectively promoted to some members of the community in messages targeted to specific populations, such as printed pamphlets for individuals without internet access.
- The service area lacks all forms of mental health services and has a limited number of psychiatrists to serve the community's mental health needs. Lake County, in particular, lacks mental health and behavioral health services for children and their families.
- Most health service organizations describe themselves as operating at capacity; most lack the resources needed to bring on additional staff.
- Access to health care professionals is not available at convenient times or locations in parts of the community.
- The service area lacks primary care physicians, home health care services, and an adequate supply of nurses.
- Inadequate supportive transportation exists for certain groups, specifically individuals who are disabled and/or low-income. Additionally, transportation can be an issue for Amish populations in Ashtabula, Geauga, Mahoning, Portage, and Trumbull counties.
- Time constraints limit the ability of clinicians and social service providers to deliver the ideal intervention for every encounter.
- Available community services are not fully utilized because (1) caregivers seek services from providers that they perceive are supportive to their own group-identity and (2) providers are not promoting their services to diverse populations.
- Violence reduces providers' abilities to deliver care in low-income, inner-city neighborhoods in Cuyahoga County, such as violence directed at EMS professionals.
- Service area children lack access to affordable prescription medication, nutritional education, and exercise equipment or instruction.
- Lack of integration between health records increases the time required to receive necessary care.
- Transience, including the results of foreclosure, reduces children's ability to receive continuity of care.
- There is an inadequate supply of occupational, speech, and physical therapists. This issue was especially noted in Lake County.
- Language barriers prevent certain populations from receiving health care.

Suggested Programs

Interviewees indicated that the following types of programs and initiatives would improve community health:

Collaboratives

- Establish new and enhance current collaborative efforts with diverse community organizations, including schools, local governments, non-profit organizations, churches, and community centers, to improve access to primary care, increase physical activity, foster programs for at-risk youth, and decrease the incidence and severity of child obesity and mental/behavioral health needs;
- Partner with philanthropic organizations to receive matching funds for the development of a coordinated health information technology network;
- Provide technical support to smaller organizations, such as rural public health departments, to help these organizations better compete for grants; and
- Facilitate communication across the health care system, from EMS to pediatricians, including linkages between different electronic medical record systems.

Health Care Services

- Assist families with navigating the health care system, including financial issues and advocacy efforts;
- Establish a free standing emergency room and establish a fast track in emergency departments for treatment of minor conditions;
- Support existing and additional low- or no-cost providers, such as free clinics;
- Expand mental health services to provide additional services following acute hospitalizations;
- Increase the availability of residential treatment programs for mental/behavioral health, including treatment for eating disorders, autism, and transitional-aged youth (18-24);
- Reduce the out-of-pocket cost for preventive care, such as vaccinations and blood glucose test strips;
- Increase integrative programs for individuals with complex needs, such as special needs children; and
- Develop programs that respond to the needs of populations that may be less likely to receive supporting services, such as older teens.

Educational, Promotional, and Marketing Efforts

- Expand health screenings and educational services in local settings, such as health fairs, that focus on obesity, activity, cigarette use, alcohol and drug use, nutrition, and mental/behavioral health;
- Develop more effective educational programs for children and their caregivers to increase health literacy, including appropriate use of EDs;
- Encourage families to adopt healthy lifestyles and receive immunizations;
- Support education for parenting (and grandparenting) skills; and
- Utilize multiple types of media to distribute educational programs, including printed materials on healthy lifestyles targeted to families without internet access.

Operational Initiatives

- Establish electronic health records in order to better treat diseases and report public health data;
- Recruit and possibly employ additional pediatricians;
- Train staff members about the culturally appropriate care needs of vulnerable populations; and
- Focus activities on making children healthier, including greater emphasis on preventive activities.

B. Community Input

Forty-four key stakeholders participated in the interview process through individual interviews with non-profit, governmental, public safety, school, and hospital representatives. These stakeholders represented organizations that serve or have specific knowledge about the health and human services needs of the community served by UH Rainbow Babies & Children's Hospital.

The 44 stakeholders were comprised of public health experts; individuals from health or other departments and agencies; leaders or representatives of medically underserved, low-income, and minority populations; and other community members (**Tables 24, 25, 26, and 27**).

Stakeholders often fell into multiple groups. Many public health experts were from health or other departments or agencies, and were also considered leaders or representatives of medically underserved, low-income, and minority populations. These public health experts do not appear on multiple lists.

1. Identification of Public Health Experts

Individuals interviewed with special knowledge of or expertise in public health include **(Table 24)**:

Table 24: Public Health Experts Interviewed (Part I)

Name	Title	Affiliation	Special Knowledge/Expertise
Paul Baumgartner Jr.	Executive Director	Lorain Free Clinic	Through his role at the clinic, Mr. Baumgartner has special knowledge of the public health needs of low-income and underserved patients.
Matt Carroll	Former Director	Cleveland Department of Public Health	Mr. Carroll has expertise with the public health needs of Cleveland residents.
William M. Denihan	Chief Executive Officer	Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County	Mr. Denihan has expertise with the mental health and behavioral health needs of residents receiving services through the ADAMHS Board of Cuyahoga County.
Blanche Dortch	Director of Community Services	Lorain County Board of Mental Health	Ms. Dortch has expertise with the mental health and behavioral health needs of residents receiving services through the Lorain County Board of Mental Health.
Lee Elmore	Executive Director	North Coast Health Ministry	As Executive Director of a North Coast Health Ministry, Ms. Elmore has special knowledge of the uninsured patients to whom the clinic provides services.
Harold V. Farrier, MPA	Executive Director	Mental Health and Recovery Board of Portage County	Mr. Farrier has expertise with the mental health and behavioral health needs of residents receiving services through the Mental Health and Recovery Board of Portage County.
Kathryn Gambatese	Past Chair	Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County	Ms. Gambatese has expertise with the mental and behavioral health needs of residents who received services through the ADAMHS Board of Cuyahoga County.
Ron Graham, MPH, RD, LD	Director, Community Services & Deputy Health Commissioner	Lake County General Health District	Mr. Graham has expertise with the public health needs of Lake County residents.
Valerie A. Harper, MA	Chief Operating Officer	Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County	Ms. Harper has expertise with the mental health and behavioral health needs of residents receiving services through the ADAMHS Board of Cuyahoga County.
Kristen D. Hildreth, PhD, MCHES	Director of Health Promotion	Medina County Health Department	Dr. Hildreth has expertise with the public health needs of Medina County residents.

Table 24: Public Health Experts Interviewed (Part II)

Name	Title	Affiliation	Special Knowledge/Expertise
Frank Kellogg, RS, MPH	Health Commissioner	Lake County General Health District	Mr. Kellogg has expertise with the public health needs of Lake County residents.
Chris Kettunen, PHD, RNCIC	Director of Nursing	Ashtabula County Health Department	Dr. Kettunen has expertise with the public health needs of Ashtabula County residents.
Dan Mix, MA, MPH	Personal Health Services Director	Geauga County General Health District	Mr. Mix has expertise with the public health needs of Geauga County residents.
Debbie Mokosh, RN	Nursing Director	Trumbull County Health Department	Ms. Mocosh has expertise with the public health needs of Trumbull County residents.
Scott S. Osiecki	Director of External Affairs	Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County	Mr. Osiecki has expertise with the mental health and behavioral health needs of residents receiving services through the ADAMHS Board of Cuyahoga County.
Christine Pintchuk, RN	Nursing Director	Geauga County General Health District	Ms. Pintchuk has expertise with the public health needs of Geauga County residents.
Marianne Riley	Intersystem Programming Director	Lorain County Board of Mental Health	Ms. Riley has expertise with the mental health and behavioral health needs of children participating in Lorain County intersystem programs.
Raymond J. Saporito, MPH, RS	Health Commissioner	Ashtabula County Health Department	Mr. Saporito has expertise with the public health needs of Ashtabula County residents.
Donna Skoda, MS	Director of Policy and Planning	Summit County Public Health	Ms. Skoda has expertise with the public health needs of Summit County residents.
Robert Weisdack, RS, MA, MPH	Health Commissioner	Geauga County General Health District	Mr. Weisdack has expertise with the public health needs of Geauga County residents.
Danny Williams	Executive Director	The Free Medical Clinic of Greater Cleveland	Through his role at the clinic and as the President of the National Association of Free Clinics, Mr. Williams has special knowledge of the public health needs of low-income and underserved patients.

2. Identification of Health or Other Departments or Agencies

Several interviewees were from departments or agencies with current data or other information relevant to the health needs of the UH Rainbow Babies and Children’s Hospital community (**Table 25**). This list excludes interviewees considered to be public health experts.

Table 25: Individuals from Health Departments or Agencies Interviewed

Name	Title	Affiliation
Tonnie Alliance	Manager of Special Events	American Diabetes Association
Kevin Conwell	Councilman	City of Cleveland, Ward 9
Angela C. Dawson, MS, MRC, LPC	Executive Director	Ohio Commission on Minority Health
Rebecca Dorman	Director	Cuyahoga County Office of Early Childhood Invest in Children
Edward J. Eckart Jr.	Assistant Director	Department of Public Safety, Cleveland
Joann Mraz	Educational Program Director	American Diabetes Association

3. Identification of Community Leaders and Representatives

The following individuals were interviewed because they are considered leaders or representatives of medically underserved, low-income, and minority populations (**Table 26**). This list excludes interviewees considered to be public health experts.

Table 26: Community Leaders or Representatives Interviewed

Name	Title	Affiliation	Nature of Leadership Role
Tonnie Alliance	Manager of Special Events	American Diabetes Association	Ms. Alliance serves as a representative of community members with diabetes.
Kristina Austin	Director of Community Relations and Marketing	The Gathering Place	Ms. Austin represents the populations with cancer who receive free-of-charge treatments and programs aimed at social, emotional, physical, and spiritual needs.
Margaret Bierman	Coordinator of Technology and Electronic Media	Bedford City Schools	Ms. Bierman represents the children (and their families) who attend Bedford City schools.
Angela C. Dawson, MS, MRC, LPC	Executive Director	Ohio Commission on Minority Health	Ms. Dawson represents the minority populations receiving health services in Ohio.
Rebecca Dorman	Director	Cuyahoga County Office of Early Childhood Invest in Children	Ms. Dorman represents the low-income and underserved children who receive early childhood programs through Cuyahoga County.
Cheryl Dubsky	Superintendent	North Olmsted Schools	Ms. Dubsky represents the children (and their families) who attend North Olmsted Schools.
Maureen Falkenestine	Assistant Director	Catholic Charities, Elyria	Ms. Falkenestine represents the underserved population who receive services through catholic charities.
Jeffrey A. Lox, MSSA, LISW-S, ACSW	Clinical Director	Bellefaire JCB	Mr. Lox represents the children, adolescents, and families who receive services through Bellefaire JCB's counseling program, school for autism, and residential treatment facility.
Mary McCaffery-Hull	Vice President, Program Services	Center for Families and Children	Ms. McCaffery-Hull represents the underserved children and families who receive mental health and educational services at the Center for Families and Children.
Joann Mraz	Educational Program Director	American Diabetes Association	Ms. Mraz serves as a representative of community members with diabetes.
Patricia W. Nobili, MSSA	President and CEO	Achievement Centers for Children	Ms. Nobili represents the children with physical, emotional, neurological, or developmental disabilities receiving services at Achievement Centers for Children.
Jean Therrien	Executive Director	Neighborhood Family Practice	Ms. Therrien represents the low-income and medically underserved populations that receive health and mental health services at Neighborhood Family Practice.
Beth Trecasa	Director of Integrated Health Clinic	Center for Families and Children	Ms. Trecasa represents the uninsured adults who receive free primary health care through the Center for Families and Children.

4. Identification of Other Persons Representing the Broad Interests of the Community

Table 27: Other Interviewees Representing the Broad Interests of the Community

Name	Title	Affiliation
Ed Barksdale, MD	Surgeon-in-Chief (Youth Violence Prevention)	UH Rainbow Babies and Children's Hospital
Patti DePompei	Vice President, Patient Care Operations	UH Rainbow Babies and Children's Hospital
Dan Ellenberger, CCEMT-P NREMT-P EMS-I	Director	UH EMS Training & Disaster Preparedness Institute
Patrick Kearns	Fire Chief	City of Beachwood
Philip C. Mazanec, MBA	Chief Operating Officer	The Center for Health Affairs
Lolly McDavid, MD	Medical Director, Child Advocacy and Protection	UH Rainbow Babies and Children's Hospital
Dave Nagy	Fire Chief	City of Bedford
Daniel J. Raub, D.O.	Health Commissioner	Medina County Health Department

PRIORITIZATION PROCESS AND CRITERIA

This assessment considers secondary and primary data including health status and access indicators, demographic information, previous needs assessments, and interviews. Verité applied a ranking methodology to help prioritize the community health needs identified by these data. Verité generated a list of every health issue identified by the assessment and assigned a severity score on a scale of 0 to 2, with “2” indicating that the problem was severe, as indicated, for example, by a prevalence that greatly exceeded Ohio or U.S. averages. The average severity score was calculated for each category of data (secondary data, interviews) in order to account for the number of sources that measured each health issue. These averages were assigned a weight (55 percent and 45 percent respectively). A final score was calculated by summing the weighted averages. **Table 28** illustrates the prioritization process for three indicators using Cuyahoga County data.

Table 28: Example Prioritization Process by Data Source and Indicator, Cuyahoga County

Data Source	Infant Mortality	Smoking	Emergency Room Use
County Health Rankings	-	0	-
Community Health Status Indicators Project	2	-	-
Ohio Public Health Data	2	-	-
Healthy People 2010	2	-	-
Behavioral Risk Factor Surveillance Survey	-	0	-
Previous Assessments	1	1	-
Secondary Data - Weighted Average (55%)	0.96	0.18	0.00
Interviews	1	1	2
Interviews - Weighted Average (45%)	0.45	0.45	0.9
Final Score	1.41	0.63	0.90

Source: Verité analysis.

For UH Rainbow Babies & Children’s Hospital, primary and secondary data from the 8-county PSA were analyzed. It is important to note that all health issues were not measured by all sources. For example, infant mortality was only measured by six out of eight sources (**Table 30**). Using the process described above, any health issue with a final score of 0.9 or higher was determined to be a priority health need in the UH Rainbow Babies & Children’s Hospital community. The cutoff point of 0.9 was chosen because this final score allows for the inclusion of a health issue that were measured only in one source (such as interviews) AND identified as a “severe” need (score of 2.0) in that source. These parameters take into account both the severity scores for each health issue and the number of sources that measure each issue.

ASSESSMENT SUMMARY

UH Rainbow Babies & Children's Hospital assessed community health needs in the 15-county region that includes Ashland, Ashtabula, Cuyahoga, Erie, Geauga, Huron, Lake, Lorain, Mahoning, Medina, Portage, Stark, Summit, Trumbull, and Wayne counties. The assessment considered multiple data sources, including secondary data (regarding demographics, health status indicators, and measures of health care access), assessments prepared by other organizations in recent years, and primary data derived from interviews with persons who represent the broad interests of the community and those with expertise in public health. The following summary of findings is based on the methodology and analytic methods described in this report:

- UH Rainbow Babies & Children's Hospital's service area is comprised of 15 counties that, in 2010, were home to approximately 915,000 persons under the age of 18. The primary service area extends into eight counties: Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit. Approximately 58 percent of UH Rainbow Babies & Children's Hospital's discharges in 2010 originated from Cuyahoga County.
- The pediatric population of the hospital's service area declined by 11.5 percent from 2000 to 2010, and is expected to decline by another 5.5 percent from 2010 to 2015.
- Although the population as a whole is predicted to decline, the population under the age of 18 is expected to decline the most between 2010 and 2015.
- Ashtabula, Cuyahoga, and Lorain counties had a higher poverty rate for the population under the age of 18 than the national or state average. Ashtabula and Portage counties had a higher rate of unemployment than that experienced by the state or nation in August 2011.
- Twenty-four percent of households in the UH Rainbow Babies & Children's Hospital service area had incomes less than \$25,000. The primary service area counties of Ashtabula and Cuyahoga, as well as the secondary service area counties of Mahoning and Trumbull, reported the greatest incidences of lower-income households in 2010. Areas with higher proportions of lower-income households are expected to lose population, while other areas expect population gains or to decline less between 2010 and 2015.
- Medicaid recipients were concentrated in Ashtabula, Cuyahoga, and Summit counties, while uninsured consumers were more prevalent in Geauga County.
- The distribution of population by race varied significantly across the UH Rainbow Babies & Children's Hospital service area. African American communities were concentrated in the areas directly surrounding UH Rainbow Babies & Children's Hospital. Non-white populations are expected to increase in relation to the white population across the UH Rainbow Babies & Children's Hospital service area.

- Forty-four ZIP codes within the UH Rainbow Babies & Children’s Hospital primary and secondary service areas qualified as Medically Underserved Areas (MUAs); these areas were located in Cuyahoga, Lorain, Mahoning, Stark, Summit, and Trumbull counties. Two ZIP codes in Erie County and one in Portage County were designated as Medically Underserved Populations (MUPS).
- Areas within all but three counties, Geauga, Lake, and Portage, were designated as primary medical care, mental health, or dental Health Professional Shortages Areas (HPSAs). Many counties contained multiple designations. Fourteen medical-facility HPSAs provide pediatric and/or maternal and infant health services.
- Fifteen Federally Qualified Health Centers (FQHCs) were operating within the UH Rainbow Babies & Children’s Hospital primary and secondary service areas that provide pediatric and/or maternal and infant health services.
- For the state of Ohio as a whole, YRBSS data indicate that youth tobacco, alcohol, and other drug use were frequently reported as being worse than the U.S. Female youth reported being worse than the U.S. on 33 indicators, while male youth reported being worse on 28 indicators.
- Available health status indicators suggest that health needs of the pediatric population vary across the service area counties:
 - **Ashtabula County** had several significant health status problems identified with infant mortality. Ashtabula County compared unfavorably across the following indicators: infant mortality, white and black non-Hispanic infant mortality, post neonatal infant mortality, neonatal infant mortality, and prenatal care. The county compared unfavorably in all socioeconomic indicators including education, employment, income, and family and social support. It also ranked unfavorably in community safety, air quality, diet and exercise, smoking, access to care, and quality of care. The county had comparatively high rates of mortality, child mortality (1-14), child motor vehicle crash mortality, and suicide. High rates of smoking, unsafe sex practices, and diabetes were also present. Residents reported poor mental, dental, and physical health in Ashtabula County.
 - **Cuyahoga County** had several significant health status and access problems identified, especially in regards to infant and maternal health and socioeconomic factors. Cuyahoga County compared unfavorably for the following indicators: prenatal care, premature births, low birth weight infants, infant mortality, black and Hispanic infant mortality, perinatal infant mortality, neonatal infant mortality, post-neonatal infant mortality, teen pregnancy, unsafe sex, and births to unmarried women. Additionally, Cuyahoga County reported comparatively high rates of mortality, morbidity, and homicide. Cuyahoga County ranked unfavorably in the

following social and economic factors: income, educational achievement, family and social support, community safety, and air quality.

- **Geauga County** compared favorably overall to other counties in the 15-county region. It compared unfavorably for births to women age 40-54, prenatal care, child motor vehicle crash mortality, suicide, individuals overweight, and alcohol use. Residents also reported not receiving needed emotional and social support.
- **Lake County** compared unfavorably in two maternal and child health indicators: the proportion of births to women age 40-54 and black non-Hispanic infant mortality. The county also compared unfavorably for the rates individuals overweight, and suicide. Lake County ranked in the bottom two quartiles of Ohio counties for smoking, alcohol use, access to care, and air quality.
- **Lorain County** compared unfavorably for several maternal and child health indicators. Specifically, Lorain County compared unfavorably for the percent of births to unmarried women, prenatal care, infant mortality, black infant mortality, white infant mortality, and neonatal infant mortality. Lorain County also compared unfavorably in the socioeconomic factors of educational achievement, family and social support, and community safety. Health behaviors such as smoking, diet and exercise, and unsafe sex were also ranked in the bottom two quartiles. Residents also reported poor physical health.
- **Medina County** compared unfavorably in births to women age 40-54 and built environment. A relatively high percentage of residents reported having poor dental health and not receiving needed emotional and social support.
- **Portage County** compared unfavorably on access to care, built environment, child mortality (1-14), child motor vehicle crash mortality, suicide, and smoking. Residents reported not receiving needed emotional and social support.
- **Summit County** compared unfavorably for the rates of infant mortality, neonatal infant mortality, black infant mortality, white infant mortality, low birth weight, premature births, and unsafe sex. Morbidity, asthma, smoking, suicide, and homicide also ranked unfavorably in Summit County. Summit County ranked in the bottom two quartiles on family and social support, community safety, and air quality.
- Across the eight-county PSA served by UH, about 3.5 percent of pediatric discharges in 2010 were found to be Ambulatory Care Sensitive (ACS) or potentially preventable if patients were accessing primary care resources at optimal rates. Low-income consumers exhibited more ACS discharges than

those with higher incomes. Patients with private insurance coverage had comparatively fewer admissions for ACS conditions.

- Approximately 9 percent of UH Rainbow Babies & Children's Hospital's discharges in 2010 were found to be ACS.
 - UH Rainbow Babies & Children's Hospital's ACS discharges were concentrated in three conditions: pediatric asthma, pediatric urinary tract infection, and pediatric diabetes short-term complications.
- In addition to reflecting themes indicated by quantitative data, analysis of interview data identified the following community health concerns:
 - Children have been negatively impacted by high rates of unemployment and underemployment in the community;
 - Other economic concerns have led the state of Ohio to reduce funding for health and social services, creating significant stress upon health care providers and agencies;
 - Violence is a notable health issue for children and youth, especially in low-income, inner-city neighborhoods in Cuyahoga County;
 - Food access and food insecurity issues are contributing to poor dietary behaviors that result in obesity and related diseases;
 - Children, especially uninsured children, have difficulty finding a medical home because of the lack of pediatricians in certain communities;
 - Increasing numbers of high deductible health plans, and reductions in prescription drug coverage, mental health coverage, and dental coverage have decreased the affordability of services;
 - Caregivers, clinicians, and social service providers are not fully aware of the breadth and depth of services provided by local hospitals and community organizations; and
 - The service area lacks all forms of mental health services and has a limited number of psychiatrists to serve the community's mental health needs.

Interviewees also suggested that enhanced health education and outreach for consumers is a priority. Health education and outreach that focuses on preventive care, healthy behaviors, and parenting skills could improve the overall health of the community. Interviewees also advocated for greater partnership and collaboration between hospital and community organizations to increase access, coordinate services, and improve outreach.