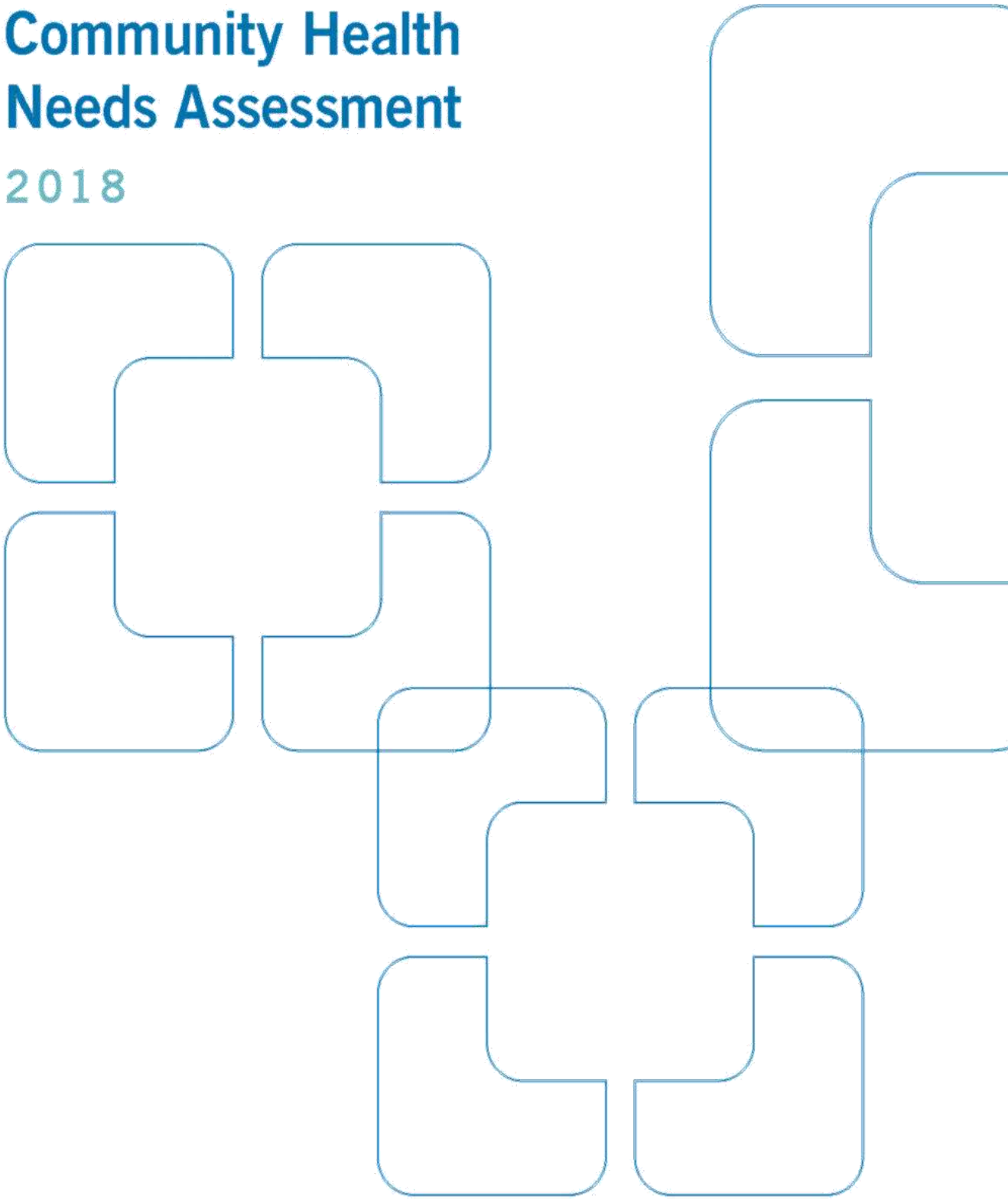
Cleveland Clinic
Avon Hospital

Community Health Needs Assessment

2018



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EXECUTIVE SUMMARY

Introduction

This Community Health Needs Assessment (CHNA) was conducted by Cleveland Clinic Avon Hospital (Avon or "the hospital") to identify significant community health needs and to inform development of an Implementation Strategy to address current needs.

Avon is a newly constructed hospital which opened in November 2016. It operates 126 staffed hospital beds and a 24-hour Emergency Department featuring board-certified, emergency medicine physicians available around-the-clock to provide comprehensive care to adults and children. Avon Hospital provides a spectrum of services, from critical care, to cardiology, orthopaedic surgery and outpatient procedures. Additional information on the hospital and its services is available at: https://my.clevelandclinic.org/locations/avon-hospital/.

The hospital is part of the Cleveland Clinic health system, which includes an academic medical center, multiple regional hospitals, two children's hospitals, a rehabilitation hospital, a Florida hospital, and a number of other facilities and services across Northeast Ohio and Florida. Additional information about Cleveland Clinic is available at: https://my.clevelandclinic.org/.

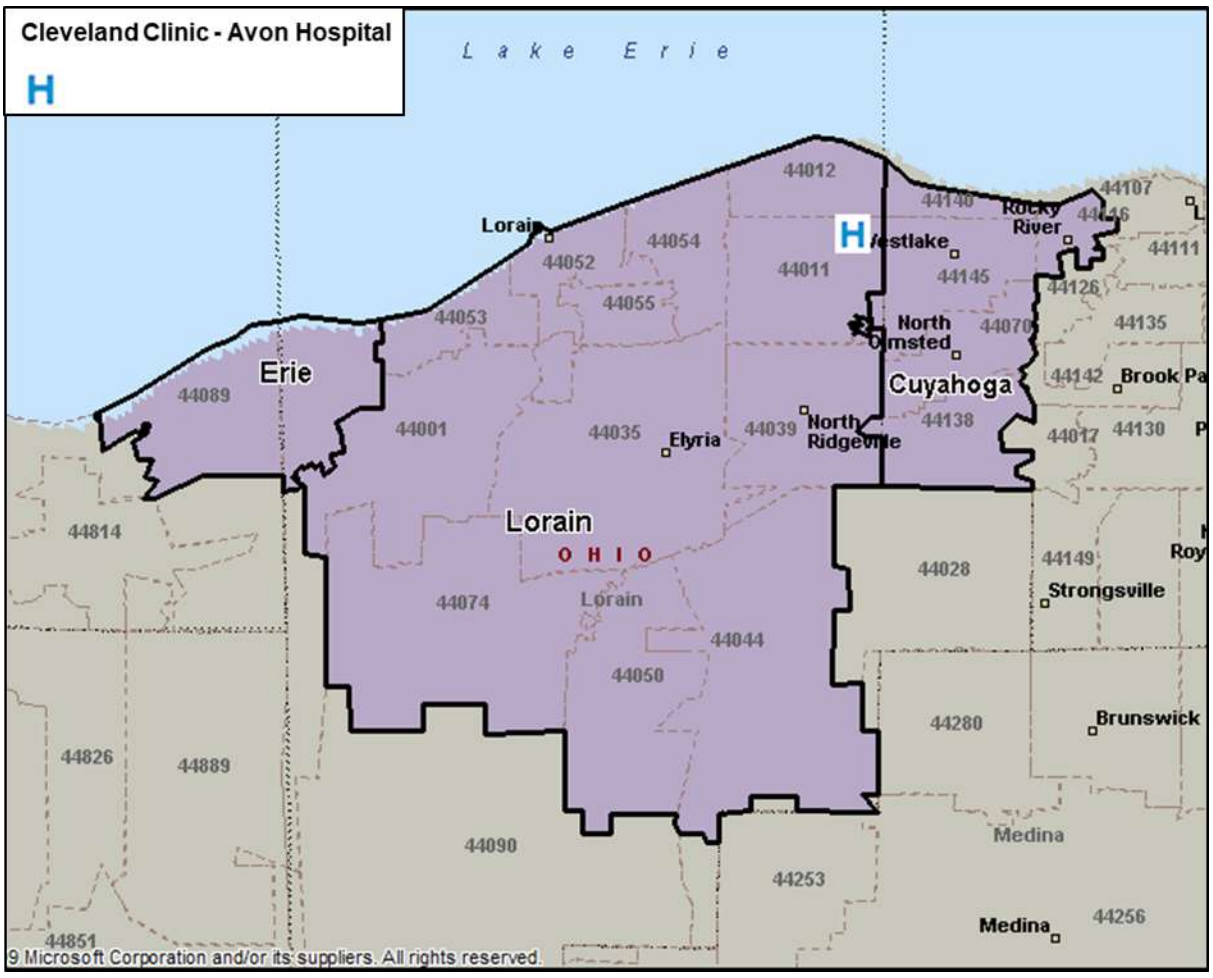
Each Cleveland Clinic hospital is dedicated to the communities it serves. Cleveland Clinic conducts a CHNA for each of its hospital facilities in order to understand and plan for the current and future health needs of residents and patients in the communities it serves. The CHNAs inform the development of strategies designed to improve community health, including initiatives designed to address social determinants of health.

These assessments are conducted using widely accepted methodologies to identify the significant health needs of a specific community. The assessments also are conducted to comply with federal and state laws and regulations.

Community Definition

For purposes of this report, Avon's community is defined as 18 ZIP codes in Lorain, Cuyahoga, and Erie counties, Ohio, accounting for over 83 percent of the hospital's recent inpatient volumes. The community was defined by considering the geographic origins of the hospital's discharges and emergency department visits between November 2016 and June 2017. The total population of Avon's community in 2015 was 415,225.

The following map portrays the community served by Avon.



Significant Community Health Needs

Six significant community health needs were identified through this assessment:

1. Access to Affordable Healthcare
2. Chronic Diseases and Other Health Conditions
3. Economic Development and Community Conditions
4. Health Professions Education and Research
5. Healthcare for the Elderly
6. Wellness

Based on an assessment of secondary data (a broad range of health status and access to care indicators) and of primary data (received through key stakeholder interviews), the following were identified as significant health needs in the community served by Avon Hospital. The needs are presented below in alphabetical order, along with certain highlights regarding why each issue was identified as "significant."

Access to Affordable Health Care

- Access to affordable care is challenging for some residents of the Avon community, particularly to primary care, mental health, and substance abuse services. Access barriers are associated with: high cost and related financial barriers, a lack of awareness regarding available services, and inadequate transportation. Some areas in the Avon community have unfavorable socioeconomic indicators, and federally-designated "Medically Underserved Areas" are present. The community would benefit from a more effective continuum of care so that individuals receive consistent engagement and access across patient care settings.

Chronic Diseases and Other Health Conditions

- The following chronic diseases and health conditions were identified as problematic in the Avon community: heart disease and hypertension, mental health, obesity, diabetes, infant mortality, and substance abuse. These problems were found to be worse in ZIP codes where the percent of the population that is Black and/or living in poverty is highest. Contributing factors to these conditions include smoking, physical inactivity and problems accessing healthy food, perceived excessive prescription of opioids, and unfavorable economic and social conditions.

Economic Development and Community Conditions

- Several areas within the Avon community have an undersupply of needed social services and experience high rates of poverty, housing issues, crime, and air pollution. Inadequate transportation options were identified as particularly problematic.

Health Professions Education and Research

- More trained health professionals are needed locally, regionally and nationally, including primary care physicians, dentists, and mental health providers. Research conducted by Cleveland Clinic has improved health for community members through advancements in new clinical techniques, devices and treatment protocols in diseases and health conditions such as cancer, heart disease, and diabetes. There is a need for more research to address these and other community health needs.

Healthcare for the Elderly

- The elderly population in the Avon community is expected to increase in the next five years and meeting the health and social service needs of the aging population is a significant issue.

Wellness

- Programs and activities that seek to change unhealthy behaviors are needed in the community, including education regarding the importance of exercise, nutrition, and smoking cessation. Enhanced health literacy (including improved understanding of health insurance benefits) also is needed.

DATA AND ANALYSIS

Definition of Community Assessed

This section identifies the community that was assessed by Avon. The community was defined by considering the geographic origins of the hospital's discharges and emergency department (ED) visits between November 2016 and June 2017.

On that basis, Avon's community is comprised of 18 ZIP codes in Lorain County, Cuyahoga County, and Erie County (**Exhibit 1**) which accounted for over 83 percent of its discharges and almost 90 percent of its ED visits.

Exhibit 1: Avon Inpatient Discharges and ED Visits by ZIP Code, 2016-2017

ZIP Code	County	City/Town	November 2016 - June 2017	
			Discharges	Emergency Department Visits
44012	Lorain	Avon Lake	12.4%	12.9%
44035	Lorain	Elyria	10.1%	10.2%
44011	Lorain	Avon	8.6%	10.3%
44039	Lorain	North Ridgeville	7.9%	8.3%
44145	Cuyahoga	Westlake	6.5%	6.2%
44054	Lorain	Sheffield Lake	4.8%	5.6%
44052	Lorain	Lorain	4.7%	7.5%
44140	Cuyahoga	Bay Village	4.3%	4.8%
44001	Lorain	Amherst	4.1%	3.8%
44053	Lorain	Lorain	3.7%	3.8%
44055	Lorain	Lorain	3.3%	5.3%
44089	Erie	Vermilion	3.3%	2.3%
44070	Cuyahoga	North Olmsted	2.6%	2.7%
44116	Cuyahoga	Rocky River	2.3%	1.9%
44044	Lorain	Grafton	1.7%	1.3%
44138	Cuyahoga	Olmsted Falls	1.3%	1.3%
44074	Lorain	Oberlin	1.3%	0.7%
44050	Lorain	Lagrange	0.8%	0.5%
Community ZIP Codes			**83.6%**	**89.5%**
All Other ZIP Codes			16.4%	10.5%
All ZIP Codes			100.0%	100.0%

Source: Analysis of Cleveland Clinic Discharge Data, 2017.

The community includes the majority of Lorain County and portions of Cuyahoga and Erie counties. The total population of this community in 2015 was approximately 415,000 persons (**Exhibit 2**).

Exhibit 2: Community Population, 2015

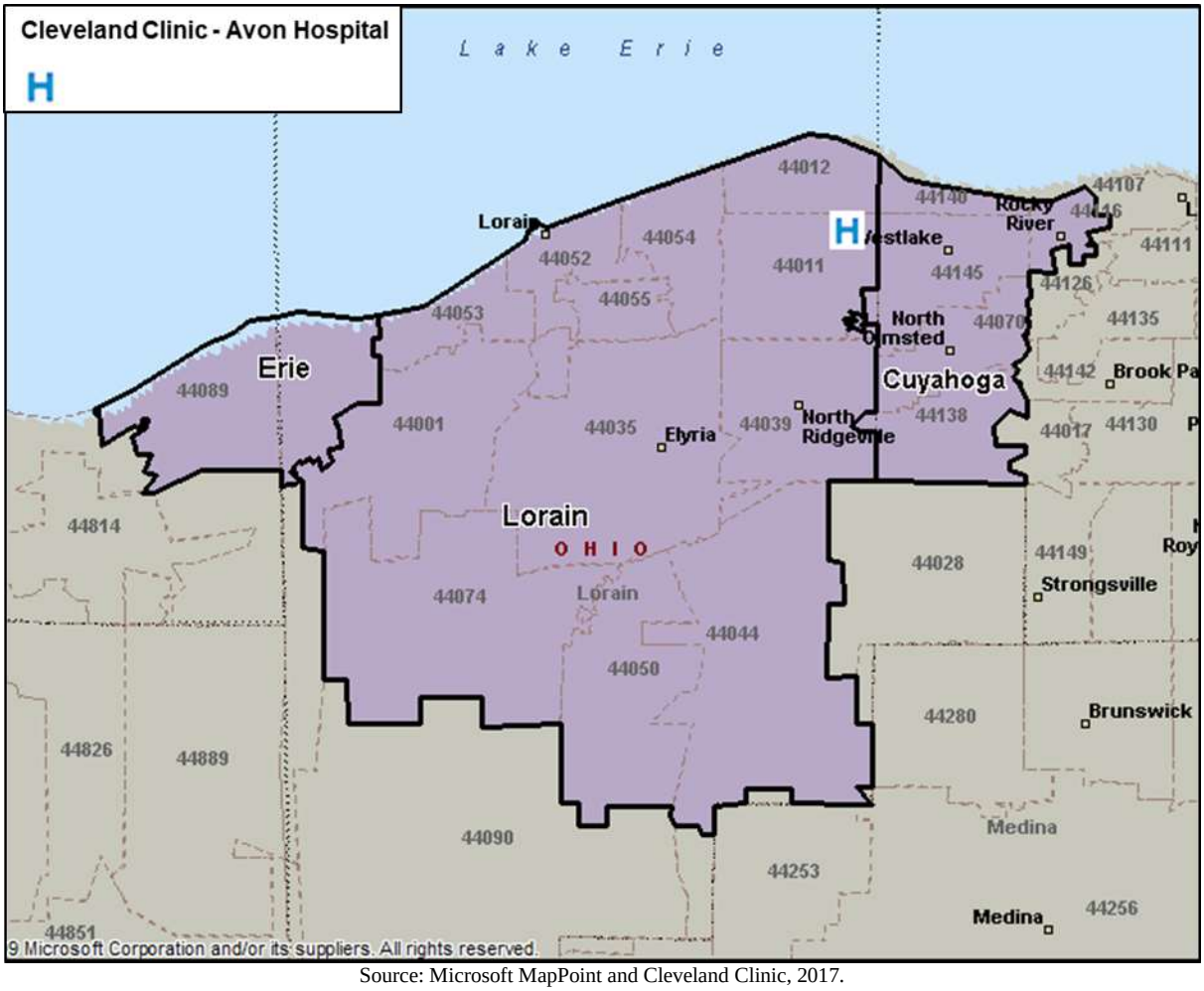
County	City	ZIP Code	Total Population 2015	Percent of Total Population 2015
Lorain	Elyria	44035	63,600	15.3%
Cuyahoga	Westlake	44145	32,983	7.9%
Cuyahoga	North Olmsted	44070	32,418	7.8%
Lorain	North Ridgeville	44039	31,940	7.7%
Lorain	Lorain	44052	28,637	6.9%
Lorain	Avon Lake	44012	23,594	5.7%
Cuyahoga	Olmsted Falls	44138	23,376	5.6%
Lorain	Avon	44011	23,330	5.6%
Lorain	Amherst	44001	20,571	5.0%
Cuyahoga	Rocky River	44116	20,079	4.8%
Lorain	Lorain	44055	19,193	4.6%
Lorain	Lorain	44053	18,780	4.5%
Erie	Vermilion	44089	15,870	3.8%
Cuyahoga	Bay Village	44140	15,326	3.7%
Lorain	Grafton	44044	15,163	3.7%
Lorain	Sheffield Lake	44054	12,365	3.0%
Lorain	Oberlin	44074	11,762	2.8%
Lorain	Lagrange	44050	6,238	1.5%
Community Total			**415,225**	**100.0%**

Source: Truven Market Expert, 2015.
*Note: Data for ZIP code 44089 based on Verité Analysis of Truven Market data.

The hospital is located in Avon, Ohio (ZIP code 44011).

The map in **Exhibit 3** portrays the ZIP codes that comprise the Avon community.

Exhibit 3: Avon Community



Source: Microsoft MapPoint and Cleveland Clinic, 2017.

Secondary Data Summary

The following section summarizes principal findings from the secondary data analysis. *See* Appendix B for more detailed information.

Demographics

Population characteristics and trends directly influence community health needs. The total population in the Avon community is expected to grow 0.9 percent from 2015 to 2020. Between 2015 and 2020, eight of the 18 ZIP codes in the Avon community are projected to gain (and 10 are projected to lose) population. The populations in two Lorain County ZIP codes (including the hospital's home ZIP code, 44011) are expected to grow by more than five percent.

While between 2015 and 2020 the total population is expected to grow under one percent, the number of persons aged 65 years and older is projected to grow by almost 15 percent. This

development should contribute to growing need for health services, since older individuals typically need and use more services than younger persons.

In 2015, over 10 percent of the population in five ZIP codes in the community (44052, 44055, 44035, 44044, and 44053) was Black. As shown throughout this CHNA report, these ZIP codes also are associated with comparatively high poverty rates and comparatively poor health status. In nine of Avon's 18 community ZIP codes, the percent of the population Black was under two percent.

Economic Indicators

Many health needs have been associated with poverty. According to the U.S. Census, in 2016 approximately 15.1 percent of people in the U.S. were living in poverty. At 18.5 percent, Cuyahoga County's poverty rate was above average. While at 14 percent, the Lorain County poverty rate has been lower than average, poverty rates have been comparatively high for the county's Black and Hispanic (or Latino) residents. Low income census tracts are prevalent in the north-central portion of Avon's community.

More Lorain County residents experience "severe housing problems" than those living in peer counties. 2016 crime rates in Cuyahoga County were well above Ohio averages, however rates in Avon's five Cuyahoga County ZIP codes appear consistent with state-wide statistics.

The percentage of people uninsured has declined in recent years due to two primary factors. First, in recent years unemployment rates have decreased significantly. Many receive health insurance coverage through their (or a family member's) employer. Second, in 2010 the Patient Protection and Affordable Care Act (ACA, 2010) was enacted, and Ohio was among the states that expanded Medicaid eligibility.

Local Health Status and Access Indicators

In the 2018 *County Health Rankings* and for overall health outcomes, Lorain County ranked 38th (out of 88 counties), Cuyahoga County ranked 60th, and Erie County ranked 58th.

Lorain County ranked in the bottom half of Ohio counties for 19 of 42 indicators. Five of the 19 were in the bottom quartile, including: alcohol-impaired driving deaths, sexually transmitted infections, children in single-parent households, social associations, and severe housing problems.

Cuyahoga County ranked in the bottom half of Ohio counties for 28 indicators. Of those, 15 were in the bottom quartile, including: quality of life, social and economic factors, physical environment, and various socioeconomic indicators.

Erie County ranked in the bottom half of Ohio counties for 21 indicators. Of those, four were in the bottom quartile, including obesity, sexually transmitted infections, high school graduation, and children in single-parent households.

Taken as a whole, the following indicators contributed to comparatively low rankings for Lorain, Cuyahoga, and Erie counties:

- Chlamydia rate
- High school graduation rate
- Injury deaths
- Percent of adults reporting fair or poor health
- Percent of children that live in a household headed by single parent
- Percent of driving deaths with alcohol involvement
- Percent of the workforce that drives alone to work
- Preventable hospitalizations rate
- Ratio of population to primary care physicians
- Social associations rate
- Teen birth rate
- Unemployment rate
- Violent crime rate
- Years of potential life lost before age 75

In the 2018 *Community Health Status Indicators*, which compares community health indicators for each county with those for peers across the United States, the following indicators appear to be most problematic:

- Average daily PM2.5 (air pollution)
- Children in single-parent households
- Chlamydia rate
- Food environment index
- High school graduation rate
- Preventable hospitalizations rate
- Smoking

According to the CDC, Lorain County's age-adjusted mortality rates for accidents, chronic lower respiratory diseases, unintentional drug overdose, influenza and pneumonia, septicemia, chronic liver disease and cirrhosis, falls, and Parkinson's disease were significantly higher than the Ohio averages.

While the overall Lorain County infant mortality rate has been below the Ohio average, the rate for Black infants has been significantly higher. Participants in the development of Lorain County's most recent Community Health Improvement Plan (CHIP) identified infant mortality as a priority issue. Overall infant mortality rates in Cuyahoga and Erie counties have been above the Ohio average, and Black infant mortality has been comparatively high across Northeast Ohio.

The Centers for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS) provides self-reported data on many health behaviors and conditions. According to BRFSS, rates of obesity, back pain, diabetes, asthma, depression, high blood pressure, high cholesterol,

COPD, and smoking all were unfavorable in four Lorain County ZIP codes: 44035, 44052, 44053, and 44055. These four ZIP codes also reported the highest Community Needs Indices in the Avon community.

Ambulatory Care Sensitive Conditions

Ambulatory Care Sensitive Conditions (ACSCs) include fourteen health conditions (also referred to as "PQIs") "for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease."[1] Among these conditions are: angina without procedure, diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

ACSC rates in Avon community ZIP codes have exceeded Ohio averages for nine of the 14 conditions, with particularly high rates for lower-extremity amputation among patients with diabetes, chronic obstructive pulmonary disease, angina without procedure, and diabetes long-term complications.

Community Need Index

Dignity Health, a California-based hospital system, developed and published a *Community Need Index*™ (CNI) that measures barriers to health care access. The index is based on five social and economic indicators:

- The percentage of elders, children, and single parents living in poverty
- The percentage of adults over the age of 25 with limited English proficiency, and the percentage of the population that is non-White
- The percentage of the population without a high school diploma
- The percentage of uninsured and unemployed residents
- The percentage of the population renting houses

A CNI score is calculated for each ZIP code. Scores range from "Lowest Need" (1.0-1.7) to "Highest Need" (4.2-5.0).

Two of the 18 ZIP codes in the Avon community, Lorain ZIP codes 44052 and 44055, scored in the "highest need" CNI category.

As shown in **Exhibit 4**, ZIP codes found to be higher need are associated with higher rates of poverty, a higher proportion of the population Black, more problematic BRFSS indicators (e.g., rates of smoking and high blood pressure), and higher rates of admissions for ACSCs (PQIs).

[1]Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.

Exhibit 4: Statistics Arrayed by CNI Range

Indicators		Highest Need	<== CNI Range ==>			Lowest Need
		4.2-5.0	3.4-4.1	2.6-3.3	1.8-2.5	1.0-1.7
Demographic Characteristics						
ZIP Codes		2	2	2	10	2
Total Persons		47,830	82,380	24,127	221,968	38,920
Poverty Rate		30.1%	18.7%	11.8%	5.9%	3.7%
% African American		16.7%	12.5%	5.7%	2.4%	1.0%
BRFSS Indicators						
% Obese		33.8%	32.9%	31.1%	29.7%	26.8%
% Diabetes		16.7%	15.3%	12.7%	13.2%	9.7%
% Asthma		15.3%	13.9%	10.7%	8.8%	8.3%
% Depression		23.0%	18.7%	12.5%	11.7%	9.3%
% High Blood Pressure		36.8%	33.5%	27.9%	28.8%	28.0%
% High Cholesterol		27.3%	27.9%	21.7%	22.6%	23.1%
% COPD		6.3%	5.4%	4.3%	3.6%	2.6%
% Smoking		33.6%	28.4%	27.7%	22.9%	20.4%
PQI Rates						
1	COPD	1,519	986	552	522	378
2	Congestive Heart Failure	613	481	376	408	342
3	Diabetes long-term complications	245	201	61	108	68
4	Bacterial pneumonia	239	143	218	175	158
5	Dehydration	202	108	77	99	86
6	Diabetes short-term complications	188	91	51	43	41
7	Urinary tract infection	134	116	119	130	126
8	Hypertension	103	48	51	47	37
9	Low birth weight	65	78	37	57	67
10	Adult asthma	44	41	63	25	25

Source: Verité Analysis.

Food Deserts

The U.S. Department of Agriculture's Economic Research Service identifies census tracts that are considered "food deserts" because they include lower-income persons without supermarkets or large grocery stores nearby. Several census tracts within the Avon community have been designated as food deserts.

Medically Underserved Areas and Populations

Medically Underserved Areas and Populations (MUA/Ps) are designated by the Health Resources and Services Administration (HRSA) based on an "Index of Medical Underservice." The index includes the following variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty

level, and percentage of the population age 65 or over. Areas with a score of 62 or less are considered "medically underserved." Several census tracts have been designated as medically underserved in the community.

Health Professional Shortage Areas

A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care, or mental health care professionals is found to be present. Several minor civil divisions have been designated as primary care HPSAs and several census tracts have been designated as dental care HPSAs in the hospital's community.

Relevant Findings of Other CHNAs

In recent years, the Ohio Department of Health and local health departments in Lorain, Cuyahoga, and Erie counties conducted Community Health Assessments and developed State or Community Health Improvement Plans (SHIP or CHIP). This CHNA also has considered the findings of that work.

The Ohio SHIP (updated in 2016) is very well aligned with findings in this Avon Hospital CHNA. Both identify access to affordable health care and chronic diseases as priorities. Both also identify health disparities and equity issues as problems. Both highlight healthcare workforce needs as important to assuring access to services. There are a few differences, principally relating to emphasis. The Avon Hospital CHNA specifically mentions transportation as a community-wide problem and needs of the growing elderly population. The SHIP identifies child asthma as a priority outcome, and considers Ohioans 65 years of age and older as a priority population for several specific issues. The SHIP also is silent regarding problems with air pollution.

The Lorain County CHIP (2016) is very well aligned with findings in this Avon Hospital CHNA. Assuring healthcare for the elderly receives more emphasis in the Avon CHNA, and the Avon CHNA identifies the need for additional physicians. The Lorain County CHIP highlights reducing infant mortality as a priority goal. Based on the county's CHIP and prioritization process, and the visibility of infant mortality in Ohio's SHIP, Avon Hospital also has included infant mortality as a significant community health need.

The Cuyahoga County CHIP (2015) aligns in several respects with findings in this Avon Hospital CHNA. Both have identified chronic disease and obesity as concerns. Both highlight variation across communities in poverty levels and racial/ethnic composition, and acknowledge the reality of health disparities and inequities. Both also identify infant mortality, tobacco use, mental health and substance abuse, services for the elderly, and the need for health education as significant concerns. There are a few differences. The Avon Hospital CHNA emphasizes the additional need for access to affordable health care, for more health professionals, and for medical research.

All of the priority issues raised in the Erie County CHIP (2017) have been found to be significant community health needs in the Avon Hospital CHNA. The Avon CHNA highlights a few

additional concerns, for example issues associated with chronic diseases and healthcare for the elderly.

Significant Indicators

Exhibit 5 presents many of the indicators discussed in the above secondary data summary. An indicator is considered *significant* if was found to vary materially from a benchmark statistic (e.g., an average value for the State of Ohio or for the United States). For example, 46 percent of Lorain County's driving deaths have involved alcohol; the national average was 29 percent. The last column of the **Exhibit 5** identifies where more information regarding the data sources can be found.

The benchmarks include Ohio averages, national averages, and in some cases averages for "peer counties" from across the United States. In the *Community Health Status Indicators* analysis, Lorain County's peer counties were selected because they are similar in terms of population density, household incomes, and related characteristics. Benchmarks were selected based on judgements regarding how best to assess each data source.

Exhibit 5: Significant Indicators

Indicator	Area	Value	Benchmark		Exhibit
			Value	Area	
Population change, 2015-2020	Community ZIP codes	0.9%	-0.4%	Northeast Ohio	8
65+ Population change, 2015-2020	Community ZIP codes	14.6%	0.9%	Total Community Population	9
Population with disability, 2012-2016	Lorain County	15.4%	12.5%	U.S.	13
Poverty rate, 2012-2016	Cuyahoga County	18.5%	15.1%	U.S.	14
Poverty rate, Black, 2012-2016	Lorain County	36.5%	14.0%	Lorain County, Total	15
Poverty Rate, Hispanic, 2012-2016	Lorain County	25.4%	14.0%	Lorain County, Total	15
% with severe housing problems	Lorain County	14.6%	13.6%	Peer Counties	22
Violent crime rate (per 100,000), 2016	Cuyahoga County	695	306	Ohio	19
Age-adjusted mortality rate (per 100,000) from accidents and injuries, 2016	Lorain County	87	67	Ohio	23
Percent single parent households	Lorain County	37%	32%	Peer Counties	22
Infant mortality rate, Black, 2012-2016	Lorain County	10.9	5.1	Lorain County, White	28
Births to unmarried mothers	Lorain County	46%	43%	Ohio	27
Food Environment Index (Higher is Better)	Lorain County	7.6	7.8	Peer Counties	22
Driving deaths with alcohol involvement	Lorain County	46%	29%	U.S.	21
Percent of adults that smoke	Cuyahoga County	21%	16%	Peer Counties	22
Chlamydia rate per 1,000	Lorain County	378	299	Peer Counties	22
Population per primary care MD	Lorain County	1,744	1,320	U.S.	21
Population per dentist	Lorain County	2,142	1,480	U.S.	21
Population per mental health provider	Lorain County	772	470	U.S.	21
Ambulatory care sensitive hospitalizations per 1,000 Medicare enrollees	Lorain County	66	49	U.S.	21

Source: Verité Analysis.

Primary Data Summary

Primary data were gathered by conducting interviews with key stakeholders (*See* Appendix C for additional information on those providing input). The interviews were guided by a structured

protocol that focused on identifying significant community health needs and why such needs are present.

Interviewees most frequently identified the following health status and access issues as significant concerns.

- The opioid crisis is a major issue in the community, and the lack of substance abuse treatment and rehabilitation options for many in the community is problematic
    - Over prescription and misuse of opioid pain medications are perceived as primary factors in the growing opioid epidemic
    - More early intervention and education programs are needed to prevent young people from initiating substance abuse
- Mental health, depression, and suicide were identified as problems in the community
    - Many interviewees identified the lack of mental health providers as a major access challenge
- The prevalence of chronic diseases was mentioned frequently, with diabetes, obesity, and conditions related to the heart most often identified
    - A lack of proper nutrition was identified as a primary contributor to these diseases, most often due to difficulty in accessing healthy foods (either due to cost or presence of food deserts) and cultural reasons (particularly unhealthy cooking in the Hispanic (or Latino) population)
    - A lack of exercise was also identified as a significant issue
- Interviewees identified transportation as a major issue that makes health services difficult to access, particularly limited or non-existent public transportation options in Lorain County
- Poverty was identified as a major contributor to poor health in the community, with impoverished residents having fewer options for treatment, not having the time or resources to dedicate to preventive medicine, and experiencing stress and associated mental health problems
- Health disparities due largely to income inequality were noted for several groups, most notably Black and Hispanic (or Latino) populations
    - Interviewees suggested that both of these groups need more outreach by providers and more social services, and suggested that these types of initiatives would build trust between providers and residents
    - A lack of bilingual services and cultural competency in health care was noted as an issue in connecting Hispanic (or Latino) residents to needed services

- Unemployment was mentioned as an issue, contributing to difficulty in accessing health services and to mental health problems

- A growing population of elderly residents was a concern for many stakeholders

    - Alzheimer's disease, dementia, and mental health issues stemming from isolation were identified as priority issues for the aging population

    - The cost of healthcare and services such as nursing homes and assisted living were also described, making "aging in place" difficult for many residents

- Stakeholders also recommended changes to how healthcare services are delivered:

    - Connecting patients in the healthcare setting to comprehensive social services was identified as a significant need, with stakeholders indicating that a more robust information-sharing and referral network could improve health in the community and lead to fewer re-hospitalizations

    - Need for a post-discharge continuum of care that includes follow-up services (such as home visits, check ins, medication monitoring, and others) was mentioned

    - Integrating physical healthcare with behavioral health (mental health and substance abuse treatment) was identified as a major health need

- A lack of safe and affordable housing, including issues with lead paint in the current housing stock, was identified as an issue by several stakeholders

SIGNIFICANT COMMUNITY HEALTH NEEDS

Prioritization Process

The following section highlights why certain community health needs were determined to be "significant." Needs were determined to be significant if they were identified as problematic by at least two of the following three data sources: (1) the most recently available secondary data regarding the community's health, (2) recent assessments developed by other organizations (e.g., local health departments), and (3) the key stakeholders who participated in the interview process.

Access to Affordable Health Care

Access to care is challenging for some residents of the Avon community, particularly to primary care, mental health, and substance abuse services. Access barriers are associated with: high cost and related financial barriers, a lack of awareness regarding available services, and inadequate transportation. The Avon community has some unfavorable socioeconomic indicators, and federally-designated "medically underserved areas" are present. The community would benefit from a more effective "continuum of care" so that individuals receive consistent engagement and access across patient care settings.

- Federally-designated Medically Underserved Areas (MUAs), Primary Care Health Professional Shortage Areas (HPSAs), and Dental Care HPSAs have been present in the community (**Exhibits 36 and 37**).
- Rates for nine of fourteen ambulatory care sensitive conditions were significantly higher than the Ohio averages (**Exhibit 31**). Disproportionately high rates indicate potential problems with the availability or accessibility of ambulatory care and preventive services and can suggest areas for improvement in the health care system and ways to improve outcomes.
- Lorain and Erie counties rank in the bottom half of Ohio counties in preventable hospital stays (**Exhibit 20**).
- Lorain, Cuyahoga, and Erie counties ranked poorly when compared to peer counties for Older Adult Preventable Hospitalizations (**Exhibit 22**).
- Interviewees identified a lack of a continuum of care (e.g., integration of acute and behavioral health services) as a problem. Many identified access to mental health care and substance abuse treatment as a challenge in due to an undersupply of providers.

Chronic Diseases and Other Health Conditions

The following chronic diseases and health conditions were identified as problematic in the Avon community: heart disease and hypertension, mental health, obesity, diabetes, infant mortality, and substance abuse. Causal factors for these conditions include smoking, physical inactivity and problems accessing healthy food, perceived excessive prescription of opioids, and unfavorable economic and social conditions.

- **Heart Disease and Hypertension**
  - In certain areas of Lorain County, ACSC rates for Congestive Heart Failure and Angina without Procedure were significantly higher than Ohio averages. Rates of hypertension were significantly higher in Lorain ZIP codes 44052 and 44055 than the Ohio rate (**Exhibit 31**).
  - The age-adjusted mortality rate for major cardiovascular diseases in Cuyahoga County was significantly higher than the Ohio average (**Exhibit 23**).
  - Interviewees identified heart disease, hypertension, and congestive heart failure as increasingly significant needs.
  - Addressing heart disease was identified as a priority by the Ohio SHIP.
- **Mental Health Status**
  - Lorain County ranked 45th out of 88 Ohio counties for the number of Poor Mental Health Days (**Exhibit 20**) and compared unfavorably to the Ohio average for its supply of mental health providers (**Exhibit 21**).
  - Rates of depression in several Lorain County ZIP codes (44052, 44053, 44055, and 44035) were significantly higher than the average for northeast Ohio (**Exhibit 30**).
  - Many interviewees identified mental illness and a lack of mental health services as a significant concern for all age groups. Several cited the need for mental health care to be more integrated into medical care services. Others expressed concern about the mental health of isolated, elderly residents and how poor mental health status contributes to other health problems.
  - Mental health was identified as one of three topics to be addressed by the Ohio SHIP and as a priority by both the Lorain County and Erie County CHIPs.
- **Obesity, Diabetes, and Causal Factors**
  - Federally-designated Food Deserts have been present in Lorain County (**Exhibit 35**). Lack of access to affordable healthy food options and high concentrations of fast food restaurants may lead individuals (particularly those in lower socio-economic classes) to consume calorie dense, nutrient poor foods that lead to obesity. Chronic conditions such as hypertension and diabetes are much more prevalent among individuals who are obese.
  - ACSC rates for several diabetes-related conditions have been higher than state averages (**Exhibit 32**).
  - A majority of interviewees identified obesity, a lack of exercise, and a lack of access to healthy foods as significant concerns in the community.
  - The Ohio SHIP and county CHIPs consistently identify obesity and diabetes as priorities.
- **Infant Mortality**
  - While at 5.9 deaths per 1,000 births the overall Lorain County infant mortality rate has been below the Ohio average, the rate for Black infants has been significantly higher (10.9 over the 2010-2016 time period, **Exhibit 28**).
  - Participants in the development of Lorain County's most recent Community Health Improvement Plan (CHIP) identified infant mortality as a priority issue.
  - Overall infant mortality rates in Cuyahoga and Erie counties have been above the Ohio average, and Black infant mortality has been comparatively high across Northeast Ohio (**Exhibit 29**).

- **Substance Abuse and Chemical Dependency**
  - Lorain and Erie counties ranked poorly when compared to their peer counties for rates of excessive drinking and for alcohol-impaired driving deaths (**Exhibit 22**).
  - Age-adjusted mortality rates for unintentional drug overdoses in Lorain, Cuyahoga, and Erie counties were significantly higher than the Ohio average (**Exhibit 23**).
  - Abuse of opiates was cited as a significant health concern by nearly all interviewees, who perceived that opioid medications have been overprescribed.
  - The Ohio SHIP identified drug dependency and abuse and drug overdose deaths as priorities. Reducing alcohol, tobacco, and drug use and abuse is one of the five priorities discussed in the Lorain County CHIP.

Economic Development and Community Conditions

Several areas have an undersupply of needed social services and experience high rates of poverty, housing issues, crime, and air pollution. Transportation options were described as inadequate for residents of the hospital's community.

- Cuyahoga County has had a higher poverty rate than both the Ohio and national averages (**Exhibit 14**). Poverty rates among Black and Hispanic (or Latino) populations in Lorain, Cuyahoga, and Erie counties have been more than twice as high as the poverty rate of White residents (**Exhibit 15**).
- Federally-designated Low Income Areas have been present in the community (**Exhibit 16**).
- Cuyahoga County ranked 79th out of the 88 counties in Ohio for Social and Economic Factors, 87th for Severe Housing Problems, and 85th for Income Inequality. Lorain County ranked 47th for Social and Economic Factors, 68th for Severe Housing Problems, and 60th for Income Inequality (**Exhibit 20**).
- Lorain and Cuyahoga counties also ranked poorly when compared to peer counties for unemployment and for income inequality (**Exhibit 22**).
- A majority of interviewees identified economic and health disparities among non-White residents as significant community health issues.
- Interviewees identified inadequate transportation options as a significant barrier to good health in the community – particularly for low-income and elderly residents.
- The Cuyahoga County CHIP extensively discusses how poverty and income inequality contribute to poor health.

Health Professions Education and Research

There is a need for more research to address community health needs. More trained health professionals are needed locally, regionally and nationally. Research conducted by Cleveland Clinic has improved health for community members through advancements in new clinical techniques, devices and treatment protocols in diseases and health conditions such as cancer, heart disease, and diabetes.

- Federally-designated Medically Underserved Areas and Primary Care and Dental Health Professional Shortage Areas are present in the community served by Avon (**Exhibits 36 and 37**).
- A report conducted by the Robert Graham Center indicates that Ohio will need an additional 681 primary care physicians by 2030 (an eight percent increase) to maintain current levels of primary care access. Physicians nearing retirement age and increases in demand associated with increases in insurance coverage are expected to exacerbate this need.[2]
- Through research, Cleveland Clinic has advanced knowledge and improved community health for all its communities, from local to national, and across the world. Cleveland Clinic is involved in both basic research and clinical studies and seeks to translate discoveries into advanced treatments and cures for a variety of diseases and conditions. Cleveland Clinic's tripartite mission of patient care, research, and education facilitates bringing new therapies and treatments to patients and their providers, because Cleveland Clinic physicians provide quality clinical care closely integrated with the latest research and educational developments. Research is conducted at and in collaboration with all Cleveland Clinic hospitals. This allows patients to access the latest techniques and to enroll in research trials no matter where they access care in the health system.

Healthcare for the Elderly

The population in the Avon community is expected to age, and providing an effective continuum of care for those over 65 years of age will be challenging.

- Between 2015 and 2020, the total population of Avon's community is projected to increase by 0.9 percent, but the number of persons 65 years of age and older in the community is projected to increase by 14.6 percent (**Exhibit 9**).
- Lorain, Cuyahoga, and Erie counties ranked poorly compared to peer counties for Older Adult Preventable Hospitalizations (**Exhibit 22**).
- The age-adjusted mortality rate for falls in Lorain County was significantly higher than the Ohio average (**Exhibit 23**).
- Interviewees identified care of the elderly as a challenge, including the need for additional in-home health care, skilled nursing facilities, and a continuum of care. Interviewees also identified senior isolation and resulting mental and physical health conditions as concerns.

Wellness

Programs and activities that seek to change unhealthy behaviors are needed in the community, including education regarding the importance of exercise, nutrition, and tobacco cessation. Enhanced health literacy (including improved understanding of health insurance benefits) also is needed.

[2] Petterson, Stephen M; Cai, Angela; Moore, Miranda; Bazemore, Andrew. State-level projections of primary care workforce, 2010-2030. September 2013, Robert Graham Center, Washington, D.C.

- Lorain, Cuyahoga, and Erie counties all ranked poorly compared to peer counties for smoking (**Exhibit 22**).
- Cuyahoga and Erie counties ranked poorly compared to peer counties for physical inactivity. Cuyahoga County also compares poorly for lack of access to exercise opportunities (**Exhibit 22**).
- Food Deserts have been in the community (**Exhibit 35**). Lack of access to affordable healthy food options and high concentrations of fast food restaurants, may lead individuals (particularly lower-income people) to consume calorie dense, nutrient poor foods that contribute to obesity. Chronic conditions such as hypertension and diabetes are much more prevalent among individuals who are obese.
- The OHIO SHIP and county CHIPs call for outreach and education programs that address health behaviors (physical inactivity, tobacco use, and others).
- Many interviewees cited health education as a need. They stated that many residents do not know how to live healthy lifestyles and lack understanding of nutrition and preventive health.

OTHER FACILITIES AND RESOURCES IN THE COMMUNITY

This section identifies other facilities and resources available in the community served by Avon that are available to address community health needs.

Federally Qualified Health Centers

Federally Qualified Health Centers (FQHCs) are established to promote access to ambulatory care in areas designated as "medically underserved." These clinics provide primary care, mental health, and dental services for lower-income members of the community. FQHCs receive enhanced reimbursement for Medicaid and Medicare services and most also receive federal grant funds under Section 330 of the Public Health Service Act. There currently are six FQHC sites operating in the Avon community (**Exhibit 6**).

Exhibit 6: Federally Qualified Health Centers, 2017

County	ZIP Code	Facility
Lorain	44052	Lorain County Health & Dentistry
Lorain	44035	Lorain County Health & Dentistry - East River
Lorain	44055	Lorain County Health & Dentistry - Grove
Lorain	44011	Lorain County Health & Dentistry - Leavitt Road
Lorain	44074	Lorain County Health & Dentistry - Oberlin
Lorain	44074	Lorain County Health & Dentistry - Wilkes Villa Public House

Source: HRSA, 2018.

Hospitals

Exhibit 7 presents information on hospital facilities that operate in the Avon community.

Exhibit 7: Hospitals, 2017

County	ZIP Code	Facility	Type
Lorain	44011	Cleveland Clinic Avon Hospital	General Hospital
Lorain	44011	Cleveland Clinic Avon Rehabilitation Hospital	Rehabilitation
Lorain	44074	Mercy Allen Hospital	General Hospital
Lorain	44053	Mercy Regional Medical Center	General Hospital
Lorain	44001	Specialty Hospital of Lorain	Long-Term Acute Care
Cuyahoga	44145	St. John Medical Center	General Hospital
Lorain	44035	University Hospitals Elyria Medical Center	General Hospital

Source: Ohio Hospital Association, 2017.

Other Community Resources

A wide range of agencies, coalitions, and organizations that provide health and social services is available in the region served by Avon. United Way 2-1-1 Ohio maintains a large, online

database to help refer individuals in need to health and human services in Ohio. This is a service of the Ohio Department of Social Services and is provided in partnership with the Council of Community Services, The Planning Council, and United Way chapters in Cleveland. United Way 2-1-1 Ohio contains information on organizations and resources in the following categories:

- Donations and Volunteering
- Education, Recreation, and the Arts
- Employment and Income Support
- Family Support and Parenting
- Food, Clothing, and Household Items
- Health Care
- Housing and Utilities
- Legal Services and Financial Management
- Mental Health and Counseling
- Municipal and Community Services
- Substance Abuse and Other Addictions

Additional information about these resources is available at: http://www.211oh.org/.

APPENDIX A – OBJECTIVES AND METHODOLOGY

Regulatory Requirements

Federal law requires that tax-exempt hospital facilities conduct a CHNA every three years and adopt an Implementation Strategy that addresses significant community health needs.[3] In conducting a CHNA, each tax-exempt hospital facility must:

- Define the community it serves;
- Assess the health needs of that community;
- Solicit and take into account input from persons who represent the broad interests of that community, including those with special knowledge of or expertise in public health;
- Document the CHNA in a written report that is adopted for the hospital facility by an authorized body of the facility; and,
- Make the CHNA report widely available to the public.

The CHNA report must include certain information including, but not limited to:

- A description of the community and how it was defined,
- A description of the methodology used to determine the health needs of the community, and
- A prioritized list of the community's health needs.

Ohio law[4] requires local health departments (LHDs) and tax-exempt hospitals to submit their Community Health Improvement Plans and Implementation Strategy reports to the Ohio Department of Health (the department). Beginning January 1, 2020, Ohio law also requires LHDs and tax-exempt hospitals to complete assessments and plans "in alignment on a three-year interval established by the department." Specific methods and approaches for achieving "alignment" are evolving.

Methodology

CHNAs seek to identify significant health needs 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?

[3] Internal Revenue Code, Section 501(r).
[4] ORC 3701.981

The focus on ***who*** is most vulnerable and ***where*** they live is important to identifying groups experiencing health inequities and disparities. Understanding ***why*** these issues are present is challenging, but is important to designing effective community health improvement initiatives. The question of ***how*** each hospital can address significant community health needs is the subject of the separate Implementation Strategy.

Federal regulations allow hospital facilities to define the community they serve based on "all of the relevant facts and circumstances," including the "geographic location" served by the hospital facility, "target populations served" (e.g., children, women, or the aged), and/or the hospital facility's principal functions (e.g., focus on a particular specialty area or targeted disease)."[5]

This assessment was conducted by Verité Healthcare Consulting, LLC. *See* page 29 for consultant qualifications.

Data from multiple sources were gathered and assessed, including secondary data[6] published by others and primary data obtained through community input. *See* Appendix B. Input from the community was received through key informant interviews. These informants represented the broad interests of the community and included individuals with special knowledge of or expertise in public health. *See* Appendix C. Considering a wide array of information is important when assessing community health needs to ensure the assessment captures a wide range of facts and perspectives and to increase confidence that significant community health needs have been identified accurately and objectively.

Certain community health needs were determined to be "significant" if they were identified as problematic in at least two of the following three data sources: (1) the most recently available secondary data regarding the community's health, (2) recent assessments developed by the State of Ohio and local health departments, and (3) input from the key informants who participated in the interview process.

Avon is a new hospital facility and this is the first CHNA conducted by the hospital. Data regarding the impact of various services and programs identified during a previous CHNA process therefore were not gathered.

Collaborating Organizations

For this assessment, Avon collaborated with the following Cleveland Clinic and Cleveland Clinic – Select Medical hospitals: Main Campus, Cleveland Clinic Children's, Cleveland Clinic Children's Hospital for Rehabiltation, Akron General, , Euclid, Fairview, Hillcrest, Lodi, Lutheran, Marymount, Medina, South Pointe, Union, Cleveland Clinic Florida, Select Specialty Hospital – Cleveland Fairhill, Select Specialty Hospital – Cleveland Gateway, Regency Hospital of Cleveland East, and Regency Hospital of Cleveland West. These facilities collaborated by

[5] 501(r) Final Rule, 2014.
[6] "Secondary data" refers to data published by others, for example the U.S. Census and the Ohio Department of Health. "Primary data" refers to data observed or collected from first-hand experience, for example by conducting interviews.

gathering and assessing community health data together and relying on shared methodologies, report formats, and staff to manage the CHNA process.

Data Sources

Community health needs were identified by collecting and analyzing data from multiple sources. Statistics for numerous community health status, health care access, and related indicators were analyzed, including data provided by local, state, and federal government agencies, local community service organizations, and Cleveland Clinic. Comparisons to benchmarks were made where possible. Findings from recent assessments of the community's health needs conducted by other organizations (e.g., local health departments) were reviewed as well.

Input from 15 persons representing the broad interests of the community was taken into account through key informant interviews. Interviewees included: individuals with special knowledge of or expertise in public health; local public health departments; agencies with current data or information about the health and social needs of the community; representatives of social service organizations; and leaders, representatives, and members of medically underserved, low-income, and minority populations.

Information Gaps

This CHNA relies on multiple data sources and community input gathered between June 2017 and April 2018. A number of data limitations should be recognized when interpreting results. For example, some data (e.g., County Health Rankings, Community Health Status Indicators, Behavioral Risk Factors Surveillance System, and others) exist only at a county-wide level of detail. Those data sources do not allow assessing health needs at a more granular level of detail, such as by ZIP code or census tract.

The community assessed by Avon includes the majority of Lorain County, but only five ZIP codes located in Cuyahoga County and one located in Erie County. The community ZIP codes represent about 10 percent of Cuyahoga County's total population and about 21 percent of the population of Erie County. County-wide data for Cuyahoga and Erie should be assessed accordingly.

Secondary data upon which this assessment relies measure community health in prior years and may not reflect current conditions. The impacts of recent public policy developments, changes in the economy, and other community developments are not yet reflected in those data sets.

The findings of this CHNA may differ from those of others that assessed this community. Differences in data sources, geographic areas assessed (e.g., hospital service areas versus counties or cities), interview questions, and prioritization processes can contribute to differences in findings.

Consultant Qualifications

Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves clients throughout the United States as a resource that helps hospitals conduct Community Health Needs Assessments and develop Implementation Strategies to address significant health needs. Verité has conducted more than 60 needs assessments for hospitals, health systems, and community partnerships nationally since 2010.

The firm also helps hospitals, hospital associations, and policy makers with community benefit reporting, program infrastructure, compliance, and community benefit-related policy and guidelines development. Verité is a recognized national thought leader in community benefit and Community Health Needs Assessments.

APPENDIX B – SECONDARY DATA ASSESSMENT

This section presents an assessment of secondary data regarding health needs in the Avon community. Avon's community is comprised of 18 ZIP codes, located in Cuyahoga, Erie, and Lorain counties, Ohio.

Demographics

Exhibit 8: Percent Change in Community Population by ZIP Code, 2015-2020

County	City	ZIP Code	Estimated Population 2015	Projected Population 2020	Percent Change 2015-2020
Lorain	Avon	44011	23,330	25,147	7.8%
Lorain	North Ridgeville	44039	31,940	33,748	5.7%
Lorain	Avon Lake	44012	23,594	24,552	4.1%
Cuyahoga	Olmsted Falls	44138	23,376	24,310	4.0%
Lorain	Lorain	44053	18,780	19,162	2.0%
Cuyahoga	Westlake	44145	32,983	33,389	1.2%
Lorain	Sheffield Lake	44054	12,365	12,390	0.2%
Lorain	Amherst	44001	20,571	20,602	0.2%
Erie	Vermilion	44089	15,870	15,839	-0.2%
Lorain	Lagrange	44050	6,238	6,201	-0.6%
Lorain	Elyria	44035	63,600	63,208	-0.6%
Cuyahoga	Rocky River	44116	20,079	19,938	-0.7%
Lorain	Grafton	44044	15,163	15,023	-0.9%
Cuyahoga	North Olmsted	44070	32,418	32,052	-1.1%
Cuyahoga	Bay Village	44140	15,326	15,137	-1.2%
Lorain	Oberlin	44074	11,762	11,517	-2.1%
Lorain	Lorain	44055	19,193	18,749	-2.3%
Lorain	Lorain	44052	28,637	27,892	-2.6%
Community Total			**415,225**	**418,856**	**0.9%**

Source: Truven Market Expert, 2015 (ZIP Code 44089 Population and Projection from Verité analysis).

Description

Exhibit 8 portrays the estimated population by ZIP code in 2015 and projected to 2020.

Observations

- Between 2015 and 2020, eight of the 18 ZIP codes in the community are projected to increase in population. About one-half are projected to experience population declines.
- The population in ZIP code 44011 (where the hospital is located) is expected to increase by nearly eight percent.

Exhibit 9: Percent Change in Population by Age/Sex Cohort, 2015-2020

Age/Sex Cohort	Estimated Population 2015	Projected Population 2020	Percent Change 2015-2020
0-17	88,981	85,598	-3.8%
Female 18-44	62,848	62,964	0.2%
Male 18-44	62,971	63,997	1.6%
45-64	114,545	110,203	-3.8%
65+	70,010	80,255	14.6%
Community Total	**399,355**	**403,017**	**0.9%**

Source: Truven Market Expert, 2015.
*Note: ZIP Code 44089 not included in analysis.

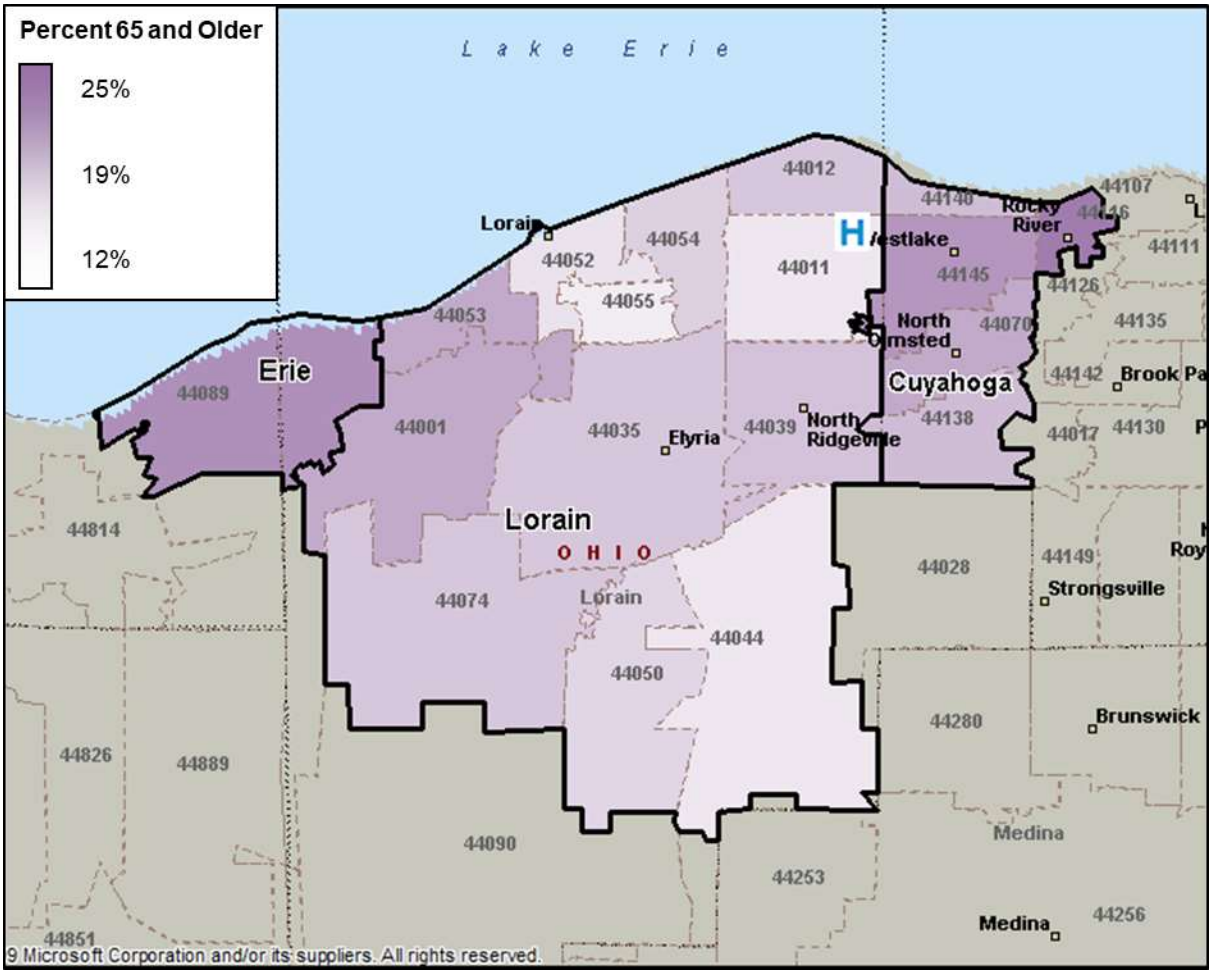
Description

Exhibit 9 shows the community's population for certain age and sex cohorts in 2015, with projections to 2020.

Observations

- The number of persons aged 65 years and older is projected to increase by 14.6 percent between 2015 and 2020.
- The growth of older populations is likely to lead to growing need for health services, since on an overall per-capita basis, older individuals typically need and use more services than younger persons.

Exhibit 10: Percent of Population Aged 65+ by ZIP Code, 2015



Source: Truven Market Expert, 2015.

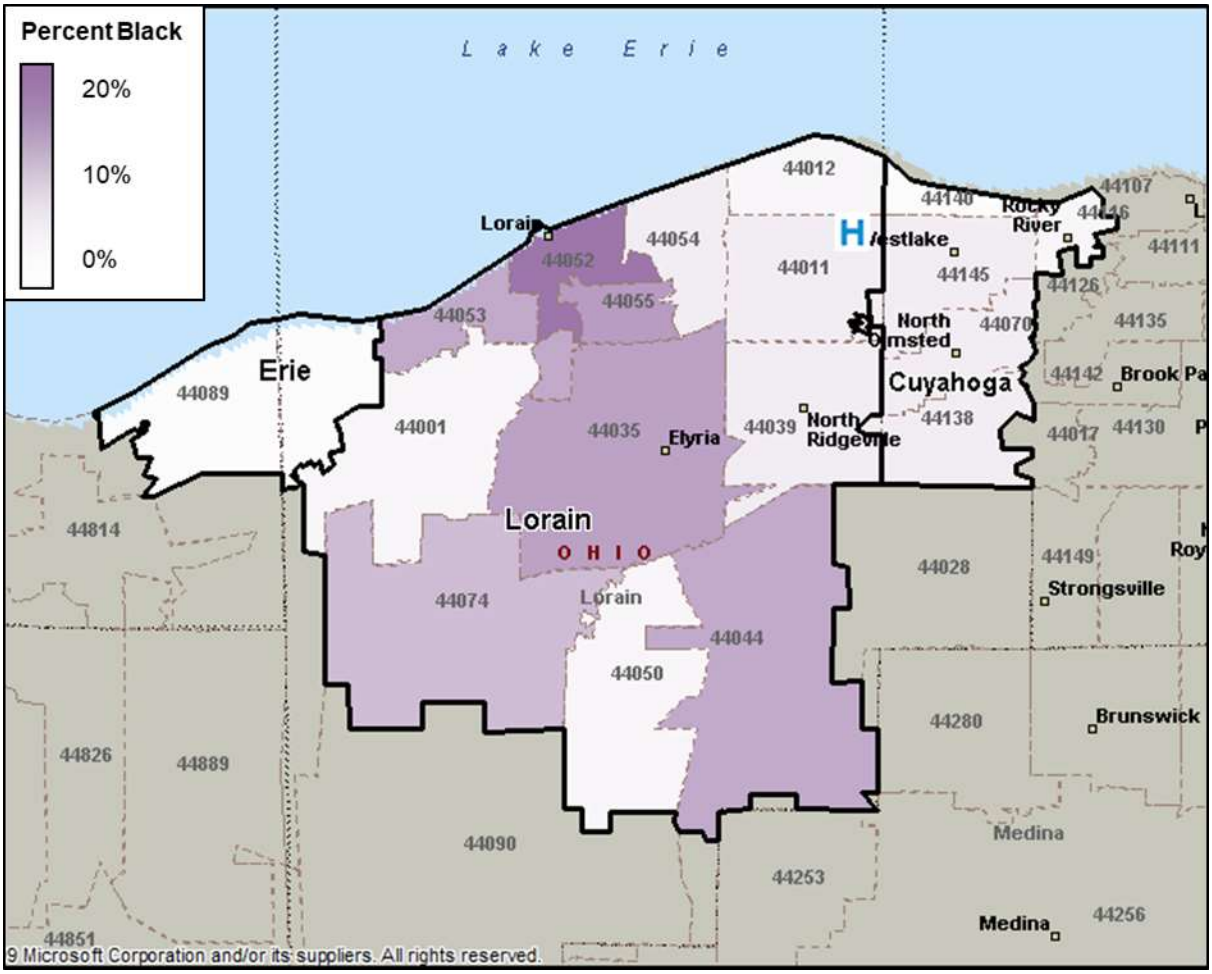
Description

Exhibit 10 portrays the percent of the population 65 years of age and older in the community by ZIP code.

Observations

- ZIP codes with the highest proportions of the population 65 years of age and older are located to the west and east of the hospital.

Exhibit 11: Percent of Population - Black, 2015



Source: Truven Market Expert, 2015.

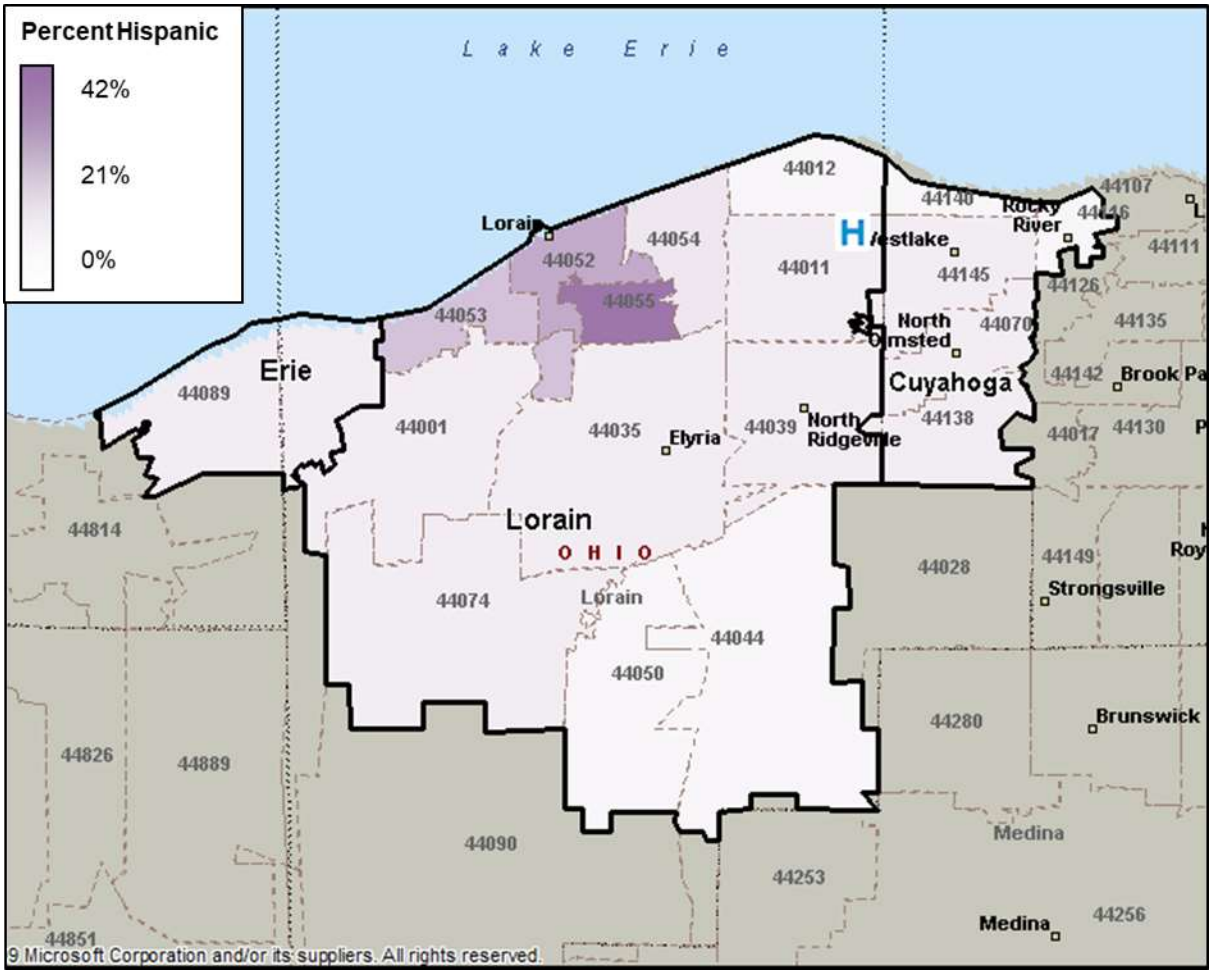
Description

Exhibit 11 portrays locations in the community where the percentages of the population that are Black were highest in 2015.

Observations

- Nearly 19 percent of residents of ZIP code 44052 were Black.
- In 2015, the percentage of residents who were Black was under two percent in nine ZIP codes (44012, 44039, 44145, 44140, 44001, 44116, 44138, 44089, and 44050).

Exhibit 12: Percent of Population – Hispanic (or Latino), (2015)



Source: Truven Market Expert, 2015.

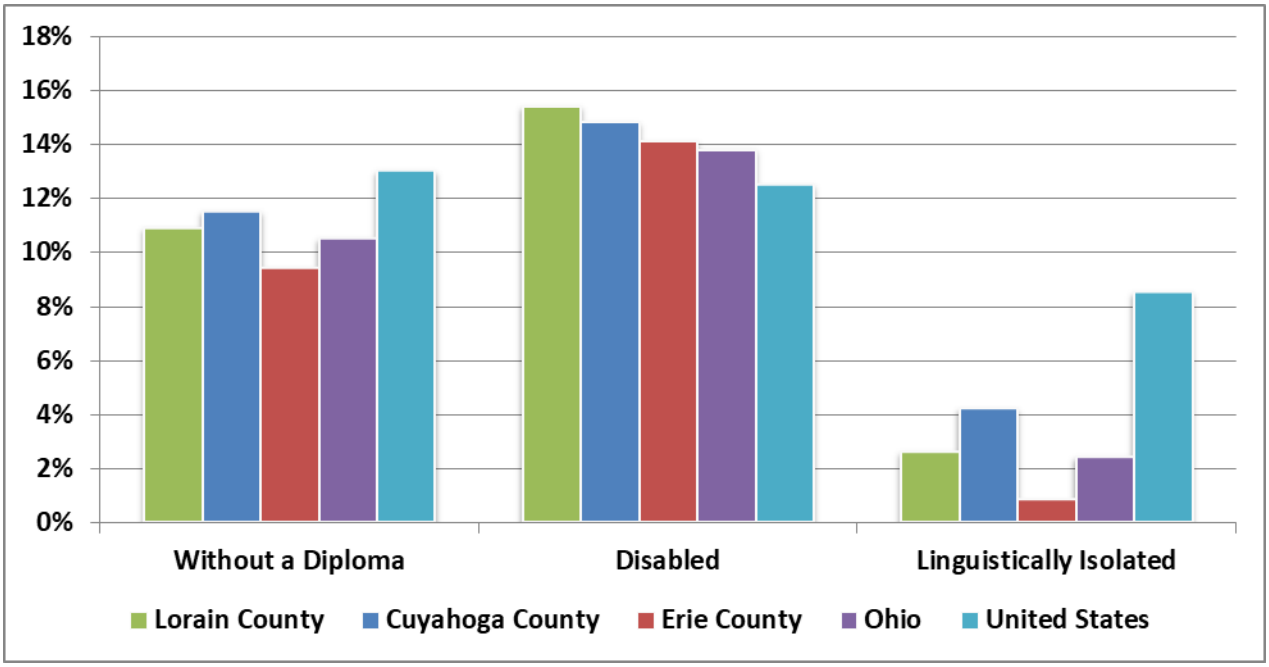
Description

Exhibit 12 portrays locations in the community where the percentages of the population that are Hispanic (or Latino) were highest in 2015.

Observations

- The percentage of residents that are Hispanic (or Latino) was highest in ZIP code 44055 (over 40 percent).

Exhibit 13: Other Socioeconomic Indicators, 2012-2016



Source: U.S. Census, ACS 5-Year Estimates, 2017.

Description

Exhibit 13 portrays the percent of the population (aged 25 years and above) without a high school diploma, with a disability, and linguistically isolated, by county.

Observations

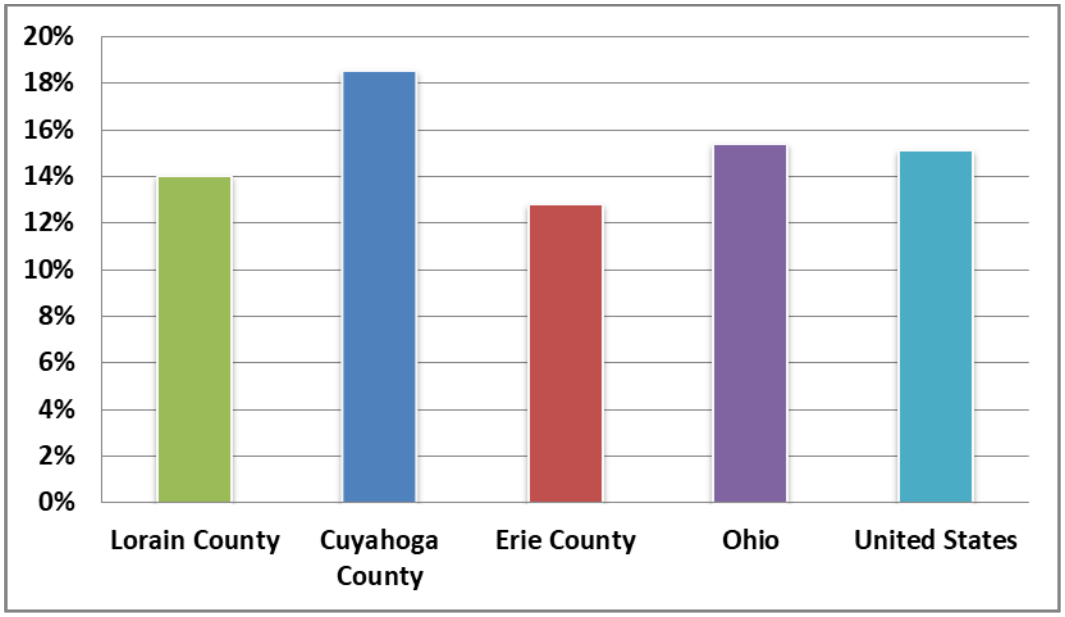
- Cuyahoga and Lorain counties had a higher percentage of residents aged 25 years and older without a high school diploma than the Ohio average.
- Each of the three counties had a higher percentage of the population with a disability compared to Ohio and United States averages.
- Compared to Ohio, Cuyahoga and Lorain counties had a higher proportion of the population that is linguistically isolated. Linguistic isolation is defined as residents who speak a language other than English and speak English less than "very well."

Economic indicators

The following economic indicators with implications for health were assessed: (1) people in poverty; (2) unemployment rate; (3) insurance status; and (4) crime.

People in Poverty

Exhibit 14: Percent of People in Poverty, 2012-2016



Source: U.S. Census, ACS 5-Year Estimates, 2017.

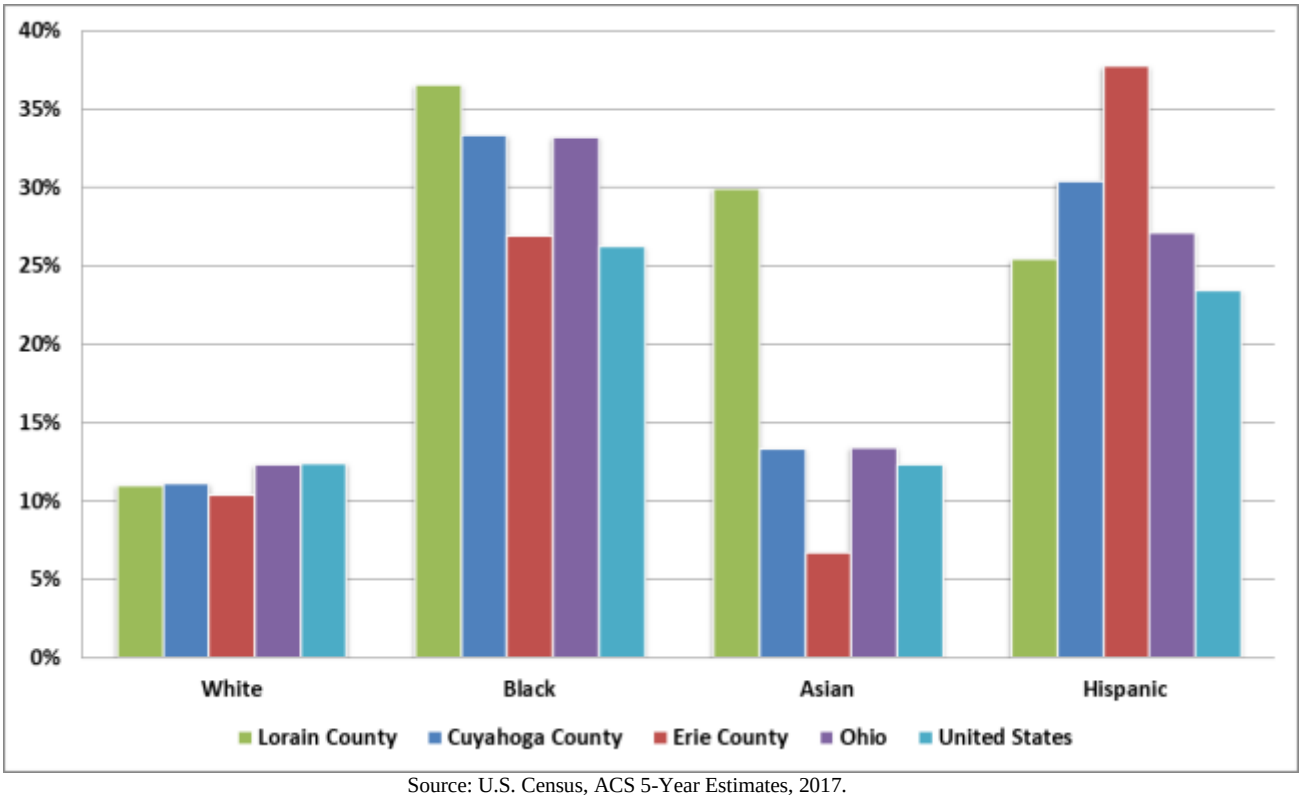
Description

Exhibit 14 portrays poverty rates by county.

Observations

- The poverty rate in Lorain County was lower (and in Cuyahoga County was higher) than Ohio and national averages from 2012-2016.

Exhibit 15: Poverty Rates by Race and Ethnicity, 2012-2016



Source: U.S. Census, ACS 5-Year Estimates, 2017.

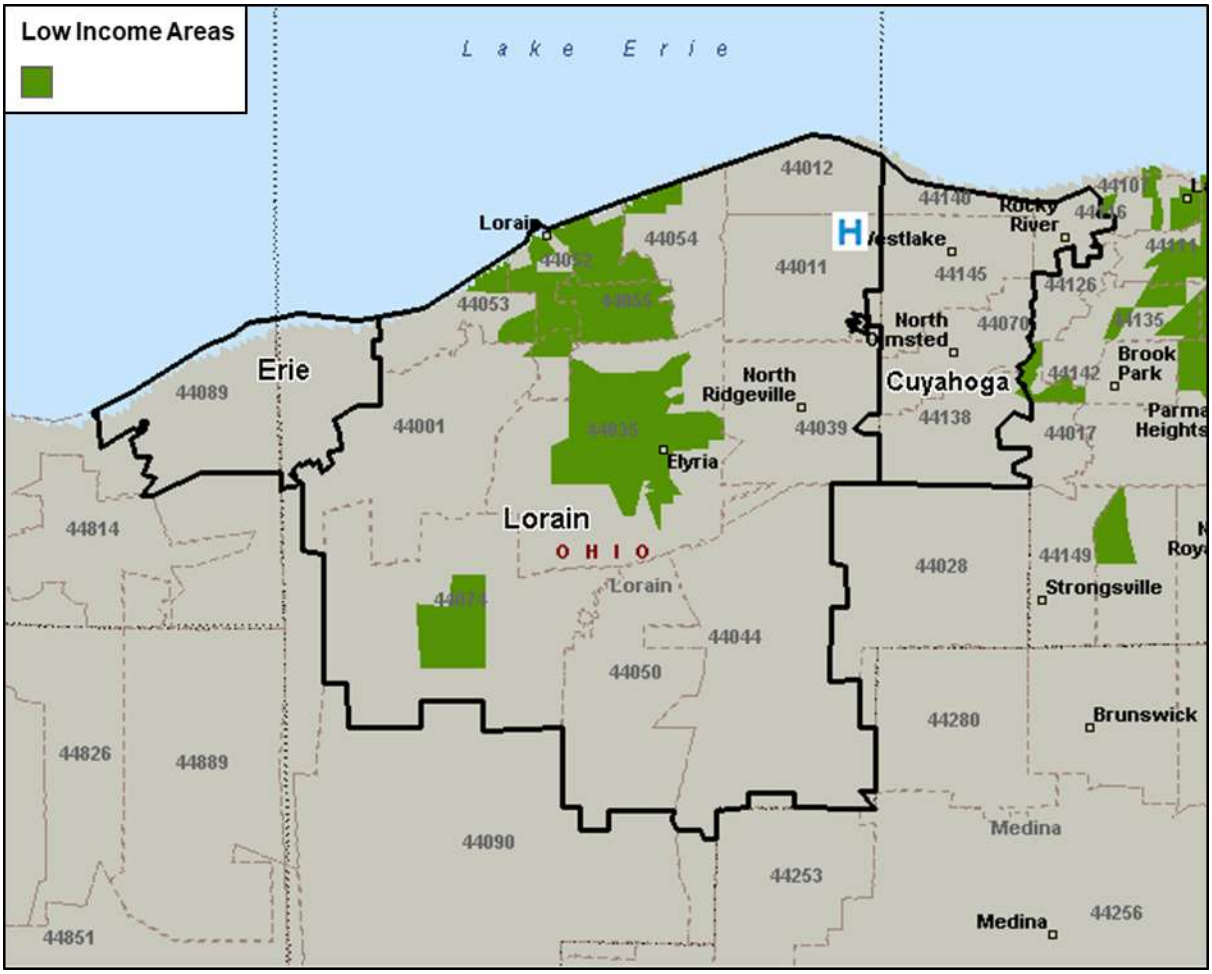
Description

Exhibit 15 portrays poverty rates by race and ethnicity.

Observations

- In Lorain, Cuyahoga, and Erie counties, poverty rates uniformly have been higher for Black and Hispanic (or Latino) residents than for Whites.
- The poverty rate for Black residents in Lorain County has been higher than poverty rates for Black individuals across Ohio and the United States.
- The poverty rate for Hispanic (or Latino) residents of Erie County has been well above average.

Exhibit 16: Low Income Census Tracts, 2017



Source: US Department of Agriculture Economic Research Service, ESRI, 2017.

Description

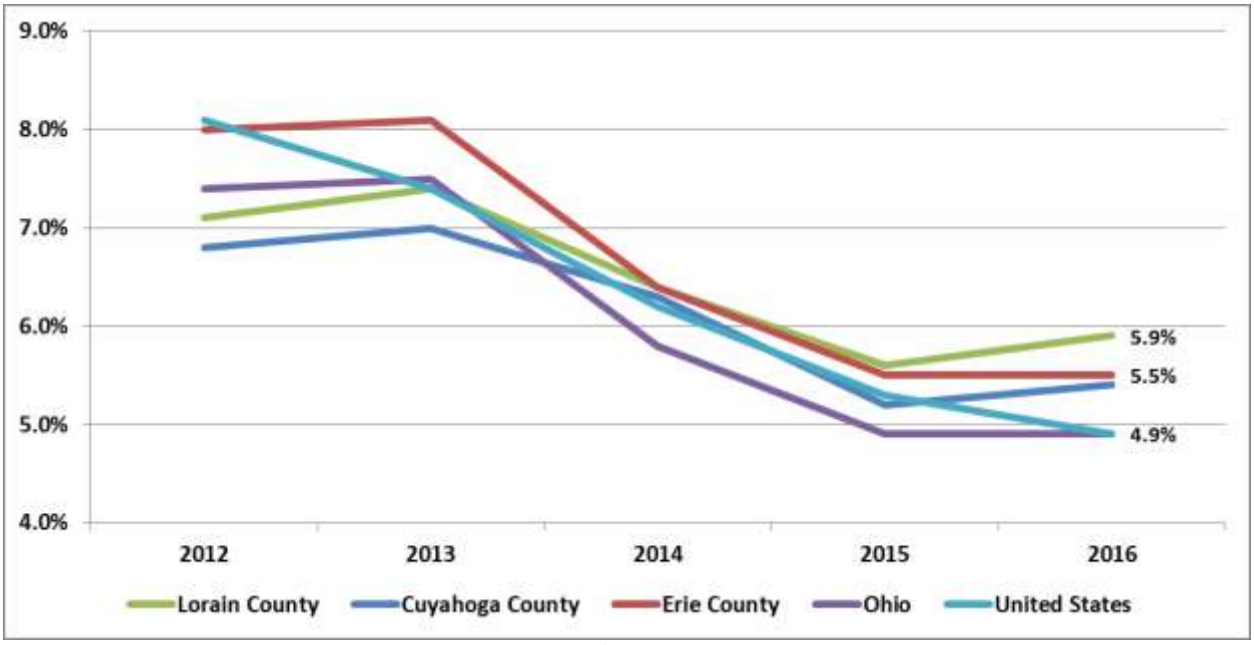
Exhibit 16 portrays the location of federally-designated low income census tracts.

Observations

- Low income census tracts have been prevalent in north-central areas of Lorain County.

Unemployment

Exhibit 17: Unemployment Rates, 2012-2016



Source: Bureau of Labor Statistics, 2017.

Description

Exhibit 17 shows unemployment rates for 2012 through 2016 for Cuyahoga, Lorain, and Erie counties, with Ohio and national rates for comparison.

Observations

- Between 2012 and 2016, unemployment rates at the local, state, and national levels declined significantly.
- Unemployment rates increased slightly in both Lorain and Cuyahoga counties between 2015 and 2016.
- Rates in Lorain, Cuyahoga, and Erie counties have been above Ohio and U.S. averages.

Insurance Status

Exhibit 18: Percent of the Population without Health Insurance, 2015-2020

County	City	ZIP Code	Total Population 2015	Percent Uninsured 2015	Total Population 2020	Percent Uninsured 2020
Lorain	Lorain	44052	28,637	11.2%	27,892	7.6%
Lorain	Lorain	44055	19,193	9.9%	18,749	6.9%
Lorain	Lorain	44053	18,780	7.7%	19,162	5.2%
Lorain	Elyria	44035	63,600	7.6%	63,208	5.1%
Lorain	Oberlin	44074	11,762	6.0%	11,517	4.3%
Lorain	Sheffield Lake	44054	12,365	5.4%	12,390	3.6%
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Lorain	Amherst	44001	20,571	4.3%	20,602	3.1%
Lorain	Lagrange	44050	6,238	4.3%	6,201	3.1%
Cuyahoga	Olmsted Falls	44138	23,376	4.3%	24,310	3.0%
Cuyahoga	North Olmsted	44070	32,418	4.0%	32,052	2.7%
Lorain	Avon	44011	23,330	4.0%	25,147	2.9%
Cuyahoga	Westlake	44145	32,983	3.4%	33,389	2.4%
Erie	Vermilion	44089	15,870	3.2%	15,839	2.7%
Lorain	North Ridgeville	44039	31,940	3.1%	33,748	2.1%
Cuyahoga	Bay Village	44140	15,326	2.8%	15,137	2.0%
Lorain	Grafton	44044	15,163	2.6%	15,023	1.8%
Community Total			**415,225**	**5.3%**	**418,856**	**3.7%**

Source: Truven Market Expert, 2015.

Description

Exhibit 18 presents the estimated percent of populations in the community without health insurance (uninsured), by ZIP code – in 2015 and 2020.

Observations

- In 2015, the highest "uninsurance rates" were in areas also designated as low-income census tracts.
- Subsequent to the ACA's passage, a June 2012 Supreme Court ruling provided states with discretion regarding whether or not to expand Medicaid eligibility. Ohio was one of the states that expanded Medicaid. Across the United States, uninsurance rates have fallen most in states that decided to expand Medicaid.[7]

[7] See: http://hrms.urban.org/briefs/Increase-in-Medicaid-under-the-ACA-reduces-uninsurance.html

Crime

Exhibit 19: Crime Rates by Type and Jurisdiction, Per 100,000, 2016

Crime Measure	Lorain County	Cuyahoga County	Community ZIP Codes in Cuyahoga County	Erie County	Ohio
Violent Crime	151	695	48	98	**306**
Property Crime	1,370	2,978	1,153	2,504	**2,537**
Murder	5	15	1	1	**6**
Rape	33	58	7	10	**47**
Robbery	50	328	17	40	**111**
Aggravated Assault	63	294	23	46	**142**
Burglary	373	754	132	447	**573**
Larceny	931	1,742	959	2,001	**1,790**
Motor Vehicle Theft	65	482	62	57	**174**
Arson	9	34	3	4	**23**

Source: FBI, 2017.

Description

Exhibit 19 provides crime statistics. Light grey shading indicates that rates were higher (worse) than the Ohio average; dark grey shading indicates that rates were more than 50 percent higher than the Ohio average.

Observations

- 2016 crime rates in Cuyahoga County were more than 50 percent higher than the Ohio averages for violent crime, murder, robbery, aggravated assault, and motor vehicle theft. However, crime rates in the five Avon community ZIP codes that are in Cuyahoga County were below the Ohio averages.

- Erie County had a particularly high rate of larceny.

Local Health Status and Access Indicators

This section assesses health status and access indicators for the Avon community. Data sources include: (1) County Health Rankings, (2) the Centers for Disease Control's (CDC) Community Health Status Indicators, (3) the Ohio Department of Health, and (4) the CDC's Behavioral Risk Factor Surveillance System.

Throughout this section, data and cells are highlighted if indicators are unfavorable – because they exceed benchmarks (typically, Ohio averages). Where confidence interval data are available, cells are highlighted only if variances are unfavorable and statistically significant.

County Health Rankings

Exhibit 20: County Health Rankings, 2014 and 2018
(Light Grey Shading Denotes Bottom Half of Ohio Counties; Dark Grey Denotes Bottom Quartile)

Measure	Lorain County		Cuyahoga County		Erie County	
	2014	2018	2014	2018	2014	2018
Health Outcomes	28	38	65	60	57	58
Health Factors	45	37	47	62	27	35
Length of Life	24	33	58	48	41	63
Premature death	24	33	58	48	41	63
Quality of Life	32	47	69	67	76	50
Poor or fair health	41	54	32	46	66	48
Poor physical health days	22	59	24	24	77	61
Poor mental health days	20	45	49	12	77	25
Low birthweight	41	48	87	88	54	64
Health Behaviors	48	27	33	49	26	54
Adult smoking	34	34	14	50	22	32
Adult obesity	48	16	5	12	7	73
Food environment index	50	47	74	71	61	64
Physical inactivity	37	21	12	12	39	60
Access to exercise opportunities	7	9	2	2	21	46
Excessive drinking	45	34	33	22	57	42
Alcohol-impaired driving deaths	72	84	61	79	42	13
Sexually transmitted infections	78	71	88	86	82	80
Teen births	30	31	53	47	45	41
Clinical Care	31	18	6	4	15	8
Uninsured	21	15	45	49	33	16
Primary care physicians	27	27	3	2	13	14
Dentists	24	30	1	1	9	9
Mental health providers	35	28	2	3	5	14
Preventable hospital stays	56	58	33	25	41	52
Diabetes monitoring	47	40	64	62	21	24
Mammography screening	6	4	15	18	23	12
Social & Economic Factors	47	47	65	79	39	45
High school graduation	76	64	85	83	41	81
Some college	19	19	8	9	31	24
Unemployment	54	59	40	52	39	54
Children in poverty	37	42	61	72	28	51
Income inequality	-	60	-	85	-	43
Children in single-parent households	73	69	87	86	65	74
Social associations	-	69	-	77	-	24
Violent crime	72	66	83	85	71	61
Injury deaths	8	49	30	47	33	57
Physical Environment	82	40	68	86	57	3
Air pollution	57	42	63	87	45	9
Severe housing problems	66	68	87	87	54	27
Driving alone to work	44	32	10	7	33	25
Long commute - driving alone	57	59	46	48	8	12

Source: County Health Rankings, 2018.

Description

Exhibit 20 presents *County Health Rankings*, a University of Wisconsin Population Health Institute initiative funded by the Robert Wood Johnson Foundation that incorporates a variety of health status indicators into a system that ranks each county/city within each state in terms of "health factors" and "health outcomes." These health factors and outcomes are composite measures based on several variables grouped into the following categories: health behaviors, clinical care,[8] social and economic factors, and physical environment.[9] *County Health Rankings* is updated annually. *County Health Rankings 2018* relies on data from 2006 to 2017, with most data from 2011 to 2016.

The exhibit presents 2014 and 2018 rankings for each available indicator category. Rankings indicate how the county ranked in relation to all 88 counties in the Ohio, with 1 indicating the most favorable rankings and 88 the least favorable. The table also indicates if rankings fell between 2014 and 2018. Light grey shading indicates rankings in the bottom half of Ohio counties; dark grey shading indicates rankings in bottom quartile of Ohio counties.

Observations

- In 2018, Lorain County ranked in the bottom 50th percentile among Ohio counties for 19 of the 42 indicators assessed. Of those 19 indicators ranking in the bottom 50th percentile, five were in the bottom quartile, including alcohol-impaired driving deaths, sexually transmitted infections, children in single-parent households, social associations, and severe housing problems. Between 2014 and 2018, rankings for 18 indictors fell in Lorain County.

- In Cuyahoga County, 28 indicators ranked in the bottom 50th percentile among Ohio Counties. Of those 28 indicators ranking in the bottom 50th percentile, 15 were in the bottom quartile, including quality of life, social and economic factors, physical environment, and various socioeconomic indicators. Between 2014 and 2018, rankings for 19 indictors fell in Cuyahoga County.

- In Erie County, 21 indicators ranked in the bottom 50th percentile among Ohio Counties. Of those 21 indicators ranking in the bottom 50th percentile, four were in the bottom quartile, including obesity, sexually transmitted infections, high school graduation, and children in single-parent households. Between 2014 and 2018, rankings for 21 indictors fell in Erie County.

[8] A composite measure of Access to Care, which examines the percent of the population without health insurance and ratio of population to primary care physicians, and Quality of Care, which examines the hospitalization rate for ambulatory care sensitive conditions, whether diabetic Medicare patients are receiving HbA1C screening, and percent of chronically ill Medicare enrollees in hospice care in the last 8 months of life.

[9] A composite measure that examines Environmental Quality, which measures the number of air pollution-particulate matter days and air pollution-ozone days, and Built Environment, which measures access to healthy foods and recreational facilities and the percent of restaurants that are fast food.

Exhibit 21: County Health Rankings Data Compared to Ohio and U.S. Averages, 2018
(Light Grey Shading Denotes Bottom Half of Ohio Counties; Dark Grey Denotes Bottom Quartile)

Indicator Category	Data	Lorain County	Cuyahoga County	Erie County	Ohio	United States
Health Outcomes						
Length of Life	Years of potential life lost before age 75 per 100,000 population	7,137.4	8,037.5	8,530.2	**7,734.0**	6,700.0
Quality of Life	Percent of adults reporting fair or poor health	16.9%	16.4%	16.4%	**17.0%**	16.0%
	Average number of physically unhealthy days reported in past 30 days	4.0	3.7	4.0	**4.0**	3.7
	Average number of mentally unhealthy days reported in past 30 days	4.0	3.7	3.9	**4.3**	3.8
	Percent of live births with low birthweight (<2500 grams)	7.8%	10.6%	8.5%	**8.6%**	8.0%
Health Factors						
Health Behaviors						
Adult Smoking	Percent of adults that report smoking >= 100 cigarettes and currently smoking	19.9%	20.6%	19.7%	**22.5%**	17.0%
Adult Obesity	Percent of adults that report a BMI >= 30	30.4%	29.9%	35.7%	**31.6%**	28.0%
Food Environment Index	Index of factors that contribute to a healthy food environment, 0 (worst) to 10 (best)	7.6	7.0	7.3	**6.6**	7.7
Physical Inactivity	Percent of adults aged 20 and over reporting no leisure-time physical activity	25.4	24.3	29.4	**25.7**	0.23
Access to Exercise Opportunities	Percent of population with adequate access to locations for physical activity	92.2%	96.1%	73.4%	**84.7%**	83.0%
Excessive Drinking	Binge plus heavy drinking	17.3%	16.8%	17.7%	**19.1%**	18.0%
Alcohol-Impaired Driving Deaths	Percent of driving deaths with alcohol involvement	46.4%	44.0%	25.0%	**34.3%**	29.0%
STDs	Chlamydia rate per 100,000 population	377.7	720.2	502.5	**489.3**	478.8
Teen Births	Teen birth rate per 1,000 female population, ages 15-19	27.8	30.3	29.5	**27.6**	27.0
Clinical Care						
Uninsured	Percent of population under age 65 without health insurance	6.5%	7.8%	6.6%	**7.7%**	11.0%
Primary Care Physicians	Ratio of population to primary care physicians	1,744:1	898:1	1,374:1	**1,307:1**	1,320:1
Dentists	Ratio of population to dentists	2,142:1	979:1	1,502:1	**1,656:1**	1,480:1
Mental Health Providers	Ratio of population to mental health providers	772:1	356:1	481:1	**561:1**	470:1
Preventable Hospital Stays	Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	65.5	53.1	62.3	**57.0**	49.0
Diabetes Screening	Percent of diabetic Medicare enrollees that receive HbA1c monitoring	86.0%	83.8%	87.1%	**85.1%**	85.0%
Mammography Screening	Percent of female Medicare enrollees, ages 67-69, that receive mammography screening	67.9%	64.7%	66.2%	**61.2%**	63.0%

Source: County Health Rankings, 2018.

Exhibit 21: County Health Rankings Data Compared to Ohio and U.S. Averages, 2018 (*continued*)
(Light Grey Shading Denotes Bottom Half of Ohio Counties; Dark Grey Denotes Bottom Quartile)

Indicator Category	Data	Lorain County	Cuyahoga County	Erie County	Ohio	United States
Health Factors						
Social & Economic Factors						
High School Graduation	Percent of ninth-grade cohort that graduates in four years	86.6%	74.8%	79.2%	**81.2%**	83.0%
Some College	Percent of adults aged 25-44 years with some post-secondary education	64.9%	68.7%	64.5%	**64.5%**	65.0%
Unemployment	Percent of population age 16+ unemployed but seeking work	5.9%	5.4%	5.5%	**4.9%**	4.9%
Children in Poverty	Percent of children under age 18 in poverty	17.9%	26.4%	20.1%	**20.4%**	20.0%
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	4.5	5.6	4.2	**4.8**	5.0
Children in Single-Parent Households	Percent of children that live in a household headed by single parent	37.4%	45.0%	38.2%	**35.7%**	34.0%
Social Associations	Number of associations per 10,000 population	10.2	9.3	15.1	**11.3**	9.3
Violent Crime	Number of reported violent crime offenses per 100,000 population	179.7	588.9	157.5	**290.3**	380.0
Injury Deaths	Injury mortality per 100,000	77.0	76.4	79.7	**75.5**	65.0
Physical Environment						
Air Pollution	The average daily measure of fine particulate matter in micrograms per cubic meter (PM2.5) in a county	11.3	12.9	10.9	**11.3**	8.7
Severe Housing Problems	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities	14.6%	18.5%	11.8%	**15.0%**	19.0%
Driving Alone to Work	Percent of the workforce that drives alone to work	84.1%	79.8%	83.6%	**83.4%**	76.0%
Long Commute – Drive Alone	Among workers who commute in their car alone, the percent that commute more than 30 minutes	35.6%	32.6%	22.3%	**30.0%**	35.0%

Source: County Health Rankings, 2018.

Description

Exhibit 21 provides data for each underlying indicator of the composite categories in the County Health Rankings.[10] The exhibit also includes Ohio and national averages. Light grey shading highlights indicators found to be worse than the Ohio average; dark grey shading highlights indicators more than 50 percent worse than the Ohio average.

Observations

- The following indicators (presented alphabetically) compared particularly unfavorably across the three counties in the community:
    - Chlamydia rate
    - High school graduation rate
    - Injury deaths
    - Percent of children that live in a household headed by single parent
    - Percent of driving deaths with alcohol involvement
    - Percent of the workforce that drives alone to work
    - Preventable hospitalizations rate
    - Ratio of population to primary care physicians
    - Social associations rate
    - Teen birth rate
    - Unemployment rate
    - Violent crime rate
    - Years of potential life lost before age 75

[10] County Health Rankings provides details about what each indicator measures, how it is defined, and data sources at http://www.countyhealthrankings.org/sites/default/files/resources/2013Measures_datasources_years.pdf

Community Health Status Indicators

Exhibit 22: Community Health Status Indicators, 2018
(Light Grey Shading Denotes Bottom Half of Peer Counties; Dark Grey Denotes Bottom Quartile)

Category	Indicator	Cuyahoga County	Lorain County	Erie County
Length of Life	Years of Potential Life Lost Rate			
Quality of Life	% Fair/Poor Health			
	Physically Unhealthy Days			
	Mentally Unhealthy Days			
	% Births - Low Birth Weight			
Health Behaviors	% Smokers			
	% Obese			
	Food Environment Index			
	% Physically Inactive			
	% With Access to Exercise Opportunities			
	% Excessive Drinking			
	% Driving Deaths Alcohol-Impaired			
	Chlamydia Rate			
	Teen Birth Rate			
Clinical Care	% Uninsured			
	Primary Care Physicians Rate			
	Dentist Rate			
	Mental Health Professionals Rate			
	Preventable Hosp. Rate			
	% Receiving HbA1c Screening			
	% Mammography Screening			
Social & Economic Factors	High School Graduation Rate			
	% Some College			
	% Unemployed			
	% Children in Poverty			
	Income Ratio			
	% Children in Single-Parent Households			
	Social Association Rate			
	Violent Crime Rate			
	Injury Death Rate			
Physical Environment	Average Daily PM2.5			
	% Severe Housing Problems			
	% Drive Alone to Work			
	% Long Commute - Drives Alone			

Source: Community Health Status Indicators, 2017.

Description

County Health Rankings has organized community health data for all 3,143 counties in the United States. Following a methodology developed by the Centers for Disease Control's *Community Health Status Indicators* Project (CHSI), County Health Rankings also publishes lists of "peer counties," so comparisons with peer counties in other states can be made. Each county in the U.S. is assigned 30 to 35 peer counties based on 19 variables including population size, population growth, population density, household income, unemployment, percent children, percent elderly, and poverty rates.

This *Community Health Status Indicators* analysis formerly was available from the CDC. Because comparisons with peer counties (rather than only counties in the same state) are meaningful, Verité Healthcare Consulting rebuilt the CHSI comparisons for this and other CHNAs.

Exhibit 22 compares Lorain, Cuyahoga, and Erie counties to their respective peer counties and highlights community health issues found to rank in the bottom half and bottom quartile of the counties included in the analysis. Light grey shading indicates rankings in the bottom half of peer counties; dark grey shading indicates rankings in the bottom quartile of peer counties.

Observations

- The CHSI data indicate that Lorain, Cuyahoga, and Erie counties rank unfavorably in smoking, food environment index, chlamydia rate, preventable hospitalizations rate, high school graduation, children in single-parent households, and average daily PM2.5 (air pollution).

- Lorain County also compares particularly poorly in percent of driving deaths alcohol-impaired, unemployment, and severe housing problems.

- Cuyahoga County compares poorly in low birth weight births, percent of alcohol-impaired driving deaths, and driving alone to work.

- Erie County compares unfavorably to its peers in low birth weight births, obesity, and chlamydia rate.

The Center for Disease Control and Prevention

Exhibit 23: Selected Causes of Death, Age-Adjusted Rates per 100,000 Population, 2016

Measure	Lorain County	Cuyahoga County	Erie County	Ohio
Major cardiovascular diseases	205.2	249.6	238.4	**242.9**
Malignant Neoplasms	172.3	180.5	166.8	**173.4**
Accidents (unintentional injuries)	87.0	70.8	83.7	**66.6**
Chronic lower respiratory diseases	54.8	37.6	52.5	**47.5**
Unintentional Drug Overdose	52.0	44.7	52.9	**36.8**
Alzheimer's disease	32.4	20.5	42.5	**33.4**
Diabetes mellitus	17.6	25.9	30.3	**24.6**
Influenza and pneumonia	15.7	10.9	N/A	**15.0**
Suicide	14.2	12.3	N/A	**14.2**
Septicemia	13.9	17.1	N/A	**13.7**
Chronic liver disease and cirrhosis	13.5	10.8	N/A	**10.9**
Falls	10.9	9.9	N/A	**10.1**
Parkinson's disease	10.5	6.9	N/A	**8.7**

Source: Centers for Disease Control and Prevention, 2017.

Description

The CDC maintains a database that includes county-level mortality rates and cancer incidence rates. Exhibit 23 provides age-adjusted mortality rates for selected causes of death in 2016. Light grey shading highlights indicators worse than Ohio average; dark grey shading highlights any indicators more than 50 percent worse than Ohio average.

Observations

- Mortality rates for accidents (and unintentional injuries), chronic lower respiratory diseases, unintentional drug overdoses, diabetes mellitus, and septicemia were higher in two of the three counties compared to Ohio averages.

Exhibit 24: Age-Adjusted Cancer Mortality Rates per 100,000 Population, 2010-2014

Cancer Site or Type	Lorain County	Cuyahoga County	Erie County	Ohio
All Cancer Sites	178.9	185.7	190.5	**181.6**
Bladder	5.4	5.0	5.7	**5.1**
Brain & ONS	5.2	4.1	7.4	**4.5**
Breast	20.0	25.5	27.5	**23.1**
Cervix	3.2	2.8	N/A	**2.5**
Colon & Rectum	16.4	15.5	18.1	**16.3**
Esophagus	4.6	4.8	7.4	**5.0**
Kidney & Renal Pelvis	4.2	4.0	3.6	**4.1**
Leukemia	7.1	6.8	9.3	**7.1**
Liver & Bile Duct	4.8	6.7	4.6	**5.6**
Lung & Bronchus	54.5	50.0	53.5	**52.8**
Melanoma of the Skin	1.9	1.9	N/A	**2.9**
Non-Hodgkin Lymphoma	6.0	6.3	5.8	**6.5**
Oral Cavity & Pharynx	1.9	2.9	N/A	**2.5**
Ovary	6.4	7.5	6.8	**7.6**
Pancreas	13.5	12.7	13.0	**11.5**
Prostate	17.8	25.2	19.2	**20.0**
Stomach	3.2	4.3	N/A	**2.8**
Uterus (Corpus & Uterus, NOS)	5.7	6.0	N/A	**5.0**

Source: Centers for Disease Control and Prevention, 2014.

Description

Exhibit 24 provides age-adjusted mortality rates for selected forms of cancer in 2016. Light grey shading highlights indicators worse than Ohio average; dark grey shading highlights indicators more than 50 percent worse than Ohio average.

Observations

- The age-adjusted stomach cancer mortality rate in Cuyahoga County and brain and ONS in Erie County were significantly higher than the Ohio average.

- Cancer mortality rates for all cancers, bladder, brain and ONS, breast, cervix, colon and rectum, lung and bronchus, pancreas, prostate, stomach, and uterus were higher in at least two counties than Ohio averages.

Exhibit 25: Age-Adjusted Cancer Incidence Rates per 100,000 Population, 2010-2014

Cancer Site or Type	Lorain County	Cuyahoga County	Erie County	Ohio
All Cancer Sites	461.6	477.7	486.4	**451.3**
Bladder	24.3	20.9	25.6	**21.8**
Brain & ONS	6.8	6.8	6.4	**6.8**
Breast	125.4	131.0	148.2	**122.9**
Cervix	7.5	6.8	7.7	**7.4**
Colon & Rectum	41.0	42.4	51.5	**41.2**
Esophagus	4.8	5.2	5.0	**5.2**
Kidney & Renal Pelvis	17.8	16.7	13.4	**16.4**
Leukemia	11.2	12.9	11.8	**11.8**
Liver & Bile Duct	6.3	8.8	5.5	**6.5**
Lung & Bronchus	69.8	66.7	63.9	**69.5**
Melanoma of the Skin	19.6	16.2	28.0	**20.3**
Non-Hodgkin Lymphoma	19.0	20.0	22.0	**18.7**
Oral Cavity & Pharynx	10.5	11.6	11.9	**11.3**
Ovary	8.1	12.2	8.8	**11.3**
Pancreas	14.4	13.8	12.6	**12.5**
Prostate	126.8	137.5	99.1	**111.8**
Stomach	7.5	8.0	5.1	**6.3**
Uterus (Corpus & Uterus, NOS)	28.2	32.0	34.1	**28.4**

Source: Centers for Disease Control and Prevention, 2014.

Description

Exhibit 25 presents age-adjusted cancer incidence rates in the community. Light grey shading highlights indicators worse than Ohio averages.

Observations

- The overall cancer incidence rates in Lorain, Cuyahoga, and Erie counties were higher than the Ohio average.
- The incidence rates for breast, non-Hodgkin lymphoma, and pancreas cancers were higher in each of the three counties than the Ohio averages.

Exhibit 26: Communicable Disease Incidence Rates per 100,000 Population, 2015

Measure	Lorain County	Cuyahoga County	Erie County	Ohio
Chlamydia	377.7	720.2	502.5	**489.3**
Gonorrhea	87.4	240.4	203.1	**142.9**
Primary and Secondary Syphilis	2.3	4.6	1.3	**4.8**
Tuberculosis	1.6	2.5	N/A	**1.2**
HIV	154.9	406.3	108.4	**212.5**

Source: Centers for Disease Control and Prevention, 2015.

Description

Exhibit 26 presents incidence rates for various communicable diseases in the community. Light grey shading highlights indicators worse than Ohio averages; dark grey shading highlights indicators more than 50 percent worse than Ohio averages.

Observations

- Lorain County has had a comparatively high incidence rate of tuberculosis.
- Cuyahoga County has had comparatively high rates of chlamydia, gonorrhea, tuberculosis, and HIV.
- Erie County has had comparatively high rates of chlamydia and gonorrhea.

Exhibit 27: Maternal and Child Health Indicators, 2006-2018

Measure	Lorain County	Cuyahoga County	Erie County	Ohio
Low Birth Weight Percent	6.4%	8.3%	6.8%	**7.0%**
Very Low Birth Weight Percent	1.5%	2.3%	1.4%	**1.6%**
Births to Unmarried Mothers	46.2%	51.3%	50.8%	**42.9%**
Preterm Births Percent	7.6%	9.5%	8.8%	**8.7%**
Very Preterm Births Percent	1.7%	2.5%	1.6%	**1.8%**
Infant Mortality Rate (2012-2016)	5.6	9.0	8.8	**7.3**

Source: Ohio Department of Health, 2018.

Description

Exhibit 27 presents various maternal and infant health indicators in the community. Light grey shading highlights indicators worse than Ohio averages.

Observations

- Infant mortality rates, low birth weights, and preterm births are comparatively problematic in Cuyahoga County.
- Births to unmarried women and women 40 to 54 years old were comparatively high in Lorain County.

Exhibit 28: Infant Mortality Rates by County, 2010-2016 and for Ohio, 2016

Indicator	Lorain County	Cuyahoga County	Erie County	Ohio
Overall Infant Mortality Rate	5.9	9.3	9.2	7.4
Black Infant Mortality Rate	10.9	16.3	N/A	15.2
Hispanic Infant Mortality Rate	6.0	6.0	N/A	7.3
White Infant Mortality Rate	5.1	5.2	N/A	5.8

Source: County Health Rankings, 2018 and Ohio Department of Health, 2017 (for Ohio-wide averages).

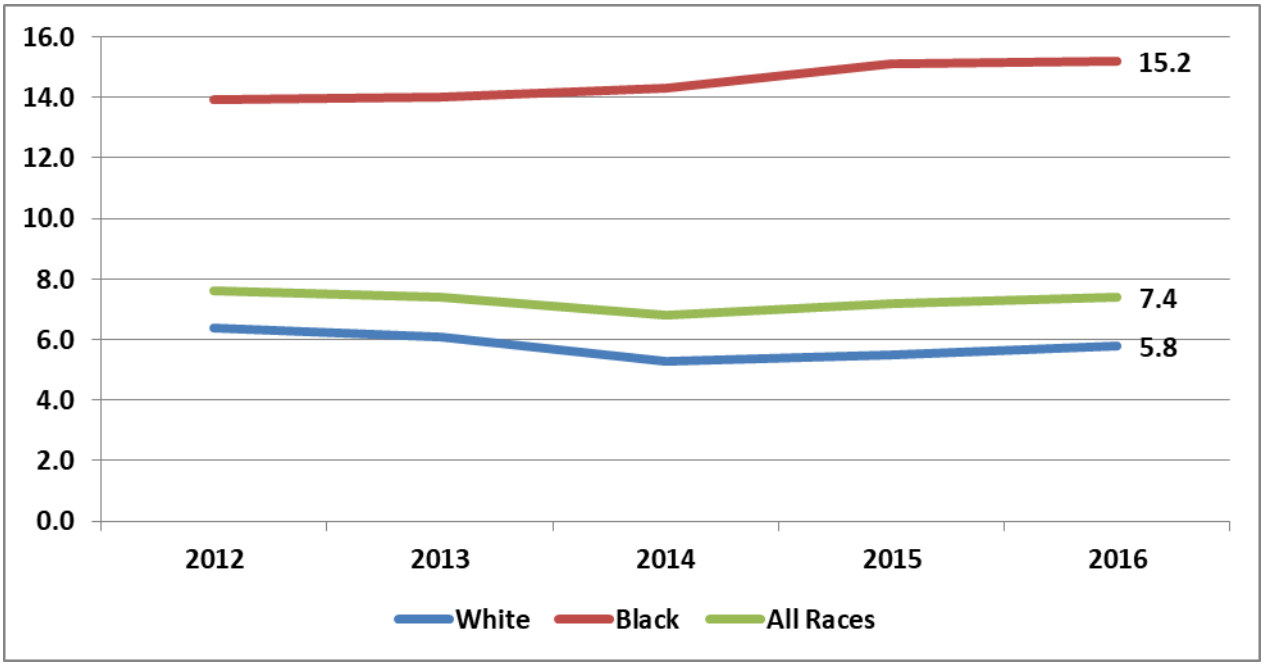
Description

Exhibit 28 presents infant mortality rates by race and ethnicity by county and for Ohio.

Observations

- Overall infant mortality rates in Cuyahoga and Erie counties have been higher than the Ohio average.
- As documented by many, infant mortality rates have been particularly high for Black infants across Ohio.

Exhibit 29: Infant Mortality Rates by Race, Ohio overall, 2012-2016



Source: Ohio Department of Health, 2018.

Description

Exhibit 28 presents infant mortality rates in Ohio by race for each year from 2012 to 2016.

Observations

- Infant mortality rates for Black infants in Ohio were consistently higher than rates for White infants and infants of all races.

Behavioral Risk Factor Surveillance System

Exhibit 30: Behavioral Risk Factor Surveillance System, Chronic Conditions, 2015

County	City	ZIP Code	Total Population 18+ 2015	% Obese	% Back Pain	% Diabetes	% Asthma	% Depression	% High Blood Pressure	% High Cholesterol	% COPD	% Smoking
Lorain	Amherst	44001	16,321	33.1%	26.4%	14.1%	10.4%	12.7%	31.4%	24.2%	4.8%	23.8%
Lorain	Avon	44011	16,425	28.8%	19.9%	11.8%	7.6%	9.2%	23.0%	18.2%	2.7%	20.8%
Lorain	Avon Lake	44012	17,918	27.4%	17.5%	9.9%	9.3%	10.3%	28.6%	23.1%	2.7%	21.5%
Lorain	Elyria	44035	48,864	32.8%	29.6%	15.0%	13.5%	17.8%	32.3%	26.7%	5.3%	28.1%
Lorain	Grafton	44044	12,009	32.8%	23.2%	15.8%	8.7%	12.5%	28.3%	19.6%	3.7%	27.0%
Lorain	Lagrange	44050	6,284	32.1%	26.1%	12.6%	8.9%	13.3%	29.4%	23.4%	4.2%	28.5%
Lorain	Lorain	44052	21,197	34.5%	31.7%	16.6%	15.4%	25.0%	36.0%	28.4%	7.1%	34.1%
Lorain	Lorain	44053	15,091	33.3%	32.2%	16.1%	15.1%	21.5%	37.2%	31.8%	5.9%	29.6%
Lorain	Lorain	44055	14,109	32.8%	26.7%	16.9%	15.1%	19.9%	37.9%	25.7%	5.1%	32.7%
Lorain	North Ridgeville	44039	24,250	29.8%	22.6%	12.2%	9.6%	12.1%	28.6%	23.0%	4.1%	22.8%
Lorain	Oberlin	44074	9,602	30.6%	27.6%	12.2%	10.3%	12.8%	26.1%	18.9%	3.5%	28.6%
Lorain	Sheffield Lake	44054	10,440	31.7%	29.3%	13.1%	11.1%	12.2%	29.5%	24.3%	5.0%	26.8%
Cuyahoga	Bay Village	44140	11,662	25.8%	17.9%	9.3%	6.7%	7.7%	27.1%	23.2%	2.6%	18.7%
Cuyahoga	North Olmsted	44070	25,796	28.6%	24.5%	13.3%	8.6%	11.9%	29.6%	23.0%	3.4%	23.5%
Cuyahoga	Olmsted Falls	44138	18,089	28.0%	22.5%	13.6%	8.6%	11.0%	31.3%	22.2%	3.4%	20.6%
Cuyahoga	Rocky River	44116	15,879	28.1%	20.1%	12.6%	9.0%	11.0%	28.7%	24.9%	3.2%	21.0%
Cuyahoga	Westlake	44145	26,585	26.9%	21.2%	12.9%	7.1%	10.9%	28.1%	21.7%	2.9%	20.9%
Erie	Vermilion	44089	13,003	34.9%	26.2%	14.6%	10.5%	13.8%	30.5%	27.0%	5.0%	26.5%
Community Total			**323,524**	**30.6%**	**25.0%**	**13.6%**	**10.6%**	**14.1%**	**30.5%**	**24.2%**	**4.2%**	**25.2%**
21-County Average			**3,449,593**	**31.8%**	**25.7%**	**14.0%**	**11.6%**	**15.2%**	**30.6%**	**24.1%**	**4.7%**	**27.5%**

Source: Truven Market Expert/Behavioral Risk Factor Surveillance System, 2015.

Description

The Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) gathers data through a telephone survey regarding health risk behaviors, healthcare access, and preventive health measures. Data are collected for the entire United States. Analysis of BRFSS data can identify localized health issues, trends, and health disparities, and can enable county, state, or nation-wide comparisons.

Exhibit 30 depicts BRFSS data for each ZIP code in the Avon community and compared to the averages for the 21 counties in Northeast Ohio.[11] Light grey shading highlights indicators worse than the 21-County average; dark grey shading highlights indicators more than 50 percent worse than the 21-County average.

Observations

- The Avon community averages for all conditions, except high cholesterol, were below (more favorable than) the 21-county averages.

- Four Lorain County ZIP codes (44035, 44052, 44053, and 44055) were unfavorable for all conditions compared to the 21-county averages. Notably, these ZIP codes generally have been associated with the highest levels of poverty.

[11] The 21 counties include Ashland, Ashtabula, Carroll, Columbiana, Crawford, Cuyahoga, Erie, Geauga, Holmes, Huron, Lake, Lorain, Mahoning, Medina, Portage, Richland, Stark, Summit, Trumbull, Tuscarawas, and Wayne counties.

Ambulatory Care Sensitive Conditions

Exhibit 31: PQI (ACSC) Rates per 100,000, 2014

County	City	ZIP Code	Diabetes Short-Term Complications	Perforated Appendix	Diabetes Long-Term Complications	Chronic Obstructive Pulmonary Disease	Hypertension	Congestive Heart Failure	Low Birth Weight
Lorain	Amherst	44001	36	36	90	395	18	385	37
Lorain	Avon	44011	18	56	61	303	30	213	63
Lorain	Avon Lake	44012	-	42	50	388	39	307	84
Lorain	Elyria	44035	75	35	203	991	51	480	83
Lorain	Grafton	44044	39	28	93	416	23	265	24
Lorain	Lagrange	44050	121	-	60	290	20	221	19
Lorain	Lorain	44052	213	42	175	1,616	109	574	81
Lorain	Lorain	44053	143	48	198	973	41	484	59
Lorain	Lorain	44055	150	50	350	1,369	93	672	39
Lorain	North Ridgeville	44039	45	39	106	670	49	448	58
Lorain	Oberlin	44074	81	21	71	421	51	314	64
Lorain	Sheffield Lake	44054	20	33	51	658	51	438	22
Cuyahoga	Bay Village	44140	103	42	94	361	34	395	45
Cuyahoga	North Olmsted	44070	73	32	146	707	73	376	57
Cuyahoga	Olmsted Falls	44138	39	50	111	657	39	440	66
Cuyahoga	Rocky River	44116	19	28	106	426	44	488	80
Cuyahoga	Westlake	44145	30	44	132	427	75	565	53
Erie	Vermilion	44089	55	42	93	652	39	421	56
Avon Totals			**68**	**38**	**135**	**697**	**53**	**437**	**63**
Ohio Totals			**95**	**37**	**119**	**609**	**53**	**424**	**61**

Source: Cleveland Clinic, 2014.
Note: Rates are not age-sex adjusted.

Exhibit 31: PQI (ACSC) Rates per 100,000, 2014 (*continued*)

County	City	ZIP Code	Dehydration	Bacterial Pneumonia	Urinary Tract Infection	Angina without Procedure	Uncontrolled Diabetes	Adult Asthma	Lower-Extremity Amputation Among Patients with Diabetes
Lorain	Amherst	44001	91	211	153	18	18	42	18
Lorain	Avon	44011	62	142	72	6	12	-	-
Lorain	Avon Lake	44012	66	141	120	-	-	40	11
Lorain	Elyria	44035	92	118	103	24	10	41	12
Lorain	Grafton	44044	39	137	107	8	16	21	-
Lorain	Lagrange	44050	136	78	158	-	-	65	-
Lorain	Lorain	44052	240	240	121	24	24	49	14
Lorain	Lorain	44053	161	226	160	14	27	42	27
Lorain	Lorain	44055	145	237	154	7	36	36	21
Lorain	North Ridgeville	44039	131	191	120	8	16	26	12
Lorain	Oberlin	44074	103	217	119	-	-	43	10
Lorain	Sheffield Lake	44054	52	218	120	10	-	91	10
Cuyahoga	Bay Village	44140	116	184	135	9	-	-	9
Cuyahoga	North Olmsted	44070	136	127	136	12	23	12	8
Cuyahoga	Olmsted Falls	44138	103	174	142	17	11	18	11
Cuyahoga	Rocky River	44116	74	171	160	13	-	24	-
Cuyahoga	Westlake	44145	70	198	162	15	11	40	15
Erie	Vermilion	44089	145	273	76	16	16	27	8
Avon Totals			**109**	**177**	**127**	**13**	**13**	**34**	**11**
Ohio Totals			**107**	**196**	**131**	**12**	**13**	**36**	**9**

Source: Cleveland Clinic, 2014.
Note: Rates are not age-sex adjusted.

Description

Exhibit 31 provides 2014 PQI rates (per 100,000 persons) for ZIP codes in the Avon community – with comparisons to Ohio averages. Light grey shading highlights indicators worse than Ohio averages; dark grey shading highlights indicators more than 50 percent worse than Ohio averages.

ACSCs are health "conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease."[12] As such, rates of hospitalization for these conditions can "provide insight into the quality of the health care system outside of the hospital," including the accessibility and utilization of primary care, preventive care and health education. Among these conditions are: angina without procedure, diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

Disproportionately high rates of discharges for ACSC indicate potential problems with the availability or accessibility of ambulatory care and preventive services and can suggest areas for improvement in the health care system and ways to improve outcomes.

Observations

- The rates of admissions for ACSC in the Avon community exceeded Ohio averages for nine of fourteen conditions: perforated appendix, diabetes long-term complications, chronic obstructive pulmonary disease, congestive heart failure, low birth weight, dehydration, angina without procedure, uncontrolled diabetes, and lower-extremity amputation among patients with diabetes.

- Within the community, Lorain County ZIP codes 44052, 44053, and 44055 had significantly higher PQI rates for nearly every condition compared to the Ohio averages. These ZIP codes also have above average poverty rates.

[12]Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.

Exhibit 32: Ratio of PQI Rates for Avon Community and Ohio, 2014

Indicator	Avon Community	Ohio	Ratio: Avon/ Ohio
Lower-Extremity Amputation Among Patients with Diabetes	11.1	8.9	**1.3**
Chronic Obstructive Pulmonary Disease	696.6	608.8	**1.1**
Angina without Procedure	13.3	11.7	**1.1**
Diabetes Long-Term Complications	134.6	118.8	**1.1**
Congestive Heart Failure	436.6	423.8	**1.0**
Perforated Appendix	38.0	36.9	**1.0**
Low Birth Weight	63.0	61.4	**1.0**
Dehydration	109.3	107.2	**1.0**
Uncontrolled Diabetes	13.3	13.2	**1.0**
Hypertension	52.6	52.6	**1.0**
Urinary Tract Infection	126.7	131.5	**1.0**
Adult Asthma	33.6	36.0	**0.9**
Bacterial Pneumonia	176.8	196.2	**0.9**
Diabetes Short-Term Complications	68.4	94.7	**0.7**

Source: Cleveland Clinic, 2014.
Note: Rates are not age-sex adjusted.

Description

Exhibit 32 provides the ratio of PQI rates in the Avon community compared to the Ohio averages. Conditions where the ratios are highest (meaning that the PQI rates in the community are the most above average) are presented first.

Observations

- In the community, ACSC rates for lower-extremity amputation among patients with diabetes, chronic obstructive pulmonary disease, angina without procedure, and diabetes long-term complications were at least 10 percent higher than the Ohio averages.

Community Need Index™ and Food Deserts

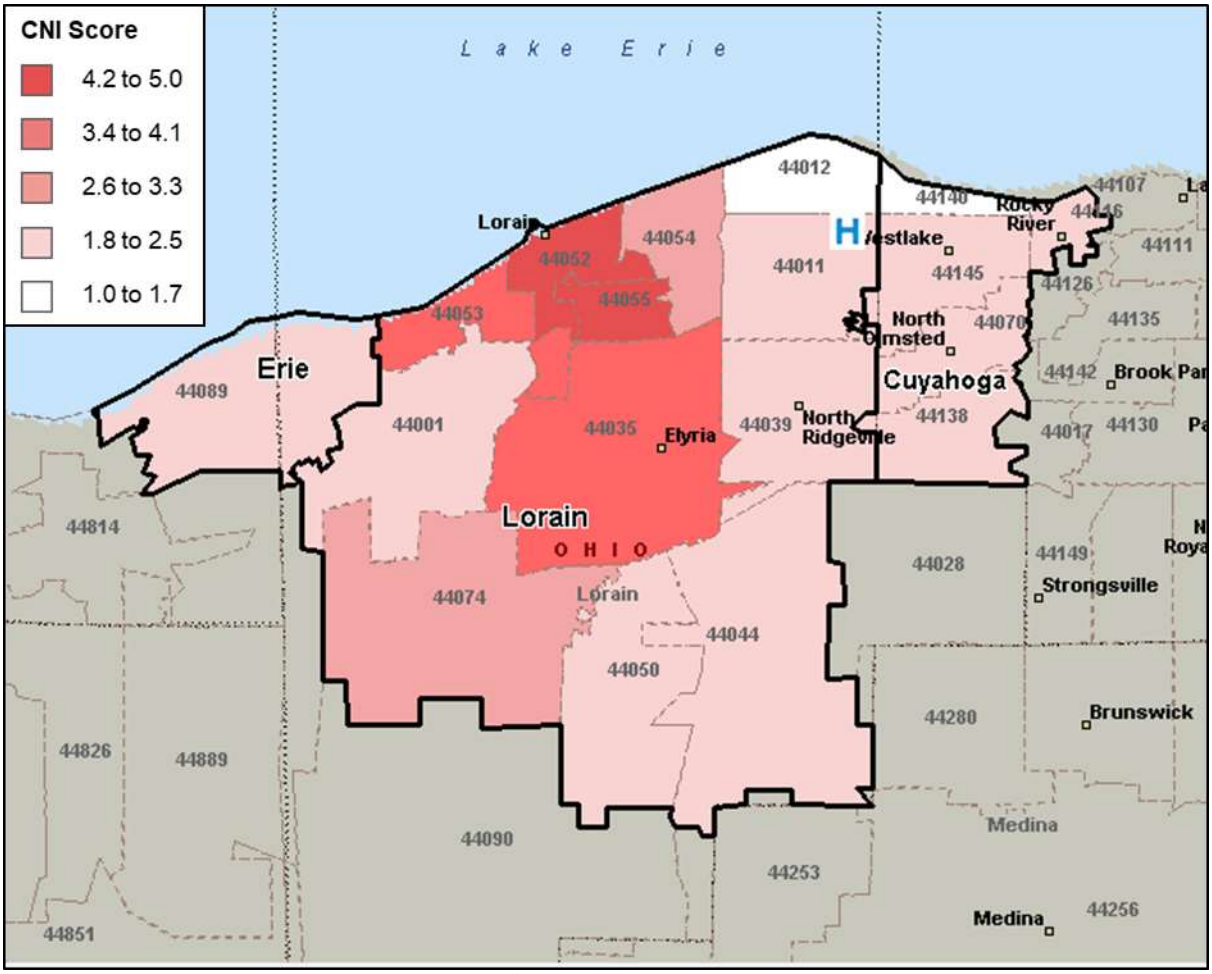
Dignity Health Community Need Index

Exhibit 33: Community Need Index™ Score by ZIP Code, 2017

County	City	ZIP Code	CNI Score
Lorain	Lorain	44052	4.8
Lorain	Lorain	44055	4.8
Lorain	Elyria	44035	3.8
Lorain	Lorain	44053	3.8
Lorain	Oberlin	44074	3.2
Lorain	Sheffield Lake	44054	2.6
Lorain	Grafton	44044	2.2
Erie	Vermilion	44089	2.2
Lorain	Amherst	44001	2.0
Lorain	North Ridgeville	44039	2.0
Cuyahoga	North Olmsted	44070	2.0
Cuyahoga	Westlake	44145	2.0
Lorain	Avon	44011	1.8
Lorain	Lagrange	44050	1.8
Cuyahoga	Olmsted Falls	44138	1.8
Cuyahoga	Rocky River	44116	1.8
Lorain	Avon Lake	44012	1.4
Cuyahoga	Bay Village	44140	1.2
Avon Community Average			**2.6**
Lorain Community ZIP Codes			3.0
Cuyahoga Community ZIP Codes			1.8
Erie Community ZIP Codes			2.2

Source: Dignity Health, 2017.

Exhibit 34: Community Need Index, 2017



Source: Microsoft MapPoint and Dignity Health, 2017.

Description

Exhibits 33 and 34 present the *Community Need Index*™ (CNI) score for each ZIP code in the Avon community. Higher scores (e.g., 4.2 to 5.0) indicate the highest levels of community need.

Dignity Health, a California-based hospital system, developed and published the CNI as a way to assess barriers to health care access. The index, available for every ZIP code in the United States, is derived from five social and economic indicators:

- The percentage of elders, children, and single parents living in poverty;
- The percentage of adults over the age of 25 with limited English proficiency, and the percentage of the population that is non-White;
- The percentage of the population without a high school diploma;
- The percentage of uninsured and unemployed residents; and
- The percentage of the population renting houses.

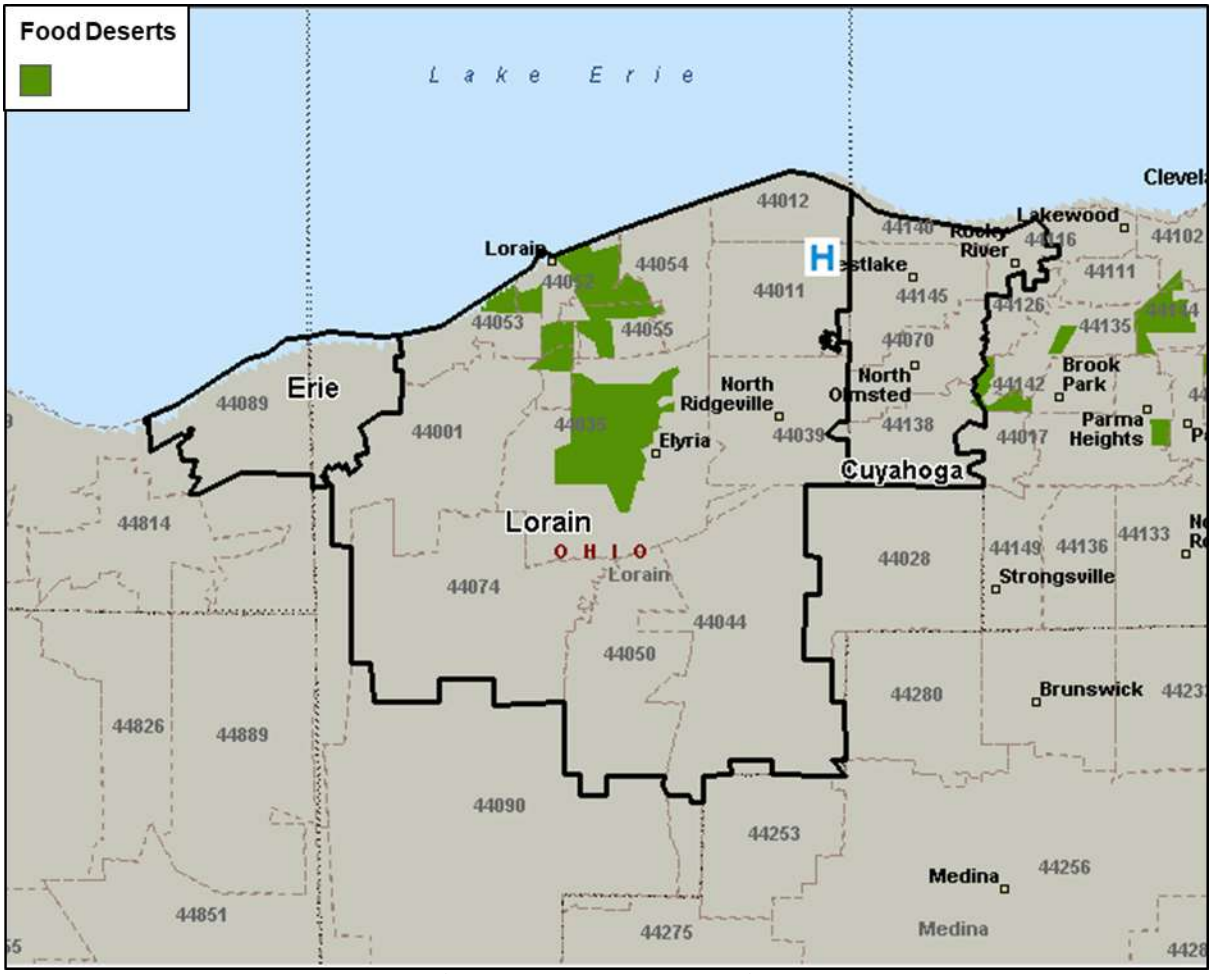
CNI scores are grouped into "Lowest Need" (1.0-1.7) to "Highest Need" (4.2-5.0) categories

Observations

- The CNI indicates that two of the 18 ZIP codes in the Avon community, Lorain ZIP codes 44052 and 44055, scored in the “highest need” category.

Food Deserts

Exhibit 35: Food Deserts, 2017



Source: Microsoft MapPoint and U.S. Department of Agriculture, 2017.

Description

Exhibit 35 shows the location of "food deserts" in the community.

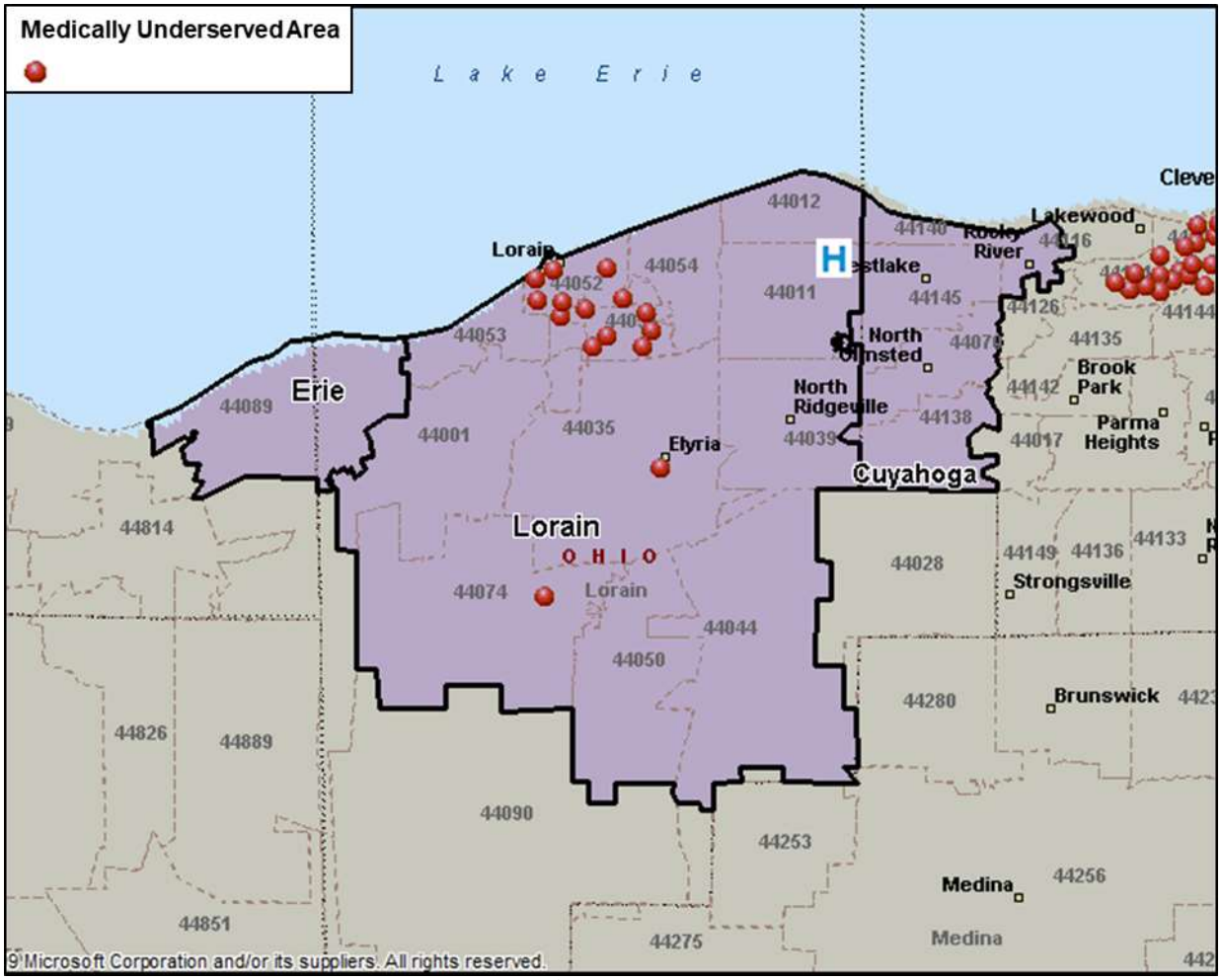
The U.S. Department of Agriculture's Economic Research Service defines urban food deserts as low-income areas more than one mile from a supermarket or large grocery store and rural food deserts as more than 10 miles from a supermarket or large grocery store. Many government-led initiatives aim to increase the availability of nutritious and affordable foods to people living in these areas.

Observations

- Several census tracts in the Avon community have been designated as food deserts, particularly in the central section of Lorain County.

Medically Underserved Areas and Populations

Exhibit 36: Medically Underserved Areas, 2017



Source: Microsoft MapPoint and HRSA, 2017.

Description

Exhibit 36 illustrates the location of Medically Underserved Areas (MUAs) in the community.

Medically Underserved Areas and Populations (MUA/Ps) are designated by the Health Resources and Services Administration (HRSA) based on an "Index of Medical Underservice." The index includes the following variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over.[13] Areas with a score of 62 or less are considered "medically underserved."

Populations receiving MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. If a population

[13] Heath Resources and Services Administration. See http://www.hrsa.gov/shortage/mua/index.html

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."[14]

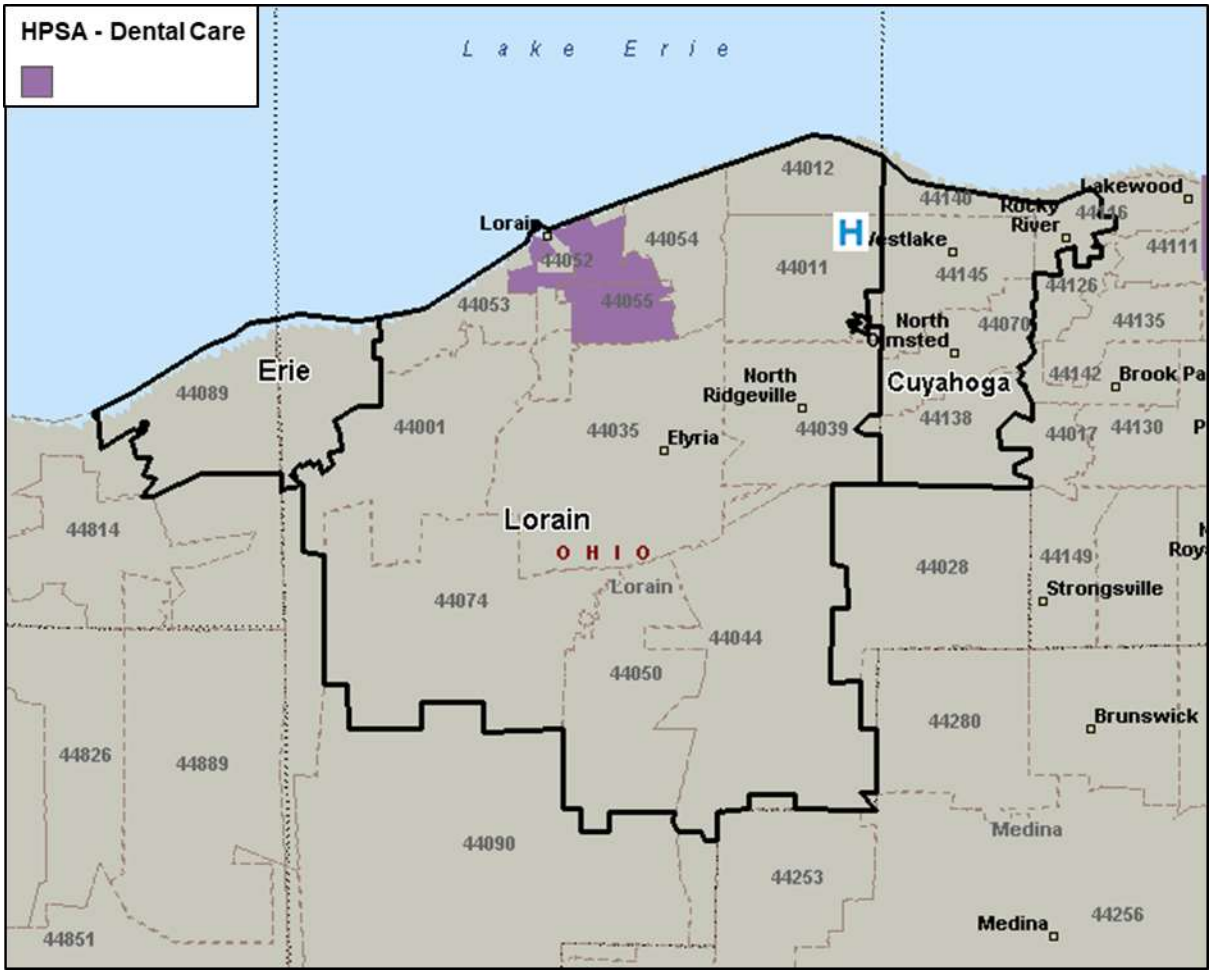
Observations

- There are several census tracts within the hospital's community that have been designated as areas where Medically Underserved Areas are present, particularly in the north-central area of the community.

[14]*Ibid.*

Health Professional Shortage Areas

Exhibit 37: Dental Care Health Professional Shortage Areas, 2017



Source: Health Resources and Services Administration, 2017.

Description

Exhibit 37 shows the locations of federally-designated dental care HPSA Census Tracts.

A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care, or mental health care professionals is found to be present. In addition to areas and populations that can be designated as HPSAs, a health care facility can receive federal HPSA designation and an 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 services.

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."[15]

Populations receiving MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. If 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."[16]

Observations

- Within the Avon community, no census tracts have been designated as primary care HPSAs. However, several Minor Civil Divisions have this designation in the community, including: Brighton Township, Huntington Township, Lagrange Township, Penfield Township, Rochester Township, and Wellington Township.

- There are several dental care HPSA census tracts located in the north-central area of the community.

[15] U.S. Health Resources and Services Administration, Bureau of Health Professionals. (n.d.). *Health Professional Shortage Area Designation Criteria*. Retrieved 2012, from http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html

[16] *Ibid.*

Findings of Other Assessments

In recent years, the Ohio Department of Health and local health departments in Lorain, Cuyahoga, and Erie counties conducted Community Health Assessments and developed State or Community Health Improvement Plans. This section identifies and discusses community health priorities found in that work.

State Health Improvement Plan, 2017-2019

The Ohio Department of Health prepared a 2017-2019 State Health Improvement Plan (SHIP), informed by its State Health Assessment. The SHIP established two overall health outcomes (improving health status and reducing premature death) and ten priority outcomes organized into three "topics," as follows:

1. Mental Health and Addiction
    - Depression
    - Suicide
    - Drug dependency/abuse
    - Drug overdose deaths

2. Chronic Disease
    - Heart disease
    - Diabetes
    - Child asthma

3. Maternal and infant health
    - Preterm births
    - Low birth weight
    - Infant mortality

For each outcome, the plan calls for achieving equity for "priority populations" specified throughout the report, including low-income adults, Black (non-Hispanic males), and other specific groups.

The plan also addresses the outcomes through strategies focused on "cross-cutting factors," namely:

- Social Determinants of Health,
- Public Health System, prevention and health behaviors
- Healthcare system and access
- Equity strategies likely to decrease disparities for priority populations

The Ohio SHIP is very well aligned with findings in the Avon Hospital CHNA. Both identify access to affordable health care as a priority. Both also suggest focusing on chronic diseases as a

way to improve health. Both also identify health disparities and equity issues as problems. Both highlight healthcare workforce needs as important to assuring access to services.

There are a few differences, principally relating to emphasis. The Avon Hospital CHNA specifically mentions transportation as a community-wide problem and needs of the growing elderly population. The SHIP identifies child asthma as a priority outcome, and also highlights Ohioans 65 years of age and older as a priority population for several specific issues. The SHIP also is silent regarding problems with air pollution.

Lorain County CHIP

The Lorain County Health Department published an updated Community Health Improvement Plan in 2016. That CHIP identified five priorities. Objectives, goals, measures, and targets were established for each priority area, as follows:

1. Improve Access to Care
    - Strengthen network of patient-centered medical homes
    - Reduce barriers for access to care (various goals, including recruiting dentists, helping adults with insurance enrollment, enhancing transportation and access for seniors)
2. Expand Coordinated Education and Prevention Services
    - Reduce infant mortality rate
3. Improve Weight Issues and Obesity Among Adults and Children
    - Increase rates of physical activity among adults and children
4. Reduce Alcohol, Tobacco, and Drug Use and Abuse Among Adults and Children
    - Reduce incidence of smoking among youth and adults (including a goal of improving relevant education in schools)
    - Reduce the number of heroin and opiate-related deaths (including increasing capacity for treatment and recovery supports)
5. Improve Mental Health of Seniors, Adults, and Children
    - Improve access to the continuum of mental health care among adults
    - Reduce suicide

Regarding infant mortality, the Lorain County CHIP states: "Although the 2014 Lorain County rate was below the state average (6.1 deaths versus 6.8 deaths per 1,000 births), there remains great disparity among minority populations. Additionally the inclusion of a CHIP priority to reduce infant mortality rates seemed a sensible choice considering the work that has already been initiated in the county prior to the creation of the CHIP."

Regarding obesity, the CHIP identified longer term objectives such as expanding access to fresh fruits and vegetables, expanding nutrition education programs, and decreasing access to unhealthy food.

The Lorain County CHIP is very well aligned with findings in the Avon Hospital CHNA. Assuring healthcare for the elderly receives more emphasis in the Avon CHNA, and the Avon CHNA identifies the need for additional physicians. The Lorain County CHIP highlights

reducing infant mortality as a priority goal. Based on the county's CHIP and prioritization process, and the visibility of infant mortality in Ohio's SHIP, Avon Hospital also has included infant mortality as a significant community health need.

Cuyahoga County CHIP

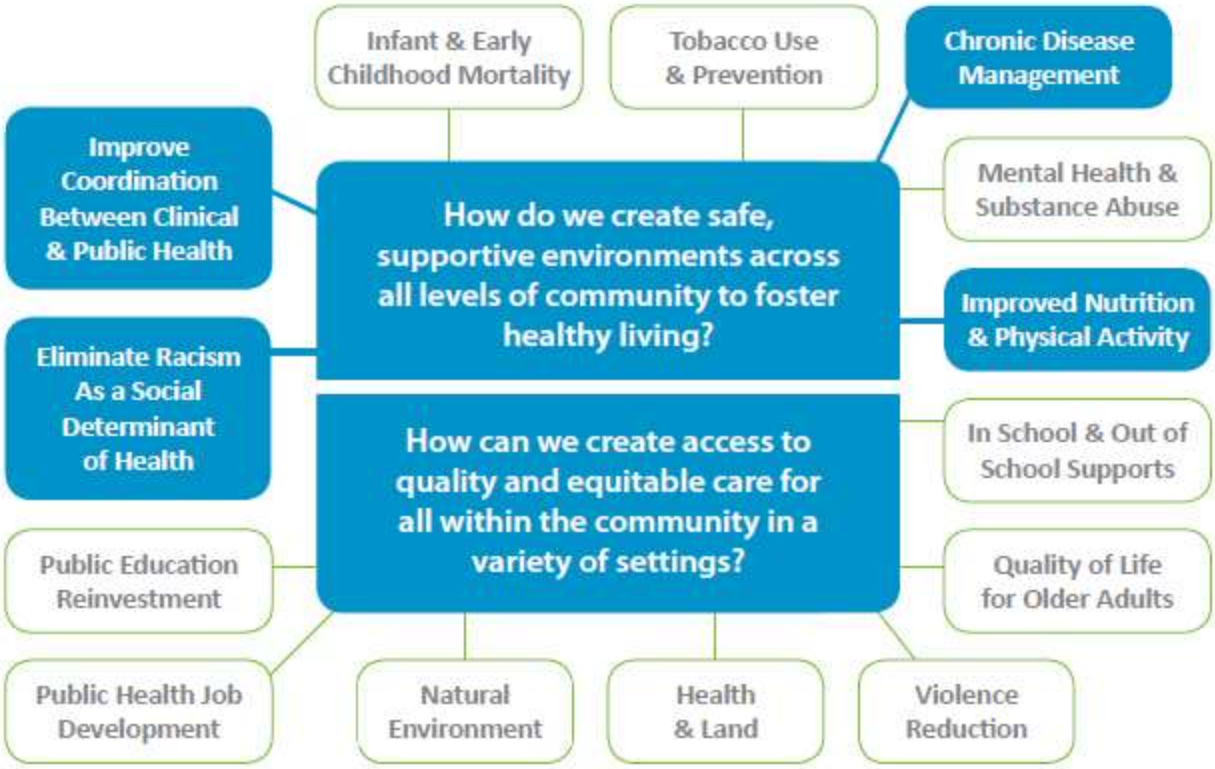
The Health Improvement Partnership of Cuyahoga County (HIP-Cuyahoga) published an updated Community Health Improvement Plan in 2015. The CHIP highlighted certain findings regarding Cuyahoga County:

- "Three times as many African-American babies die compared to white babies.
- One in four people in Cuyahoga county overall, and one in two people in the City of Cleveland, are living in areas that lack access to healthy food options, referred to as "food deserts."
- Our community experiences two to three times as many poor mental health days as the nation.
- The cancer death rate is 1.5 times higher in the City of Cleveland as the national benchmark.
- Two to three times more African-American and Hispanic residents experience poverty as whites in the City of Cleveland."[17]

After conducting several assessments (as guided by the MAPP process), HIP-Cuyahoga identified two strategic issues and fourteen health priorities, shown below:

[17] https://wp27a3f0f4bf72.blob.core.windows.net/wp-media/2016/05/HIPC_CHIP_Web-1.pdf, page 9.

[Figure 3] Health Priorities



HIP-Cuyahoga then identified four of the health priorities as "key priorities." Objectives, goals, measures, and targets were established for each key priority area, as follows:

1. Eliminate Structural Racism, through an array of initiatives such as improving knowledge and awareness of racism as a social determinant of health, changing cultures and policies within organizations, assuring that subcommittees include strategies that address racism, improving cultural competency, and addressing racism in decisions, policies, and practices.

2. Healthy Eating and Active Living, through healthy retail initiatives that increase the number of stores that provide healthy food options; complete streets initiatives that allow people to walk, run, bike, and access public transportation safely; and shared use agreements so that schools and other facilities can be used for physical activity.

3. Establishing or enhancing partnerships between Clinical and Public Health organizations, through conducting collaborative CHSAs and CHNAs, assuring that health equity serves as a foundation for the work of both public health and clinical care organizations, and implementing relevant state-level policies.

4. Chronic Disease Management, through initiatives such as communicating regarding community resources available to individuals with high blood pressure and related conditions, developing a message campaign that encourages individuals to engage in

healthy behaviors and to manage their chronic diseases, developing and sustaining chronic disease and diabetes self-management programs, and implementing other health education efforts.

The Cuyahoga County CHIP aligns in several respects with findings in the Avon Hospital CHNA. Both have identified chronic disease and obesity as concerns. Both highlight variation across communities in poverty levels and racial/ethnic composition, and acknowledge the reality of health disparities and inequities. Both also identify infant mortality, tobacco use, mental health and substance abuse, services for the elderly, and the need for health education as significant concerns.

There are a few differences. The Avon Hospital CHNA emphasizes the need for access to affordable health care, for more health professionals, and for medical research.

Erie County CHIP

The Erie County Health Department published a Community Health Improvement Plan in 2017. A Steering Committee identified the following issues to represent significant community health needs:

- Adult Overweight/Obesity
- Youth Risky Behaviors
- Adult Mental Health
- Youth Overweight/Obesity
- Infant Mortality
- Adult Addiction (substance use/misuse of all kinds)

The Steering Committee then identified four of these issues as priorities:

1. Adult Overweight/Obesity
2. Youth Overweight/Obesity
3. Adult Mental Health
4. Adult Tobacco Use

The CHIP identified five goals to address these needs, as well as objectives and strategies in pursuing these goals.

1. Unify the Erie County community behind the Choosing Healthy Living initiative.

2. Decrease the adult obesity rate in Erie County, through promotion of evidence-based practices for increasing physical activity, expanding access to fruits and vegetables, reducing consumption of sugar-sweetened beverages, and other initiatives.

3. Decrease the youth obesity rate in Erie County through increasing the percent of youth who engage in recommended amounts of physical activity, healthy eating initiatives, and reducing sugar-sweetened beverage consumption.

4. Increase recognition of and access to mental health resources.

5. Reduce the rate of adult smokers and the number of residents/visitors, including children, exposed to second-hand smoke, through community collaboration and supporting tobacco prevention activities.

All of the issues raised in the Erie County CHIP are also considered significant community health needs in the Avon Hospital CHNA. The Avon CHNA highlights a few additional concerns, for example issues associated with chronic diseases and healthcare for the elderly.

APPENDIX C – COMMUNITY INPUT PARTICIPANTS

Individuals from a wide variety of organizations and communities participated in the interview process (**Exhibit 38**).

Exhibit 38: Interviewee Organizational Affiliations

Organization	Description
ADAMHS Board of Cuyahoga County	The Alcohol, Drug Addiction and Mental Health Services (ADAMHS) Board of Cuyahoga County
Alcohol and Drug Addiction Services Board of Lorain County	Alcohol and drug addiction services
City of Avon Lake	Mayor of Avon Lake
City of Elyria	Mayor of Elyria
City of Lorain	Mayor of Lorain
Cuyahoga County Board of Health	Local Health Department
El Centro de Servicios Sociales	Social services for Spanish and bilingual populations
LifeCare Ambulance, Inc.	Ambulance and medical transport
Lorain County Board of Mental Health	County behavioral and mental health services
Lorain County Community College	Community college
Lorain County Free Clinic	Clinic offering primary and specialty health services
Lorain County Public Health Department	Local Health Department
The LCADA Way	Non-profit for alcohol and drug addiction services
The Nord Center	Non-profit for behavioral and mental health
United Way of Greater Cleveland	Community and social services organization

Cleveland Clinic
Avon Hospital

Implementation Strategy Report

2018

Cleveland Clinic Avon Hospital
33300 Cleveland Clinic Blvd.
Avon OH 44011

2018 Community Health Needs Assessment Implementation Strategy As required by Internal Revenue Code § 501(r)(3)

Name and EIN of Hospital Organization Operating Hospital Facility:
47-4442902

Date Approved by Authorized Governing Body:	**November 5, 2018**
Authorized Governing Body:	**Special Committee on Community Health Needs as delegated by the Executive Committee of the Avon Hospital Board of Directors**
Contact:	**Cleveland Clinic chna@ccf.org**

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2018 Cleveland Clinic Avon Hospital
IMPLEMENTATION STRATEGY

I. Introduction and Purpose

This written plan is intended to satisfy the requirements set forth in Internal Revenue Code Section 501(r)(3) regarding community health needs assessments and implementation strategies. The overall purpose of the implementation strategy process is to align the hospital's limited resources, program services and activities with the findings of the community health needs assessment ("CHNA").

A. Description of Hospital

Avon Hospital is a newly constructed hospital which opened in November 2016 with126 staffed beds and a 24-hour Emergency Department featuring board-certified, emergency medicine physicians available around-the-clock to provide comprehensive care to adults and children. Avon Hospital provides a spectrum of services, from critical care, to orthopaedic surgery, cardiology, and outpatient procedures. Additional information on the hospital and its services is available at: https://my.clevelandclinic.org/locations/avon-hospital.

The hospital is part of the Cleveland Clinic health system, which includes an academic medical center, multiple regional hospitals, two children's hospitals, a rehabilitation hospital, a Florida hospital, and a number of other facilities and services across Northeast Ohio and Florida. Additional information about Cleveland Clinic is available at: https://my.clevelandclinic.org/.

II. Community Definition

For purposes of this report, Avon's community is defined as 18 ZIP codes in Lorain, Cuyahoga, and Erie counties, Ohio, accounting for over 83 percent of the hospital's recent inpatient volumes. The community was defined by considering the geographic origins of the hospital's discharges and emergency department visits between November 2016 and June 2017. The total population of Avon's community in 2015 was 415,225.

III. How Implementation Strategy was Developed

This Implementation Strategy was developed by a team of members of senior leadership at Avon Hospital and Cleveland Clinic representing several departments of the organizations. Each year this team will review this Implementation Strategy to determine whether changes should be made to better address the health needs of its communities.

IV. Summary of the Community Health Needs Identified

Secondary data and key stakeholder interviews were reviewed to identify and analyze the needs identified by each source. The top health needs of the Avon Hospital community are those that are supported both by secondary data and raised by key stakeholders. See the 2018 CHNA Cleveland Clinic Avon Hospital at www.clevelandclinic.org/CHNAReports

Identified needs are listed by category, below.

A. Access to Affordable Healthcare
B. Chronic Diseases and Other Health Conditions
    1. Diabetes
    2. Heart Disease and Hypertension
    3. Infant Mortality
    4. Mental Health
    5. Obesity
    6. Substance Abuse
C. Health Professions Education and Research
D. Healthcare for the Elderly
E. Wellness

Economic Development and Community Conditions was also identified as a significant health need. It is further discussed below in Section VI, *Needs Hospital Will Not Address*.

V. Needs Hospital Will Address:

A. Access to Affordable Healthcare

1. Financial Assistance

Avon Hospital provides medically necessary services to all patients regardless of race, color, creed, gender, country of national origin, or ability to pay. Avon Hospital has a financial assistance policy that is among the most generous in the region that covers both hospital services and physician services provided by physicians employed by the Cleveland Clinic. The financial assistance policy can be found here: http://my.clevelandclinic.org/patients/billing-insurance/financial-assistance#application-policy-other-documents-tab

Patient Financial Advocates are available at all Cleveland Clinic hospitals to meet with any patient who may be uninsured or have difficulty paying for medical care. Financial Advocates assist patients in evaluating whether they may qualify for our financial programs or other assistance, including Medicaid. Cleveland Clinic offers the services of a Medicaid eligibility representative to any patient who is potentially eligible so that the patient (and their family) can obtain portable health insurance that they can use for their medical needs. Assistance with enrollment in Medicaid is also important to help patients who do not currently have a medical home to develop a relationship with a primary care physician and better access to appropriate health care services.

2. Improved Access to Emergency Services

Avon Hospital, like all Cleveland Clinic hospitals, has implemented a split-flow model for its Emergency Department. This model shortens the time to the providers, resulting in shorter overall length of stay, and places patients in areas devoted to their unique needs to improve patient satisfaction and outcomes.

3. Access to Care and Appointments

Cleveland Clinic provides telephone and electronic access to patients seeking to make appointments for primary, specialty and diagnostic services. Representatives are available 24/7 and can assist patients in identifying the next available or closest location for an appointment at all facilities within the Cleveland Clinic health system.

Cleveland Clinic also has 24 locations in Northeast Ohio for "walk in" care where no appointment is necessary. Express Care Clinics have evening and weekend hours and are located in many of our family health centers and outpatient facilities.

4. Outreach on How to Access Care

Cleveland Clinic provides outreach programs to key underserved communities at our regional hospitals. Outreach personnel end educational sessions on various medical topics with a presentation designed to inform community members on how to access different levels of health care and provide resources for programs to assist them.

Outreach programs include information on how to connect to a medical home (i.e. a regular primary care physician) and on how to contact a Cleveland Clinic Patient Financial Advocate who can provide information on financial assistance, including Medicaid.

Outreach programs that provide health screenings also perform call backs for those community members who have abnormal findings or identify themselves as not having a medical home.

5. Transportation Assistance

Avon Hospital provides transportation to patients' home for those in financial and/or socioeconomic need.

6. Other Access Initiatives

Cleveland Clinic Avon Hospital is located on the same campus as Richard E Jacobs Health Center and Avon Rehabilitation Hospital, providing seamless access to inpatient, outpatient and post-acute care.

B. Chronic Diseases and Other Health Conditions

1. Diabetes

Cleveland Clinic's Endocrinology & Metabolism Institute is committed to providing, at Avon Hospital, the highest quality healthcare for patients with diabetes, endocrine and metabolic

disorders, and obesity. Avon Hospital provides inpatient care including clinical nutrition services to those with acute diabetic conditions.

The outreach department provides diabetes and wellness education in a community settings.

2. Heart Disease and Hypertension

Avon Hospital's Catheterization Lab provides diagnostic screenings, medical and surgical heart services.

Educational programs are available on heart related topics, including heart healthy nutrition and exercise demonstrations. Local schools have access to Cleveland Clinic's program on how to respond to a potential stroke, called Stroke 101.

3. Infant Mortality

Cleveland Clinic has created an Infant Mortality Task Force with the goal of impacting the rate of infant mortality in our communities. Cleveland Clinic will expand its educational programming and will work to strengthen and foster collaborative opportunities with other organizations in an effort to improve birth outcomes.

Cleveland Clinic providers (at both its affiliated hospitals and family health centers) will focus on prenatal screening efforts with their patients and on the management of patients at risk for preterm birth, substance abuse, and post-partum depression. Cleveland Clinic's hospital birthing centers will implement safe sleep screening.

Our community educational efforts will be focused on school-based sexuality and reproductive health for teens, and on the importance of breastfeeding for the first six months and safe sleep for new parents. The Cleveland Clinic's teams also will host Community Baby Showers in high need neighborhoods to introduce resources and programs available to high-risk patients and families.

Avon Hospital works collaboratively with Fairview Hospital, the closest Cleveland Clinic health system hospital that provides the full spectrum of birthing services.

Avon Hospital provides executive level support to the Community Health Improvement Plan (CHIP) committee for Infant Mortality in partnership with the Lorain County Health Department and other healthcare providers.

4. Mental Health Status

Avon Hospital works collaboratively with Lutheran and Marymount Hospitals to help adult patients with behavioral medicine needs through the Lutheran Hospital Adult Behavioral Medicine Center, which includes a Mood Disorders Clinic, a special geriatric psychiatry unit and offers acute behavioral health services. Avon Hospital also collaborates with Fairview Hospital to help children and adolescents through Fairview's Child & Adolescent Psychiatry Services.

Avon Hospital collaborates with the Nord Center, Lorain Health Department, Clear Vista and Lorain County Health and Dentistry to promote mental health education.

5. Obesity

Avon Hospital offers bariatric patients support by focusing on addressing obesity with modern treatment strategies, research and education. Avon Hospital will offer Healthy Community Initiatives in Lorain. These initiatives will focus on three core areas: exercise, nutrition, and lifestyle management.

Avon Hospital offers two chapters of the Healthy Strides Come Walk With Us! program, which provides community members the opportunity to walk as a group, led by a health professional. This program delivers health education as well as exercise in an effort to reduce the prevalence of obesity in Lorain County.

Avon Hospital provides executive level support to the CHIP committee for Obesity in partnership with the Lorain County Health Department and other healthcare providers.

6. Substance Abuse

Cleveland Clinic has been actively addressing rising drug abuse in our communities since 2012 when we held a day-long summit on prescription drug abuse. In 2013, we joined with the U.S. Attorney's Office and other local partners in a summit to focus on the problem of heroin addiction in our communities. A task force developed out of this summit, called the Northeast Ohio Heroin and Opioid Task Force, of which the Cleveland Clinic is a founding member. This Task Force meets regularly and recently received the U.S. Attorney General's Award for Outstanding Contributions to Community Partnerships for Public Safety.

Cleveland Clinic formed its own internal Opiate Task Force, which is an enterprise-wide, comprehensive model focused on prevention and treatment of opioid addiction in each of the communities we serve in Northeast Ohio. The Cleveland Clinic Opiate Task Force's work is divided into four subcommittees: Education & Prevention, Health Policy & Treatment, Clinical Prescribing and Chronic Pain Treatment. Cleveland Clinic will continue to address community needs in the heroin and opioid epidemic by developing internal programs, educational modules, and treatment plans, and we will also continue to collaborate with external partners on strategies and policies that will positively impact this drug epidemic.

Avon's emergency department treats and evaluates patients who may be chemically dependent, and refers them to appropriate outpatient or inpatient care. Avon Hospital collaborates with Lutheran Hospital to refer patients who require inpatient care for chemical dependency to the Lutheran Adult Drug Rehabilitation Center.

Avon Hospital outreach staff provides an educational program to local community members on the heroin/opiate crisis entitled *Triple Threat: Heroin, Fentanyl and Carfentanil.* Avon Hospital provides executive level support to the CHIP committee for Substance Abuse in partnership with the Lorain County Health Department and other healthcare providers.

C. Health Professions Education and Research

Cleveland Clinic operates one of the largest graduate medical education programs in the Midwest and one of the largest programs in the country. Cleveland Clinic sponsors a wide range of high quality medical education training through its Education Institute including accredited training programs for nurses and allied health professionals.

Cleveland Clinic Avon Hospital hosts a Pharmacy Resident, NP/PA training program, and sustains a partnership with Lorain County Community College where students rotate onsite from the following areas: radiology, lab, respiratory therapy and nursing.

Clinical trials and other clinical research activities occur throughout the Cleveland Clinic health system including at the regional hospitals.

D. Healthcare for the Elderly

Cleveland Clinic has developed a Medicare Accountable Care Organization (ACO) to serve its fee-for-service Medicare patients. The Cleveland Clinic Medicare ACO includes all Cleveland Clinic hospitals and employed physicians. It includes physicians, hospitals, and other health care providers, who come together to give coordinated high quality care to the Medicare patients they serve. Coordinated care helps ensure that patients, especially the chronically ill, get the right care at the right time, with the goal of avoiding unnecessary duplication of services and preventing medical errors.

Cleveland Clinic's Center for Geriatric Medicine assists elderly patients and their primary care physicians in the unique medical needs of aging patients. Geriatric services are designed to help preserve independence, maintain quality of life, and coordinate care among a multidisciplinary team of doctors, nurses, therapists, technicians, social workers and other medical professionals to improve outcomes for older patients. Geriatric evaluation and consults are available at various locations in the Cleveland Clinic health system.

Cleveland Clinic's Center for Connected Care provides clinical programs designed to help patients with their post-hospital needs, including: home care, hospice, mobile primary-care physician group practice, home infusion pharmacy, and home respiratory therapy. These services are often particularly important for elderly patients. The Center for Connected Care provides a unique program called Medical Care at Home in which doctors are available to provide home visits, particularly helpful to elderly patients, those with mobility issues, those with complex health conditions, and those recently discharged from a hospital, skilled nursing facility or rehabilitation facility.

Avon Hospital is a NICHE-certified facility (Nurse Improving Care for Health System Elders). NICHE hospitals follow nursing care models that recognize the specialized needs for older adult patients, emphasizing patient and family-centered care.

Avon Hospital participates in the annual Lorain County Senior Fest providing free screenings and health information for the elderly population.

E. Wellness

Avon Hospital's outreach staff offer programs and community health talks focused on healthy behavior choices including exercise, stress management, nutrition, and tobacco cessation to promote health and wellness, increase access to healthcare resources, and reduce disease burden.

Avon Hospital community outreach staff offer Come Learn With Us programs on a variety of health topics to community members.

Avon Hospital hosts an annual 5K run/walk every November which encourages community members to come together as a community and exercise.

VI. Needs Hospital Will Not Address:

Avon Hospital cannot directly address those community health needs that do not relate directly to the hospital's mission to deliver health care. These are needs that other governmental and/or nonprofit organizations have the more appropriate expertise and resources to address. Although Avon Hospital cannot address these needs directly, it does support governmental and other agencies in their efforts to help with these needs.

A. Economic Development and Community Conditions

The need for economic development and improved community conditions, including better employment opportunities and lower crime rates, was identified as a need in the CHNA. Several areas within the Avon Hospital community lack adequate social services and experience high rates of poverty, unemployment, crime, and adverse environmental conditions.

Avon Hospital cannot focus on or otherwise address the need for community services unrelated to the delivery of health care. Although Avon Hospital is not directly involved with developing community infrastructure and improving the economy because its mission relates to delivery of quality healthcare, it does and will continue to support local chambers of commerce and community development organizations, collaborate with leaders of regional economic improvement and provide in-kind donation of time, skill and /or sponsorships to support efforts in these areas.