Cleveland Clinic
Rehabilitation Hospital
In affiliation with Select Medical

Avon

Community Health Needs Assessment

2019

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Introduction

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

Avon Rehabilitation is a 60-bed rehabilitation facility offering sophisticated technology and advanced medical care within an intimate and friendly environment. Additional information on the hospital and its services is available at: https://my.clevelandclinic.org/locations/rehabilitation-hospital.

The hospital is a joint venture between Cleveland Clinic health system and Select Medical. The hospital is part of the Cleveland Clinic health system, which includes an academic medical center near downtown Cleveland, eleven regional hospitals in northeast Ohio, a children's hospital, a children's rehabilitation hospital, five southeast Florida hospitals, and a number of other facilities and services across Ohio, Florida, and Nevada. Additional information about Cleveland Clinic is available at: https://my.clevelandclinic.org/.

Select Medical is one of the largest providers of post-acute care, operating 100 critical illness recovery hospitals in 28 states, 28 rehabilitation hospitals in 12 states and 1,695 outpatient rehabilitation clinics in 37 states and the District of Columbia. Additionally, Select Medical's joint venture subsidiary Concentra operates 526 occupational health centers in 41 states. Concentra also provides contract services at employer worksites and Department of Veterans Affairs community-based outpatient clinics. At June 30, 2019, Select Medical had operations in 47 states and the District of Columbia. Additional information about Select Medical is available at: https://www.selectmedical.com/.

Each Cleveland Clinic hospital supports a tripartite mission of patient care, research, and education. Research is conducted at and in collaboration with all Cleveland Clinic hospitals. Through research, Cleveland Clinic has advanced knowledge and improved community health for all its communities, from local to national, and across the world. This allows patients to access the latest techniques and to enroll in research trials no matter where they access care in the health system. Through education, Cleveland Clinic helps to train health professionals who are needed and who provide access to health care across Ohio and the United States.

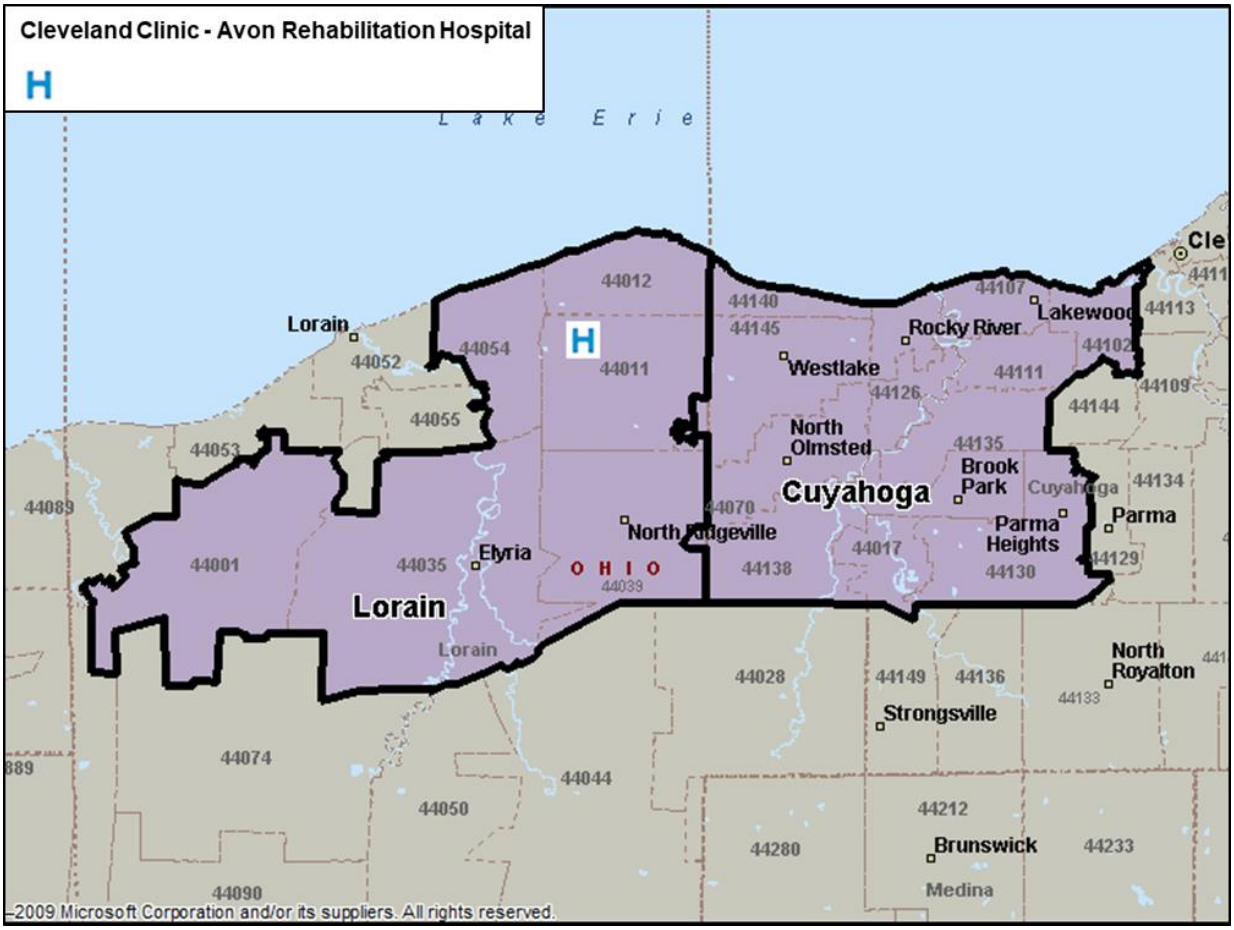
Cleveland Clinic facilities are dedicated to the communities they serve. Each facility conducts a CHNA in order to understand and plan for the current and future health needs of residents and patients in the communities it serves. The CHNAs inform the development of strategies designed to improve community 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 Rehabilitation's community is defined as 19 ZIP codes in Lorain and Cuyahoga counties, Ohio, that accounted for over 73 percent of the hospital's recent inpatient volumes. The community was defined by considering the geographic origins of the hospital's discharges in calendar year 2017 and the hospital's principal functions as a rehabilitation hospital. The total population of Avon Rehabilitation's community in 2017 was approximately 563,000.

The following map portrays the community served by Avon Rehabilitation.



Significant Community Health Needs

Avon Rehabilitation's significant community health needs as determined by analyses of quantitative and qualitative data are:

- Access to Affordable Health Care
- Chronic Disease Prevention and Management
- Socioeconomic Concerns

Significant Community Health Needs: Discussion

Access to Affordable Health Care

Access to affordable health care is challenging for some residents, particularly to primary care, mental health, dental care, addiction treatment services, and pain management services. Access barriers include cost, poverty, inadequate transportation, a lack of awareness regarding available services, and an undersupply of providers (mental health professionals, dentists, primary care physicians). The supply of providers in Lorain County is below Ohio averages for each of these types of health professionals (Sources: Exhibit 25, key stakeholder interviews).

Two community ZIP codes (home to 69,000 persons) have been identified as comparatively high need by the Dignity Health Community Need Index™. In these ZIP codes, 23 percent of residents are Black, and the poverty rate is 34 percent (over twice the Lorain County average). Admissions for ambulatory care sensitive conditions in these ZIP codes (and across the community) have been comparatively high (Sources: Exhibits 23, 31).

Federally-designated Medically Underserved Areas (MUAs), Primary Care Health Professional Shortage Areas (HPSAs), and Dental Care HPSAs are present. The Avon Rehabilitation community and Ohio as a whole need more health care professionals to meet current and future access needs.[1] The Lorain County CHIP also emphasized the need for expanding the coordination of health education and prevention services (Sources: Exhibits 33, 34, 35, other assessments, key stakeholder interviews).

Chronic Disease Prevention and Management

Chronic diseases, including addiction and mental health, heart disease, hypertension, obesity, diabetes, COPD, and others are prevalent in the community served by the hospital.

Drug abuse, particularly the abuse of opioids, is a primary concern of individuals interviewed for this CHNA. Perceived over-prescribing of prescription drugs, poverty, and mental health problems were cited as contributing factors. Deaths due to "accidental poisoning by and exposure to drugs and other biological substances" have been increasing across Ohio, and in Lorain, Cuyahoga, and Erie counties have been above average (Sources: Exhibit 27, other assessments, key stakeholder interviews).

Lorain and Cuyahoga counties rank poorly for "percent of driving deaths with alcohol involvement," compared to Ohio, national, and peer-county averages. Ohio's State Health

[1] 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.

Assessment and local health department assessments identify addressing alcohol abuse as a priority. (Sources: Exhibit 26, other assessments).

Mental health also was identified by interviewees as a significant concern. Depression, suicide, hopelessness, and isolation (particularly among elderly residents and those exposed to traumas early in life) are perceived to be increasing in severity. Rates of depression have been highest in lower-income ZIP codes. Access to mental health care is challenging due to cost, insurance benefit limits, and an undersupply of psychiatrists.

The Ohio SHIP and local health department assessments for Lorain and Cuyahoga counties all identified mental health as a priority issue. These assessments cite the need for additional services, early identification of mental health risks, and greater awareness of existing programs. (Sources: Exhibits 25, 26, 27, key stakeholder interviews, other assessments).

The CDC, Cleveland Clinic, and other organizations have identified many chronic diseases as contributors to stroke, a primary cause for the need of rehabilitation services. These conditions include high cholesterol, high blood pressure, diabetes, and obesity (Source: other assessments).

The community benchmarks poorly for the incidence of diabetes, high blood pressure, and high cholesterol, and for hospital admissions for diabetes and heart failure. Higher diabetes and heart disease rates are observed in lower-income communities. Addressing heart (or cardiovascular) disease was identified as a priority by the Ohio SHIP and the Cuyahoga County Community Health Assessment. (Sources: Exhibits 23, 30, 31, other assessments, key stakeholder interviews).

Key stakeholders also identified obesity as a persistent and worsening problem, driven by physical inactivity and poor nutrition. Poor nutrition results from the higher cost of fresh and healthy food, the presence of food deserts, and a lack of time and knowledge about how to prepare healthy meals. Physical inactivity is worsened by a lack of safe places to exercise, time, and education regarding the importance of remaining active.

In Lorain and Cuyahoga counties, the percent of adults obese (Body Mass Index greater than 30) has been above the national average. The Ohio SHIP and local health department assessments consistently identify obesity and diabetes (and reducing physical inactivity and enhancing nutrition) as priorities. (Sources: Exhibit 25, other assessments).

Key stakeholders emphasized the importance of changing unhealthy behaviors. Exercise, nutrition, and tobacco cessation programs are needed. Health education and literacy programs also are needed.

Smoking rates are comparatively high. The Ohio SHIP emphasizes the need for Ohioans to consume healthy food, reduce physical inactivity, reduce adult smoking, and reduce youth all-tobacco use. According to the Cuyahoga County Community Health Assessment, health behaviors that need attention include: flu vaccination rates, tobacco use, and physical inactivity. (Sources: Exhibit 26, other assessments, key stakeholder interviews).

Avon Rehabilitation's 65+ population is projected to grow much faster than other age groups. Providing an effective continuum of care for seniors will be challenging. Elderly residents are at greater risk for falls, food insecurity, transportation issues, and unsafe or inadequate housing. Social isolation contributes to poor physical and mental health conditions. Falls contribute to Traumatic Brain Injuries and to the need for rehabilitation services. (Sources: Exhibit 8, key stakeholder interviews, other assessments).

Socioeconomic Concerns

Key stakeholders also identified poverty and other social determinants of health as significant concerns. Poverty has significant implications for health, including the ability for households to access health services, afford basic needs, and benefit from prevention initiatives. Problems with housing, educational achievement, and access to workforce training opportunities also contribute to poor health.

Adverse Childhood Experiences (ACEs) increasingly are recognized as problematic in Ohio and the nation. ACEs refer to all types of abuse, neglect, and other traumas experienced by children. According to the CDC, ACEs have been linked to risky healthy behaviors, chronic health conditions, low life potential, and premature death.[2] America's Health Rankings indicates that Ohio ranks 43rd nationally for ACEs (a composite indicator that includes: socioeconomic hardship, divorce/parental separation, lived with someone who had an alcohol or drug problem, victim or witness of neighborhood violence, lived with someone was mentally ill or suicidal, domestic violence witness, parent served time in jail, treated or judged unfairly due to race/ethnicity, and death of a parent).[3]

Nearly 48 percent of rented households have been designated as "rent burdened," a level above the Ohio average (47 percent). In three lower-income ZIP codes, over 54 percent of these households devote more than 30 percent of household income to rent. Lorain and Cuyahoga counties also benchmark poorly for "percent of households experiencing severe housing problems" (Source: Exhibits 19, 25, 26).

Cuyahoga County has had a higher poverty rate than Ohio and the U.S. Across both counties served by Avon Rehabilitation, poverty rates for Black and Hispanic (or Latino) populations have been well above rates for Whites. Substantial variation in poverty rates is present across the community. (Sources: Exhibits 13, 14, 23).

Social determinants of health are particularly problematic in Cuyahoga County, including poverty, unemployment, affordable housing, violent crime, and high-school graduation rates. Low income areas are present throughout Lorain County, and unemployment is an issue in the county as well (Sources: Exhibits 13, 14, 15, 16, 18, 19, 25, key stakeholder interviews, other assessments).

[2] https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/aboutace.html
[3] https://www.americashealthrankings.org/explore/health-of-women-and-children/measure/ACEs/state/OH

The Northeast Ohio Coalition for the Homeless has estimated that "there were about 23,000 people experiencing homelessness in 2018 in Cuyahoga County."[4] In recent years, several Cleveland Clinic hospitals have experienced increases in emergency room encounters by homeless patients.

The Ohio SHIP establishes social determinants of health as a "cross-cutting factor" and emphasizes the need to increase third grade reading proficiency, reduce school absenteeism, address burdens associated with high cost housing, and reduce secondhand smoke exposure for children. The Cuyahoga County CHIP emphasizes how poverty and income inequality contribute to poor health. (Sources: other assessments).

[4] https://www.neoch.org/2019-overview-of-the-numbers

DATA AND ANALYSIS

Definition of Community Assessed

This section identifies the community that was assessed by Avon Rehabilitation. The community was defined by considering the geographic origins of the hospital's discharges in calendar year 2017. The definition also considered the hospital's principal functions as a rehabilitation hospital.

On that basis, Avon Rehabilitation's community is defined as 19 ZIP codes in Lorain and Cuyahoga counties, Ohio. These ZIP codes accounted for nearly 74 percent of the hospital's recent inpatient volumes (**Exhibit 1**).

Exhibit 1: Avon Rehabilitation Inpatient Discharges by ZIP Code, 2017

ZIP Code	County	City/Town	Discharges	Percent Discharges
44107	Cuyahoga	Lakewood	83	9.6%
44145	Cuyahoga	Westlake	59	6.8%
44111	Cuyahoga	Cleveland	58	6.7%
44116	Cuyahoga	Rocky River	57	6.6%
44070	Cuyahoga	North Olmsted	49	5.7%
44035	Lorain	Elyria	38	4.4%
44039	Lorain	North Ridgeville	35	4.1%
44011	Lorain	Avon	31	3.6%
44135	Cuyahoga	Cleveland	30	3.5%
44012	Lorain	Avon Lake	29	3.4%
44126	Cuyahoga	Cleveland	28	3.2%
44140	Cuyahoga	Bay Village	27	3.1%
44054	Lorain	Sheffield Lake	27	3.1%
44102	Cuyahoga	Cleveland	20	2.3%
44001	Lorain	Amherst	19	2.2%
44130	Cuyahoga	Cleveland	16	1.9%
44138	Cuyahoga	Olmsted Falls	15	1.7%
44142	Cuyahoga	Brook Park	10	1.2%
44017	Cuyahoga	Berea	4	0.5%
Community ZIP Codes			**635**	**73.5%**
All Other ZIP Codes			229	26.5%
All ZIP Codes			864	100.0%

Source: Analysis of Cleveland Clinic Discharge Data, 2018.

The community includes portions of Lorain and Cuyahoga counties. The total population of this community in 2017 was approximately 563,000 persons (**Exhibit 2**).

Exhibit 2: Community Population, 2017

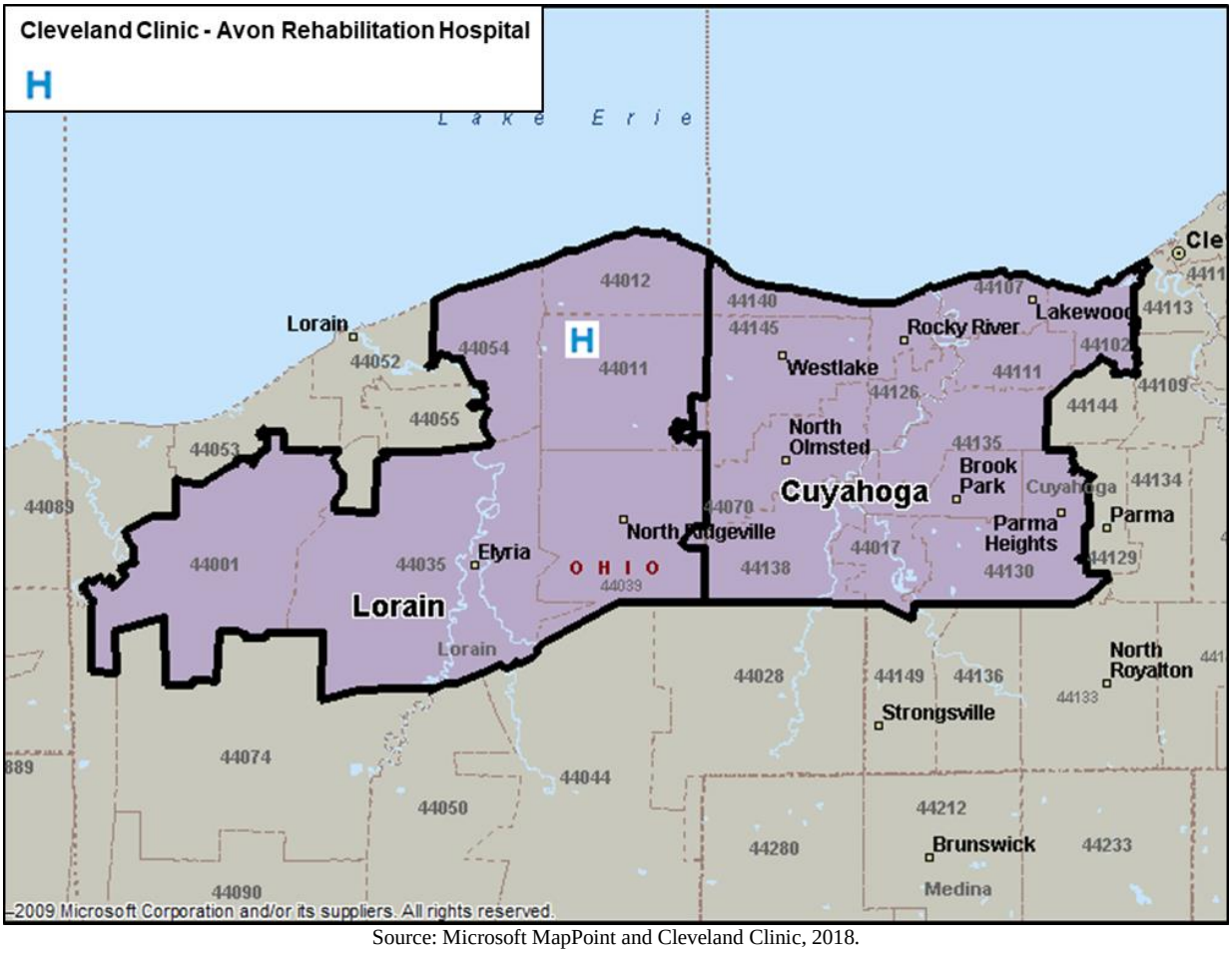
ZIP Code	County	City/Town	Total Population 2017	Percent of Total Population 2017
44035	Lorain	Elyria	63,485	11.3%
44107	Cuyahoga	Lakewood	51,600	9.2%
44130	Cuyahoga	Cleveland	49,176	8.7%
44102	Cuyahoga	Cleveland	42,397	7.5%
44111	Cuyahoga	Cleveland	38,260	6.8%
44039	Lorain	North Ridgeville	33,236	5.9%
44145	Cuyahoga	Westlake	33,048	5.9%
44070	Cuyahoga	North Olmsted	32,080	5.7%
44135	Cuyahoga	Cleveland	26,332	4.7%
44012	Lorain	Avon Lake	23,965	4.3%
44011	Lorain	Avon	23,902	4.2%
44138	Cuyahoga	Olmsted Falls	23,541	4.2%
44001	Lorain	Amherst	20,675	3.7%
44116	Cuyahoga	Rocky River	20,273	3.6%
44017	Cuyahoga	Berea	19,009	3.4%
44142	Cuyahoga	Brook Park	18,312	3.3%
44126	Cuyahoga	Cleveland	15,988	2.8%
44140	Cuyahoga	Bay Village	15,120	2.7%
44054	Lorain	Sheffield Lake	12,481	2.2%
Community Total			**562,880**	**100.0%**

Source: Truven Market Expert, 2018.

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

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

Exhibit 3: Avon Rehabilitation Community



Source: Microsoft MapPoint and Cleveland Clinic, 2018.

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 Rehabilitation community is expected to increase 0.3 percent from 2017 to 2022. However, the population 65 years of age and older is anticipated to grow by 14.0 percent during that time. This development should contribute to growing need for health services, since older individuals typically need and use more services than younger persons.

Avon Rehabilitation serves a geographic area that includes 19 ZIP codes and portions of Lorain and Cuyahoga counties. Substantial variation in demographic characteristics (e.g., race/ethnicity and income levels) exists across this area.

In 2017, over 20 percent of the population in two ZIP codes was Black. These ZIP codes, located in Cuyahoga County, also are associated with comparatively high poverty rates and comparatively poor health status. In seven ZIP codes, the percent of the population Black was under two percent.

Economic Indicators

On average, people living in low-income households are less healthy than those living in more prosperous areas. According to the U.S. Census, in the 2012-2016 period, 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. The poverty rate in Lorain County has been below the national average.

Across both counties in the community, poverty rates for Black and for Hispanic (or Latino) residents have been higher than rates for Whites. For example, in Lorain County the rate for Black residents was 36.5 percent. For Whites, it was 11.0 percent.

A number of low-income census tracts can be found in Avon Rehabilitation's community. Most of these same areas are where over 50 percent of households are "rent burdened."

After several years of improvement, between 2015 and 2017, unemployment rates in Lorain and Cuyahoga counties increased. In 2017, rates in both counties were above national averages.

Notably, crime rates in Cuyahoga County have been above Ohio averages. Crime rates in Lorain County have been below Ohio averages for all offenses.

Ohio was among the U.S. states that expanded Medicaid eligibility pursuant to the Patient Protection and Affordable Care Act (ACA, 2010). On average, approximately four percent of those living in the community served by Avon Rehabilitation were uninsured in 2017.

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 19 ZIP codes in the Avon Rehabilitation community scored in the "highest need" CNI category and two were found to be "lowest need."

Other 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) and Cuyahoga County ranked 60th.

These overall rankings are derived from 42 measures that themselves are grouped into several categories such as "health behaviors," and "social & economic factors."

- In 2018, Lorain County ranked in the bottom 50th percentile among Ohio counties for 19 of the 42 indicators assessed. Of those, 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.

- In Cuyahoga County, 28 of the 42 indicators ranked in the bottom 50th percentile among Ohio counties. Of those, 15 were in the bottom quartile, including quality of life, social and economic factors, physical environment, and various socioeconomic indicators.

- Both counties ranked in the bottom quartile for alcohol-impaired driving deaths, sexually transmitted infections, children in single-parent households, social associations, and severe housing problems.

The 2018 *County Health Rankings* shows that each county has unique community health issues. However, a few are present across the community, including:

- Injury mortality rate
- Percent of adults who drive alone to work with long commutes
- Percent of children living in single-parent households
- Percent of driving deaths with alcohol involvement
- Social associations rate
- Teen birth rate
- Unemployment
- Violent crime rate

Community Health Status Indicators ("CHSI") compares indicators for each county with those for peer counties across the United States. Each county is compared to 30 to 35 of its peers. Peers are selected based on a number of socioeconomic characteristics, such as population size, population density, percent elderly, and poverty rates.

The counties served by Avon Rehabilitation benchmark most poorly for:

- Percent of adults who smoke
- Food environment index
- Percent of driving deaths alcohol-impaired

- Chlamydia rate
- Preventable hospitalizations rate
- High school graduation rate
- Unemployment
- Income ratio
- Percent of children living in single-parent households
- Air pollution (average daily PM2.5)

Mortality statistics published by the Ohio Department of Health show how deaths due to "accidental poisoning by and exposure to drugs and other biological substances" have been increasing across the state. At 52.0 per 100,000, the 2016 mortality rate in Lorain County was well over the Ohio average (36.8 per 100,000); the Cuyahoga County rate of 44.6 was above the state rate as well.

Lorain and Cuyahoga counties each have had higher than average age-adjusted incidence rates for cancer.

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, diabetes, high blood pressure, and high cholesterol were more prevalent in ZIP codes served by Avon Rehabilitation than in other parts of Ohio.

Ambulatory Care Sensitive Conditions

Ambulatory Care Sensitive Conditions ("ACSCs") include thirteen 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."[5] Among these conditions are: diabetes, perforated appendixes, chronic obstructive pulmonary disease ("COPD"), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

ACSC rates in Avon Rehabilitation community ZIP codes have exceeded Ohio averages for COPD, urinary tract infections, dehydration, bacterial pneumonia, diabetes long-term complications, uncontrolled diabetes, diabetes short-term complications, congestive heart failure, lower-extremity amputation among patients with diabetes, and young adult asthma.

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 community census tracts have been designated as food deserts, particularly in Lorain County.

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

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 in Cuyahoga and Lorain counties have been designated as medically underserved areas.

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 census tracts in Cuyahoga County have been designated as primary care and dental care HPSAs.

Relevant Findings of Other CHNAs

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

The issues most frequently identified as *significant* in these other assessments are:

- Drug addiction and abuse
- Mental health
- Social determinants of health
- Maternal and child health (including infant mortality)
- Prevalence (and need to manage) chronic diseases
- Obesity and diabetes
- Access to primary care and prevention services
- Health disparities

The Avon Rehabilitation CHNA also has identified the above issues as *significant*, in part because this CHNA considered findings from these other assessments as an important factor in the prioritization process. The Avon Rehabilitation CHNA places more emphasis on health needs of a growing seniors population and includes more information on preventable hospital admissions.

Significant Indicators

Exhibit 4 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 average for Ohio was 34 percent. The last column of the **Exhibit 4** 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, community counties' peers 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 4: Significant Indicators

Indicator	Area	Value	Benchmark		Exhibit
			Value	Area	
65+ Population change, 2017-2022	Community ZIP codes	14.0%	0.3%	Total Community Population	8
Percent disabled, 2012-2016	Lorain County	15.4%	13.8%	Ohio	12
Poverty rate, 2012-2016	Cuyahoga County	18.5%	15.4%	Ohio	13
Poverty rate, 2012-2016	"Highest Need" ZIP codes	34.0%	3.7%	"Lowest Need" ZIP codes	23
% of Population Black, 2017	"Highest Need" ZIP codes	23.0%	1.0%	"Lowest Need" ZIP codes	23
Poverty rate, Black, 2012-2016	Lorain County	36.5%	14.0%	Lorain County, Total	14
Unemployment rate	Lorain County	6.2%	4.4%	United States	16
Percent ninth-grade cohort graduates	Cuyahoga County	74.8%	83.0%	United States	25
Percent children in poverty	Cuyahoga County	26.4%	20.0%	United States	25
Percent of households with severe housing problems	Cuyahoga County	18.5%	15.0%	Ohio	25
Percent of households rent burdened	Community ZIP codes	47.5%	46.7%	Ohio	19
Violent Crimes per 100,000	Cuyahoga County	695	306	Ohio	18
Percent driving deaths w/alcohol involvement	Lorain County	46.4%	34.3%	Ohio	25
	Cuyahoga County	44.0%	34.3%	Ohio	25
Mortality rate for accidental poisoning by drugs and other substances per 100,000	Lorain County	52.0	36.8	Ohio	27
Percent of adults that report a BMI >= 30	Lorain County	30.4%	28.0%	United States	25
	Cuyahoga County	29.9%	28.0%	United States	25
Diabetes incidence	Community ZIP codes	16.5%	15.7%	Ohio	30
Percent of adults that smoke	Cuyahoga County	20.6%	16.2%	Peer Counties	26
	Lorain County	19.9%	19.6%	Peer Counties	26
Cancer incidence rate per 100,000	Lorain County	464	462	Ohio	29
	Cuyahoga County	483	462	Ohio	29
Population per primary care physician	Lorain County	1,744	1,320	United States	25
Population per dentist	Lorain County	2,142	1,480	United States	25
Population per mental health provider	Lorain County	772	470	United States	25
Preventable admissions (for ambulatory care sensitive conditions) per 1,000 Medicare enrollees	Lorain County	65	49	United States	25
PQI: COPD per 100,000	Community ZIP codes	976	696	Ohio	31
Average Daily PM 2.5 (Particulate Matter, a measure of air pollution)	Lorain County	11.3	8.7	United States	25
	Cuyahoga County	12.9	8.7	United States	25

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). Twenty-five (25) interviews were conducted with individuals regarding significant community health needs in the community served by Avon Rehabilitation and why such needs are present.

Interviewees most frequently identified the following community health issues as significant concerns.

- **Poverty and other social determinants of health** were identified as significant concerns. Interviewees stated that poverty has significant implications for health, including the ability for households to access health services, afford basic needs, and benefit from prevention initiatives.
    - **Housing** is an issue, with many community residents unable to find housing that is both affordable and safe. Low income and elderly populations were identified as especially vulnerable. Poor housing contributes to lead exposure and falling risks, among other health problems.
    - Problems with **educational achievement** and access to **workforce training** opportunities reduce employment prospects and increase poverty rates. Additionally, problems with **unemployment and access to jobs** were identified.
    - **Health services** are expensive, particularly for lower-income, uninsured individuals.
- **Obesity** (and its contributions to chronic diseases including diabetes and hypertension) was identified as growing problem, driven by ongoing difficulties with physical inactivity and poor nutrition.
    - Many are not eating healthy foods due to the higher costs of fresh and healthy options, food deserts that create access problems, a lack of knowledge about healthy cooking, and a lack of time (particularly for people working several jobs) to prepare meals.
    - Contributors to physical inactivity include a lack of safe places to exercise, a lack of time, and a lack of education regarding the importance of remaining active.
- **Mental health** was identified by many as a significant concern. Depression, suicide, hopelessness, and isolation (particularly among elderly residents and those exposed to traumas early in life) are perceived to be increasing in severity. Access to mental health care is challenging due to cost (and limited benefits) and an undersupply of psychiatrists and other providers.
- **Transportation** was identified as a barrier to maintaining good health. Few public transportation options are available, and many neighborhoods are not serviced at all.

Transportation affects access to health care services, healthy foods, and employment opportunities. Low-income and elderly residents were identified as groups that had the largest unmet transportation needs.

- **Substance abuse and addiction**, particularly the abuse of opioids, was a primary concern of many interviewees. Perceived over-prescribing of prescription drugs, poverty and economic insecurity, and mental health problems were cited as contributing factors.

    - While problems with opioids were mentioned most frequently, several interviewees stated that misuse of other drugs (primarily methamphetamines) is on the rise. They emphasized that underlying addiction is the real problem.

- **Health disparities** are present – particularly for infant mortality rates and the prevalence of chronic conditions. Low-income, Black, and Hispanic (or Latino) residents were specifically identified as groups with disproportionately poor health outcomes.

    - Health care services need to be more culturally competent. Language and cultural barriers make it challenging for providers to improve the health of many residents.

- Many identified a need for more **localized, community-based health clinics and programs**. While the region has many hospitals and physician groups, these entities "do not have a great connection with the community." Health systems need to improve their local presence, building up connections with local stakeholders and communities.

- Interviewees stated that community needs more **health education** and better understanding of the health care system. Community residents are unsure about where and how they can access certain services. Questions about insurance coverage and more generally how to achieve a healthy life are prevalent. Prevention initiatives are needed by many. Additionally, the need for **better referral mechanisms and a continuum of care** was discussed by several interviewees.

- A **lack of pain management programs** and an **undersupply of substance abuse treatment programs** were identified as two significant health access issues.

OTHER FACILITIES AND RESOURCES IN THE COMMUNITY

This section identifies other facilities and resources available in the community served by Avon Rehabilitation 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 nine FQHC sites operating in the Avon Rehabilitation community (**Exhibit 5**).

Exhibit 5: Federally Qualified Health Centers, 2018

County	ZIP Code	Site Name	City	Address
Cuyahoga	44102	Detroit Shoreway Community Health Center	Cleveland	6412 Franklin Blvd
Lorain	44001	Leavitt Road	Amherst	554 N Leavitt Rd
Lorain	44035	Lorain County Health & Dentistry	Elyria	412 E River St
Cuyahoga	44102	Neighborhood Family Practice Administrative Annex	Cleveland	3600 Ridge Rd
Cuyahoga	44102	Neighborhood Family Practice Mobile Van 1	Cleveland	3569 Ridge Rd
Cuyahoga	44135	Puritas Community Health Center (Relocation)	Cleveland	14625 Puritas Ave
Cuyahoga	44102	Ridge Community Health Center	Cleveland	3569 Ridge Rd
Cuyahoga	44111	W. 117 Community Health Center	Cleveland	11709 Lorain Ave
Lorain	44035	Wilkes Villa Public Housing	Elyria	105 Louden Ct

Source: HRSA, 2018.

Data published by HRSA indicate that in 2017, FQHCs served approximately 10 percent of uninsured, Avon Rehabilitation community residents and 12 percent of the community's Medicaid recipients.[6] In Ohio, FQHCs served about 15 percent of both population groups. Nationally, FQHCs served 22 percent of uninsured individuals and 18 percent of Medicaid recipients. These percentages ranged from 6 percent (Nevada) to 40 percent (Washington State).

Hospitals

Exhibit 6 presents information on hospital facilities located in the Avon Rehabilitation community.

[6] HRSA refers to these statistics as FQHC "penetration rates."

Exhibit 6: Hospitals, 2018

ZIP Code	County	City/Town	Hospital Name	Address
44011	Lorain	Avon	Cleveland Clinic Avon Hospital	33300 Cleveland Clinic Blvd
44011	Lorain	Avon	Cleveland Clinic Rehabilitation Hospitals LLC - Avon	33355 Health Campus Blvd
44001	Lorain	Amherst	Community Specialty Hospital	254 Cleveland Avenue, 2nd Floor
44111	Cuyahoga	Cleveland	Fairview Hospital	18101 Lorain Avenue
44130	Cuyahoga	Cleveland	Southwest General Health Center	18697 Bagley Road
44145	Cuyahoga	Westlake	University Hospitals St John Medical Center	29000 Center Ridge Road
44035	Lorain	Elyria	University Hospitals - Elyria Medical Center	630 East River Street
44011	Lorain	Avon	University Hospitals Avon Rehabilitation Hospital	37900 Chester Road

Source: Ohio Department of Health, 2019.

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 Rehabilitation. 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/.

IMPACT EVALUATION

Regulations that apply to CHNAs conducted by tax-exempt hospitals require CHNA reports to include "an evaluation of the impact of any actions that were taken, since the hospital facility finished conducting its immediately preceding CHNA, to address the significant health needs identified in the hospital facility's prior CHNA(s)."

The actions being implemented by Avon Rehabilitation are described in its Implementation Strategy Report. *See:* https://my.clevelandclinic.org/-/scassets/files/org/about/community-reports/chna/2017/2017-cleveland-clinic-rehabilitation-hospital-avon-chna.ashx?la=en

The hospital finished conducting its immediately preceding CHNA in 2017. The hospital's authorized body adopted its most recent Implementation Strategy in May 2018.

That Implementation Strategy indicated that the hospital plans to address the following health needs identified in its 2017 CHNA:

A. Access to Affordable Healthcare
B. Chronic Diseases and Other Health Conditions
    1. Heart Disease and Hypertension
    2. Mental Health Status
    3. Obesity and Diabetes
    4. Substance Abuse and Chemical Dependency
C. Healthcare for the Elderly
D. Wellness

In 2016, the Ohio Department of Health also promulgated new CHNA requirements that require the state, county health departments, and hospitals to prepare CHNA reports in alignment (on the same three year cycle). To comply with the new state requirements and align with the schedule being followed by other Cleveland Clinic hospitals, Avon Rehabilitation conducted this subsequent CHNA in 2019.

The initiatives in Avon Rehabilitation's May 2018 Implementation Strategy Report have been in place for a year, and it is too early to describe and evaluate their impacts. Most initiatives are likely to be included again in the hospital's next Implementation Strategy Report. Avon Rehabilitation looks forward to describing the impact of these and other actions that address community health needs in its 2022 CHNA report.

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.[7] 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[8] 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?

[7] Internal Revenue Code, Section 501(r).
[8] 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)."[9] Accordingly, the community definition considered the geographic origins of the hospital's patients and also the hospital's mission, target populations, principal functions, and strategies.

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

Data from multiple sources were gathered and assessed, including secondary data[10] 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.

In addition, data was gathered to evaluate the impact of various services and programs identified in the previous CHNA process. *See* Appendix D.

Collaborating Organizations

For this assessment, Avon Rehabilitation collaborated with the following Cleveland Clinic and Cleveland Clinic – Select Medical hospitals: Main Campus, Cleveland Clinic Children's, Cleveland Clinic Children's Hospital for Rehabilitation, Avon, 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

[9] 501(r) Final Rule, 2014.
[10] "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.

facilities collaborated by 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 25 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.

The Cleveland Clinic health system posts CHNA reports online at www.clevelandclinic.org/CHNAReports and makes an email address (chna@ccf.org) available for purposes of receiving comments and questions. No written comments have yet been received on CHNA reports.

Information Gaps

This CHNA relies on multiple data sources and community input gathered between July 2018 and January 2019. A number of data limitations should be recognized when interpreting results. For example, some data (e.g., County Health Rankings, Community Health Status Indicators, 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 Rehabilitation includes portions of two separate counties (Lorain and Cuyahoga counties). County-wide data for each of these counties 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 Arlington, 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 Rehabilitation community. Avon Rehabilitation's community is comprised of 19 ZIP codes in Lorain and Cuyahoga counties, Ohio.

Demographics

Exhibit 7: Percent Change in Community Population by ZIP Code, 2017-2022

County	City/Town	ZIP Code	Estimated Population 2017	Projected Population 2022	Percent Change 2017 - 2022
Lorain	Avon	44011	23,902	25,545	6.9%
Lorain	North Ridgeville	44039	33,236	35,157	5.8%
Lorain	Avon Lake	44012	23,965	24,907	3.9%
Cuyahoga	Olmsted Falls	44138	23,541	24,277	3.1%
Lorain	Sheffield Lake	44054	12,481	12,594	0.9%
Lorain	Amherst	44001	20,675	20,829	0.7%
Cuyahoga	Westlake	44145	33,048	33,292	0.7%
Cuyahoga	Rocky River	44116	20,273	20,292	0.1%
Lorain	Elyria	44035	63,485	63,434	-0.1%
Cuyahoga	Berea	44017	19,009	18,990	-0.1%
Cuyahoga	Cleveland	44135	26,332	26,208	-0.5%
Cuyahoga	Lakewood	44107	51,600	51,348	-0.5%
Cuyahoga	Cleveland	44130	49,176	48,643	-1.1%
Cuyahoga	North Olmsted	44070	32,080	31,697	-1.2%
Cuyahoga	Cleveland	44126	15,988	15,743	-1.5%
Cuyahoga	Bay Village	44140	15,120	14,876	-1.6%
Cuyahoga	Cleveland	44111	38,260	37,542	-1.9%
Cuyahoga	Brook Park	44142	18,312	17,939	-2.0%
Cuyahoga	Cleveland	44102	42,397	41,452	-2.2%
Community Total			**562,880**	**564,765**	**0.3%**

Source: Truven Market Expert, 2018.

Description

Exhibit 7 portrays the estimated population by ZIP code in 2017 and projected to 2022.

Observations

- Between 2017 and 2022, eight of 19 ZIP codes are projected to increase in population. The total community population is expected to increase by 0.3 percent.

- The population in ZIP code 44011 (where the hospital is located) is expected to increase by 6.9 percent, the highest expected growth of any community ZIP code.

Exhibit 8: Percent Change in Population by Age/Sex Cohort, 2017-2022

Age/Sex Cohort	Estimated Population 2017	Projected Population 2022	Percent Change 2017 - 2022
0 - 17	121,029	118,240	-2.3%
Female 18 - 34	58,005	56,404	-2.8%
Male 18 - 34	57,544	57,142	-0.7%
35 - 64	227,274	220,038	-3.2%
65+	99,028	112,941	14.0%
Community Total	**562,880**	**564,765**	**0.3%**

Source: Truven Market Expert, 2018.

Description

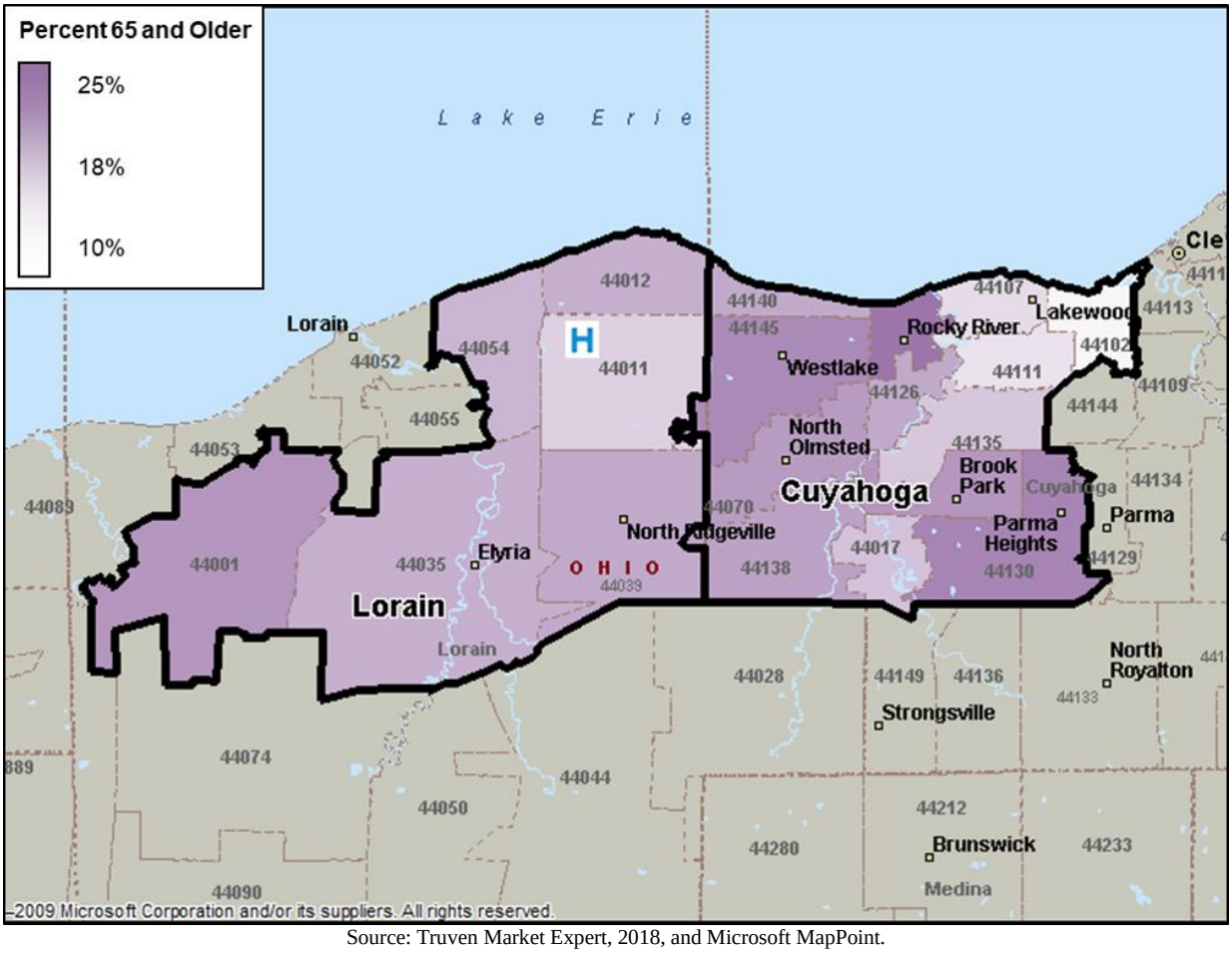
Exhibit 8 shows the community's population for certain age and sex cohorts in 2017, with projections to 2022.

Observations

- While the total community population is expected to increase 0.3 percent between 2017 and 2022, the number of persons aged 65 years and older is projected to increase by 14.0 percent.

- 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 9: Percent of Population Aged 65+ by ZIP Code, 2017



Source: Truven Market Expert, 2018, and Microsoft MapPoint.

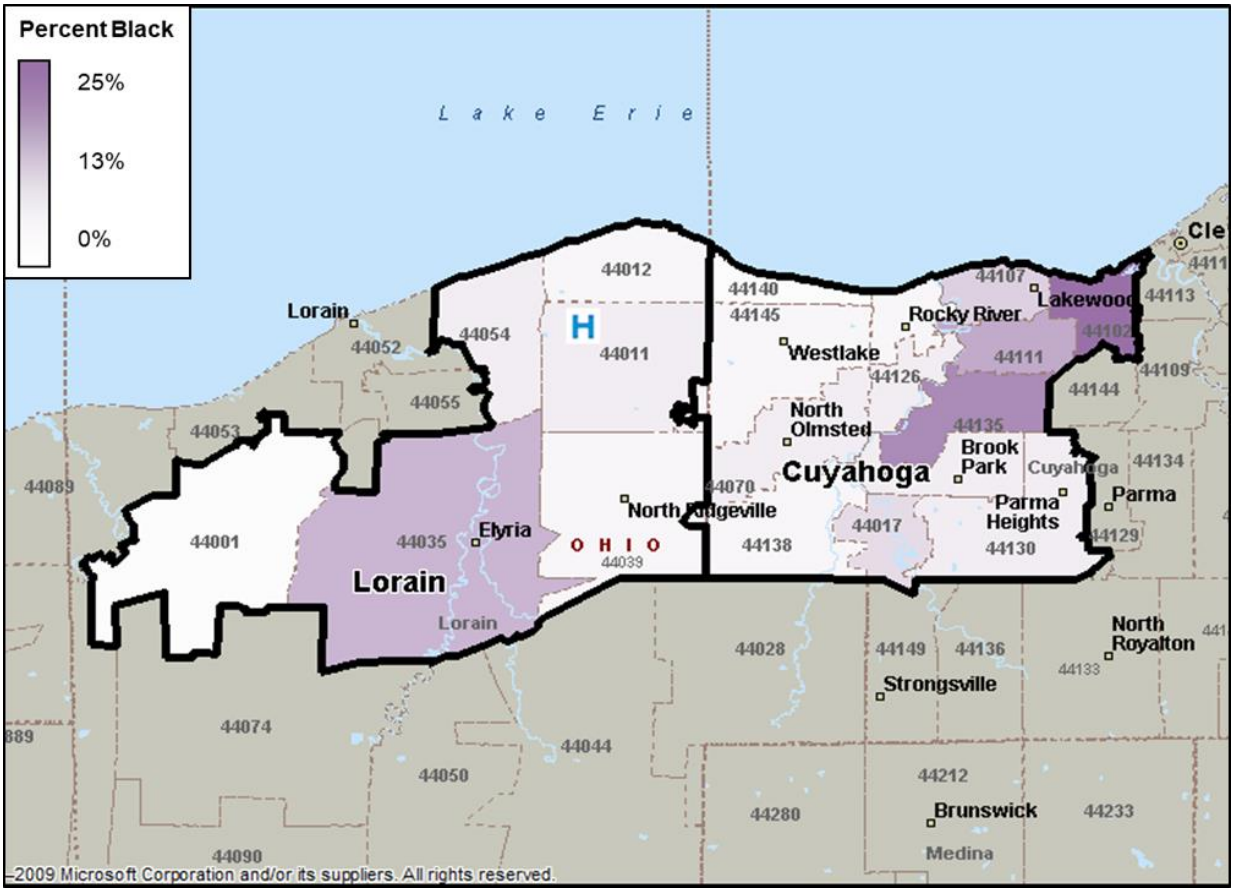
Description

Exhibit 9 portrays the percent of the population 65 years of age and older by ZIP code.

Observations

- Cuyahoga County ZIP codes 44116, 44130, and 44145 have the highest proportions of the population 65 years of age and older (each over 22 percent).

Exhibit 10: Percent of Population - Black, 2017



Source: Truven Market Expert, 2018, and Microsoft MapPoint.

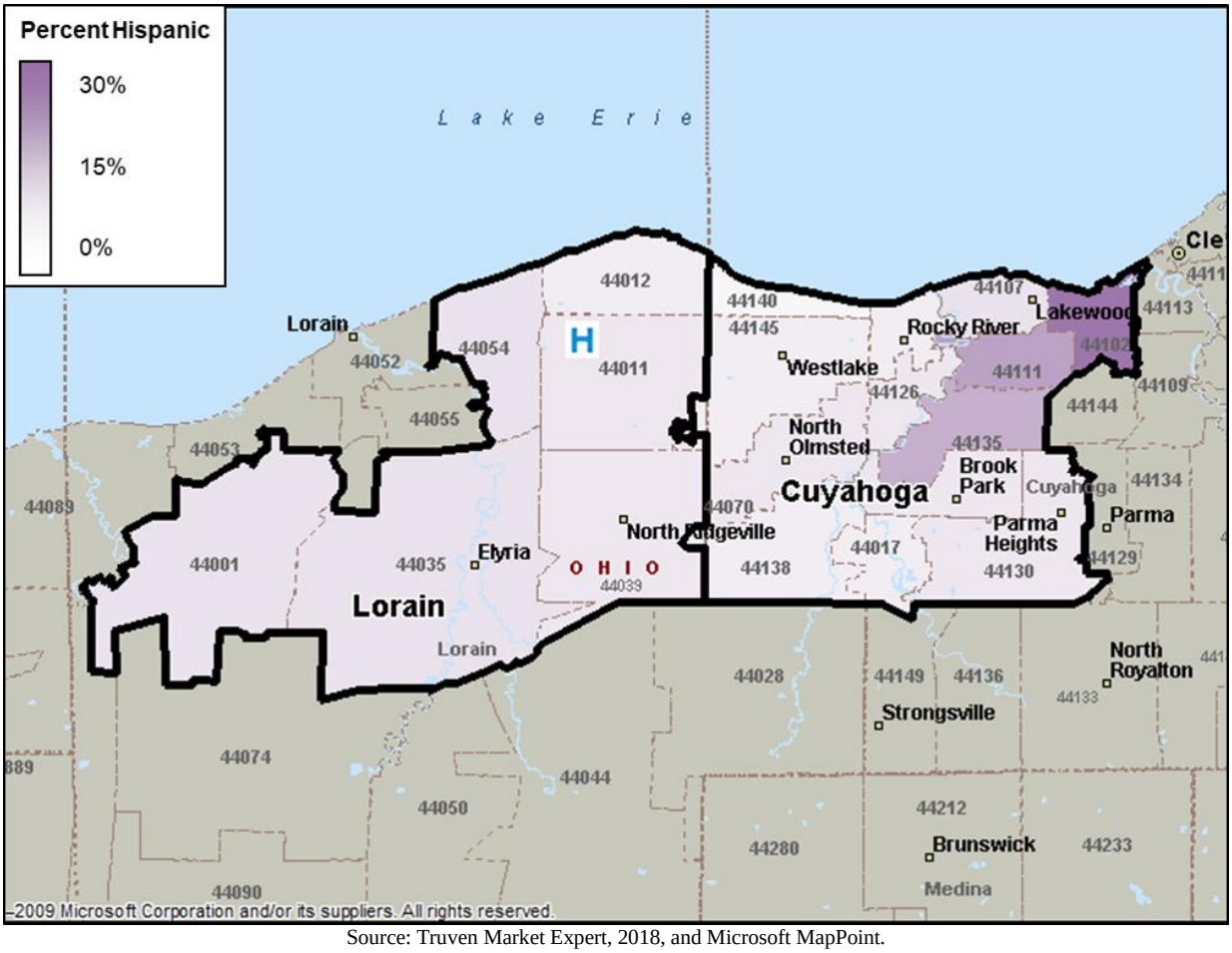
Description

Exhibit 10 portrays locations where the percentages of the population that are Black were highest in 2017.

Observations

- In two Cuyahoga County ZIP codes, over 20 percent of residents were Black (44102 and 44135).
- In 2017, the percentage of residents who are Black was under two percent in seven ZIP codes.

Exhibit 11: Percent of Population – Hispanic (or Latino), 2017



Source: Truven Market Expert, 2018, and Microsoft MapPoint.

Description

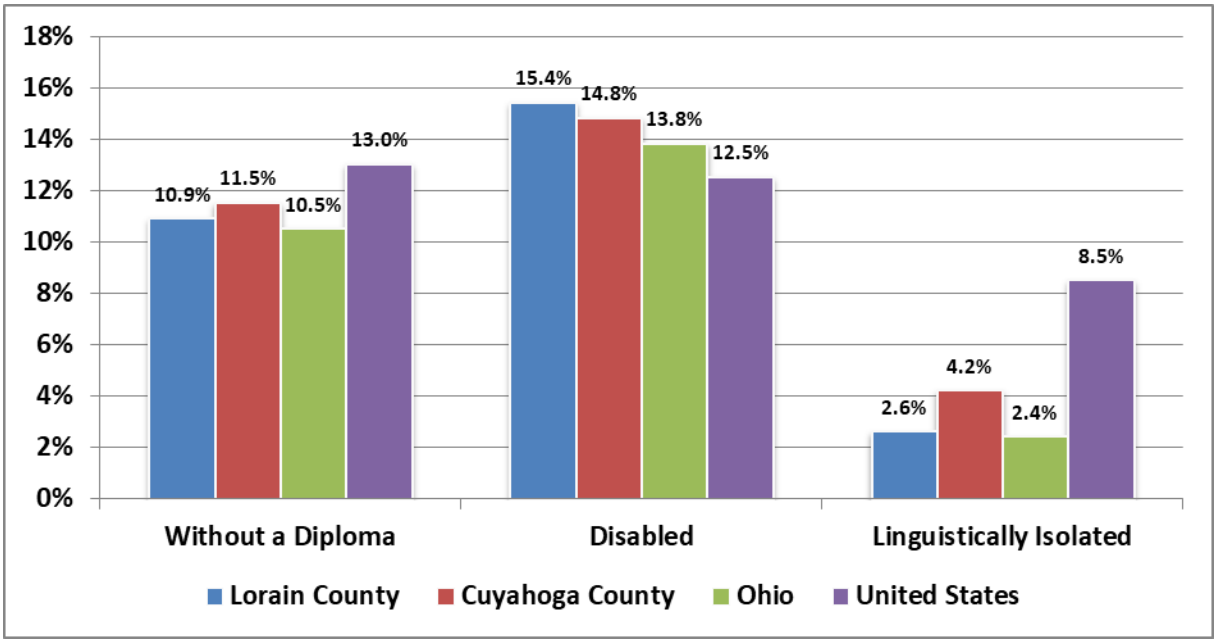
Exhibit 11 portrays locations where the percentages of the population that are Hispanic (or Latino) were highest in 2017.

Observations

- The percentage of residents that are Hispanic (or Latino) was highest in Cuyahoga County ZIP codes 44102 (28 percent), 44111 (19 percent), and 44135 (16 percent).

- No other community ZIP code was over seven percent.

Exhibit 12: Other Socioeconomic Indicators, 2012-2016



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

Description

Exhibit 12 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

- The percentage of residents aged 25 years and older without a high school diploma in Lorain and Cuyahoga counties has been higher than the Ohio average.

- Lorain and Cuyahoga counties had a higher percentage of the population with a disability compared to Ohio and United States averages.

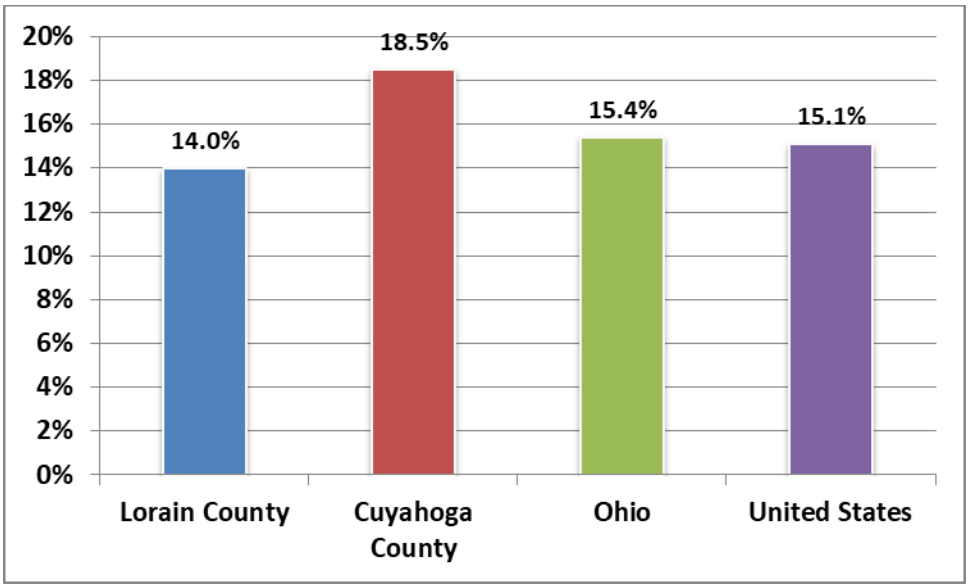
- Compared to Ohio (but not to the United States), Lorain and Cuyahoga counties had a higher proportion of the population that is linguistically isolated. Linguistic isolation is defined as residents who speak a language other than English and speak English less than "very well."

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 13: Percent of People in Poverty, 2012-2016



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

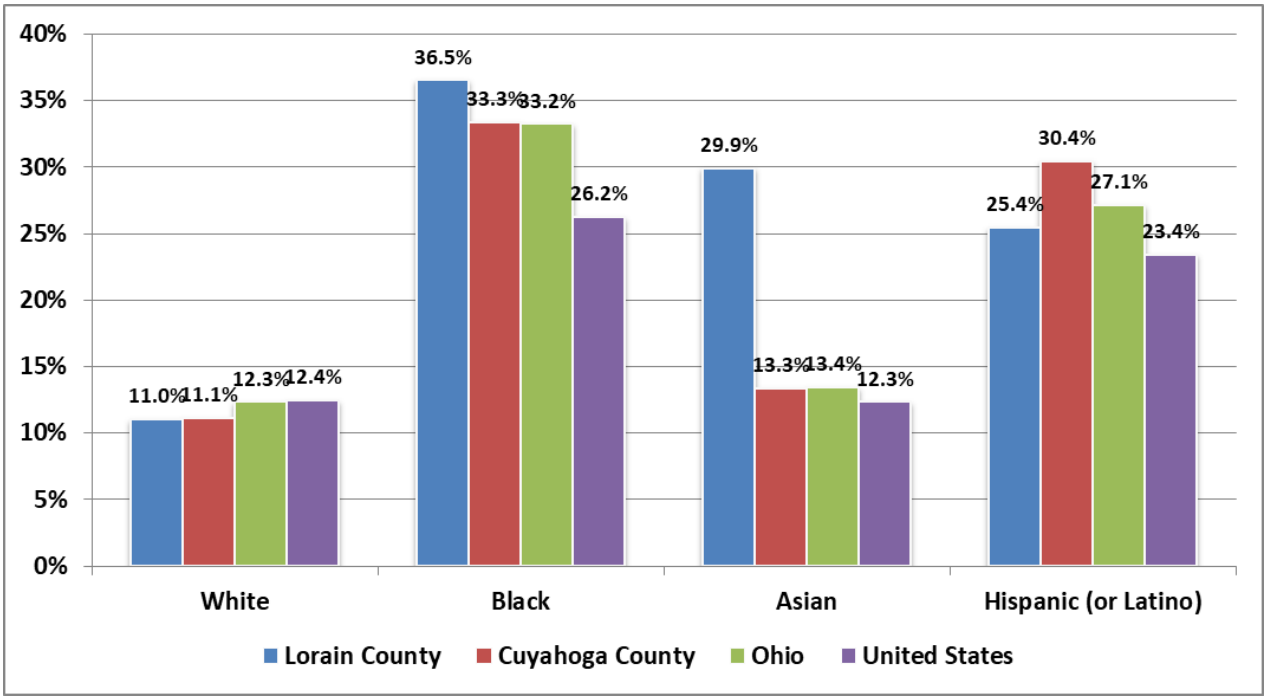
Description

Exhibit 13 portrays poverty rates by county.

Observations

- The poverty rate in Cuyahoga County was higher than Ohio and national averages throughout 2012-2016.
- The rate in Lorain County was below Ohio and United States averages.

Exhibit 14: Poverty Rates by Race and Ethnicity, 2012-2016



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

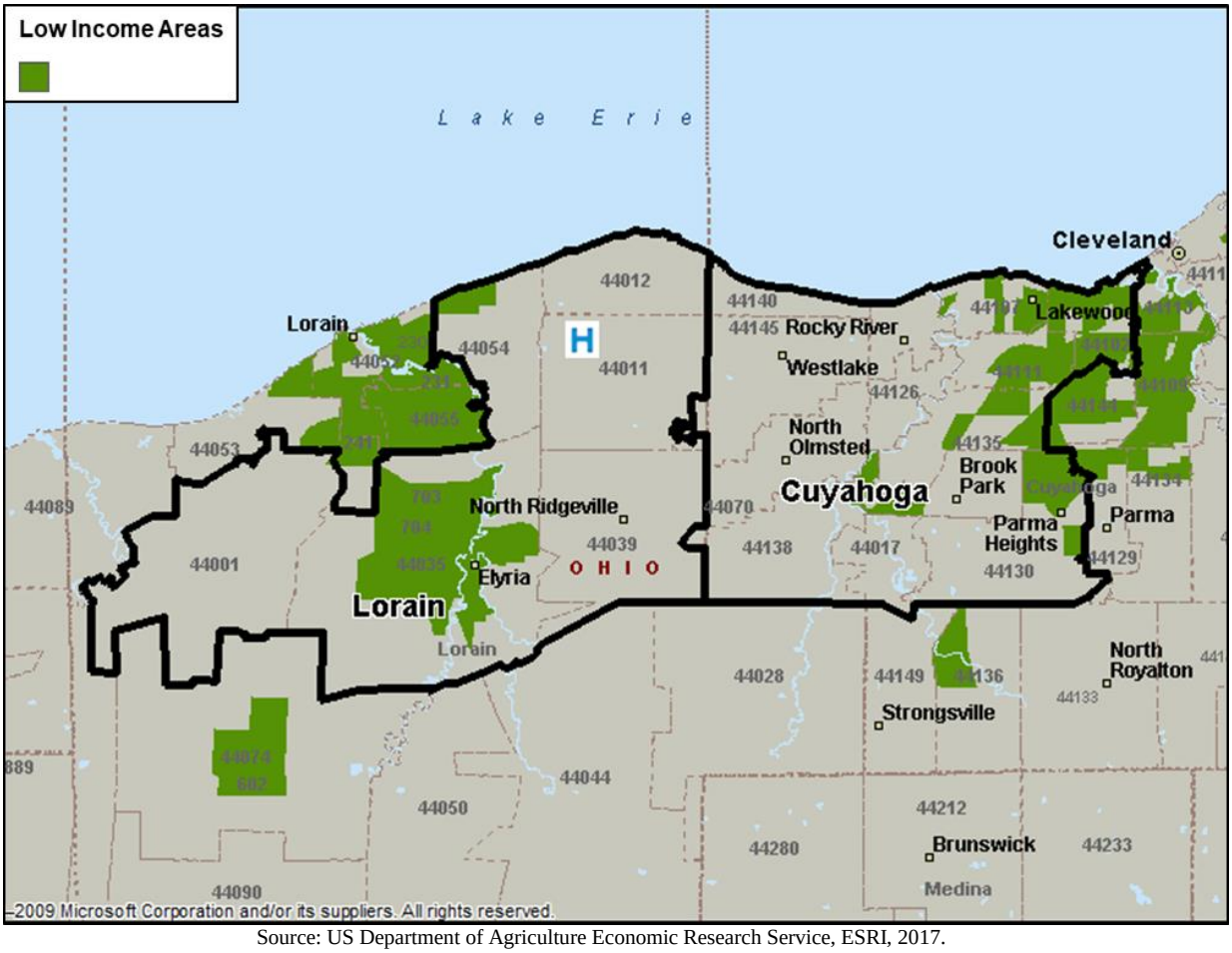
Description

Exhibit 14 portrays poverty rates by race and ethnicity.

Observations

- Poverty rates have been higher for Black and Hispanic (or Latino) residents than for Whites.
- The poverty rates for Black residents in Lorain County and Cuyahoga County have been higher than poverty rates for Black individuals across Ohio and the United States.

Exhibit 15: Low Income Census Tracts, 2017



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

Description

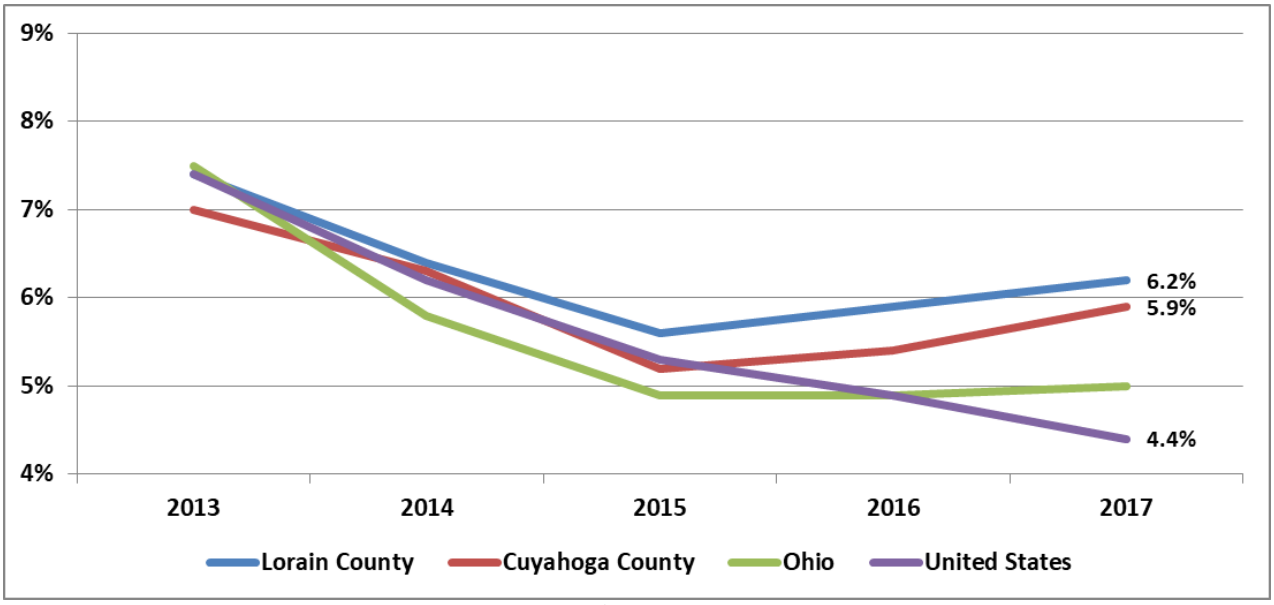
Exhibit 15 portrays the location of federally-designated low income census tracts.

Observations

- Low income census tracts have been present in both Lorain and Cuyahoga counties.

Unemployment

Exhibit 16: Unemployment Rates, 2013-2017



Source: Bureau of Labor Statistics, 2018.

Description

Exhibit 16 shows unemployment rates for 2013 through 2017 by county, with Ohio and national rates for comparison.

Observations

- Between 2012 and 2015, unemployment rates at the local, state, and national levels declined significantly. Between 2015 and 2017, unemployment rates increased slightly in both Lorain and Cuyahoga counties.

- Rates in Lorain and Cuyahoga counties were above Ohio and U.S. averages in 2017.

Insurance Status

Exhibit 17: Percent of the Population without Health Insurance, 2017-2022

County	City/Town	ZIP Code	Total Population 2017	Percent Uninsured 2017	Total Population 2022	Percent Uninsured 2022
Cuyahoga	Cleveland	44102	42,397	6.7%	41,452	5.7%
Cuyahoga	Cleveland	44135	26,332	5.2%	26,208	4.5%
Cuyahoga	Cleveland	44111	38,260	5.1%	37,542	4.3%
Lorain	Elyria	44035	63,485	4.7%	63,434	4.1%
Cuyahoga	Lakewood	44107	51,600	4.5%	51,348	3.6%
Cuyahoga	Cleveland	44130	49,176	3.6%	48,643	3.0%
Cuyahoga	Cleveland	44126	15,988	3.4%	15,743	2.9%
Cuyahoga	Berea	44017	19,009	3.4%	18,990	2.8%
Cuyahoga	Brook Park	44142	18,312	3.3%	17,939	2.8%
Lorain	Sheffield Lake	44054	12,481	3.2%	12,594	2.7%
Cuyahoga	Rocky River	44116	20,273	2.8%	20,292	2.5%
Lorain	Avon	44011	23,902	2.8%	25,545	2.7%
Lorain	Amherst	44001	20,675	2.7%	20,829	2.4%
Cuyahoga	Olmsted Falls	44138	23,541	2.7%	24,277	2.4%
Lorain	Avon Lake	44012	23,965	2.6%	24,907	2.4%
Cuyahoga	Westlake	44145	33,048	2.5%	33,292	2.1%
Cuyahoga	North Olmsted	44070	32,080	2.5%	31,697	2.1%
Cuyahoga	Bay Village	44140	15,120	2.2%	14,876	2.0%
Lorain	North Ridgeville	44039	33,236	1.7%	35,157	1.5%
Community Total			**562,880**	**3.7%**	**564,765**	**3.2%**

Source: Truven Market Expert, 2018.

Description

Exhibit 17 presents the estimated percent of population in community ZIP codes without health insurance (uninsured) – in 2017 and with projections to 2022.

Observations

- In 2017, the highest "uninsurance rates" were in Cuyahoga County ZIP codes.
- 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.[11]

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

Crime Rates

Exhibit 18: Crime Rates by Type and Jurisdiction, Per 100,000, 2016

Crime	Lorain County	Cuyahoga County	Ohio
Violent Crime	150.9	694.9	**305.9**
Property Crime	1,369.6	2,977.7	**2,537.4**
Murder	4.5	15.1	**5.9**
Rape	33.4	57.6	**47.4**
Robbery	50.3	327.7	**111.1**
Aggravated Assault	62.7	294.5	**141.5**
Burglary	373.4	753.6	**573.5**
Larceny	930.8	1,742.1	**1,789.7**
Motor Vehicle Theft	65.3	482.0	**174.2**
Arson	9.0	33.6	**23.4**

Source: FBI, 2017.

Description

Exhibit 18 provides crime statistics. Light grey shading indicates rates that were higher (worse) than the Ohio average; dark grey shading indicates rates that 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.
- Lorain County rates were below Ohio averages for all crime types.

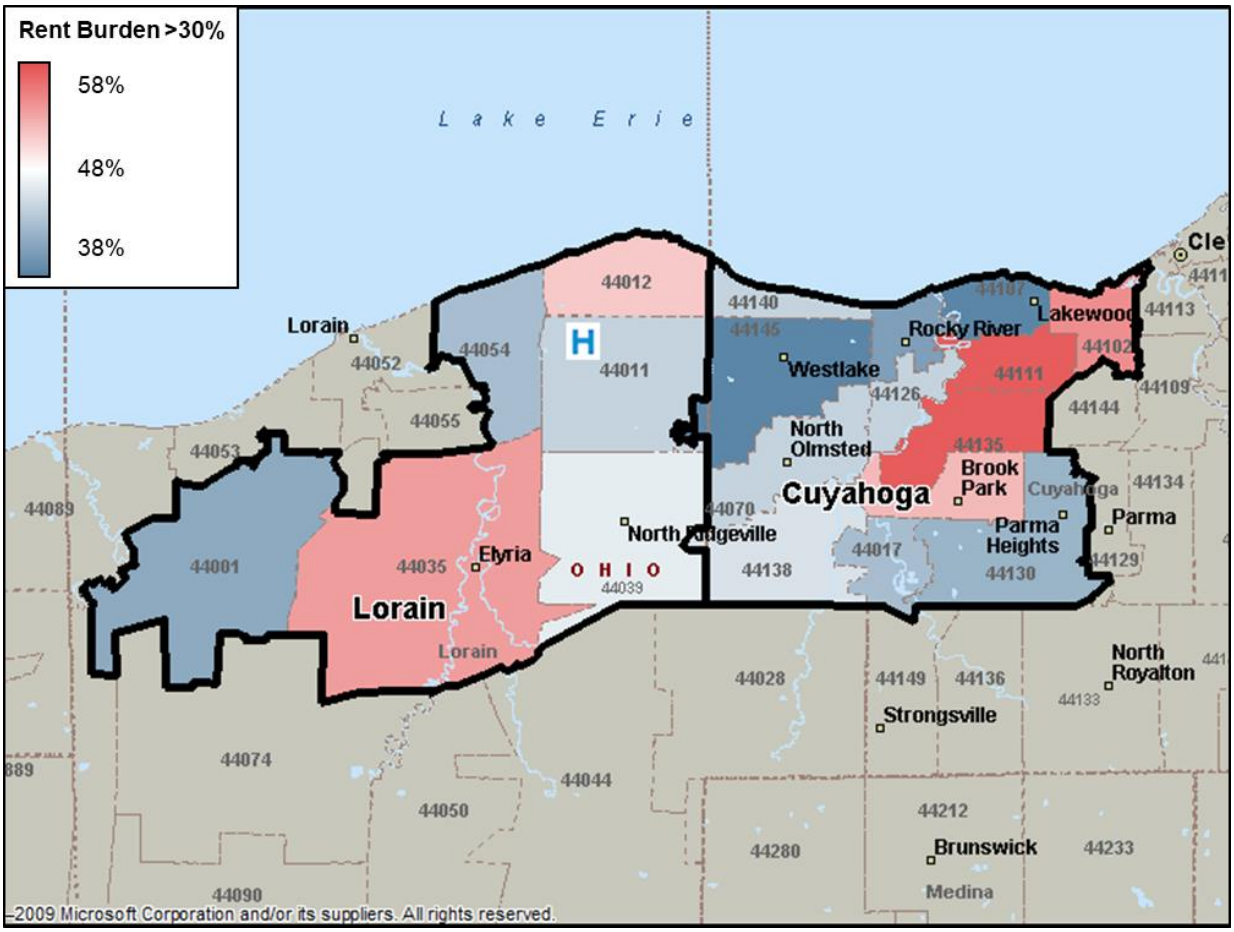
Housing Affordability

Exhibit 19: Percent of Rented Households Rent Burdened, 2013-2017

County	City/Town	ZIP Code	Occupied Units Paying Rent	Households Paying >30%	Rent Burden > 30% of Income
Cuyahoga	Cleveland	44111	7,084	4,065	57.4%
Cuyahoga	Cleveland	44135	4,180	2,373	56.8%
Cuyahoga	Cleveland	44102	11,767	6,416	54.5%
Lorain	Elyria	44035	9,660	5,167	53.5%
Cuyahoga	Brook Park	44142	1,575	808	51.3%
Lorain	Avon Lake	44012	1,666	843	50.6%
Lorain	North Ridgeville	44039	1,644	765	46.5%
Cuyahoga	Olmsted Falls	44138	1,730	790	45.7%
Lorain	Avon	44011	1,394	623	44.7%
Cuyahoga	Cleveland	44126	1,862	824	44.3%
Cuyahoga	Bay Village	44140	454	200	44.1%
Cuyahoga	North Olmsted	44070	3,349	1,475	44.0%
Lorain	Sheffield Lake	44054	1,040	446	42.9%
Cuyahoga	Berea	44017	2,090	895	42.8%
Cuyahoga	Cleveland	44130	7,773	3,263	42.0%
Lorain	Amherst	44001	1,153	471	40.8%
Cuyahoga	Rocky River	44116	2,408	953	39.6%
Cuyahoga	Westlake	44145	3,456	1,329	38.5%
Cuyahoga	Lakewood	44107	12,923	4,957	38.4%
Community Total			77,208	36,663	47.5%
Ohio			1,453,379	678,101	46.7%
United States			39,799,272	20,138,321	50.6%

Source: U.S. Census, ACS 5-Year Estimates, 2018.

Exhibit 20: Map of Percent of Rented Households Rent Burdened, 2013-2017



Source: U.S. Census, ACS 5-Year Estimates, 2018.

Description

The U.S. Department of Housing and Urban Development ("HUD") has defined households that are "rent burdened" as those spending more than 30 percent of income on housing.[12] On that basis and based on data from the U.S. Census, Exhibits 19 and 20 portray the percentage of rented households in each ZIP code that are rent burdened.

Observations

As stated by the Federal Reserve, "households that have little income left after paying rent may not be able to afford other necessities, such as food, clothes, health care, and transportation."[13]

[12] https://www.federalreserve.gov/econres/notes/feds-notes/assessing-the-severity-of-rent-burden-on-low-income-families-20171222.htm
[13] *Ibid.*

- Nearly 48 percent of households have been designated as “rent burdened,” a level above the Ohio average.

- The percentage of rented households rent burdened was highest in ZIP codes where poverty rates and the Dignity Health Community Need Index™ (CNI) also are above average (see next section for information on the CNI).

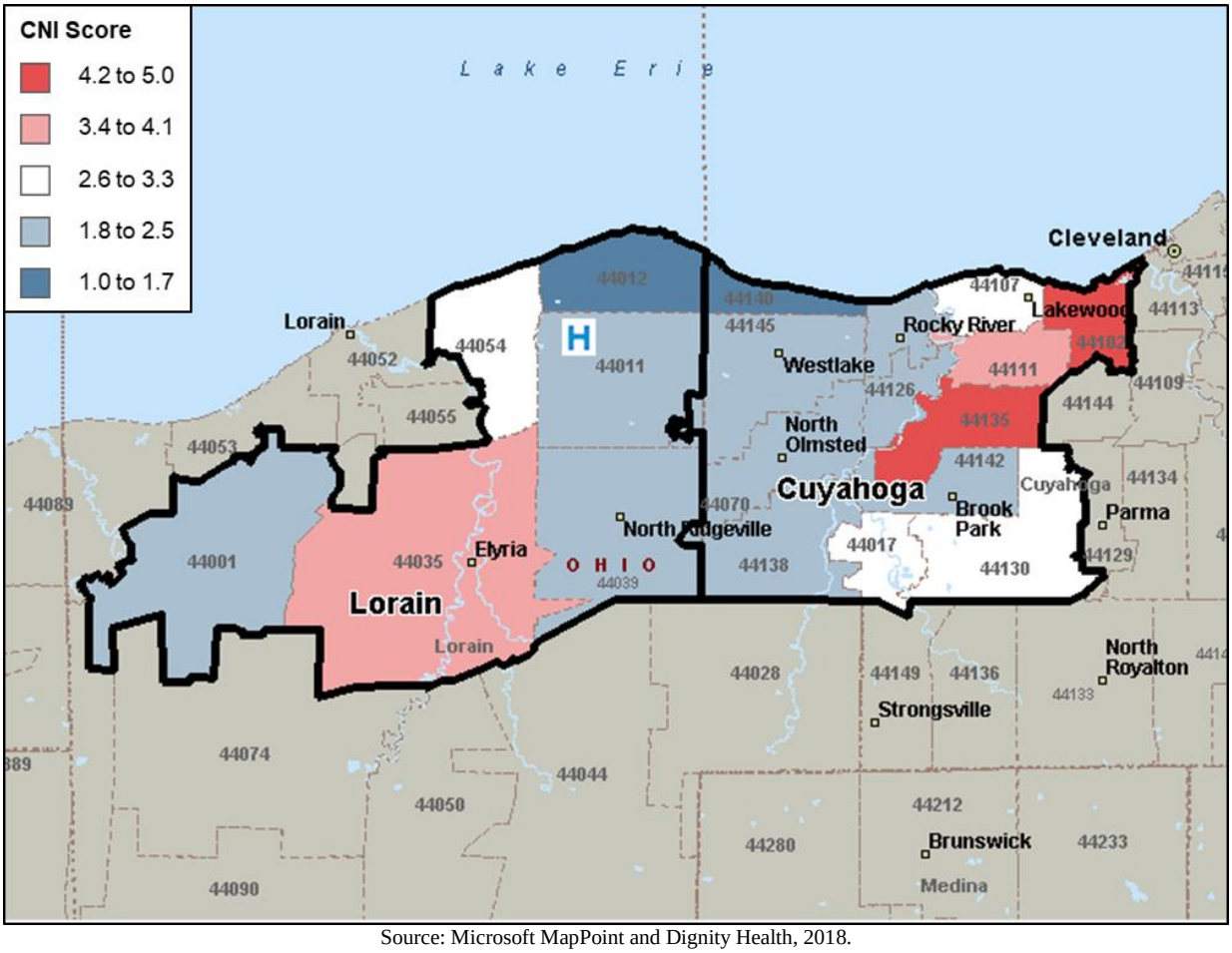
Dignity Health Community Need Index

Exhibit 21: Community Need Index™ Score by ZIP Code, 2018

County	City/Town	ZIP Code	CNI Score
Cuyahoga	Cleveland	44102	4.8
Cuyahoga	Cleveland	44135	4.4
Cuyahoga	Cleveland	44111	4.0
Lorain	Elyria	44035	3.8
Cuyahoga	Lakewood	44107	3.2
Cuyahoga	Cleveland	44130	2.8
Cuyahoga	Berea	44017	2.6
Lorain	Sheffield Lake	44054	2.6
Cuyahoga	Brook Park	44142	2.4
Cuyahoga	Cleveland	44126	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
Cuyahoga	Rocky River	44116	1.8
Cuyahoga	Olmsted Falls	44138	1.8
Lorain	Avon Lake	44012	1.4
Cuyahoga	Bay Village	44140	1.2
Community Average			**2.8**
Lorain County Average			3.0
Cuyahoga County Average			3.3

Source: Dignity Health, 2018.

Exhibit 22: Community Need Index, 2018



Source: Microsoft MapPoint and Dignity Health, 2018.

Description

Exhibits 21 and 22 present the *Community Need Index*™ (CNI) score for each ZIP code in the Avon Rehabilitation community. Higher scores (e.g., 4.2 to 5.0) indicate the highest levels of community need. The index is calibrated such that 3.0 represents a U.S.-wide median score.

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

- Two of the 19 ZIP codes in the Avon Rehabilitation community (Cuyahoga County ZIP codes 44102 and 44135) scored in the "highest need" category. Two other ZIP codes scored in the "lowest need" category.

- At 2.8, the weighted average CNI score for the Avon Rehabilitation community is below the U.S. median of 3.0.

Exhibit 23: 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	4	9	2
Total Persons	68,729	101,745	132,266	221,055	39,085
Poverty Rate	34%	21%	11%	6%	4%
% African American	23%	14%	5%	2%	1%
BRFSS Indicators					
% Arthritis	26.7%	25.9%	23.0%	22.7%	21.2%
% Asthma	13.9%	13.0%	11.6%	10.6%	11.0%
% Depression	22.0%	21.0%	18.0%	17.1%	16.5%
% Diabetes	20.9%	17.5%	16.3%	15.4%	13.4%
% Heart Disease	9.5%	10.5%	10.1%	10.7%	9.1%
% Heart Failure	3.5%	4.6%	3.9%	4.1%	3.0%
PQI Rates					
COPD	1,753	1,505	790	749	489
Congestive Heart Failure	900	777	525	573	514
Diabetes long-term complications	253	146	132	108	93
Bacterial pneumonia	323	345	223	282	180
Dehydration	284	287	261	253	254
Diabetes short-term complications	185	112	59	46	37
Urinary tract infection	282	235	223	246	210
Hypertension	101	86	58	70	33
Low birth weight (per 1,000 births)	4	11	10	7	3
Young adult asthma	63	50	20	32	24
Lower-extremity amputation among patients with diabetes	58	28	35	37	37

Source: Verité Analysis.

Description

Exhibit 23 provides data for community ZIP codes arranged by CNI Score.

Observations

- 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 arthritis and diabetes), and higher rates of admissions for Ambulatory Care Sensitive Conditions (“PQI rates” or “ACSCs”).

Other Local Health Status and Access Indicators

This section assesses other health status and access indicators for the Avon Rehabilitation community. Data sources include:

(1) County Health Rankings
(2) Community Health Status Indicators, published by County Health Rankings
(3) Ohio Department of Health
(4) 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 24: County Health Rankings, 2015 and 2018
(Light Grey Shading Denotes Bottom Half of Ohio Counties; Dark Grey Denotes Bottom Quartile)

Measure	Lorain County		Cuyahoga County	
	2015	2018	2015	2018
Health Outcomes	28	38	65	60
Health Factors	43	37	50	62
Length of Life	31	33	51	48
Premature death	31	33	51	48
Quality of Life	30	47	72	67
Poor or fair health	41	54	32	46
Poor physical health days	22	59	24	24
Poor mental health days	20	45	49	12
Low birthweight	41	48	87	88
Health Behaviors	37	27	36	49
Adult smoking	34	34	14	50
Adult obesity	28	16	9	12
Food environment index	50	47	75	71
Physical inactivity	7	21	23	12
Access to exercise opportunities	14	9	3	2
Excessive drinking	45	34	33	22
Alcohol-impaired driving deaths	83	84	67	79
Sexually transmitted infections	72	71	87	86
Teen births	29	31	51	47
Clinical Care	31	18	6	4
Uninsured	13	15	53	49
Primary care physicians	25	27	2	2
Dentists	29	30	1	1
Mental health providers	37	28	2	3
Preventable hospital stays	58	58	33	25
Diabetes monitoring	52	40	65	62
Mammography screening	11	4	8	18
Social & Economic Factors	51	47	78	79
High school graduation	73	64	85	83
Some college	19	19	8	9
Unemployment	59	59	51	52
Children in poverty	47	42	68	72
Income inequality	59	60	86	85
Children in single-parent households	73	69	88	86
Social associations	70	69	79	77
Violent crime	70	66	85	85
Injury deaths	9	49	31	47
Physical Environment	63	40	68	86
Air pollution	57	42	63	87
Severe housing problems	69	68	87	87
Driving alone to work	48	32	7	7
Long commute - driving alone	58	59	45	48

Source: County Health Rankings, 2018.

Description

Exhibit 24 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,[14] social and economic factors, and physical environment.[15] *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 2015 and 2018 rankings for each available indicator category. Rankings indicate how the county ranked in relation to all 88 counties in Ohio, with 1 indicating the most favorable rankings and 88 the least favorable. 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, 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.

- In Cuyahoga County, 28 of the 42 indicators ranked in the bottom 50th percentile among Ohio counties. Of those, 15 were in the bottom quartile, including quality of life, social and economic factors, physical environment, and various socioeconomic indicators.

- Both counties ranked in the bottom quartile for alcohol-impaired driving deaths, sexually transmitted infections, children in single-parent households, social associations, and severe housing problems.

[14]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.

[15]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 25: 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	Ohio	United States
Health Outcomes					
Length of Life	Years of potential life lost before age 75 per 100,000 population	7,137	8,037	**7,734**	6,700
Quality of Life	Percent of adults reporting fair or poor health	16.9%	16.4%	**17.0%**	16.0%
	Average number of physically unhealthy days reported in past 30 days	4.0	3.7	**4.0**	3.7
	Average number of mentally unhealthy days reported in past 30 days	4.0	3.7	**4.3**	3.8
	Percent of live births with low birthweight (<2500 grams)	7.8%	10.6%	**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%	**22.5%**	17.0%
Adult Obesity	Percent of adults that report a BMI >= 30	30.4%	29.9%	**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	**6.6**	7.7
Physical Inactivity	Percent of adults aged 20 and over reporting no leisure-time physical activity	25.4%	24.3%	**25.7%**	23.0%
Access to Exercise Opportunities	Percent of population with adequate access to locations for physical activity	92.2%	96.1%	**84.7%**	83.0%
Excessive Drinking	Binge plus heavy drinking	17.3%	16.8%	**19.1%**	18.0%
Alcohol-Impaired Driving Deaths	Percent of driving deaths with alcohol involvement	46.4%	44.0%	**34.3%**	29.0%
STDs	Chlamydia rate per 100,000 population	378	720	**489**	479
Teen Births	Teen birth rate per 1,000 female population, ages 15-19	27.8	30.3	**27.6**	27.0
Clinical Care					
Uninsured	Percent of population under age 65 without health insurance	6.5%	7.8%	**7.7%**	11.0%
Primary Care Physicians	Ratio of population to primary care physicians	1,744:1	898:1	**1,307:1**	1,320:1
Dentists	Ratio of population to dentists	2,142:1	979:1	**1,656:1**	1,480:1
Mental Health Providers	Ratio of population to mental health providers	772:1	356:1	**561:1**	470:1
Preventable Hospital Stays	Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	65	53	**57**	49
Diabetes Screening	Percent of diabetic Medicare enrollees that receive HbA1c monitoring	86.0%	83.8%	**85.1%**	85.0%
Mammography Screening	Percent of female Medicare enrollees, ages 67-69, that receive mammography screening	67.9%	64.7%	**61.2%**	63.0%

Source: County Health Rankings, 2018.

Exhibit 25: 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	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%	**81.2%**	83.0%
Some College	Percent of adults aged 25-44 years with some post-secondary education	64.9%	68.7%	**64.5%**	65.0%
Unemployment	Percent of population age 16+ unemployed but seeking work	5.9%	5.4%	**4.9%**	4.9%
Children in Poverty	Percent of children under age 18 in poverty	17.9%	26.4%	**20.4%**	20.0%
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	4.5	5.6	**4.8**	5.0
Children in Single-Parent Households	Percent of children that live in a household headed by single parent	37.4%	45.0%	**35.7%**	34.0%
Social Associations	Number of associations per 10,000 population	10.2	9.3	**11.3**	9.3
Violent Crime	Number of reported violent crime offenses per 100,000 population	180	589	**290**	380
Injury Deaths	Injury mortality per 100,000	77.0	76.4	**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	**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%	**15.0%**	19.0%
Driving Alone to Work	Percent of the workforce that drives alone to work	84.1%	79.8%	**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%	**30.0%**	35.0%

Source: County Health Rankings, 2018.

Description

Exhibit 25 provides data that underlie the County Health Rankings.[16] 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:
    - Injury mortality rate
    - Percent of adults who drive alone to work with long commutes
    - Percent of children living in single-parent households
    - Percent of driving deaths with alcohol involvement
    - Social associations rate
    - Teen birth rate
    - Unemployment
    - Violent crime rate

- In Exhibit 25, Cuyahoga County's crime rate is more than 50 percent worse than the Ohio average. The county's chlamydia rate is just under 50 percent above average.

- Ohio-wide indicators are worse than U.S. averages for virtually all of the indicators presented.

[16] 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 26: Community Health Status Indicators, 2018
(Light Grey Shading Denotes Bottom Half of Peer Counties; Dark Grey Denotes Bottom Quartile)

Category	Indicator	Lorain County	Cuyahoga 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 26 compares Avon Rehabilitation community 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 both counties served by Avon Rehabilitation compared unfavorably to their peers for the following indicators:
    - Percent of adults who smoke
    - Food environment index
    - Percent of driving deaths alcohol-impaired
    - Chlamydia rate
    - Preventable hospitalizations rate
    - High school graduation rate
    - Unemployment
    - Income ratio
    - Percent of children living in single-parent households
    - Air pollution (average daily PM2.5)

Ohio Department of Health

Exhibit 27: Selected Causes of Death, Age-Adjusted Rates per 100,000 Population, 2016 (Light Grey Shading Denotes Indicators Worse than Ohio Average; Dark Grey Denotes Any Indicators More than 50 Percent Worse than Ohio Average)

Specific Causes of Death	Lorain County	Cuyahoga County	Ohio
All Causes of Death	790.0	827.3	**832.3**
All other forms of chronic ischemic heart disease	52.1	52.3	**53.2**
Other chronic obstructive pulmonary disease	52.6	33.6	**43.7**
Organic dementia	33.1	46.5	**38.4**
Alzheimer's disease	31.9	20.5	**33.4**
Acute myocardial infarction	25.4	24.4	**32.1**
Accidental poisoning by and exposure to drugs and other biological substances	52.0	44.6	**36.8**
Diabetes mellitus	17.8	25.9	**24.6**
Conduction disorders and cardiac dysrhythmias	17.9	21.0	**20.2**
Congestive heart failure	16.9	17.8	**19.5**
Stroke, not specified as hemorrhage or infarction	14.3	16.1	**17.8**
Atherosclerotic cardiovascular disease	16.0	34.5	**15.4**
Renal failure	12.4	15.3	**15.1**
Septicemia	13.9	17.1	**13.7**
Pneumonia	14.5	9.3	**13.3**
All other diseases of nervous system	10.6	9.6	**12.3**
Hypertensive heart disease	7.0	15.0	**11.9**
All other diseases of respiratory system	9.5	8.3	**11.4**
Other cerebrovascular diseases and their sequelae	7.3	7.7	**10.4**
Parkinson's disease	10.8	6.9	**8.7**
Intentional self-harm (suicide) by discharge of firearms	7.6	6.2	**7.4**
Alcoholic liver disease	6.8	5.8	**5.1**
Unspecified fall	N/A	0.7	**4.7**

Source: Ohio Department of Health, 2017.

Description

The Ohio Department of Health maintains a database that includes county-level mortality rates and cancer incidence rates. Exhibit 27 provides age-adjusted mortality rates for selected causes of death in 2016.

Observations

- The following mortality rates compared particularly unfavorably to Ohio averages:
    - Accidental poisoning by and exposure to drugs and other biological substances

- Atherosclerotic cardiovascular disease
- Septicemia
- Alcohol liver disease

Exhibit 28: Age-Adjusted Cancer Mortality Rates per 100,000 Population, 2016 (Light Grey Shading Denotes Indicators Worse than Ohio Average; Dark Grey Denotes Any Indicators More than 50 Percent Worse than Ohio Average)

Cancer Site/Type	Lorain County	Cuyahoga County	Ohio
All Cancer Types	172.9	180.0	**173.8**
Lung and Bronchus	49.4	44.7	**47.9**
Prostate	18.0	23.2	**19.8**
Other Sites/Types	19.6	21.5	**19.6**
Colon & Rectum	16.0	14.5	**15.5**
Breast	13.9	12.7	**12.0**
Pancreas	11.2	13.1	**11.5**
Ovary	5.9	8.9	**7.8**
Leukemia	7.4	7.9	**6.9**
Liver & Intrahepatic Bile Duct	6.5	7.6	**6.1**
Non-Hodgkins Lymphoma	6.6	5.7	**5.9**
Uterus	4.4	6.9	**5.2**
Esophagus	5.3	4.7	**5.1**
Bladder	4.3	6.2	**5.1**
Brain and Other CNS	2.6	4.1	**4.8**
Kidney & Renal Pelvis	3.5	3.4	**3.8**
Multiple Myeloma	3.3	3.3	**3.3**
Oral Cavity & Pharynx	3.6	3.1	**2.9**
Melanoma of Skin	N/A	1.4	**2.6**
Stomach	N/A	4.1	**2.5**
Cervix	N/A	3.3	**2.1**
Larynx	N/A	1.0	**1.2**
Thyroid	N/A	0.8	**0.4**

Source: Ohio Department of Health, 2017.

Description

Exhibit 28 provides age-adjusted mortality rates for selected types of cancer in 2016.

Observations

- Cuyahoga County's age-adjusted stomach, cervix, and thyroid cancer mortality rates were significantly higher than the Ohio average.
- Cancer mortality rates for breast, leukemia, and liver and intrahepatic bile duct were higher than the state average in both community counties.

Exhibit 29: Age-Adjusted Cancer Incidence Rates per 100,000 Population, 2011-2015 (Light Grey Shading Denotes Indicators Worse than Ohio Average)

Cancer Site/Type	Lorain County	Cuyahoga County	Ohio
All Cancer Types	463.7	483.2	**461.6**
Prostate	122.6	131.7	**108.0**
Lung and Bronchus	69.0	65.6	**69.3**
Breast	68.6	73.1	**68.0**
Colon & Rectum	41.2	43.4	**41.7**
Other Sites/Types	33.3	39.5	**36.4**
Uterus	27.1	32.5	**29.2**
Bladder	23.0	20.9	**21.9**
Melanoma of Skin	20.2	16.8	**21.7**
Non-Hodgkins Lymphoma	18.6	20.1	**19.0**
Kidney & Renal Pelvis	18.7	16.9	**16.8**
Thyroid	17.5	16.4	**14.8**
Pancreas	14.4	13.8	**12.7**
Leukemia	10.6	12.7	**12.2**
Oral Cavity & Pharynx	10.5	11.1	**11.7**
Ovary	8.2	12.2	**11.4**
Cervix	8.3	6.6	**7.6**
Brain and Other CNS	7.0	6.7	**6.9**
Liver & Intrahepatic Bile Duct	6.2	8.9	**6.7**
Stomach	7.1	7.9	**6.4**
Multiple Myeloma	4.7	7.4	**5.8**
Testis	7.4	6.8	**5.8**
Esophagus	4.4	5.1	**5.1**
Larynx	3.6	4.3	**4.1**
Hodgkins Lymphoma	2.3	3.3	**2.7**

Source: Ohio Department of Health, 2016.

Description

Exhibit 29 presents age-adjusted cancer incidence rates by county.

Observations

- The overall cancer incidence rates in Lorain and Cuyahoga counties were higher than the Ohio average.
- In both counties, incidence rates for prostate, breast, kidney and renal pelvis, thyroid, pancreas, stomach, and testis cancers were above Ohio averages.

Behavioral Risk Factor Surveillance System

Exhibit 30: Behavioral Risk Factor Surveillance System, Chronic Conditions, 2017
(Light Grey Shading Denotes Indicators Worse than Ohio Average; Dark Grey Denotes Any Indicators More than 50 Percent Worse than Ohio Average)

County	City/Town	ZIP Code	Total Population 18+	% Arthritis	% Asthma	% Depression	% Diabetes	% Heart Disease	% Heart Failure	% High Blood Pressure	% High Cholesterol	% Adult Smoking	% COPD	% Back Pain
Lorain	Amherst	44001	16,562	24.7%	10.6%	19.1%	16.0%	11.2%	5.7%	34.2%	27.5%	26.0%	6.1%	32.5%
Lorain	Avon	44011	17,003	22.8%	9.2%	16.6%	11.2%	10.5%	2.5%	29.3%	23.6%	21.2%	4.4%	25.2%
Lorain	Avon Lake	44012	18,385	20.9%	11.3%	17.2%	14.7%	10.1%	3.1%	33.4%	22.7%	20.9%	4.1%	27.2%
Cuyahoga	Berea	44017	15,486	22.6%	10.8%	17.3%	13.3%	9.8%	3.6%	28.8%	22.9%	28.4%	5.2%	30.3%
Lorain	Elyria	44035	48,827	26.4%	12.7%	20.4%	16.1%	11.4%	5.3%	32.4%	25.4%	29.3%	6.6%	33.4%
Lorain	North Ridgeville	44039	25,233	21.4%	10.4%	15.3%	14.3%	9.7%	3.8%	30.0%	24.9%	22.7%	5.4%	26.4%
Lorain	Sheffield Lake	44054	10,606	26.7%	10.7%	17.4%	13.9%	9.6%	3.9%	29.7%	24.6%	24.8%	5.1%	29.1%
Cuyahoga	North Olmsted	44070	25,696	22.3%	10.3%	16.7%	15.3%	11.5%	3.7%	32.3%	22.9%	23.3%	4.8%	27.6%
Cuyahoga	Cleveland	44102	31,962	27.1%	14.4%	22.3%	22.7%	8.6%	3.2%	37.3%	27.6%	36.9%	6.3%	34.2%
Cuyahoga	Lakewood	44107	41,528	20.5%	12.1%	17.9%	15.5%	9.8%	3.3%	31.3%	24.4%	28.9%	5.1%	31.5%
Cuyahoga	Cleveland	44111	30,098	25.2%	13.5%	22.1%	19.9%	8.9%	3.5%	36.5%	27.0%	33.3%	7.5%	32.2%
Cuyahoga	Rocky River	44116	16,136	20.9%	10.4%	17.9%	18.7%	12.2%	4.8%	31.6%	27.3%	20.9%	4.3%	26.0%
Cuyahoga	Cleveland	44126	12,877	24.5%	11.6%	18.8%	15.8%	9.4%	4.9%	32.4%	23.7%	24.3%	4.7%	28.4%
Cuyahoga	Cleveland	44130	41,083	24.8%	11.6%	18.4%	19.0%	10.6%	4.7%	34.1%	26.2%	25.9%	6.3%	29.1%
Cuyahoga	Cleveland	44135	19,726	26.0%	13.0%	21.4%	17.9%	10.9%	4.0%	34.7%	27.1%	32.0%	7.8%	33.2%
Cuyahoga	Olmsted Falls	44138	18,354	21.1%	12.0%	18.0%	18.9%	11.6%	4.3%	33.2%	28.4%	24.4%	4.5%	25.3%
Cuyahoga	Bay Village	44140	11,585	21.8%	10.4%	15.3%	11.3%	7.6%	2.8%	33.0%	23.8%	17.9%	4.7%	24.0%
Cuyahoga	Brook Park	44142	14,996	26.8%	11.2%	18.6%	16.5%	11.7%	5.2%	34.3%	27.5%	27.3%	6.6%	31.1%
Cuyahoga	Westlake	44145	26,850	22.2%	10.3%	15.9%	14.2%	9.5%	3.2%	32.5%	24.6%	19.2%	4.9%	25.9%
Hospital Community			**442,993**	**23.7%**	**11.7%**	**18.6%**	**16.5%**	**10.3%**	**4.0%**	**32.9%**	**25.5%**	**26.6%**	**5.7%**	**29.7%**
Ohio Average			**9,044,061**	**24.2%**	**11.9%**	**19.2%**	**15.7%**	**10.7%**	**4.5%**	**31.8%**	**25.0%**	**27.5%**	**6.0%**	**31.1%**

Source: Truven Market Expert/Behavioral Risk Factor Surveillance System, 2018.

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 Rehabilitation community and compared to the averages for Ohio.

Observations

- Avon Rehabilitation community averages for the prevalence of diabetes, high blood pressure, and high cholesterol were worse than the Ohio averages.

- Lorain County ZIP code 44035 compared unfavorably to Ohio averages for all conditions.

Ambulatory Care Sensitive Conditions

Exhibit 31: Ratio of PQI Rates for Avon Rehabilitation Community and Ohio, 2017

Indicator	Community Averages	Ohio Averages	Ratio: Avon Rehab / Ohio
Chronic Obstructive Pulmonary Disease	976.4	695.6	1.4
Urinary Tract Infection	240.4	197.5	1.2
Dehydration	264.6	218.3	1.2
Bacterial Pneumonia	277.0	238.4	1.2
Diabetes Long-Term Complications	136.7	120.2	1.1
Uncontrolled Diabetes	56.4	50.2	1.1
Diabetes Short-Term Complications	76.5	70.1	1.1
Congestive Heart Failure	631.7	584.2	1.1
Lower-Extremity Amputation Among Patients with Diabetes	37.6	36.3	1.0
Young Adult Asthma	35.8	35.7	1.0
Hypertension	71.1	71.6	1.0
Perforated Appendix	537.0	594.7	0.9
Low Birth Weight	7.9	18.1	0.4

Source: Cleveland Clinic, 2018.
Note: Rates are not age-sex adjusted. Perforated appendix rate calculated per 1,000; low birth weight calculated per 1,000 births.

Description

Exhibit 31 provides the ratio of ACSCs or PQI rates in the Avon Rehabilitation community to rates for Ohio as a whole. Conditions where the ratios are highest (meaning that the PQI rates in the community are the most above average) are presented first.

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."[17] 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.

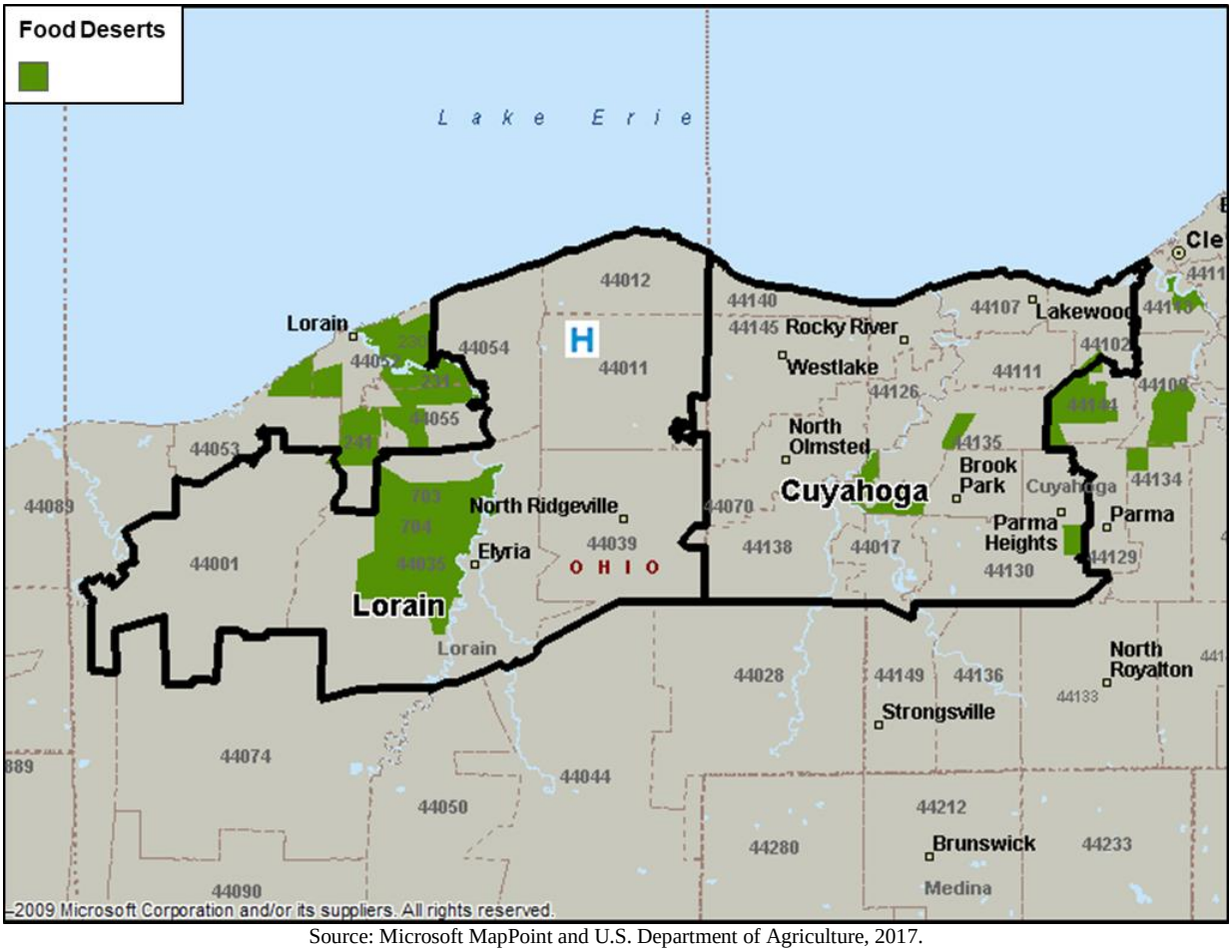
[17]Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.

Observations

- The community ACSC rates for COPD was above the Ohio average by 40 percent, and rates for urinary tract infection, dehydration, and bacterial pneumonia were above the Ohio average by 20 percent.

Food Deserts

Exhibit 32: Food Deserts, 2017



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

Description

Exhibit 32 shows the location of "food deserts" in the community.

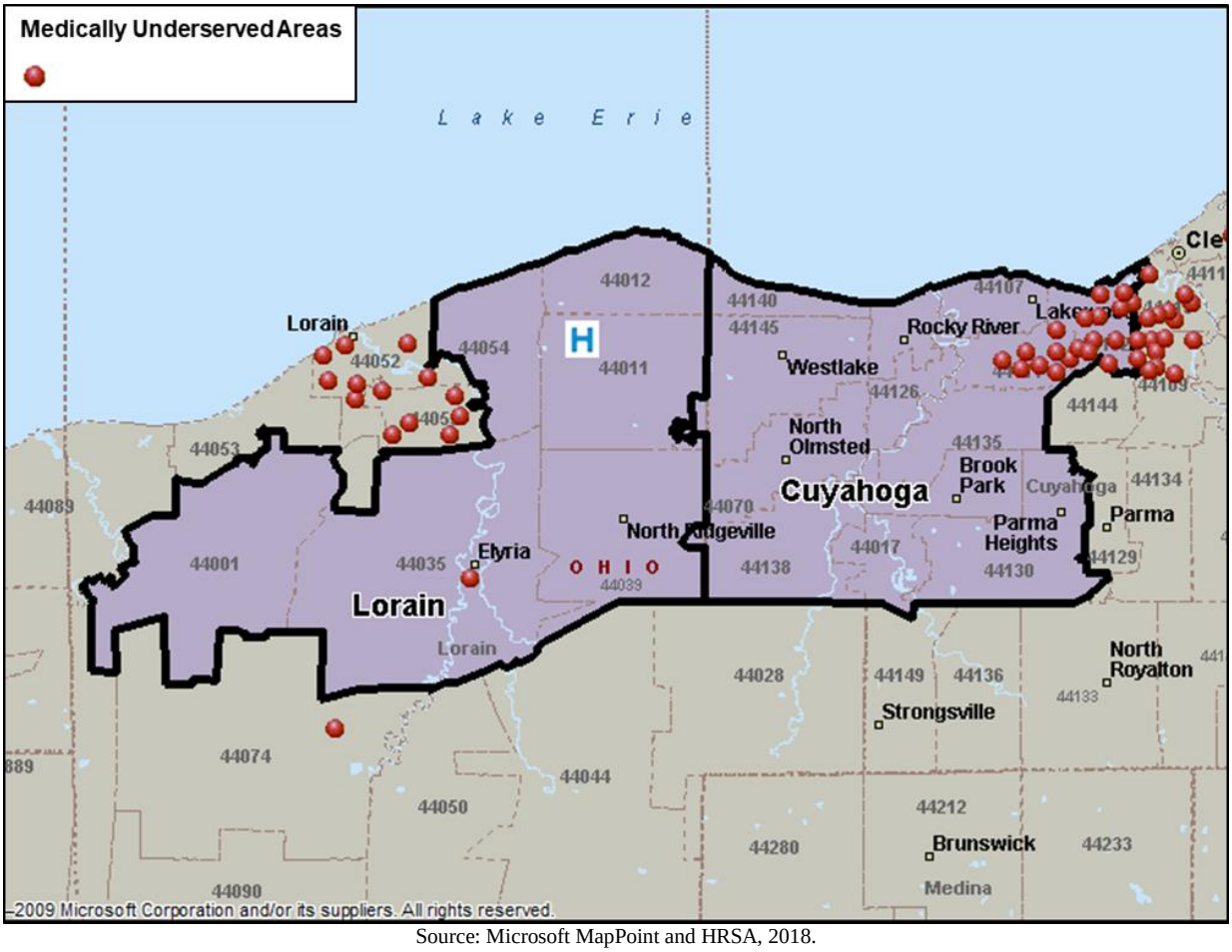
The U.S. Department of Agriculture's Economic Research Service defines urban food deserts as low-income areas more than one mile from a supermarket or large grocery store and rural food deserts as more than 10 miles from a supermarket or large grocery store. Many government-led initiatives aim to increase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

Observations

- Several census tracts in Lorain and Cuyahoga counties have been designated as food deserts.

Medically Underserved Areas and Populations

Exhibit 33: Medically Underserved Areas and Populations, 2018



Source: Microsoft MapPoint and HRSA, 2018.

Description

Exhibit 33 illustrates the location of Medically Underserved Areas (MUAs) and Medically Underserved Populations (MUPs) in the community.

Medically Underserved Areas and Populations (MUA/Ps) are designated by 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.[18] 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 group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP

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

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."[19]

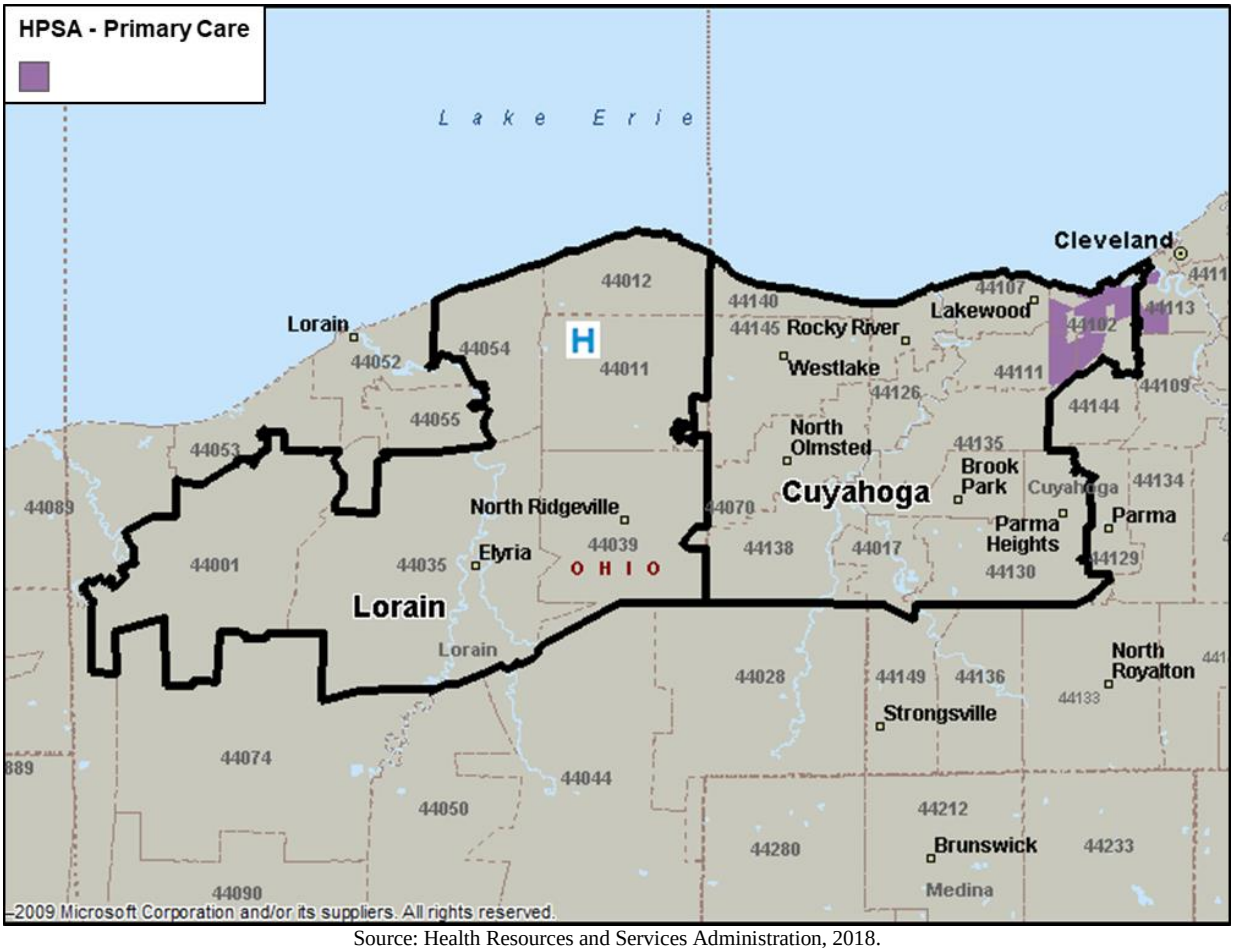
Observations

- Several census tracts have been designated as areas where Medically Underserved Areas are present, particularly in Cuyahoga County.

[19]*Ibid.*

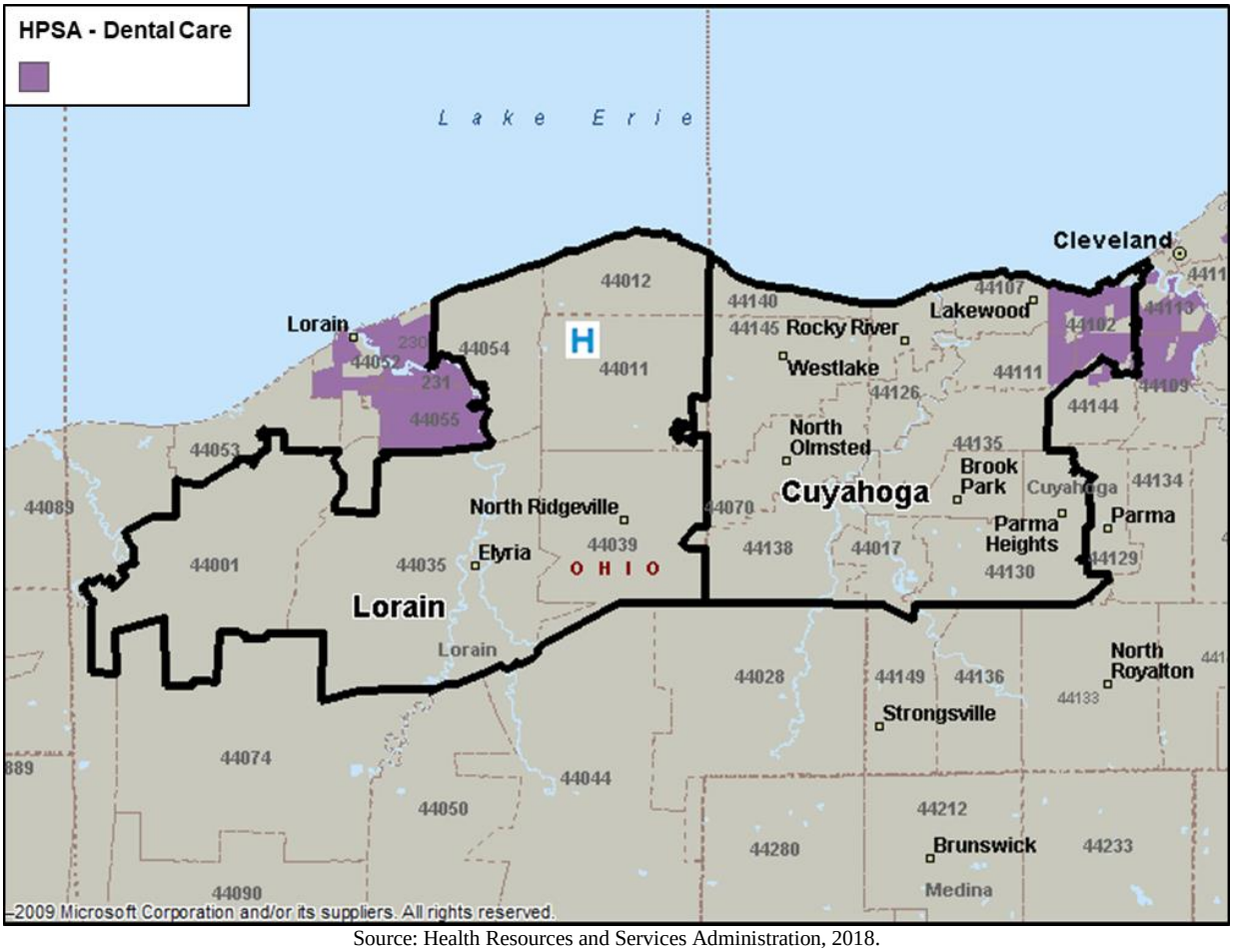
Health Professional Shortage Areas

Exhibit 34: Primary Care Health Professional Shortage Areas, 2018



Source: Health Resources and Services Administration, 2018.

Exhibit 35: Dental Care Health Professional Shortage Areas, 2018



Source: Health Resources and Services Administration, 2018.

Description

Exhibits 34 and 35 show the locations of federally-designated primary care and 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."[20]

Observations

- Census tracts in Cuyahoga County have been designated as primary care and dental care HPSAs.

[20] 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

Findings of Other Assessments

In recent years, the Ohio Department of Health and local health departments in Lorain and Cuyahoga counties conducted Community Health Assessments and developed Health Improvement Plans. This section identifies community health priorities found in that work. This CHNA report considers those findings when *significant* community health needs are specified.

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:

1. Social Determinants of Health, e.g.,
    - Increase third grade reading proficiency,
    - Reduce school absenteeism,
    - Address high housing cost burden, and
    - Reduce secondhand smoke exposure for children.

2. Public Health System, prevention and health behaviors, e.g.,
    - Consume healthy food,
    - Reduce physical inactivity,
    - Reduce adult smoking, and

- Reduce youth all-tobacco use.

3. Healthcare system and access, e.g.,
   - Reduce percent of adults who are uninsured,
   - Reduce percent of adults unable to see a doctor due to cost, and
   - Reduce primary care health professional shortage areas.

4. Equity strategies likely to decrease disparities for priority populations.

Cuyahoga County Community Health Assessment 2018

A Community Health Assessment ("CHA") for Cuyahoga County was developed through a collaboration between Case Western Reserve University School of Medicine, the Cleveland Department of Public Health, the Cuyahoga County Board of Health, the Health Improvement Partnership- Cuyahoga, The Center for Health Affairs, and University Hospitals. Data sources that informed the 2018 Cuyahoga County CHA include interviews from community stakeholders, existing community perceptions gathered by other organizations, and secondary data from national, state and local sources.

Thirteen "Top Health Needs" were identified in the Cuyahoga County CHA, as follows:

Quality of Life
1. Poverty
2. Food insecurity

Chronic Disease
3. Lead poisoning
4. Cardiovascular disease
5. Childhood asthma
6. Diabetes

Health Behaviors
7. Flu vaccination rates
8. Tobacco use/COPD
9. Lack of physical activity

Mental Health and Addiction
10. Suicide/mental health
11. Homicide/violence/safety
12. Opioids/substance use disorders

Maternal/Child Health
13. Infant mortality

Lorain County Community Health Improvement Plan, 2014-2019

A Community Health Improvement Plan ("CHIP") was commissioned by Lorain County Public Health (LCPH), formerly the Lorain County General Health District. The CHIP process included community engagement session with stakeholders and community members. The CHIP identified five target areas, as follows:

1. Improve access to care;
2. Expand coordinated education and prevention services;
3. Improve weight issues and obesity among adults and children;
4. Reduce alcohol, tobacco, and drug abuse among adults and children; and
5. Improve mental health of seniors, adults, and children/

Preventing Falls among Older Adults

As the population in the community ages, the risk of falls among older adults also increases. According to the Ohio Department of Health, an older adult falls every minute on average in the state, resulting in three deaths daily, two hospitalizations each hour and an ED visit every six and one-half minutes. Falls are the leading cause of injury-related ED visits, hospitalizations, and deaths for Ohioans aged 65 and older, and the total lifetime costs of unintentional falls among those aged 65 years and older is estimated at nearly $2 billion.[21]

The Centers for Disease Control and Prevention has identified conditions that are most likely to contribute to falling. These risk factors include: lower body weakness, vitamin D deficiency, difficulties with walking and balance, use of medicines (such as tranquilizers, sedatives, or antidepressants), vision problems, foot pain or poor footwear, and home hazards and dangers (such as broken or uneven steps and throw rugs or clutter).[22]

To prevent falls, the CDC proposes the following steps to reduce risk factors:

1. Talk to your doctor to evaluate your risk for falling and review your medicines to see if any may contribute to fall risk factors (dizziness or sleepiness);
2. Do leg strength and balance exercises;
3. Have your eyes checked by an eye doctor at least once a year; and
4. Make your home safer by eliminating trip risks, adding grab bars inside bathing facilities, putting railings on both sides of the stairs, and making sure your home is well lit.

[21] https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/core-violence-injury-prevention-program/falls-among-older-adults
[22] https://www.cdc.gov/homeandrecreationalsafety/falls/adultfalls.html

Preventing Stroke

Stroke is another condition that leads to the need for rehabilitation services. The Centers for Disease Control and Prevention has identified different strategies for stroke prevention, organized into healthy living habits and other medical conditions prevention.[23]

Healthy Living Habits

1. Healthy diet, as choosing healthy meal and snack options (eating foods low in saturated fats, trans fat, and cholesterol) can help prevent stroke;
2. Healthy weight, as being overweight or obese increases your risk;
3. Physical activity, helping you stay at a healthy weight and lowering your cholesterol and blood pressure levels;
4. No smoking; and
5. Limited Alcohol.

Other Medical Conditions Prevention

1. Check cholesterol, at least once every five years;
2. Control blood pressure;
3. Control diabetes;
4. Treat heart disease;
5. Comply with all medication regimes;
6. Continued dialogue with your doctor and health care team.

Cleveland Clinic has also studied stroke and its risk and prevention. Through this work, the Cleveland Clinic has identified the following stroke prevention strategies: [24]

- Control your blood pressure;
- Find out if you have heart disease (especially an irregular heartbeat known as atrial fibrillation, or AF);
- Do not smoke;
- Lower your cholesterol;
- Control your blood sugar levels if you have diabetes;
- Eat a healthy diet;
- Get regular exercise;
- Limit your alcohol use; and
- Control your weight.

[23] https://www.cdc.gov/stroke/medical_conditions.htm
[24] https://my.clevelandclinic.org/health/diseases/17519-stroke/prevention

Preventing Traumatic Brain Injuries (TBI)

Traumatic Brain Injuries (TBIs), caused by impact to the head that disrupts the normal function of the brain, lead to a substantial number of deaths and permanent disabilities annually. The Ohio Department of Health reports that in 2014, 2,327 people in Ohio died where TBI was reported as a cause of death, 6,768 were hospitalized with a TBI, and 111,757 were treated and released from emergency departments with a TBI.[25]

According to the Centers for Disease Control and Prevention, the number of TBI-related emergency department visits, hospitalizations, and deaths increased by 53 percent from 2006 to 2014. In 2014, an average of 155 people in the United States died each day from injuries that include a TBI.[26] The CDC prescribes several strategies for preventing traumatic brain injuries, including:

- Using seat belts every time you ride in a vehicle;
- Never driving while under the influence of alcohol or drugs;
- Wearing a helmet or headgear for a multitude of activities, including for: bike riding, motorcycle riding, snowmobile, scooter, all-terrain vehicle, contact sports (football, ice hockey, boxing, etc.), using in-line skate, skateboarding, riding a horse, skiing or snowboarding, and others;
- Preventing older adult falls; and
- Making homes and play areas safer for children (through installing window guards to prevent falling out windows, safety gates on stairways, and making playgrounds with soft material underneath).

[25] https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/violence-injury-prevention-program/media/specialemphasisreport_tbi_in_ohio_2014
[26] https://www.cdc.gov/traumaticbraininjury/get_the_facts.html

APPENDIX C – COMMUNITY INPUT PARTICIPANTS

Individuals from a wide variety of organizations and communities participated in the interview process (**Exhibit 36**).

Exhibit 36: Interviewee Organizational Affiliations

Organization	
Alcohol and Drug Addiction Services Board of Lorain County	Lorain County Department of Health
American Heart Association	Lorain County Free Clinic
Benjamin Rose Institute on Aging	NAMI
Center for Community Solutions	Ohio Department of Health
Center for Health Affairs	The Catholic Health Association
Cuyahoga County Board of Health	The Centers (for families and children)
El Centro	The Gathering Place
Fairhill Partners	The LCADA Way
Greater Cleveland Food Bank	United Cerebral Palsy
Health Policy Institute of Ohio	United Way of Greater Lorain County
Kent State School of Public Health	Western Reserve Area Agency on Aging
Lorain County Board of Mental Health	

clevelandclinic.org/**CHNAreports**

18-CCC-5602

Cleveland Clinic
Rehabilitation Hospital
In affiliation with Select Medical

Avon

Implementation Strategy Report

2019

Cleveland Clinic Rehabilitation Hospital, Avon
33355 Health Campus Blvd.
Avon OH 44011

2019 Community Health Needs Assessment
Implementation Strategy for Years 2020 - 2022
As required by Internal Revenue Code § 501(r)(3)

Date Approved by Authorized Governing Body:	May 1, 2020
Authorized Governing Body:	The Board of Directors of Cleveland Clinic Rehabilitation Hospitals, LLC
Contact:	Cleveland Clinic chna@ccf.org

TABLE OF CONTENTS

Cleveland Clinic Rehabilitation Hospital, Avon
2019 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

Cleveland Clinic Rehabilitation Hospital – Avon (Avon Rehabilitation), a joint venture between Cleveland Clinic and Select Medical, is a 60-bed, adult inpatient rehabilitation hospital next to Cleveland Clinic's Avon medical campus offering comprehensive rehabilitation treatment for patients with complex neurological, medical, and musculoskeletal disabilities. The 68,000 square foot hospital features private rooms and the latest rehabilitation equipment to care for people with stroke, spinal cord injury, brain injury, and a variety of medical and surgical conditions. The hospital also serves as a primary teaching site for a newly developed residency program for physicians in physical medicine and rehabilitation. As part of a continuum of care, Avon Rehabilitation's goal is for each patient to reach his/her optimal level of physical, mental, and social functioning in the community.

At Avon Rehabilitation, Cleveland Clinic physicians manage patients' complex medical needs, and around-the-clock Rehabilitation Nurses provide compassionate, evidence-based care to each patient. Physical, occupational, and speech therapists involve patients in an intensive and comprehensive treatment program for a minimum of three hours each day. Psychologists address cognitive, emotional, or behavioral issues. Case managers carefully coordinate the individual's stay and discharge plans. In addition, consulting services are available based on patient need.

Our unique combination of clinical expertise and education provided in a compassionate environment, serves patient needs while helping individuals and their families set goals and plan for the future.

II. COMMUNITY DEFINITION

For purposes of this report, Avon Rehabilitation's community is defined as 19 ZIP codes in Lorain and Cuyahoga counties, Ohio, that accounted for over 73 percent of the hospital's recent inpatient volumes. The community was defined by considering the geographic origins of the hospital's discharges in calendar year 2017 and the hospital's principal functions as a rehabilitation hospital. The total population of Avon Rehabilitation's community in 2017 was approximately 563,000.

III. HOW IMPLEMENTATION STRATEGY WAS DEVELOPED

This Implementation Strategy was developed by a team of members of senior leadership at Avon Rehabilitation 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 Rehabilitation community are those that are both supported by secondary data and raised by key stakeholders. Needs identified in the 2019 CHNA are listed below by category.

Needs the Hospital Will Address:

- Access to Affordable Healthcare
- Chronic Disease Prevention and Management

Needs the Hospital Will Not Address:

- Socioeconomic Concerns

See the 2019 CHNA for Cleveland Clinic Rehabilitation Hospital, Avon at www.clevelandclinic.org/CHNAReports .

V. NEEDS HOSPITAL WILL ADDRESS

Access to Affordable Healthcare

Access to affordable healthcare was identified as a significant need in the 2019 CHNA for Avon Rehabilitation. Access to care is challenging for some residents, particularly to primary care, mental health, dental care, addiction treatment services, and pain management services. Access barriers include cost, poverty, inadequate transportation, a lack of awareness regarding available services, and an undersupply of providers. Initiatives for 2020 – 2022 include:

Financial Assistance

Avon Rehabilitation provides medically necessary services to all patients regardless of race, color, creed, gender, country of national origin, or ability to pay. Avon Rehabilitation has a financial assistance policy that provides free or discounted care based on financial need. Financial assistance may also be provided to patients on a case-by-case basis under certain medical circumstances. The financial assistance policy can be found here: Avon Rehabilitation Financial Assistance .

Awareness

The term "rehabilitation" is widely used to describe many different levels of care, which contributes to confusion among stakeholders. The rehabilitation offered at Avon Rehabilitation is defined by licensure and regulatory requirements. For patients, confusion surrounding rehabilitation can be a barrier to accessing the right level of care at the right time. Avon Rehabilitation will develop and share educational materials with patients, families, and providers to broaden community awareness and improve patients' ability to choose the most appropriate care setting.

How to Access Care

A key cornerstone of inpatient rehabilitation is the prevention of stroke and brain injury through patient and community education. Clinical staff serving the Brain Injury and Stroke Program teams at Avon Rehabilitation will develop support groups and educational sessions for families and community residents. As part of this education and outreach, the hospital will provide information on post-acute care settings, how to access different levels of care, and community-based resources.

Chronic Disease Prevention and Management

Chronic disease prevention and the management of chronic disease were identified as needs within the 2019 CHNA for Avon Rehabilitation. Chronic diseases, including addiction and mental health, heart disease, hypertension, obesity, diabetes, COPD, and others are prevalent in the community served by the hospital. Initiatives for 2020 – 2022 include:

- Each patient is followed by a physician's service throughout their stay at the rehabilitation hospital. Physicians educate patients on their overall healthcare and on potential risk factors that may affect their recovery. They also educate patients on their past medical history and how their existing conditions may be impacted by their new injury. There are consulting physicians including but not limited to cardiologists, pulmonologists, and nephrologists that are available for consultation regarding secondary diagnoses or complications related to the new injury/illness. Additionally, through Avon Rehabilitation's linkage with Cleveland Clinic, patients have access to comprehensive diagnostic, medical, and surgical services.
- Physical and functional impairments may be exacerbated by obesity. To encourage weight loss, the clinical team, which includes the attending physician, therapy, and nursing teams, provide education and training to patients to increase mobility and activity. Discussions regarding healthy eating and interpretation of food labels may be initiated as part of the therapy care plan.
- Continuing education is routinely provided to nursing and pharmacy staff specific to diabetes medication and diabetic management.
- Depression and emotional changes are common following illness or injury. These occur as primary effects of the illness, as in the case of stroke, or as secondary reactions to new disabilities that may have commonly pre-existed the event.
    - Psychologists are capable of evaluation and psychotherapeutic treatment of a variety of disorders. The attending psychiatrist often will start pharmacological intervention with antidepressant medications, mood stabilizers, and anxiolytics. It is important to use medications that can improve recovery and to avoid and/or discontinue those medications that have been shown or hypothesized to impede recovery.
    - Therapists and nursing staff also provide emotional support, encouragement, and hope. It is also essential to use non-pharmacological techniques to help with these psychological disorders.
    - Recreational therapy is essential to help add some "downtime" to the rigors of the therapy schedule as well as to help patients realize and replicate common activities of daily living that will need to be performed after discharge.

Chronic Disease Prevention and Management (continued)

- Avon Rehabilitation is committed to preventing deaths from opioid overdose by improving opioid prescribing practices, reducing exposure to opioids, and preventing misuse. The hospital has formalized an internal opioid management process for reviewing healthcare prescribing, data collection, and the use of non-pharmacologic treatment for pain.
    - Healthcare providers screen all patients for pain on admission and develop a pain management plan based on the patient's input, history, and desired goals.
    - Appropriate referrals to community programs, such as AA, NA, or mental health resources are delivered by case management and psychology staff.
- The population in Avon Rehabilitation's community is expected to age. Providing an effective continuum of care, including rehabilitation services, for those over 65 years of age in the future will be challenging. Avon Rehabilitation will leverage relationships with providers across the continuum of post-acute care in order to cross-refer, provide patient education, and support self-advocacy. Recognizing the health literacy needs of the community and the wide array of post-acute care options available, Avon Rehabilitation has developed a large network of clinical liaisons throughout the community to assist elderly consumers in understanding their post-acute care options. The hospital offers facility tours and coordinates with our acute care case management partners.
- Falls represent a particular concern for our elderly populations. Avon Rehabilitation has developed evidence-based falls prevention education for internal and external stakeholders including information on environmental modifications, balance exercises, and home safety assessments. In addition to focusing on falls prevention, the hospital also provides educational materials detailing how to reduce the likelihood of injury should a fall occur.
- Tobacco use is a risk factor for several medical conditions commonly treated in the inpatient rehabilitation setting. Smoking can also increase the risk of disease recurrence and presents a significant barrier to healthy living. Smoking cessation aligns well with Avon Rehabilitation's goals for our patients. Since Avon Rehabilitation is a smoke free campus, inpatients have a head start on smoking cessation following discharge. A smoking cessation program is more than just nicotine replacement therapy (NRT). Though NRT addresses the physiologic need for nicotine, the psychological need to smoke must also be of focus. Patients are more likely to succeed in quitting when they receive both pharmacologic therapy and counseling. A formalized smoking cessation program will be developed including resources and education that can be provided to patients during an inpatient rehabilitation stay. Patients will also be connected with organizations in the community for ongoing follow up and support. Low-cost or free smoking cessation resources will also be investigated.

VI. NEEDS HOSPITAL WILL NOT ADDRESS

Socioeconomic Concerns

The 2019 CHNA for Avon Rehabilitation identified poverty and other social determinants of health as significant concerns. Poverty has significant implications for health, including the ability for households to access health services, afford basic needs, and benefit from prevention initiatives. Problems with housing, educational achievement, and access to workforce training opportunities also contribute to poor health.

Due to the specialized nature of the clinical care provided by Avon Rehabilitation, and the facility's focus on serving patients requiring rehabilitation following an illness or injury, the facility has chosen not to address socioeconomic concerns at the community level within the 2020-2022 Implementation Strategy. Avon Rehabilitation will rely on other governmental and/or nonprofit organizations within the community to commit resources to addressing broad socioeconomic concerns. Although Avon Rehabilitation will not address this need directly, it does support governmental and other organizations in their efforts to impact poverty and other social determinants of health.

clevelandclinic.org/**CHNAreports**

18-CCC-5602