



Cleveland Clinic
Rehabilitation Hospital

In affiliation with Select Medical

Avon

Community Health Needs Assessment

2017

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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.

The hospital is a joint venture between Cleveland Clinic health system and Select Medical. Cleveland Clinic health system includes an academic medical center, multiple regional hospitals, two children’s hospitals, a rehabilitation hospital, a Florida hospital and a number of other facilities and services across Northeast Ohio and Florida. Additional information about Cleveland Clinic is available at: <https://my.clevelandclinic.org/>.

Select Medical began operations in 1997 and has grown to be one of the largest operators of specialty hospitals, outpatient rehabilitation clinics, and occupational health centers in the United States. As of June 30, 2017, Select Medical operated 102 long term acute care hospitals and 21 acute medical rehabilitation hospitals in 28 states and 1,608 outpatient rehabilitation clinics in 37 states and the District of Columbia. Select Medical’s joint venture subsidiary Concentra operated 315 centers in 38 states. Concentra also provides contract services at employer worksites and Department of Veterans Affairs community-based outpatient clinics. At June 30, 2017, Select Medical had operations in 46 states and the District of Columbia. Additional information about Select Medical is available at: <https://www.selectmedical.com/>.

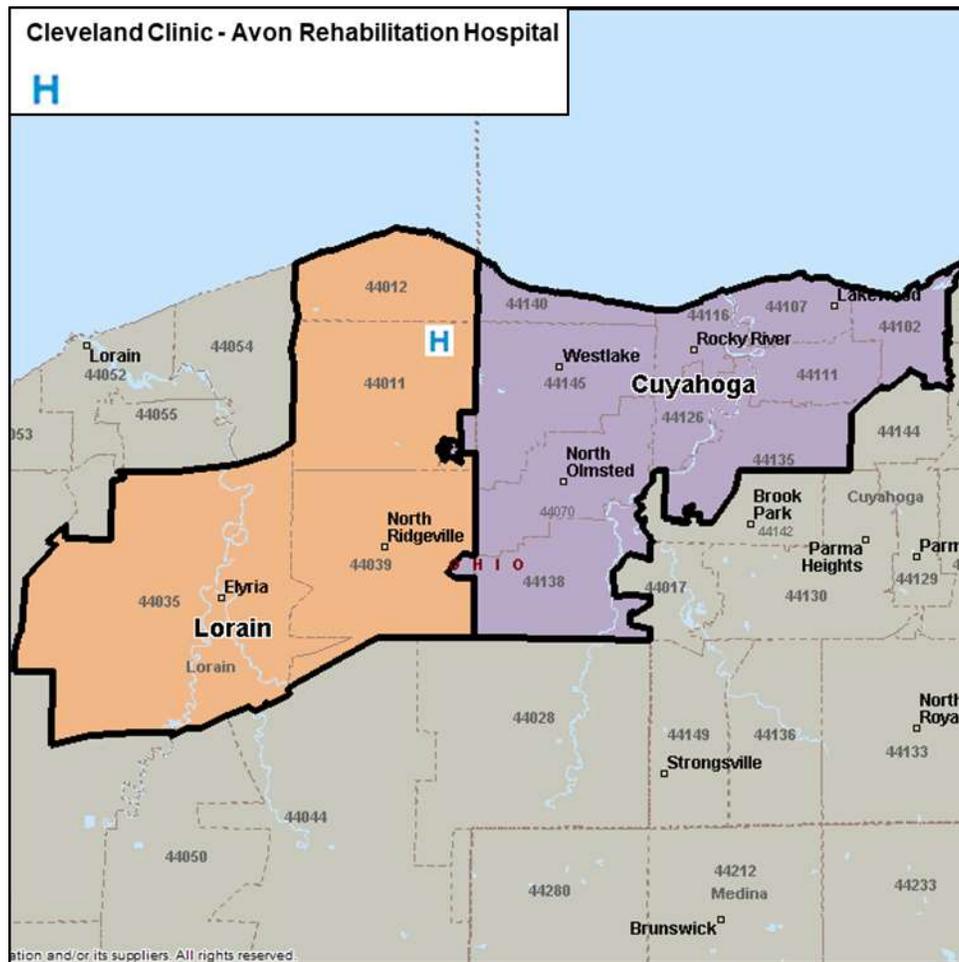
Cleveland Clinic and Select Medical facilities are dedicated to the communities they serve. Cleveland Clinic and Select Medical hospitals verify the health needs of communities by performing periodic health needs assessments. These formal assessments are analyzed using widely accepted criteria to determine and measure the health needs of a specific community.

Community Definition

For purposes of this report, Avon Rehabilitation’s community is defined as 14 ZIP codes in Cuyahoga and Lorain counties, Ohio, accounting for over 67 percent of the hospital’s recent inpatient volumes. The community was defined by considering the geographic origins of the hospital’s discharges between December 2015 and June 2017 and also the hospital’s target populations and principal functions as a rehabilitation facility. The total population of Avon Rehabilitation’s community in 2015 was 442,962.

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The following map portrays the community served by Avon Rehabilitation.



Significant Community Health Needs

Five significant community health needs were identified through this assessment:

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

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

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Access to Affordable Health Care

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

Chronic Diseases and Other Health Conditions

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

Economic Development and Community Conditions

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

Healthcare for the Elderly

- The population in the Avon Rehabilitation community is expected to age, and providing an effective continuum of care for those over 65 years of age (including rehabilitation services) will be challenging. Falls represent a particular concern for elderly populations.

Wellness

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

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.¹ Each tax-exempt hospital facility must conduct a CHNA that identifies the most significant health needs in the hospital's community.

The regulations require that each hospital:

- Take into account input from persons representing the broad interests of the community, including those knowledgeable about public health issues, and
- Make the CHNA 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.

Tax-exempt hospital organizations also are required to report information about the CHNA process and about community benefits they provide on IRS Form 990, Schedule H. As described in the instructions to Schedule H, community benefits are programs or activities that provide treatment and/or promote health and healing as a response to identified community needs.

Community benefit activities and programs also seek to achieve objectives, including:

- improving access to health services,
- enhancing public health,
- advancing increased general knowledge, and
- relief of a government burden to improve health.²

To be reported, community need for the activity or program must be established. Need can be established by conducting a Community Health Needs Assessment.

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?

¹ Internal Revenue Code, Section 501(r).

² Instructions for IRS form 990 Schedule H, 2015.

OBJECTIVES AND METHODOLOGY

- *Why* are these problems present?

The question of *how* each hospital can address significant community health needs is the subject of the separate Implementation Strategy.

Methodology

Federal regulations that govern the CHNA process 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).³ The community defined by Avon Rehabilitation accounts for over 67 percent of the hospital’s 2015-2017 inpatient discharges. The CHNA also was prepared recognizing that Avon Rehabilitation provides inpatient rehabilitation services for adults.

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

Secondary data from multiple sources were gathered and assessed. *See Appendix B.* 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.

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.*

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 other organizations, and (3) input from the key informants who participated in the interview process.

Collaborating Organizations

For this assessment, Avon Rehabilitation collaborated with the Cleveland Clinic health system and with the following Select Medical hospitals: Select Specialty Hospital – Cleveland Fairhill, Select Specialty Hospital – Cleveland Gateway, Regency Hospital of Cleveland East, and Regency Hospital of Cleveland West.

³ 501(r) Final Rule, 2014.

OBJECTIVES AND METHODOLOGY

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, Cleveland Clinic, and Select Medical. 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.

Information Gaps

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

Secondary data upon which this assessment relies measure community health in prior years. For example, the most recently available mortality data published by the Centers for Disease Control and Prevention (CDC) are from 2015. Others sources incorporate data from 2010. 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 conducted in the community. Differences in data sources, communities assessed (e.g., hospital service areas versus counties or cities), and prioritization processes can contribute to differences in findings.

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 between December 2015 and June 2017 and also the hospital’s target populations and principal functions as a rehabilitation facility.

On those bases, Avon Rehabilitation’s community is comprised of 14 ZIP codes in Cuyahoga County and Lorain County (**Exhibit 1**) which accounted for just above 67 percent of its discharges.

Exhibit 1: Avon Rehabilitation Discharges by ZIP Code, 2015-2017

ZIP Code	County	Percent of Discharges	Cumulative Percent of Discharges
44107	Cuyahoga	9.2%	9.2%
44111	Cuyahoga	7.1%	16.3%
44116	Cuyahoga	6.6%	23.0%
44070	Cuyahoga	6.0%	29.0%
44145	Cuyahoga	5.8%	34.8%
44012	Lorain	5.1%	39.9%
44135	Cuyahoga	4.3%	44.3%
44126	Cuyahoga	4.1%	48.4%
44039	Lorain	3.9%	52.2%
44102	Cuyahoga	3.2%	55.5%
44140	Cuyahoga	3.1%	58.6%
44138	Cuyahoga	3.1%	61.7%
44011	Lorain	3.1%	64.7%
44035	Lorain	2.6%	67.3%
Total Community		67.3%	
All Other ZIP Codes		32.7%	
Total Discharges		100.0%	

Source: Select Medical, 2017.

Avon Rehabilitation patients, all of whom are adults, are admitted to address rehabilitation needs associated with: strokes, neurological disorders, brain injuries, spinal cord injuries, fractures, and other conditions and events.

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In 2015, the total population of the community portrayed in **Exhibit 1** was approximately 443,000 persons (**Exhibit 2**).

Exhibit 2: Community Population, 2015

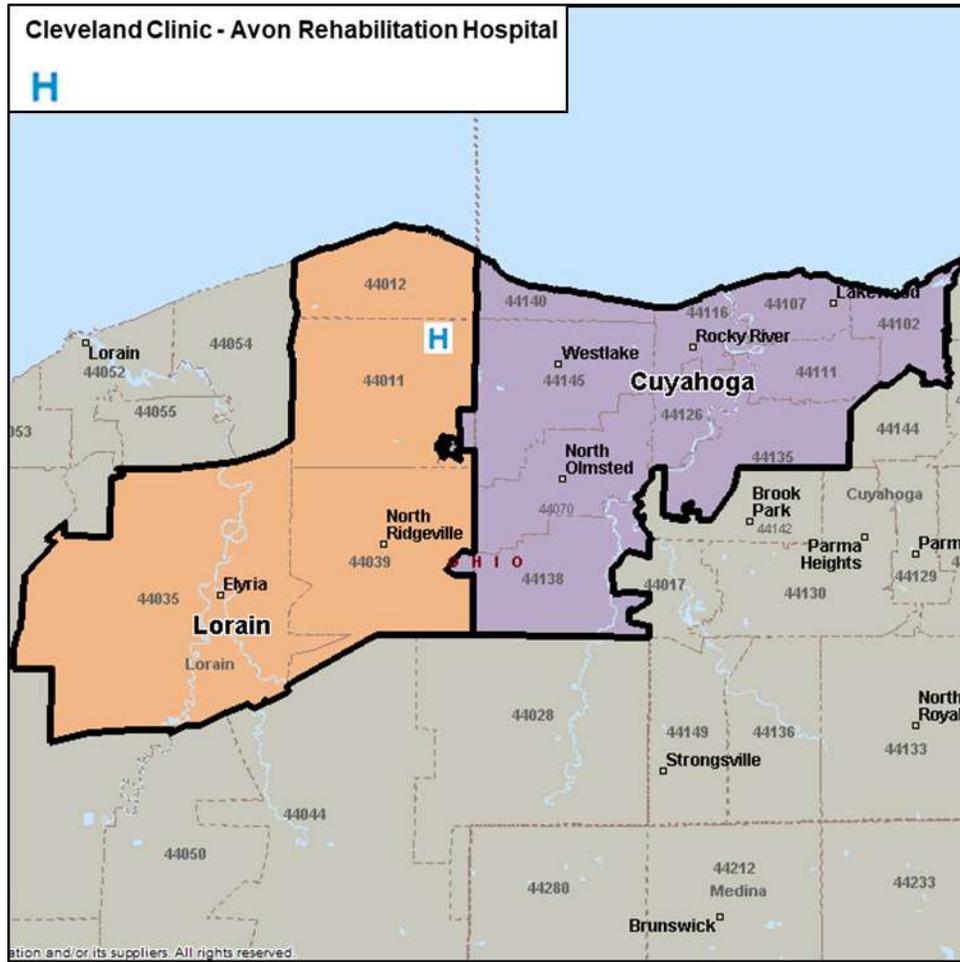
County	City	ZIP Code	Estimated Population 2015	Percent of Total Population 2015
Cuyahoga	Bay Village	44140	15,326	3.5%
Cuyahoga	Cleveland	44102	42,983	9.7%
Cuyahoga	Cleveland	44111	38,798	8.8%
Cuyahoga	Cleveland	44126	16,203	3.7%
Cuyahoga	Cleveland	44135	26,440	6.0%
Cuyahoga	Lakewood	44107	51,892	11.7%
Cuyahoga	North Olmsted	44070	32,418	7.3%
Cuyahoga	Olmsted Falls	44138	23,376	5.3%
Cuyahoga	Rocky River	44116	20,079	4.5%
Cuyahoga	Westlake	44145	32,983	7.4%
Lorain	Avon	44011	23,330	5.3%
Lorain	Avon Lake	44012	23,594	5.3%
Lorain	Elyria	44035	63,600	14.4%
Lorain	North Ridgeville	44039	31,940	7.2%
Community Total			442,962	100.0%

Source: Truven Market Expert, 2015.

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.

DATA AND ANALYSIS

Exhibit 3: Avon Rehabilitation Community, 2017



Source: Microsoft MapPoint and Cleveland Clinic, 2017.

DATA AND ANALYSIS

Secondary Data Summary

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

Demographics

Population characteristics and changes directly influence community health needs. The total population in the Avon Rehabilitation community is expected to increase 0.5 percent from 2015 to 2020. Between 2015 and 2020, five of the 14 ZIP codes in the Avon Rehabilitation community are projected to gain population. The populations in two Lorain County ZIP codes (44011 and 44039) are expected to increase by over five percent.

While the total population is expected to increase slightly, the number of persons aged 65 years and older is projected to increase by 15.5 percent between 2015 and 2020. The growth of older populations is likely to lead to growing need for health services, since on an overall per-capita basis, older individuals typically need and use more services than younger persons.

In 2015, over 20 percent of the population in two ZIP codes on the eastern side of the community (44102 and 44135) was Black. In seven ZIP codes, this percentage was under two percent.

Cuyahoga County had a higher percentage of residents aged 25 years and older without a high school diploma than the Ohio average. Compared to Ohio, Cuyahoga and Lorain counties had a higher proportion of the population that is linguistically isolated.⁴

Economic Indicators

Many health needs have been associated with poverty. According to the U.S. Census, in 2015 approximately 15.8 percent of people in Ohio were living in poverty. At 18.7 percent, Cuyahoga County's poverty rate was higher than Ohio's poverty rate during that year. In both Cuyahoga and Lorain counties, poverty rates have been comparatively high for Black and Hispanic (or Latino) residents. Low income census tracts are prevalent in the northeastern and western portion of Avon Rehabilitation's community.

2015 crime rates in Cuyahoga County were well above Ohio averages.

The percentage of people uninsured has declined in recent years, due to two primary factors. First, between 2012 and 2016, unemployment rates at the local, state, and national levels decreased significantly. Many receive health insurance coverage through their (or a family member's) employer. Second, in 2010 the Patient Protection and Affordable Care Act (ACA, 2010) was enacted, and Ohio was among the states that expanded Medicaid eligibility. In 2015, nine out of the 14 ZIP codes in the Avon Rehabilitation community had uninsured rates below

⁴ Linguistic isolation is defined as residents who speak a language other than English and speak English less than "very well."

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five percent. By 2020, 11 of the 14 ZIP codes in the community are projected to be under that percentage.

Local Health Status and Access Indicators

In the 2017 *County Health Rankings*, Cuyahoga County ranked in the bottom 50th percentile among Ohio counties for 27 of the 42 indicators assessed. Of those 27 indicators, 16 were in the bottom quartile, including Quality of Life, Social and Economic Factors, Physical Environment, and various social determinants of health. In Lorain County, 20 indicators ranked in the bottom 50th percentile among Ohio Counties. Of those 20 indicators, eight were in the bottom quartile, including Physical Environment, poor or fair health and physical health days, and various social determinants of health.

The following indicators have been comparatively unfavorable:

- Average number of physically unhealthy days
- Chlamydia rate
- Percent of adults reporting fair or poor health
- Percent of children living in a household headed by a single parent
- Percent of driving deaths with alcohol involvement
- Percent of the population unemployed
- Percent of workers with a long commute who drive alone
- Social associations rate
- Violent crime rate

In the 2017 *Community Health Status Indicators*, which compares community health indicators for each county with those for peers across the United States, the following indicators appear to be most problematic:

- Annual average particulate matter concentration (air pollution)
- Morbidity associated with Alzheimer's disease, gonorrhea, HIV, adult asthma, adult depression, and preterm births
- Mortality rates for Alzheimer's disease, cancer, chronic lower respiratory disease, and coronary heart disease
- Rates of preventable hospitalizations for older adults
- The number of children living in single-parent households

According to the CDC, age-adjusted mortality rates for major cardiovascular disease, septicemia, chronic liver disease and cirrhosis, falls, and alcohol-induced causes were significantly higher in Cuyahoga County than the Ohio averages. In Lorain County, rates for chronic lower respiratory disease, Alzheimer's disease, chronic liver disease and cirrhosis, falls, and Parkinson's disease were comparatively high. Overall age-adjusted mortality and incidence rates for cancer have been slightly above average; stomach cancer mortality rates have been particularly problematic.

Data from the Centers for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS) provides data on the rates of the following conditions: Obesity, Back Pain, Diabetes,

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Asthma, Depression, High Blood Pressure, High Cholesterol, COPD, and Smoking. The data indicate that the Avon Rehabilitation community averages for all conditions were below northeast Ohio averages. However, Lorain ZIP code 44035 was unfavorable for all conditions.

Ambulatory Care Sensitive Conditions

Ambulatory Care Sensitive Conditions (ACSCs) include fourteen 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.”⁵ Among these conditions are: angina without procedure, diabetes, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma.

ACSC rates in the Avon Rehabilitation community have exceeded Ohio averages for eight of the 14 conditions, including diabetes long-term complications, COPD, hypertension, congestive heart failure, low birth weight, angina without procedure, uncontrolled diabetes, and lower-extremity amputation among patients with diabetes.

Community Need Index

Dignity Health, a California-based hospital system, developed and published a *Community Need Index*TM (CNI) that measures barriers to health care access. The index 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
- 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 14 ZIP codes in the Avon Rehabilitation community, Cleveland ZIP codes 44102 and 44135, scored in the “highest need” CNI category.

Food Deserts

The U.S. Department of Agriculture’s Economic Research Service estimates the number of people in each census tract that live in a “food desert,” defined as low-income areas more than one mile from a supermarket or large grocery store in urban areas and more than 10 miles from a supermarket or large grocery store in rural areas. Several locations within the Avon Rehabilitation community have been designated as food deserts, particularly in Lorain County.

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

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Medically Underserved Areas and Populations

Medically Underserved Areas and Populations (MUA/Ps) are designated by the Health Resources and Services Administration (HRSA) based on an “Index of Medical Underservice.” The index includes the following variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over. Areas with a score of 62 or less are considered “medically underserved.” Several census tracts have been designated as medically underserved in the hospital’s community.

Health Professional Shortage Areas

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

Relevant Findings of Other CHNAs

The following community health needs were most frequently found to be significant in other community health needs assessments recently prepared by hospitals, local health departments, and by the State of Ohio:

- **Access to Affordable Health Care**
 - Access to basic/primary health care
 - Cost of care
- **Chronic Diseases and Other Health Conditions**
 - Alcohol abuse and excessive drinking
 - Cancer
 - Cardiovascular/heart disease
 - Diabetes
 - Drug/substance abuse
 - Infant mortality
 - Mental/ behavioral health
 - Respiratory diseases
- **Economic Development and Community Conditions**
 - Poverty
 - Transportation
 - Violence/crime
- **Healthcare for the Elderly**
 - Elderly care/aging population
 - Falls
- **Wellness**
 - Obesity
 - Tobacco use/smoking

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The assessment prepared by the Cuyahoga County Health Improvement Partnership (2015) also highlighted issues with health disparities/equity.

The CHNA reports also were reviewed to identify conditions that contribute to the need for rehabilitation services. The reports highlighted: prevalence falls for elderly adults (and the need for additional falls prevention programs), stroke and stroke prevention, and traumatic brain injury and prevention.

Primary Data Summary

Primary data were gathered by conducting interviews with key stakeholders (Appendix C lists organizational affiliations for these individuals). The interviews were guided by a structured protocol that focused on identifying significant community health needs – particularly those associated with patients who need rehabilitation services – and why such needs are present.

Key stakeholders most frequently identified the following rehabilitation-related health status and access issues as significant concerns:

- The opioid crisis which increases the prevalence of brain injury and other problems requiring rehabilitation services
- A lack of access to post-acute care (skilled nursing, nursing homes, home health), particularly for:
 - Individuals without insurance that covers post-acute services
 - Individuals who have abused IV drugs leading to hospitalization and subsequent need for rehabilitation and other post-acute care services
- Prevalence of poor mental health and a lack of access to mental health services, including services integrated with: primary care, substance abuse treatment, and with post-acute inpatient care
- Prevalence of patients with chronic conditions including: heart disease, hypertension, COPD, congestive heart failure, and diabetes
- Obesity, which contributes to poor health and which increases the risk of falls, stroke, and other serious issues that affect the need for rehabilitation services
- Health inequities/disparities, with higher prevalence of these problems within African American and Hispanic/Latino populations

When asked to identify significant community health issues less related to rehabilitation services, interviewees emphasized problems with communicable diseases, maternal and child health (including infant mortality), and cancer.

When asked why the above concerns are present, stakeholders emphasized the following factors:

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- Population aging
- Isolation of senior populations and lack of family support structures, which increases falls risks and complicates management of chronic conditions
- Lack of physical activity and access to healthy foods, contributing to obesity
- Poverty, which creates financial barriers to accessing health services, leads to suboptimal housing and the inability to “age in place,” contributes to crime, and negatively affects mental health
- Community conditions, such as poor housing and alcohol abuse, that contribute to falls among the elderly
- Smoking rates, which contribute to cancer, COPD, and the incidence of other chronic diseases
- Continued efforts to shorten hospital inpatient lengths of stay, increasing demands for post-acute care
- The lack of a well-established “continuum of care” that integrates mental health with physical health, facilitate case management, contributes to a short-supply of certain post-acute services, and makes it challenging for patients to access other needed services
- The overall cost of health care, which makes services unaffordable
- The over prescribing of prescriptions as a cause of opioid crisis
- A lack of transportation options, particularly for low income, disabled, and elderly individuals
- Low education levels and problems with health literacy, making it difficult for community members to understand medical terminology and health insurance benefits, and complicating the ability of patients to manage their conditions at home

Interviewees offered a number of ideas to help address the identified health problems and causal factors, including: expanding transportation options, enhancing health literacy programs and understanding of the availability of community health and social services resources, improving access to skilled nursing and transitional care/case management services, enhancing housing, expanding availability of mental health services in physical health settings, identifying and supporting isolated seniors, encouraging lifestyle changes, developing effective chronic pain management options, and increasing collaboration among providers.

SIGNIFICANT COMMUNITY HEALTH NEEDS

Prioritization Process

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

Access to Affordable Health Care

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

- Federally-designated Medically Underserved Areas (MUAs) and Primary Care Health Professional Shortage Areas (HPSAs) have been present in the community served by Avon Rehabilitation (**Exhibits 29 and 30**).
- Rates for ambulatory care sensitive conditions within the Avon Rehabilitation community were significantly higher than the Ohio averages for eight conditions (**Exhibit 25**). Disproportionately high rates indicate potential problems with the availability or accessibility of ambulatory care and preventive services and can suggest areas for improvement in the health care system and ways to improve outcomes.
- In Community Health Status Indicators (CHSI), Cuyahoga and Lorain counties ranked poorly compared to peer counties for Older Adult Preventable Hospitalizations (**Exhibit 20**).
- A lack of a continuum of care, connecting acute, rehabilitation, and post-discharge services, was identified by a majority of interviewees as a problem in the community. Access to mental health care, preventive care, and health insurance was also discussed by many participants.
- Other health assessments identified access to basic and primary health care as a concern in the community (**Exhibit 32**).

Chronic Diseases and Other Health Conditions

The following chronic diseases and health conditions were identified as problematic in the Avon Rehabilitation community: heart disease and hypertension, mental health, obesity, diabetes, and substance abuse. Causal factors for these conditions include smoking, physical inactivity and

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problems accessing healthy food, excessive prescription of opioids, and unfavorable economic and social conditions.

- **Heart Disease and Hypertension**
 - In Community Health Status Indicators (CHSI), Cuyahoga County ranked poorly compared to peer counties for Coronary Heart Disease deaths (**Exhibit 20**).
 - The age-adjusted mortality rate for major cardiovascular diseases in Cuyahoga County was significantly higher than the Ohio average (**Exhibit 21**).
 - ACSC rates for Congestive Heart Failure, Hypertension, Angina without Procedure, and Diabetes were all significantly higher than the average ACSC rates in Ohio (**Exhibit 25**).
 - Interviewees identified heart disease, hypertension, and congestive heart failure as an increasing need in the community.
- **Mental Health Status**
 - In County Health Rankings, Cuyahoga County ranked 53rd out of 88 Ohio counties for Poor Mental Health Days (**Exhibit 18**). Lorain County compared unfavorably to the Ohio average for ratio of population to mental health providers (**Exhibit 19**).
 - In Community Health Status Indicators (CHSI), Lorain County ranked poorly compared to peer counties for Older Adult Depression (**Exhibit 20**).
 - Many interviewees identified mental illness and a lack of mental health services as a significant concern for all age groups within the area served by Avon Rehabilitation. Several interviewees cited the need for mental health care to be integrated into acute and rehabilitation services. Other interviewees noted a concern about mental health for isolated elderly residents and its leading to other health concerns.
 - Mental and behavioral health was also identified by other health assessments conducted in the community as a prioritized need (**Exhibit 32**).
- **Obesity, Diabetes, and Causal Factors**
 - In County Health Rankings, Cuyahoga County ranked 79th out of 88 Ohio counties for Food Environment Index, and Lorain County ranked 49th (**Exhibit 18**).
 - ACSC rates for several diabetes-related indicators were unfavorable in the community when compared to state averages (**Exhibit 25**).
 - Federally-designated Food Deserts have been present in the community served by Avon Rehabilitation (**Exhibit 28**). Lack of access to affordable healthy food options and high concentrations of fast food restaurants may lead individuals (particularly those in lower socio-economic classes) to consume calorie dense, nutrient poor foods that lead to obesity. Chronic conditions such as hypertension and diabetes are much more prevalent among individuals who are obese.
 - A majority of interviewees identified obesity, a lack of exercise, and a lack of proper nutrition as significant concerns in the community.
 - Other health assessments frequently identified obesity as a priority health need. Diabetes was also identified by many other health assessments (**Exhibit 32**).

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- Studies conducted by Harvard Health and Cleveland Clinic on stroke prevention concluded that obesity contributes to an increase risk of stroke, a top condition leading to the need for rehabilitation.
- **Substance Abuse and Chemical Dependency**
 - In County Health Rankings, Cuyahoga County ranked 67th out of 88 Ohio counties for Excessive Drinking and 82nd for Alcohol-Impaired Driving Deaths. Lorain County ranked 58^h for Excessive Drinking and 86th for Alcohol-Impaired Driving Deaths (**Exhibit 18**).
 - The age-adjusted mortality rate for alcohol-induced causes in Cuyahoga County was significantly higher than the Ohio average (**Exhibit 21**).
 - Abuse of opiates was cited as a significant health concern by nearly all interviewees. Interviewees cited that drug abuse was leading to brain trauma, comas, and other conditions that led to a need for rehabilitation admissions.
 - Many other health assessments identified drug and substance abuse as a priority health need in the community (**Exhibit 32**).

Economic Development and Community Conditions

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

- Cuyahoga County has had a higher poverty rate than both the Ohio and national averages (**Exhibit 12**).
 - Poverty rates among Black and Hispanic (or Latino) populations in Cuyahoga and Lorain counties have been more than twice as high as the poverty rate of White residents (**Exhibit 13**).
 - Federally-designated Low Income Areas have been present in the community served by Avon Rehabilitation (**Exhibit 14**).
 - In County Health Rankings, Cuyahoga County ranked 76th out of the 88 counties in Ohio for Social and Economic Factors, 87th for Severe Housing Problems, and 85th for Income Inequality. Lorain County ranked 45^h for Social and Economic Factors, 68rd for Severe Housing Problems, and 60th for Income Inequality (**Exhibit 18**).
 - In Community Health Status Indicators (CHSI), Lorain County ranked poorly compared to peer counties for High Housing Costs, Poverty, and Unemployment (**Exhibit 20**).
 - A majority of interviewees identified economic and healthcare disparities among minority residents as significant community health issues.
- Crime rates in Cuyahoga County have been well above Ohio averages (**Exhibit 17**) and Cuyahoga County ranked 85th out of 88 counties in Ohio for Violent Crime in County Health Rankings (**Exhibit 18**).
- In County Health Rankings, Cuyahoga County ranked 85th out of 88 counties in Physical Environment and 87th in Air Pollution. Lorain County ranked 70th in Physical Environment (**Exhibit 19**).

SIGNIFICANT COMMUNITY HEALTH NEEDS

- In Community Health Status Indicators (CHSI), Cuyahoga and Lorain counties ranked poorly compared to peer counties for Annual Air Pollution (**Exhibit 20**).
- Interviewees identified a lack of transportation options as a significant barrier to good health in the community. This was especially true for low-income, elderly, and disabled residents.
- Other health assessments also identified transportation, cost of care, and poverty as priorities (**Exhibit 32**).

Healthcare for the Elderly

The population in the Avon Rehabilitation community is expected to age, and providing an effective continuum of care for those over 65 years of age (including rehabilitation services) will be challenging. Falls represent a particular concern for elderly populations.

- The overall population in Avon Rehabilitation's community is projected to increase by 0.5 percent between 2015 and 2020, but the number of persons 65 years of age and older in the community is projected to increase by 15.5 percent over this period (**Exhibit 7**).
- In Community Health Status Indicators (CHSI), Cuyahoga and Lorain counties ranked poorly compared to peer counties for Older Adult Preventable Hospitalizations (**Exhibit 20**).
- The age-adjusted mortality rates for falls in Cuyahoga and Lorain counties were significantly higher than the Ohio average (**Exhibit 21**).
- Interviewees identified care of the elderly as a challenge in the community, including the need for additional in-home health care, skilled nursing facilities, and a continuum of care. Concerns were also raised about seniors aging in place. Interviewees also identified senior isolation and resulting mental and physical health conditions as a concern.
- Many interviewees also identified falls among older residents in the community as a significant health need. Falls were considered to be of particular concern due to the aging population in the community and a lack of housing and physical environments that are equipped with fall-prevention equipment.
- Elderly care and concerns of the aging population was identified in many other health assessments in the community (**Exhibit 32**).
- Due to the fall concerns identified in the community, the CDC has suggested that continued physical activity, home modifications, and training with safety devices are important interventions for elderly adults to prevent falls.
- The State of Ohio has recognized falls among older adults as a priority health need, estimating that falls in Ohio result in \$1.1 billion annually and that one in three Ohioans aged 65 and older fall each year.

Wellness

Programs and activities that seek to change unhealthy behaviors are needed in the community, including education regarding the importance of exercise, nutrition, and tobacco cessation.

SIGNIFICANT COMMUNITY HEALTH NEEDS

Enhanced health literacy (including improved understanding of health insurance benefits) also is needed.

- In County Health Rankings, Cuyahoga County ranked 79th out of 88 Ohio counties for Food Environment Index, and Lorain County ranked 49th (**Exhibit 18**). Lorain County also ranked 54th out of 88 Ohio counties for Adult Smoking.
- Federally-designated Food Deserts have been present in the community served by Avon Rehabilitation (**Exhibit 28**). Lack of access to affordable healthy food options and high concentrations of fast food restaurants, may lead individuals (particularly those in lower socio-economic classes) to consume calorie dense, nutrient poor foods that lead to obesity. Chronic conditions such as hypertension and diabetes are much more prevalent among individuals who are obese.
- Other health assessments identified tobacco use and smoking as a priority health need in the community (**Exhibit 32**).
- Many interviewees cited health education as a concern in the community. Interviewees stated that many residents do not understand how to use health insurance or access in-network providers. Many also indicated that residents do not know how to live healthy lifestyles and lack understanding of nutrition and preventive health.
- Interviewees also identified smoking and tobacco use as a primary contributor to poor health outcomes.
- Stroke prevention studies suggest that smoking leads to an increased risk of stroke, which in turn increases need for acute care and rehabilitation services.

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 seven FQHC sites operating in the Avon Rehabilitation community (**Exhibit 4**).

Exhibit 4: Federally Qualified Health Centers, 2017

Facility	County	ZIP Code
Lorain County Health & Dentistry - East River	Lorain	44035
Neighborhood Family Practice at Detroit Shoreway	Cuyahoga	44102
Neighborhood Family Practice at Puritas	Cuyahoga	44135
Neighborhood Family Practice at West 117th	Cuyahoga	44111
Neighborhood Family Practice Site	Cuyahoga	44102
The Centers	Cuyahoga	44111
The Centers at Gordon Square	Cuyahoga	44102

Source: Ohio Association of Community Health Centers, 2017.

Hospitals

Exhibit 5 presents information on hospital facilities that operate in the Avon Rehabilitation community.

Exhibit 5: Hospitals, 2017

Facility	Type	ZIP Code	County
Cleveland Clinic Avon Hospital	General Hospital	44011	Lorain
Cleveland Clinic Fairview Hospital	General Hospital	44111	Cuyahoga
St. John Medical Center	General Hospital	44145	Cuyahoga
University Hospitals Elyria Medical Center	General Hospital	44035	Lorain

Source: Ohio Hospital Association, 2017.

Other Community Resources

A wide range of agencies, coalitions, and organizations that provide health and social services is available in the region served by Avon 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.

OTHER FACILITIES AND RESOURCES IN THE COMMUNITY

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

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

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

APPENDIX A – CONSULTANT QUALIFICATIONS

Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves clients throughout the United States as a resource that helps health care providers conduct Community Health Needs Assessments and develop Implementation Strategies to address significant health needs. Verité has conducted more than 50 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.

Community Assessed

As mentioned previously and shown in **Exhibit 1**, Avon Rehabilitation’s community is comprised of 14 ZIP codes, located in Cuyahoga County and Lorain County, Ohio. The community was defined by considering the geographic origins of the hospital’s discharges between December 2015 and June 2017 and also the hospital’s target populations and principal functions as a rehabilitation facility.

Demographics

Population characteristics and changes directly influence community health needs. The total population in the Avon Rehabilitation community is expected to increase 0.5 percent from 2015 to 2020 (**Exhibit 6**).

Exhibit 6: Percent Change in Community Population by ZIP Code, 2015-2020

County	City	ZIP Code	Estimated Population 2015	Projected Population 2020	Percent Change 2015-2020
Cuyahoga	Bay Village	44140	15,326	15,137	-1.2%
Cuyahoga	Cleveland	44102	42,983	41,674	-3.0%
Cuyahoga	Cleveland	44111	38,798	37,939	-2.2%
Cuyahoga	Cleveland	44126	16,203	16,012	-1.2%
Cuyahoga	Cleveland	44135	26,440	26,444	0.0%
Cuyahoga	Lakewood	44107	51,892	51,785	-0.2%
Cuyahoga	North Olmsted	44070	32,418	32,052	-1.1%
Cuyahoga	Olmsted Falls	44138	23,376	24,310	4.0%
Cuyahoga	Rocky River	44116	20,079	19,938	-0.7%
Cuyahoga	Westlake	44145	32,983	33,389	1.2%
Lorain	Avon	44011	23,330	25,147	7.8%
Lorain	Avon Lake	44012	23,594	24,552	4.1%
Lorain	Elyria	44035	63,600	63,208	-0.6%
Lorain	North Ridgeville	44039	31,940	33,748	5.7%
Community Total			442,962	445,335	0.5%

Source: Truven Market Expert, 2015.

Between 2015 and 2020, six of the 14 ZIP codes in the community are projected to increase in population size. The populations in Lorain ZIP codes 44011 and 44039 are expected to increase by over five percent.

APPENDIX B – SECONDARY DATA ASSESSMENT

Exhibit 7 shows the community’s population for certain age and sex cohorts in 2015, with projections to 2020.

Exhibit 7: Percent Change in Population by Age/Sex Cohort, 2015-2020

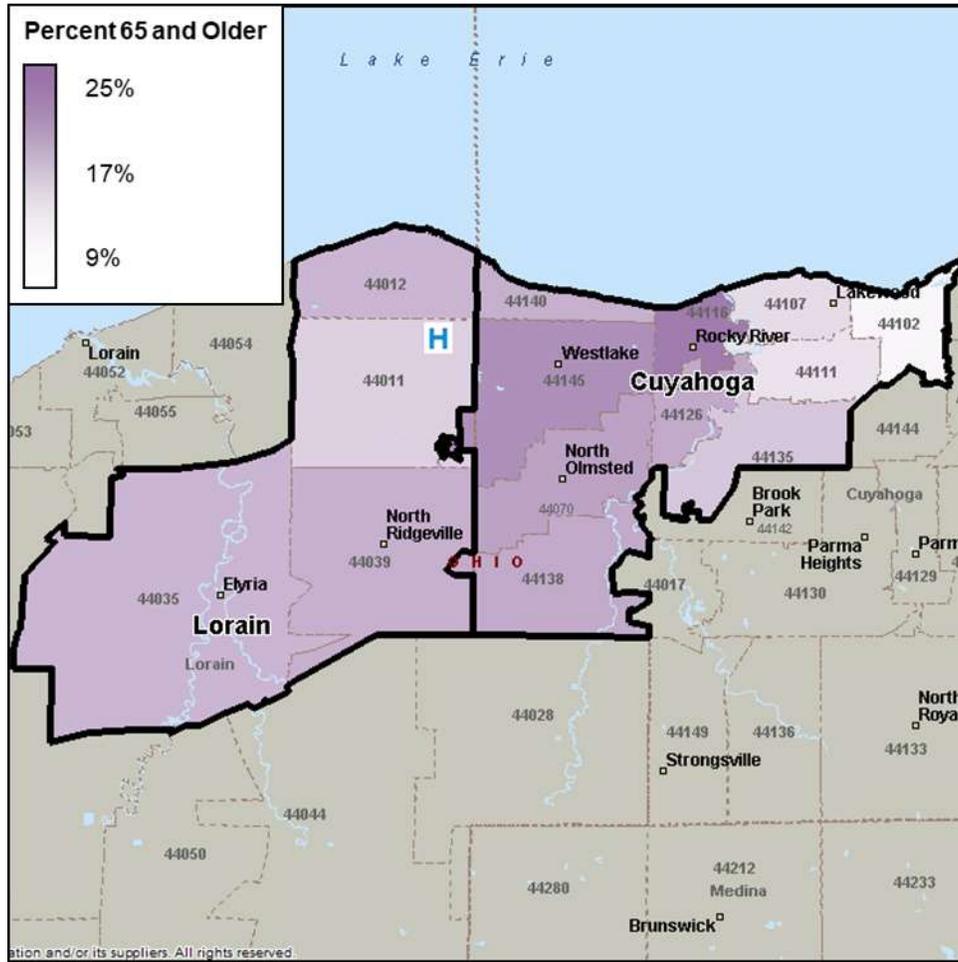
Age/Sex Cohort	Estimated Population 2015	Projected Population 2020	Percent Change 2015-2020
0-17	100,528	98,004	-2.5%
Female 18-44	74,206	72,642	-2.1%
Male 18-44	72,978	71,856	-1.5%
45-64	124,456	121,079	-2.7%
65+	70,794	81,754	15.5%
Community Total	442,962	445,335	0.5%

Source: Truven Market Expert, 2015.

The number of persons aged 65 years and older is projected to increase by 15.5 percent between 2015 and 2020. All other age groups are expected to decrease in population. 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 8 illustrates the percent of the population 65 years of age and older in the community by ZIP code.

Exhibit 8: Percent of Population Aged 65+ by ZIP Code, 2015

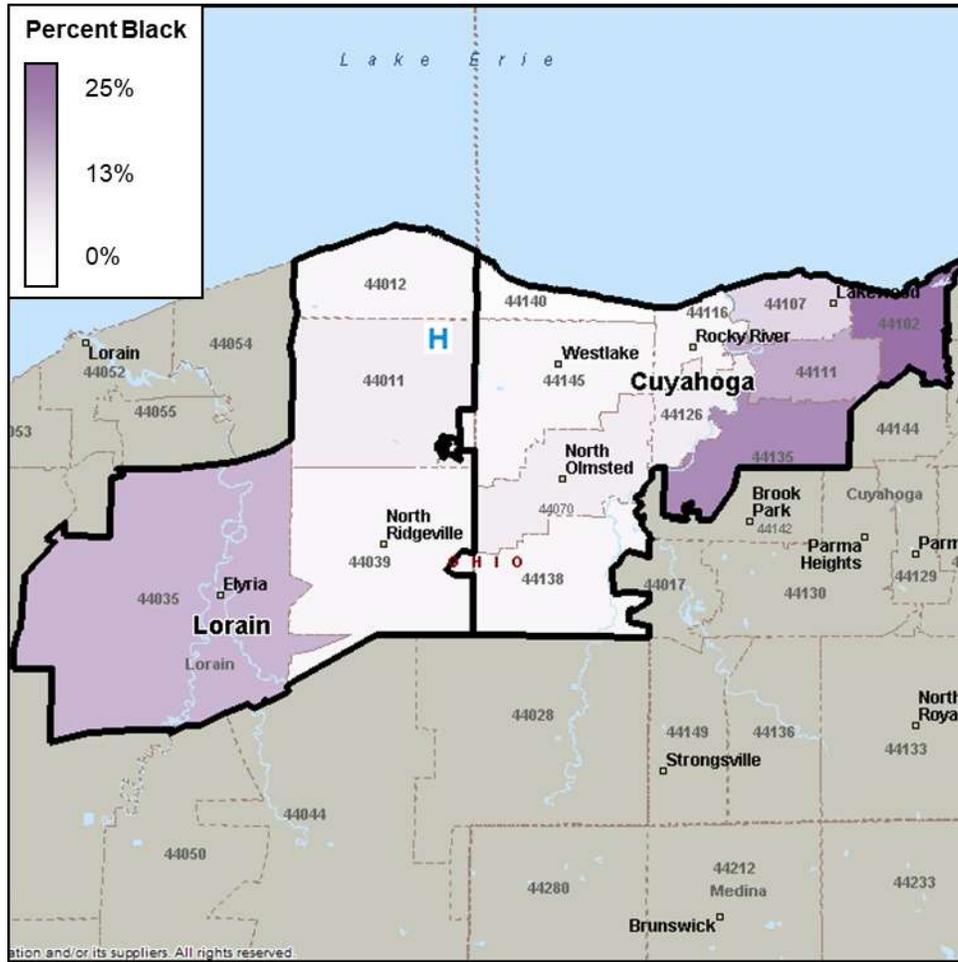


Source: Truven Market Expert, 2015.

In the community, ZIP codes 44116 and 44145 had the highest proportions of residents 65 years of age and older, each over 20 percent. ZIP code 44102 had the lowest.

Exhibits 9 and 10 show locations in the community where the percentages of the population that are Black and Hispanic (or Latino) were highest in 2015.

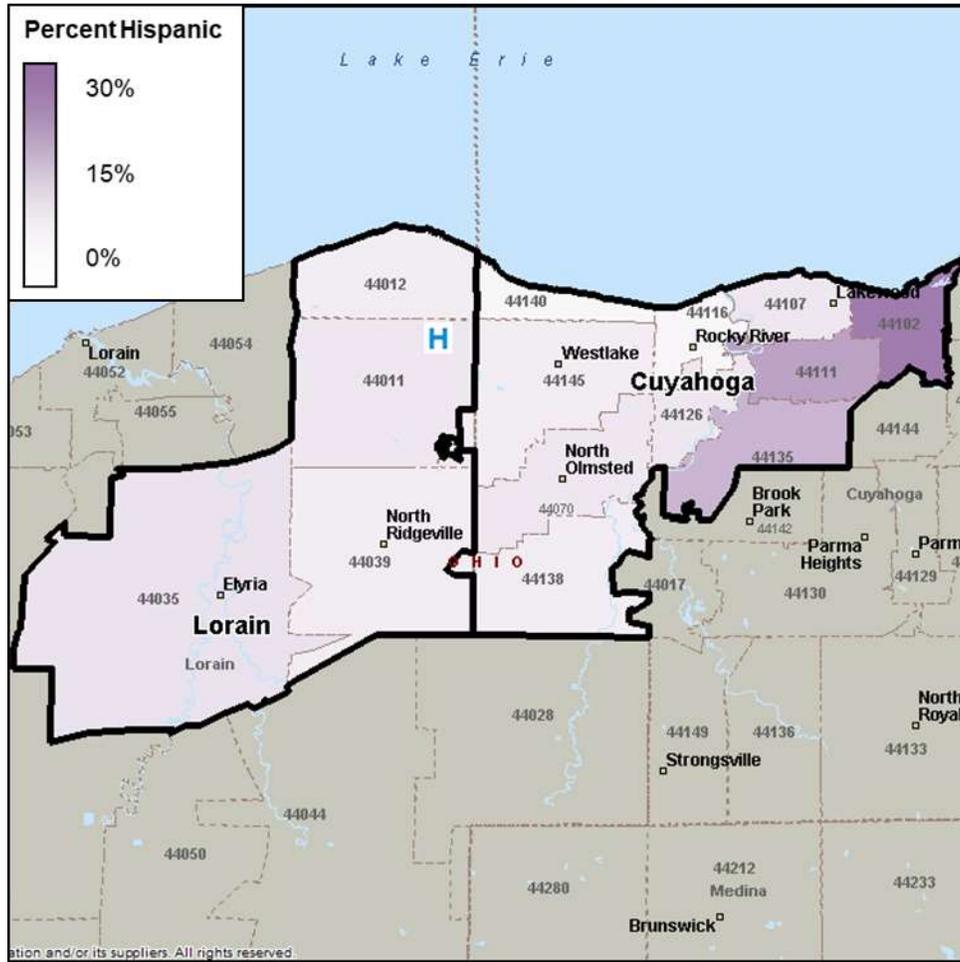
Exhibit 9: Percent of Population - Black, 2015



Source: Truven Market Expert, 2015.

Over 20 percent of residents of ZIP codes 44102 and 44135 were Black. Less than two percent of residents were Black in seven of the community's ZIP codes (44140, 44126, 44138, 44116, 44145, 44012, and 44039).

Exhibit 10: Percent of Population – Hispanic (or Latino), (2015)



Source: Truven Market Expert, 2015.

The percentage of residents that are Hispanic (or Latino) was highest in ZIP code 44102.

APPENDIX B – SECONDARY DATA ASSESSMENT

Data regarding residents without a high school diploma, with a disability, and who are linguistically isolated are presented in **Exhibit 11** for Cuyahoga and Lorain counties, Ohio, and the United States.

Exhibit 11: Other Socioeconomic Indicators, 2011-2015

Measure	Cuyahoga County	Lorain County	Ohio	United States
Population 25+ without High School Diploma	12.0%	10.9%	10.9%	13.3%
Population with a Disability	14.5%	14.8%	13.6%	12.4%
Population Linguistically Isolated	4.2%	2.6%	2.4%	8.6%

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

Exhibit 11 indicates that:

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

Economic indicators

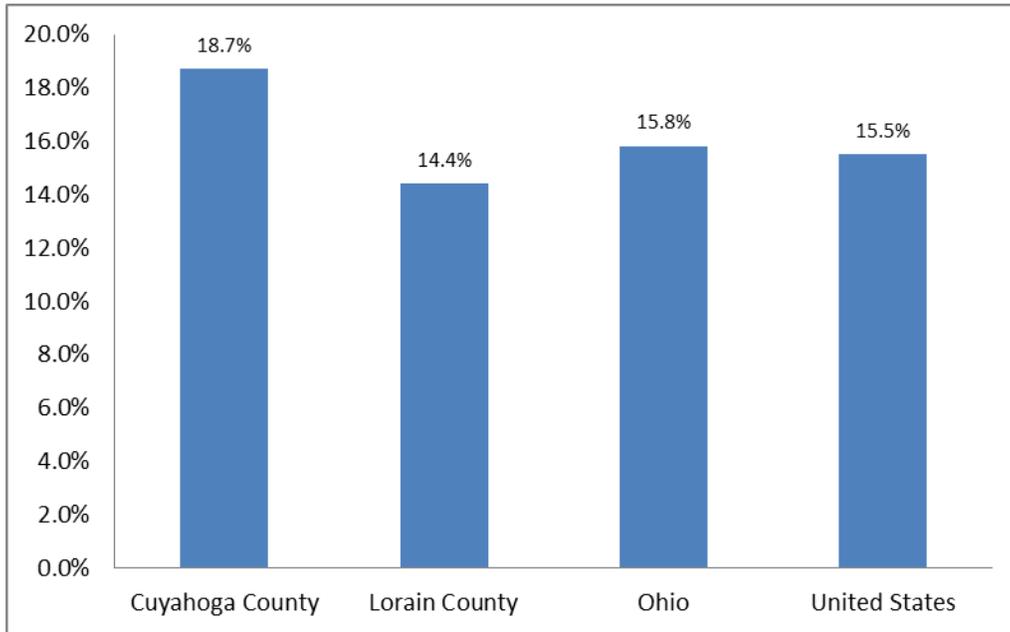
The following categories of economic indicators with implications for health were assessed: (1) people in poverty; (2) unemployment rate; (3) insurance status; and (4) crime.

People in Poverty

Many health needs have been associated with poverty. According to the U.S. Census, in 2015 approximately 15.8 percent of people in Ohio were living in poverty. Cuyahoga County’s poverty rate was higher than Ohio’s poverty rate during that year (**Exhibit 12**).

APPENDIX B – SECONDARY DATA ASSESSMENT

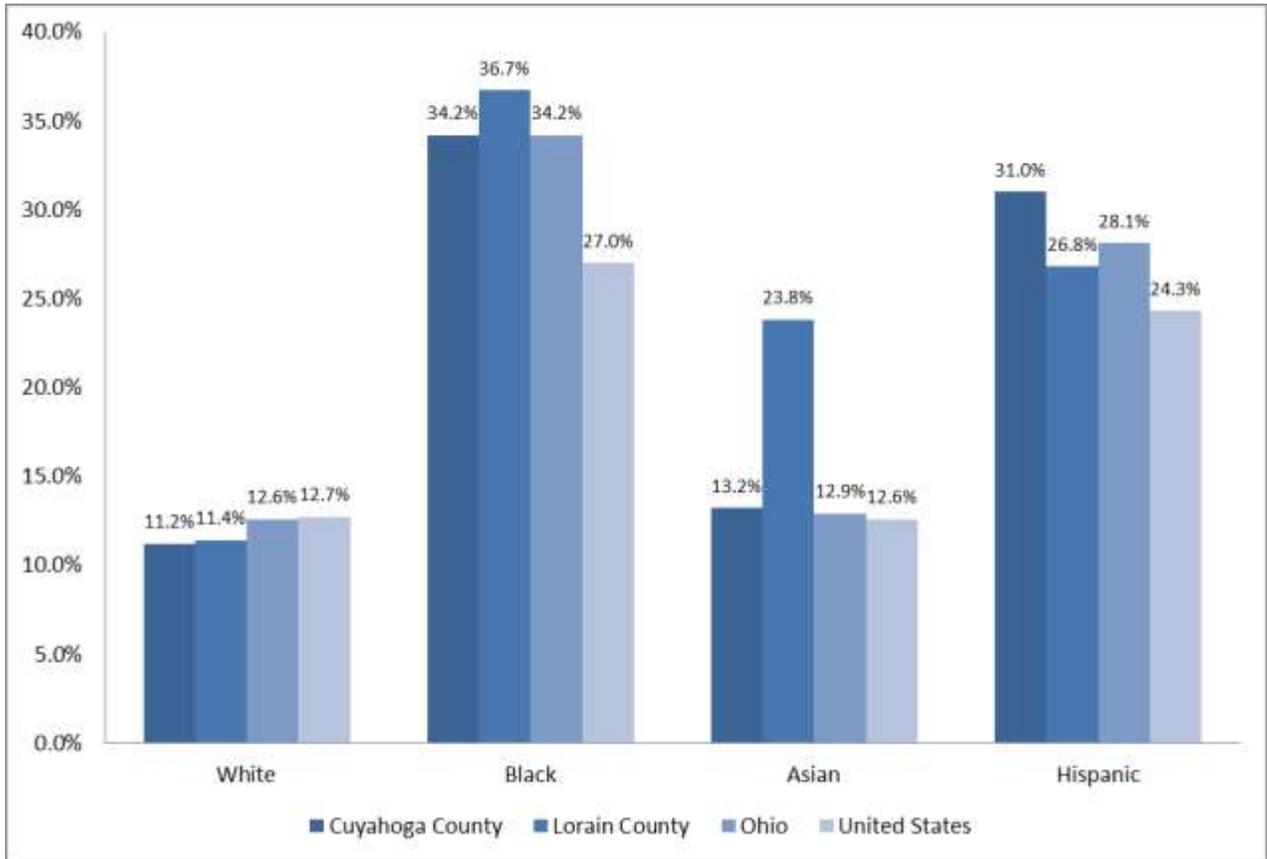
Exhibit 12: Percent of People in Poverty, 2011-2015



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

Considerable variation in poverty rates is present across racial and ethnic categories, in Cuyahoga and Lorain counties and Ohio (**Exhibit 13**).

Exhibit 13: Poverty Rates by Race and Ethnicity, 2011-2015

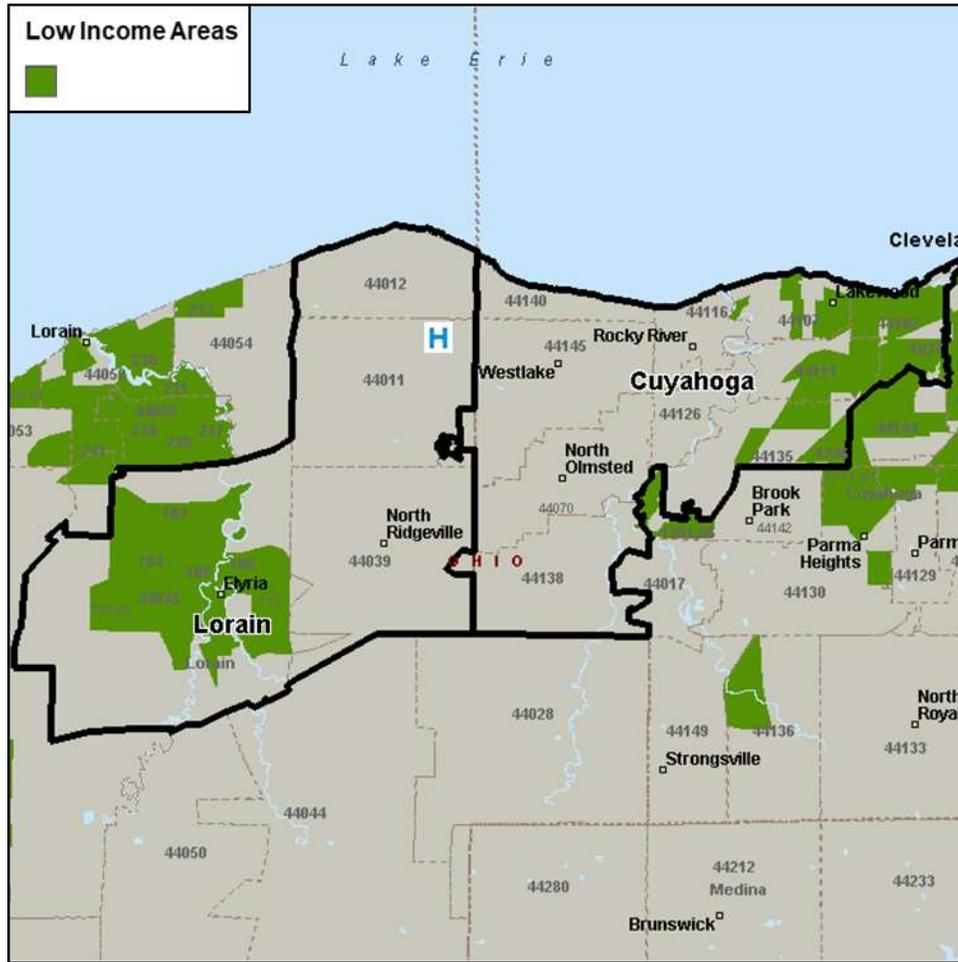


Source: U.S. Census, ACS 5-Year Estimates, 2017.

Poverty rates in Cuyahoga County, Lorain County, and Ohio have been comparatively high for Black and Hispanic (or Latino) residents. The poverty rate for Asian and Hispanic (or Latino) residents of Cuyahoga County has exceeded the Ohio average. In Lorain County, the poverty rate for Black and Asian residents is higher than state and national averages.

Exhibit 14 portrays the locations of low income census tracts in the community. The U.S. Department of Agriculture defines “low income census tracts” as areas where poverty rates are 20 percent or higher or where median family incomes are 80 percent or lower than within the metropolitan area.

Exhibit 14: Low Income Census Tracts, 2017



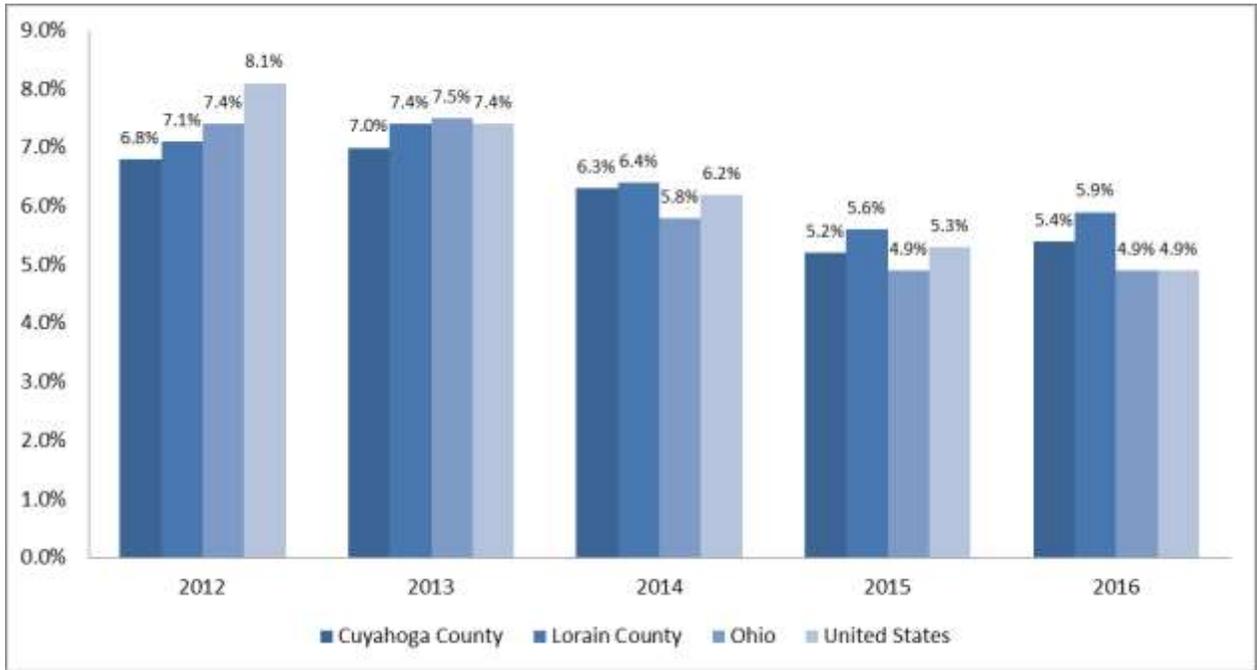
Source: US Department of Agriculture Economic Research Service, ESRI, 2017.

Low income census tracts have been prevalent in the northeastern portion of the community in Cuyahoga County, and the southwest portion in Lorain County.

Unemployment

Unemployment is problematic because many residents receive health insurance coverage through their (or a family member's) employer. If unemployment rises, access to employer based health insurance can decrease. **Exhibit 15** shows unemployment rates for 2012 through 2016 for Cuyahoga and Lorain counties, with Ohio and national rates for comparison.

Exhibit 15: Unemployment Rates, 2012-2016



Source: Bureau of Labor Statistics, 2017.

Between 2012 and 2016, unemployment rates at the local, state, and national levels decreased significantly. In 2016, the unemployment rates in Cuyahoga and Lorain counties were higher than the state and national rates.

Insurance Status

Exhibit 16 presents the estimated percent of populations in the community without health insurance (uninsured), by ZIP code.

APPENDIX B – SECONDARY DATA ASSESSMENT

Exhibit 16: Percent of the Population without Health Insurance, 2015-2020

County	City	ZIP Code	Total Population 2015	Percent Uninsured 2015	Total Population 2020	Percent Uninsured 2020
Cuyahoga	Bay Village	44140	15,326	2.8%	15,137	2.0%
Cuyahoga	Cleveland	44102	42,983	11.2%	41,674	7.3%
Cuyahoga	Cleveland	44111	38,798	7.4%	37,939	4.7%
Cuyahoga	Cleveland	44126	16,203	4.8%	16,012	3.2%
Cuyahoga	Cleveland	44135	26,440	7.6%	26,444	5.0%
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Cuyahoga	North Olmsted	44070	32,418	4.0%	32,052	2.7%
Cuyahoga	Olmsted Falls	44138	23,376	4.3%	24,310	3.0%
Cuyahoga	Rocky River	44116	20,079	4.5%	19,938	3.1%
Cuyahoga	Westlake	44145	32,983	3.4%	33,389	2.4%
Lorain	Avon	44011	23,330	4.0%	25,147	2.9%
Lorain	Avon Lake	44012	23,594	4.4%	24,552	3.2%
Lorain	Elyria	44035	63,600	7.6%	63,208	5.1%
Lorain	North Ridgeville	44039	31,940	3.1%	33,748	2.1%
Community Total			442,962	6.1%	445,335	4.0%

Source: Truven Market Expert, 2015.

In 2015, five out of the 14 ZIP codes in the community had uninsured rates above five percent. By 2020, it is projected that only two of the 14 ZIP codes in the community will have uninsured rates above five percent, namely ZIP codes 44102 and 44035.

Ohio Medicaid Expansion

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. Medicaid expansion accounted for over 76 percent of Ohio’s ACA enrollment and plans purchased through the federal healthcare.gov exchange accounted for about 24 percent.⁶

In Ohio, Medicaid primarily is available for low-income individuals, pregnant women, children, low-income elderly persons, and individuals with disabilities.⁷ With a network of more than 83,000 providers, the Ohio Department of Medicaid covers over 2.9 million Ohio residents. Across the United States, uninsured rates have fallen most in states that decided to expand Medicaid.⁸

Questions have emerged regarding whether access improvements associated with the Affordable Care Act will be sustained under the current administration.

⁶ <http://watchdog.org/237980/75percent-ohio-obamacare/>

⁷ <http://medicaid.ohio.gov/FOROHIOANS/WhoQualifies.aspx>

⁸ See: <http://hrms.urban.org/briefs/Increase-in-Medicaid-under-the-ACA-reduces-uninsurance.html>

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Crime

Exhibit 17 provides certain crime statistics for Cuyahoga County, Lorain County, and Ohio.

Exhibit 17: Crime Rates by Type and County, Per 100,000, 2015
(Light grey shading indicates indicator worse than Ohio average; Dark grey shading indicates more than 50 percent worse than Ohio average)

Crime	Cuyahoga County	Lorain County	Ohio
Violent Crime	500.5	106.4	291.4
Property Crime	2,387.1	1,379.6	2,557.2
Murder	8.2	1.2	4.7
Rape	44.9	24.6	45.6
Robbery	263.3	37.3	108.8
Aggravated Assault	184.1	43.3	132.3
Burglary	580.1	453.8	596.4
Larceny	1,488.3	882.6	1,811.4
Motor Vehicle Theft	318.7	43.3	149.4
Arson	26.5	10.7	21.3

Source: FBI, 2015.

2015 crime rates in Cuyahoga County were more than 50 percent greater than the Ohio averages for violent crime, murder, robbery, and motor vehicle theft. All crime rates in Lorain County were below state averages.

Local Health Status and Access Indicators

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

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

County Health Rankings

County Health Rankings, a University of Wisconsin Population Health Institute initiative funded by the Robert Wood Johnson Foundation, 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

APPENDIX B – SECONDARY DATA ASSESSMENT

variables grouped into the following categories: health behaviors, clinical care,⁹ social and economic factors, and physical environment.¹⁰ *County Health Rankings* is updated annually. *County Health Rankings 2017* relies on data from 2006 to 2016, with most data from 2010 to 2014.

Exhibit 18 presents 2014 and 2017 rankings for each available indicator category. Rankings indicate how the county ranked in relation to all 88 counties in the Ohio, with 1 indicating the most favorable rankings and 88 the least favorable. The table also indicates if rankings fell between 2014 and 2017.

⁹A 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.

¹⁰A 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.

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Exhibit 18: County Health Rankings, 2014 and 2017
 (Light grey shading indicates indicator in bottom half of Ohio counties; Dark grey shading indicates in bottom quartile of Ohio counties)

Measure	Cuyahoga County			Lorain County		
	2014	2017	Rank Change	2014	2017	Rank Change
Health Outcomes	65	65		28	41	↓
Health Factors	47	56	↓	45	43	
Length of Life	58	47		24	35	↓
Quality of Life	69	75	↓	32	49	↓
Health Behaviors	33	48	↓	48	39	
Clinical Care	6	5		31	23	
Social & Economic Factors	65	76	↓	47	45	
Physical Environment	68	85	↓	82	70	
Premature death	58	47		24	35	↓
Poor or fair health	32	62	↓	41	70	↓
Poor physical health days	24	38	↓	22	70	↓
Poor mental health days	49	53	↓	20	35	↓
Low birthweight	87	88	↓	41	44	↓
Adult smoking	14	32	↓	34	54	↓
Adult obesity	5	18	↓	48	10	
Food environment index	74	79	↓	50	49	
Physical inactivity	12	14	↓	37	2	
Access to exercise opportunities	2	3	↓	7	14	↓
Excessive drinking	33	67	↓	45	58	↓
Alcohol-impaired driving deaths	61	82	↓	72	86	↓
Sexually transmitted infections	88	87		78	71	
Teen births	53	50		30	31	↓
Uninsured	45	39		21	17	
Primary care physicians	3	3		27	26	
Dentists	1	1		24	32	↓
Mental health providers	2	2		35	30	
Preventable hospital stays	33	28		56	66	↓
Diabetes monitoring	64	62		47	40	
Mammography screening	15	18	↓	6	4	
High school graduation	85	83		76	64	
Some college	8	9	↓	19	23	↓
Unemployment	40	45	↓	54	53	
Children in poverty	61	67	↓	37	46	↓
Income inequality	-	85		-	60	
Children in single-parent households	87	85		73	72	
Social associations	-	76		-	68	
Violent crime	83	85	↓	72	66	
Injury deaths	30	42	↓	8	31	↓
Air pollution	63	87	↓	57	42	
Severe housing problems	87	87		66	68	↓
Driving alone to work	10	8		44	37	
Long commute - driving alone	46	46		57	56	

Source: County Health Rankings, 2017.

In 2017, Cuyahoga County ranked in the bottom 50th percentile among Ohio counties for 27 of the 42 indicators assessed. Of those 27 indicators ranking in the bottom 50th percentile, 16 were in the bottom quartile, including Quality of Life, Social and Economic Factors, Physical

APPENDIX B – SECONDARY DATA ASSESSMENT

Environment, several alcohol indicators, and various social determinants of health. Between 2014 and 2017, rankings for 23 indicators fell in Cuyahoga County.

In Lorain County, 20 indicators ranked in the bottom 50th percentile among Ohio Counties. Of those 20 indicators ranking in the bottom 50th percentile, eight were in the bottom quartile, including Physical Environment, poor or fair health and physical health days, and various social determinants of health. Between 2014 and 2017, rankings for 15 indicators fell in Lorain County.

Exhibit 19 provides data for each underlying indicator of the composite categories in the County Health Rankings.¹¹ The exhibit also includes national averages.

¹¹ 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

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Exhibit 19: County Health Rankings Data Compared to Ohio and U.S. Averages, 2017
 (Light grey shading indicates indicator worse than Ohio average; Dark grey shading indicates more than 50 percent worse than Ohio average)

Indicator Category	Data	Cuyahoga County	Lorain County	Ohio	United States
Health Outcomes					
Length of Life	Years of potential life lost before age 75 per 100,000 population	7,827.8	7,198.8	7,566.3	6,600.0
Quality of Life	Percent of adults reporting fair or poor health	17.1%	17.3%	15.3%	15.0%
	Average number of physically unhealthy days reported in past 30 days	3.8	4.1	3.7	3.6
	Average number of mentally unhealthy days reported in past 30 days	4.0	3.9	4.0	3.7
	Percent of live births with low birthweight (<2500 grams)	10.5%	7.6%	8.6%	8.0%
Health Factors					
Health Behaviors					
Adult Smoking	Percent of adults that report smoking >= 100 cigarettes and currently smoking	18.7%	19.6%	21.6%	18.0%
Adult Obesity	Percent of adults that report a BMI >= 30	30.0%	29.2%	31.4%	28.0%
Food Environment Index	Index of factors that contribute to a healthy food environment, 0 (worst) to 10 (best)	6.5	7.3	7.0	7.3
Physical Inactivity	Percent of adults aged 20 and over reporting no leisure-time physical activity	24.2%	22.0%	25.3%	22.0%
Access to Exercise Opportunities	Percent of population with adequate access to locations for physical activity	95.6%	88.7%	83.2%	84.0%
Excessive Drinking	Binge plus heavy drinking	18.1%	17.6%	19.2%	18.0%
Alcohol-Impaired Driving Deaths	Percent of driving deaths with alcohol involvement	45.5%	50.5%	34.3%	30.0%
STDs	Chlamydia rate per 100,000 population	718.2	401.5	474.1	456.1
Teen Births	Teen birth rate per 1,000 female population, ages 15-19	35.5	31.5	32.3	32.0
Clinical Care					
Uninsured	Percent of population under age 65 without health insurance	10.0%	8.8%	9.9%	14.0%
Primary Care Physicians	Ratio of population to primary care physicians	886:1	1690:1	1300:1	1,320:1
Dentists	Ratio of population to dentists	1010:1	2195:1	1692:1	1,520:1
Mental Health Providers	Ratio of population to mental health providers	399:1	900:1	633:1	500:1
Preventable Hospital Stays	Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	57.6	70.9	59.8	50.0
Diabetes Screening	Percent of diabetic Medicare enrollees that receive HbA1c monitoring	83.8%	86.0%	85.1%	85.0%
Mammography Screening	Percent of female Medicare enrollees, ages 67-69, that receive mammography screening	64.7%	67.9%	61.2%	63.0%

Source: County Health Rankings, 2017.

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Exhibit 19: County Health Rankings Data Compared to Ohio and U.S. Averages, 2017 (continued)
 (Light grey shading indicates indicator worse than Ohio average; Dark grey shading indicates more than 50 percent worse than Ohio average)

Indicator Category	Data	Cuyahoga County	Lorain County	Ohio	United States
Health Factors					
Social & Economic Factors					
High School Graduation	Percent of ninth-grade cohort that graduates in four years	74.8%	86.6%	81.2%	83.0%
Some College	Percent of adults aged 25-44 years with some post-secondary education	68.2%	63.8%	64.0%	64.0%
Unemployment	Percent of population age 16+ unemployed but seeking work	5.0%	5.4%	4.9%	5.3%
Children in Poverty	Percent of children under age 18 in poverty	26.2%	20.9%	21.2%	21.0%
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	5.6	4.5	4.8	5.0
Children in Single-Parent Households	Percent of children that live in a household headed by single parent	44.6%	37.6%	35.5%	34.0%
Social Associations	Number of associations per 10,000 population	9.2	10.3	11.3	9.4
Violent Crime	Number of reported violent crime offenses per 100,000 population	588.9	179.7	290.3	380.0
Injury Deaths	Injury mortality per 100,000	67.9	64.5	70.2	62.0
Physical Environment					
Air Pollution	The average daily measure of fine particulate matter in micrograms per cubic meter (PM2.5) in a county	12.9	11.3	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	18.8%	14.9%	15.1%	19.0%
Driving Alone to Work	Percent of the workforce that drives alone to work	80.2%	84.4%	83.4%	76.0%
Long Commute – Drive Alone	Among workers who commute in their car alone, the percent that commute more than 30 minutes	32.3%	34.3%	29.8%	34.0%

Source: County Health Rankings, 2017.

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Exhibit 19 highlights the following comparatively unfavorable indicators:

- Percent of adults reporting fair or poor health
- Average number of physically unhealthy days
- Percent of driving deaths with alcohol involvement
- Chlamydia rate
- Percent of the population unemployed
- Percent of children living in a household headed by a single parent
- Social associations rate
- Violent crime rate
- Percent of workers with a long commute who drive alone

Community Health Status Indicators

The Centers for Disease Control and Prevention’s *Community Health Status Indicators* provide health profiles for all 3,143 counties in the United States. Counties are assessed using 44 metrics associated with health outcomes including health care access and quality, health behaviors, social factors, and the physical environment.

The *Community Health Status Indicators* allows for a comparison of a given county to other “peer counties.” Peer counties are assigned based on 19 variables including population size, population growth, population density, household income, unemployment, percent children, percent elderly, and poverty rates.

Exhibit 20 compares Cuyahoga and Lorain counties to their respective peer counties and cities and highlights community health issues found to rank in the bottom quartile of the counties included in the analysis.

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Exhibit 20: Community Health Status Indicators, 2017
 (Shading indicates indicator in bottom quartile compared to peer counties)

Category	Indicator	Cuyahoga County	Lorain County
Mortality	Alzheimer's Disease Deaths		
	Cancer Deaths		
	Chronic Kidney Disease Deaths		
	Chronic Lower Respiratory Disease (CLRD) Deaths		
	Coronary Heart Disease Deaths		
	Diabetes Deaths		
	Female Life Expectancy		
	Male Life Expectancy		
	Motor Vehicle Deaths		
	Stroke Deaths		
	Unintentional Injury (including motor vehicle)		
Morbidity	Adult Diabetes		
	Adult Obesity		
	Adult Overall Health Status		
	Alzheimer's Disease/Dementia		
	Cancer		
	Gonorrhea		
	HIV		
	Older Adult Asthma		
	Older Adult Depression		
	Preterm Births		
	Syphilis		
Health Care Access and Quality	Cost Barrier to Care		
	Older Adult Preventable Hospitalizations		
	Primary Care Provider Access		
	Uninsured		
Health Behaviors	Adult Binge Drinking		
	Adult Female Routine Pap Tests		
	Adult Physical Inactivity		
	Adult Smoking		
	Teen Births		
Social Factors	Children in Single-Parent Households		
	High Housing Costs		
	Inadequate Social Support		
	On Time High School Graduation		
	Poverty		
	Unemployment		
	Violent Crime		
Physical Environment	Access to Parks		
	Annual Average PM2.5 Concentration		
	Drinking Water Violations		
	Housing Stress		
	Limited Access to Healthy Food		
	Living Near Highways		

Source: Community Health Status Indicators, 2017.

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The CHSI data indicate that both Cuyahoga and Lorain counties rank unfavorably in gonorrhea and older adult asthma morbidity, as well as in older adult preventable hospitalizations, children in single-parent households, and annual air pollution. Cuyahoga County also ranks unfavorably in cancer and coronary heart disease mortality, morbidity associated with Alzheimer’s disease/dementia and preterm births. Lorain County ranks unfavorably in Alzheimer’s disease and chronic lower respiratory disease mortality, morbidity associated with HIV and older adult depression, high housing costs, poverty, unemployment, housing stress, and living near highways.

The Center for Disease Control and Prevention

The CDC maintains a database that includes county-level indicators regarding mortality rates (**Exhibits 21 and 22**) and cancer incidence (**Exhibit 23**).

Exhibit 21 provides age-adjusted mortality rates for selected causes of death in 2015.

Exhibit 21: Selected Causes of Death, Age-Adjusted Rates per 100,000 Population, 2015
(Light grey shading indicates indicator worse than Ohio average; Dark grey shading indicates more than 50 percent worse than Ohio average)

Measure	Cuyahoga County	Lorain County	Ohio
Septicemia	16.5	9.8	13.6
Malignant Neoplasms	174.7	174.7	175.1
Diabetes mellitus	23.8	22.0	25.3
Parkinson's disease	6.1	9.6	8.0
Alzheimer's disease	19.6	37.5	31.1
Major cardiovascular diseases	257.8	226.9	249.6
Influenza and pneumonia	13.9	13.7	16.6
Chronic lower respiratory diseases	37.2	58.8	49.6
Chronic liver disease and cirrhosis	12.0	13.2	10.7
Accidents (unintentional injuries)	48.0	55.1	55.9
Falls	9.7	11.2	9.0
Drug-Induced Causes	24.2	24.6	30.9
Alcohol-Induced Causes	9.2	6.0	7.6

Source: Centers for Disease Control and Prevention, 2015.

In Cuyahoga County, age-adjusted mortality rates for major cardiovascular disease, septicemia, chronic liver disease and cirrhosis, falls, and alcohol-induced causes were all higher than the Ohio averages. In Lorain County, rates for chronic lower respiratory disease, Alzheimer’s disease, chronic liver disease and cirrhosis, falls, and Parkinson’s disease were all higher than the Ohio averages.

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Exhibit 22: Age-Adjusted Cancer Mortality Rates per 100,000 Population, 2010-2014
 (Light grey shading indicates indicator worse than Ohio average; Dark grey shading indicates more than 50 percent worse than Ohio average)

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

Source: Centers for Disease Control and Prevention, 2014.

The age-adjusted stomach cancer mortality rate in Cuyahoga County was significantly higher than the Ohio average. Cancer mortality rates for breast, cervix, liver and bile duct, oral cavity and pharynx, pancreas, prostate, and uterus cancers were higher in Cuyahoga County than Ohio averages. In Lorain County, rates for bladder, brain and ONS, cervix, colon and rectum, kidney and renal pelvis, lung and bronchus, pancreas, stomach, and uterus were higher than Ohio averages.

Exhibit 23 presents age-adjusted cancer incidence rates in the community.

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Exhibit 23: Age-Adjusted Cancer Incidence Rates per 100,000 Population, 2010-2014
 (Light grey shading indicates indicator worse than Ohio average; Dark grey shading indicates more than 50 percent worse than Ohio average)

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

Source: Centers for Disease Control and Prevention, 2014.

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

Behavioral Risk Factor Surveillance System

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.

BRFSS data were assessed for each ZIP code in the Avon Rehabilitation community and compared to the averages for the 21 counties in Northeast Ohio.¹²

¹² The 21 counties include Ashland, Ashtabula, Carroll, Columbiana, Crawford, Cuyahoga, Erie, Geauga, Holmes, Huron, Lake, Lorain, Mahoning, Medina, Portage, Richland, Stark, Summit, Trumbull, Tuscarawas, and Wayne counties.

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Exhibit 24: Behavioral Risk Factor Surveillance System, Chronic Conditions, 2015

(Light grey shading indicates indicator worse than the 21-County average; Dark grey shading indicates more than 50 percent worse than the 21-County average)

County	City	ZIP Code	Total Population 18+ 2015	% Obese	% Back Pain	% Diabetes	% Asthma	% Depression	% High Blood Pressure	% High Cholesterol	% COPD	% Smoking
Cuyahoga	Bay Village	44140	11,662	25.8%	17.9%	9.3%	6.7%	7.7%	27.1%	23.2%	2.6%	18.7%
Cuyahoga	Cleveland	44102	32,395	33.9%	22.5%	13.9%	12.6%	16.1%	25.1%	19.5%	3.9%	36.1%
Cuyahoga	Cleveland	44111	30,291	34.1%	20.8%	14.2%	8.9%	11.3%	29.7%	19.1%	4.7%	32.5%
Cuyahoga	Cleveland	44126	13,026	30.5%	23.5%	14.1%	12.0%	14.9%	33.2%	25.2%	4.2%	24.4%
Cuyahoga	Cleveland	44135	19,842	33.0%	25.3%	14.4%	11.7%	14.4%	36.3%	23.1%	5.3%	31.2%
Cuyahoga	Lakewood	44107	41,633	31.2%	23.6%	14.2%	11.9%	14.9%	24.7%	18.2%	4.7%	30.8%
Cuyahoga	North Olmsted	44070	25,796	28.6%	24.5%	13.3%	8.6%	11.9%	29.6%	23.0%	3.4%	23.5%
Cuyahoga	Olmsted Falls	44138	18,089	28.0%	22.5%	13.6%	8.6%	11.0%	31.3%	22.2%	3.4%	20.6%
Cuyahoga	Rocky River	44116	15,879	28.1%	20.1%	12.6%	9.0%	11.0%	28.7%	24.9%	3.2%	21.0%
Cuyahoga	Westlake	44145	26,585	26.9%	21.2%	12.9%	7.1%	10.9%	28.1%	21.7%	2.9%	20.9%
Lorain	Avon	44011	16,425	28.8%	19.9%	11.8%	7.6%	9.2%	23.0%	18.2%	2.7%	20.8%
Lorain	Avon Lake	44012	17,918	27.4%	17.5%	9.9%	9.3%	10.3%	28.6%	23.1%	2.7%	21.5%
Lorain	Elyria	44035	48,864	32.8%	29.6%	15.0%	13.5%	17.8%	32.3%	26.7%	5.3%	28.1%
Lorain	North Ridgeville	44039	24,250	29.8%	22.6%	12.2%	9.6%	12.1%	28.6%	23.0%	4.1%	22.8%
Community Total			342,655	30.6%	23.1%	13.4%	10.3%	13.2%	28.9%	22.1%	4.0%	26.6%
21-County Average			3,449,593	31.8%	25.7%	14.0%	11.6%	15.2%	30.6%	24.1%	4.7%	27.5%

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

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The Avon Rehabilitation community averages for all conditions were below the 21-county averages. However, Lorain ZIP code 44035 was unfavorable for all conditions compared to the 21-county averages.

Ambulatory Care Sensitive Conditions

This section examines the frequency of discharges for Ambulatory Care Sensitive Conditions (ACSCs, frequently referred to as Prevention Quality Indicators or PQIs) throughout the community.

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.”¹³ 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.

Exhibit 25 provides the ratio of PQI rates in the Avon Rehabilitation community compared to the Ohio averages. Conditions where the ratios are highest (meaning that the PQI rates in the community are the most above average) are presented first.

¹³Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.

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Exhibit 25: Ratio of PQI Rates for Avon Rehabilitation Community and Ohio, 2014

Indicator	Avon Rehabilitation Community	Ohio	Ratio: Avon Rehabilitation/Ohio
Chronic Obstructive Pulmonary Disease	860.5	608.8	1.4
Diabetes Long-Term Complications	154.5	118.8	1.3
Angina without Procedure	14.9	11.7	1.3
Lower-Extremity Amputation Among Patients with Diabetes	10.8	8.9	1.2
Low Birth Weight	70.0	61.4	1.1
Uncontrolled Diabetes	14.9	13.2	1.1
Congestive Heart Failure	471.9	423.8	1.1
Hypertension	55.8	52.6	1.1
Dehydration	106.6	107.2	1.0
Perforated Appendix	35.9	36.9	1.0
Diabetes Short-Term Complications	89.1	94.7	0.9
Urinary Tract Infection	119.1	131.5	0.9
Bacterial Pneumonia	161.2	196.2	0.8
Adult Asthma	26.3	36.0	0.7

Source: Cleveland Clinic, 2015.
Note: Rates are not age-sex adjusted.

In the community, ACSC rates for chronic obstructive pulmonary disease, diabetes long-term complications, angina without procedure, and lower-extremity amputation among patients with diabetes were more than 20 percent higher than the Ohio averages.

Community Need Index™ and Food Deserts

Dignity Health Community Need Index

Dignity Health, a California-based hospital system, developed and published a *Community Need Index™* that measures barriers to health care access by county/city and ZIP code. The index 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.

The *Community Need Index™* calculates a score for each ZIP code based on these indicators. Scores range from “Lowest Need” (1.0-1.7) to “Highest Need” (4.2-5.0).

Exhibit 26 presents the *Community Need Index™* (CNI) score of each ZIP code in the Avon Rehabilitation community.

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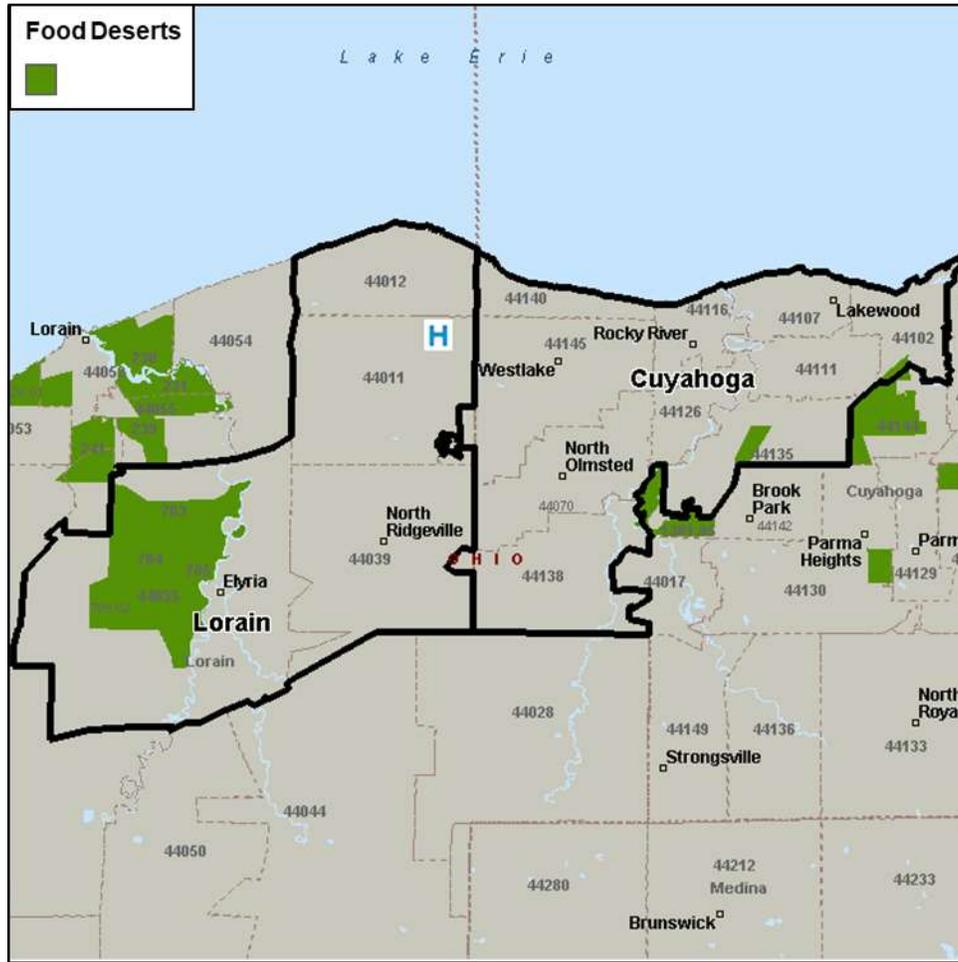
Exhibit 26: Community Need Index™ Score by ZIP Code, 2017

County	City	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	44126	2.2
Cuyahoga	North Olmsted	44070	2.0
Cuyahoga	Westlake	44145	2.0
Cuyahoga	Olmsted Falls	44138	1.8
Cuyahoga	Rocky River	44116	1.8
Lorain	Avon	44011	1.8
Lorain	North Ridgeville	44039	1.6
Lorain	Avon Lake	44012	1.4
Cuyahoga	Bay Village	44140	1.2
Avon Rehabilitation Community Average			2.9
Cuyahoga County Average			3.2
Lorain County Average			2.9

Source: Dignity Health, 2017.

Exhibit 27 presents these data in a community map format.

Exhibit 28: Food Deserts, 2017



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

Several locations within the Avon Rehabilitation community have been designated as food deserts, particularly in the western section of Lorain County.

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.¹⁴ Areas with a score of 62 or less are considered “medically underserved.”

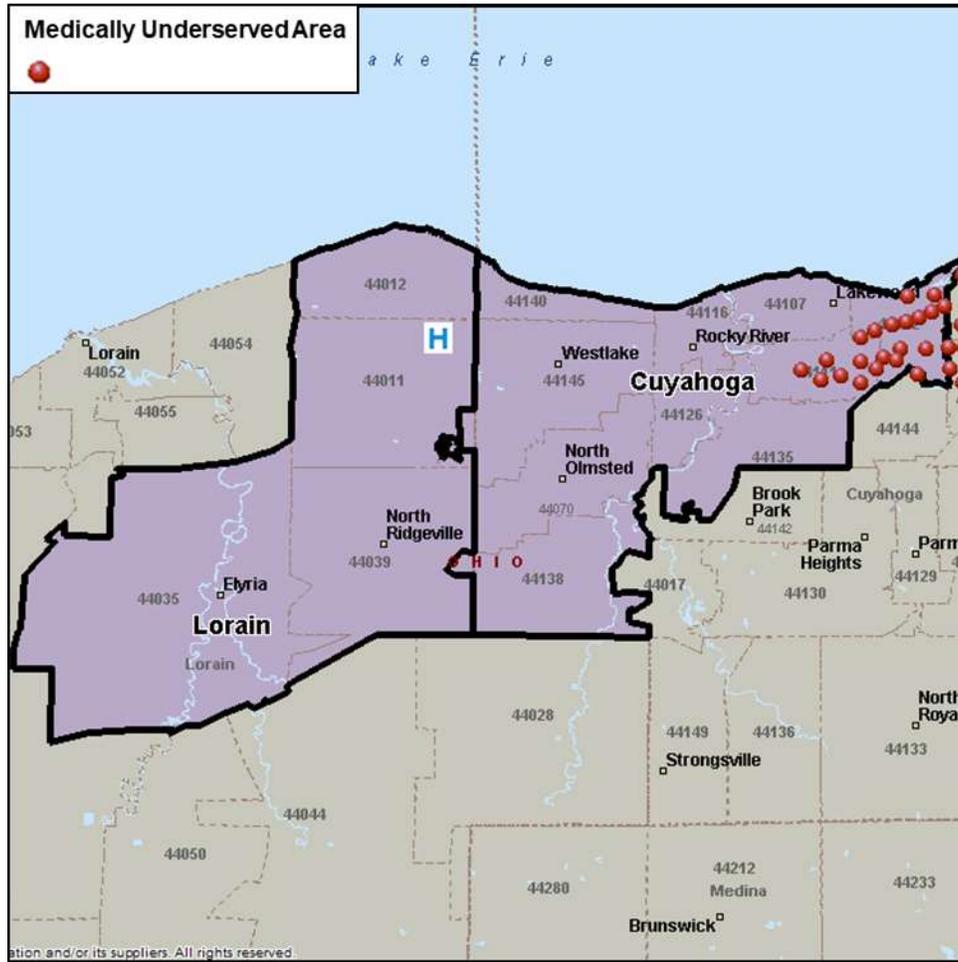
Populations receiving MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. If a population group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP designation if “unusual 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.”¹⁵

There are several census tracts within the hospital’s community that have been designated as areas where Medically Underserved Areas are present, particularly in the eastern portion of the community (**Exhibit 29**).

¹⁴ Health Resources and Services Administration. See <http://www.hrsa.gov/shortage/mua/index.html>

¹⁵ *Ibid.*

Exhibit 29: Medically Underserved Areas, 2017



Source: Microsoft MapPoint and HRSA, 2017.

Health Professional Shortage Areas

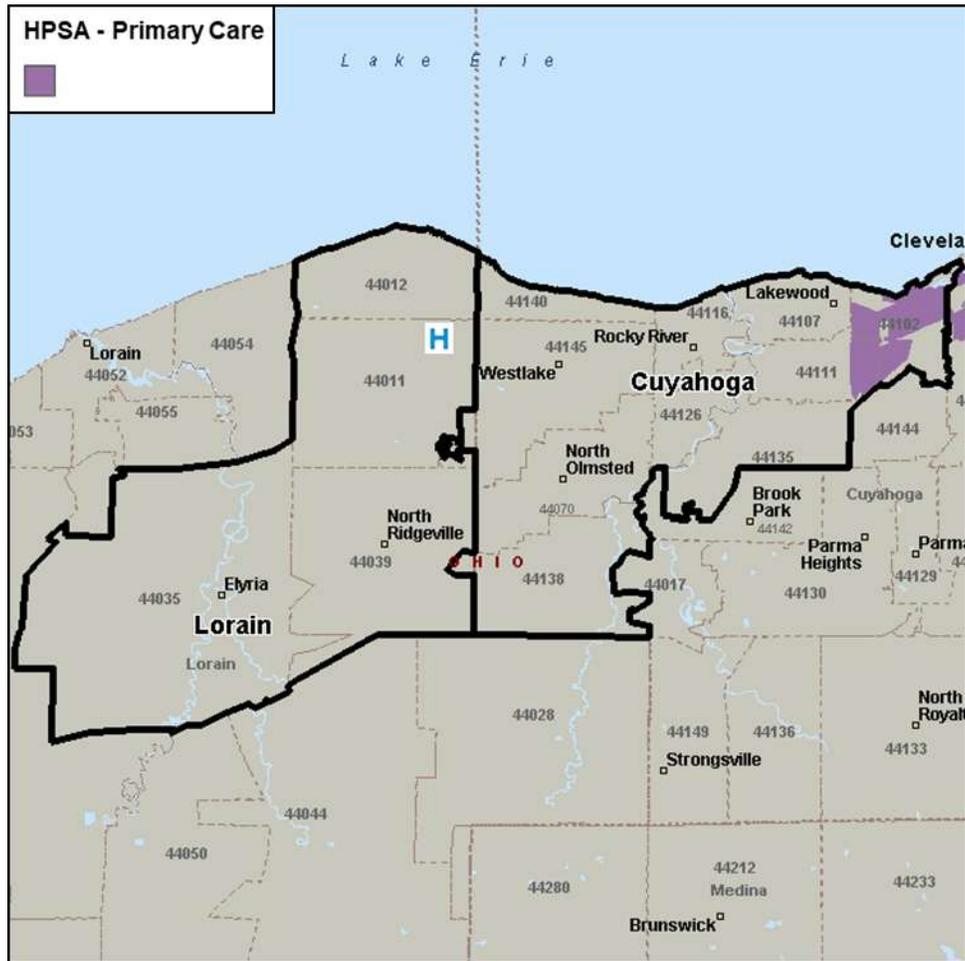
A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care, or mental health care professionals is found to be present. In addition to areas and populations that can be designated as HPSAs, a health care facility can 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.”¹⁶

Exhibits 30 & 31 illustrates the locations of the federally-designated HPSAs.

¹⁶ 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>

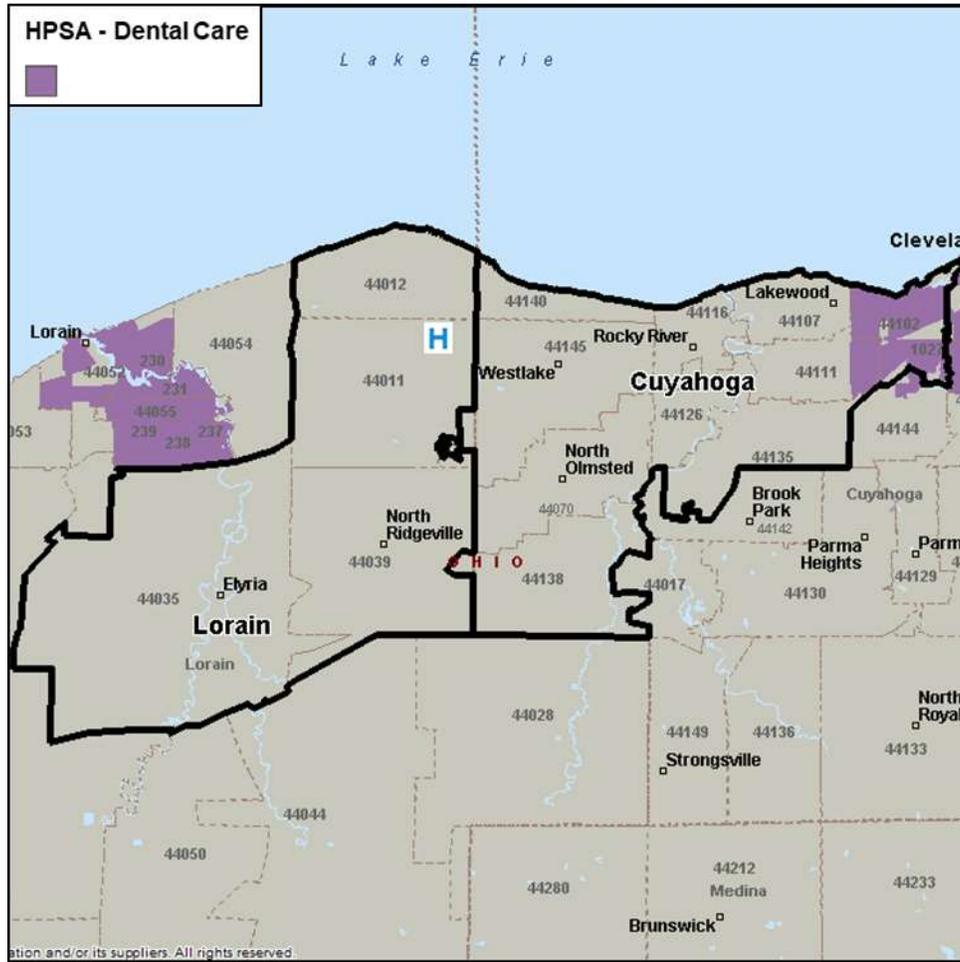
Exhibit 30: Primary Care Health Professional Shortage Areas, 2017



Source: Health Resources and Services Administration, 2017.

Within the Avon Rehabilitation community, primary care HPSA designated census tracts are located along the eastern side of the community.

Exhibit 31: Dental Care Health Professional Shortage Areas, 2017



Source: Health Resources and Services Administration, 2017.

Dental care HPSA designated census tracts are also located along the eastern side of the community.

Findings of Other Community Health Needs Assessments

Several other needs assessments and health reports conducted by hospital facilities and other organizations that provide services for the community also were reviewed. The reviewed assessments include the following:

- Fairview Hospital CHNA 2016
- Grace LTACH Hospital CHNA 2015
- Health Improvement Partnership- Cuyahoga CHSA 2015
- Specialty Hospital of Lorain LTACH CHNA 2015
- St. Vincent Charity Medical Center CHNA 2016
- University Hospitals Bedford Medical Center CHNA 2015
- University Hospitals St. John Medical Center CHNA 2015

The significant needs identified by these reports are presented in **Exhibit 32**.

Exhibit 32: Significant Needs Identified in Other CHNAs

Prioritized Need	Frequency
Diabetes	5
Obesity	5
Transportation	4
Drug/ substance abuse	3
Elderly care/ aging population	3
Infant mortality (disparities)	3
Poverty	3
Tobacco use/ smoking	3
Access to basic/primary health care	2
Access to mental health services	2
Air quality/pollution	2
Alcohol abuse and excessive drinking	2
Cancer	2
Cardiovascular/ heart disease	2
Cost of care	2
Mental/Behavioral health	2
Palliative Care	2
Respiratory diseases	2
Ventilator Weaning	2
Violence / Crime	2

Source: Analysis of Other CHNA Reports by Verité, 2017.

A State Health Assessment also recently was published by the Ohio Department of Health.¹⁷ The State Health Assessment (SHA) is a comprehensive report directed by a steering committee

¹⁷ Available at: <http://www.healthpolicyohio.org/sha-ship/>

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comprised of directors of Ohio’s health-related state agencies. The Ohio Department of Health contracted with the Health Policy Institute of Ohio to facilitate preparation of the assessment. The purpose of the SHA is both to provide a template for state agencies and local partners for analysis as well as inform the identification and prioritization of community health needs for the State Health Improvement Plan (SHIP).

State-wide needs. The assessment found that Ohio performed worse than the U.S. overall on most measures of population health with many opportunities to improve both physical and mental health outcomes. For example:

- The average number of days Ohio residents experienced limited activity due to mental or physical difficulties increased 17 percent between 2013 and 2014.
- Over the same period, adult asthma, child asthma, and diabetes also increased by 10 percent.
- Drug overdose deaths increased 18 percent and were significantly higher in Ohio than the United States (24.7 per 100,000 compared to 14.6).
- Infant mortality also is a significant issue in Ohio, and is particularly problematic for black and Hispanic (or Latino) infants.
- Ohio ranks particularly poorly for the number mothers who smoke during pregnancy. Only 59 percent of black mothers in Ohio receive prenatal care in the first trimester, compared to 70.8 percent in the U.S. overall.
- Per-capita health spending has been higher in Ohio than in other states.
- The percentage of hospital inpatients with opiate-related diagnoses increased substantially from 2012 to 2014 (from 25.2 percent to 37.0).
- Ohio has experienced rates of avoidable emergency department visits for Medicare beneficiaries, admissions for pediatric asthma, and admissions for diabetes long-term complications that exceed United States averages.
- Access to mental health services and drug treatment services is particularly problematic, and a comparatively high percentage of Ohio residents live in areas underserved for dental care.
- Ohio has 9.9 public health agency staff per 100,000, a number substantially below the national average of 30.6.
- Infection rates for a number of communicable diseases exceed national averages, including chlamydia. The state’s child immunization and HPV vaccination rates have been below average.
- Based on national comparisons, other concerns with children are also present in Ohio, including: childhood poverty rates, number of children in single-parent households, percent of children with adverse childhood experiences, and children exposed to secondhand smoke.
- There are also significant needs related to the physical environment in Ohio. The average amount of particulate matter and cases of lead poisoning are both higher in Ohio than the United States. Food insecurity is higher in the state as well, and Ohio residents have less access to exercise opportunities than the country on average.

The SHA reviewed 211 local health department and hospital community health assessments that covered 94 percent of counties to evaluate what the most significant needs were. That review

APPENDIX B – SECONDARY DATA ASSESSMENT

found ten most commonly identified significant community health needs: obesity, mental health, access to health care, drug and alcohol abuse, maternal and infant health, cancer, cardiovascular disease, diabetes, tobacco, and chronic diseases.

More than 400 stakeholders provided input into the SHA. Priority areas were identified based on this input: obesity, access to behavioral health care, drug and alcohol abuse, mental health, employment/poverty/income, equity and disparities, access to dental care, cardiovascular disease, and nutrition.

Northeast Ohio. The northeast Ohio region also had particularly significant needs identified in the SHA. Concerns about the physical environment (air pollution and lead poisoning) are particularly prevalent in northeast Ohio. Other health assessments reviewed as part of the SHA process most frequently identified the following community health needs:

- Access to health and medical care (76 percent)
- Obesity (63 percent)
- Mental health (57 percent)
- Drug and alcohol abuse (47 percent)
- Maternal and infant health (41 percent)
- Diabetes (40 percent)
- Coverage and affordability (32 percent)
- Cardiovascular disease (29 percent)
- Cancer (29 percent)
- Tobacco use (29 percent)

Stakeholders from northeast Ohio most frequently identified the following as significant community health needs: obesity, drug and alcohol abuse, mental health, access to behavioral health care, employment/ poverty /income, equity and disparities, maternal and infant health, nutrition, coverage and affordability, and diabetes.

Preventing Injuries that Lead to a Need for Rehabilitation. Several reports were analyzed, both at a state and a national level, about preventing injuries and conditions that lead patients to needing post-acute rehabilitation care. Some conditions that were studied include: falls among older adults, stroke, and traumatic brain injuries.

Preventing Falls among Older Adults

As the population in the community ages, the risk of falls among older adults also increases. It is estimated that the medical cost of falls in Ohio is \$1.1 billion annually and that one in three Ohioans aged 65 and older fall each year.¹⁸

The Centers for Disease Control and Prevention (CDC) has studied falls among older populations and has suggested several interventions to reduce the risk of falls. Exercise and continued physical activity is one of the most recommended interventions for elder adults. Home modifications are also recommended, typically in the form of occupational therapists visiting/suggesting changes within the home, and providing training with safety devices and mobility aids. Other clinical interventions are also thought to be effective, including vitamin supplements, optometry and physical therapy training, and others. Finally, a combination of many of these interventions was thought to be especially effective.¹⁹

Preventing Stroke

Stroke is another condition that greatly increases the need for rehabilitation services. Harvard Health has studied the causes of stroke extensively, and has provided a list of eleven actions one can take to minimize the risk of a stroke. These include: controlling blood pressure, not smoking, maintaining a healthy weight, increasing physical activity, identifying and managing atrial fibrillation, aggressively treating a transient ischemic attack (mini-stroke), treating circulatory problems (peripheral artery disease, sickle cell disease, etc.), controlling blood sugar, drinking alcohol in moderation only, eating a healthy diet that is low in sodium, and knowing the warning signs of stroke.²⁰

Cleveland Clinic further looked into the dietary factors of stroke, and published a list of dietary practices to help prevent stroke. It is suggested to eat a variety of foods, choose more whole grains, vegetables, fruits, foods low in fat and cholesterol, foods with moderate amounts of added sugar, foods with moderate amounts of salt and sodium, and only drinking alcohol in moderation.²¹

Preventing Traumatic Brain Injuries (TBI)

Traumatic Brain Injuries, caused by impact to the head that disrupts the normal function of the brain, leads 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

¹⁸ *Facts about Falls Among Older Ohioans*, available at <https://aging.ohio.gov/steadyu/inc/docs/steadyufallsfacts.pdf>.

¹⁹ *A CDC Compendium of Effective Fall Interventions*, available at <https://www.cdc.gov/homeandrecreationalafety/falls/compendium.html>.

²⁰ *Harvard Heart Letter*, Volume 21, Number 7, March 2011, available at <https://www.health.harvard.edu/PDFs/H0311.pdf>.

²¹ *The Role of Nutrition in the Prevention & Treatment of Stroke*, available at <https://my.clevelandclinic.org/health/articles/the-role-of-nutrition-in-the-prevention-and-treatment-of-stroke>.

APPENDIX B – SECONDARY DATA ASSESSMENT

a cause of death, 6,768 were hospitalized with a TBI, and 111,757 were treated and released from emergency departments with a TBI.²²

In Ohio, 37 percent of hospitalizations for TBI were caused by unintentional falls and 24 percent from motor vehicle accidents. The CDC has several strategies for preventing a TBI from occurring. For car safety, using child safety seats, booster seats, and seat belts properly for each age group, as well as never driving under the influence of drugs or alcohol. Wearing helmets during activities such as bicycling, motorcycling, playing contact sports, skateboarding, riding a horse, and others is also stressed. Making living areas safe for older adults was stressed, including: removing tripping hazards, using nonslip mats in the bathtub and shower, installing handrails, improving lighting throughout the home, and maintaining regular physical activity. Additionally, making living areas safe for children is important as well, including the use of window guards and safety gates.²³

²² *Ohio Special Emphasis Report: Traumatic Brain Injury*, 2014, available at https://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/health/injury-prevention/TBI_Special_Emphasis_Report-2014.pdf?la=en.

²³ CDC, *Traumatic Brain Injury and Concussion*, available at <https://www.cdc.gov/traumaticbraininjury/prevention.html>.

APPENDIX C – COMMUNITY INPUT PARTICIPANTS

Individuals from a wide variety of organizations and communities participated in the interview process (shown in **Exhibit 33**). Organizations listed in italics indicate that the interviewee has expertise in public health.

Exhibit 33: Interviewee Organizational Affiliations

Organization	Description	Populations Represented
Bejamin Rose Institute on Aging	Non-profit	Elderly
Better Health Partnership	Non-profit	General population
<i>City of Cleveland - Department on Aging</i>	<i>City government</i>	<i>Elderly</i>
<i>Cleveland Clinic Cardiovascular Medicine</i>	<i>Cardiovascular provider</i>	<i>General population</i>
<i>Cleveland Clinic Center for Connected Care</i>	<i>Transitional services</i>	<i>General population, rehabilitation</i>
<i>Cleveland Clinic Physical Medicine and Rehabilitation*</i>	<i>Rehabilitation provider</i>	<i>Rehabilitation</i>
Cleveland Clinic Rehabilitation Hospitals - Select Medical	Rehabilitation provider	Rehabilitation
<i>Cleveland Department of Public Health</i>	<i>City government</i>	<i>General population</i>
<i>Cuyahoga County Board of Health</i>	<i>County health organization</i>	<i>General population</i>
<i>Cuyahoga County Division of Senior and Adult Services</i>	<i>County government</i>	<i>Elderly</i>
<i>Cuyahoga County Office of Health and Human Services</i>	<i>County government</i>	<i>General population</i>
<i>Fairhill Partners</i>	<i>Senior center</i>	<i>Elderly</i>
Greater Cleveland Food Bank	Non-profit	Homeless, low-income
<i>Lorain County Board of Mental Health</i>	<i>County government</i>	<i>General population</i>
<i>Lorain County Department of Health</i>	<i>County health department</i>	<i>General population</i>
Maple Heights Senior Center	Senior center	Elderly
Montefiore	Nursing home	Elderly
North Olmsted Office on Aging	Senior center	Elderly
Northeast Ohio Black Health Coalition	Non-profit	Minority populations
Ohio Legislature	State government	General population
<i>Southern Hills Skilled Nursing & Rehabilitation Center</i>	<i>Nursing home</i>	<i>Elderly</i>
State of Ohio	State government	General population
The Gathering Place	Non-profit cancer support network	Residents/families affected by cancer
Western Reserve Area Agency on Aging	Non-profit	Elderly

*Two interviews were conducted with representatives from Cleveland Clinic Physical Medicine and Rehabilitation.



Cleveland Clinic
Rehabilitation Hospital

In affiliation with Select Medical

Avon

**Implementation
Strategy Report
2017**

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

**2017 Community Health Needs Assessment
Implementation Strategy
As required by Internal Revenue Code § 501(r)(3)**

**Date Approved by
Authorized Governing Body: May 14, 2018**

**Authorized Governing Body: The Board of Directors of Cleveland Clinic
Rehabilitation Hospitals, LLC**

Contact: Cleveland Clinic chna@ccf.org

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2017 Cleveland Clinic Rehabilitation Hospital, Avon 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 (CCRH), 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.

Cleveland Clinic physicians manage our 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, CCRH's community is defined as 14 ZIP codes in Cuyahoga and Lorain counties, Ohio, accounting for over 67 percent of the hospital's recent inpatient volumes. The community was defined by considering the geographic origins of the hospital's discharges between December 2015 and June 2017 and also the hospital's target populations and principal functions as a rehabilitation facility. The total population of Avon Rehabilitation's community in 2015 was 442,962.

III. How Implementation Strategy was Developed

This Implementation Strategy was developed by a team of members of senior leadership at Cleveland Clinic Rehabilitation Hospital, Avon 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 supported both by secondary data and raised by key stakeholders. Identified needs are listed by category, below.

See the 2017 CHNA Cleveland Clinic Rehabilitation Hospital, Avon at www.clevelandclinic.org/CHNAREports.

- 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

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

V. Needs Hospital Will Address:

A. Access to Affordable Healthcare

1. Financial Assistance

Avon 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:

<http://my.clevelandclinic.org/patients/billing-insurance/financial-assistance#application-policy-other-documents-tab>

2. Access Initiatives- Awareness

The term “Rehabilitation” is widely used to describe many different levels of care and in many ways contributes to confusion among our stakeholders and can be a barrier to accessibility. The rehabilitation offered at CCRH is to some extent defined by our

licensure and regulatory requirements and is not well understood in the community. We will be developing and sharing educational materials to our community inclusive of patients, families and providers to broaden community awareness and improve patient ability to choose the most appropriate care setting.

3. Access Initiatives – Physical Plant

CCRH was built as a one story, “Ranch” style facility with inpatient rehabilitation incorporated into the design features of the building. As we continue to serve the community, we will develop mechanisms to identify new physical accessibility issues and processes to report, review and address or mitigate those physical barriers to accessibility. Accessibility issues will be documented and tracked annually, inclusive of timelines and measures taken to remove barriers or improve processes to increase accessibility and advocacy for our patients.

4. Access Initiative – Community outreach (program specific) & How to Access Care

A key cornerstone to inpatient rehabilitation is focused on education of our patients and the communities we live in particularly as it relates to prevention of stroke and brain injury. Clinical staff serving the Brain Injury and Stroke Program teams at CCRH will develop support groups and educational sessions that will be offered at local community events. As part of this education and outreach, we will provide information on post-acute care settings and how to access different levels of health care and provide resources for programs to assist them.

B. Chronic Diseases and Other Health Conditions

1. Heart Disease and Hypertension

Each patient is followed by a physician’s service throughout their stay at CCRH. Physicians will educate their patients on their overall health care and on potential risk factors that may affect their recovery. They also educate patients on their past medical history and how this may be affected following their new injury. There are also consulting physicians including but not limited to cardiologists, pulmonologists, and nephrologists that are available for consultation regarding secondary diagnosis or complications of their new injury/illness. Additionally, through our linkage with Cleveland Clinic, our patients have access to Fairview Hospital’s Heart Center which provides comprehensive diagnostic, medical and surgical heart services. Fairview Hospital also has been designated by The Joint Commission as a Primary Stroke Center. Heart failure patients have follow up care available to them at the outpatient Heart Failure Clinic. Fairview Hospital also has a cardiac rehabilitation program on its campus and at the Wellness Center to assist patients recovering from surgery.

Through our Stroke Program, we expect to develop formalized education to be deployed through our support group to include topics related to heart health, nutrition and weight management. Our current patient and family education series includes instruction on what to do when one identifies stroke like symptoms.

2. Mental Health Status

Depression and emotional changes are common following illness. These occur as primary effects of the illness, as in the case of stroke, or secondary reactions to new disabilities that may have commonly pre-existed the event. Psychologists are capable of evaluation and psychotherapeutic treatment of these 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 help the patients realize and replicate common activities of daily living that will need to be performed on discharge.

3. Obesity and Diabetes

Physical and functional impairments may be exacerbated by obesity. As such, the clinical team inclusive of the attending physician, therapy and nursing teams all provide education and training to increase mobility and activity to encourage weight loss. Discussion regarding healthy eating and interpretation of food labels may be initiated as part of the therapy care plan.

All patients are evaluated by a registered dietician on admission and followed as clinically indicated. Dietary supplementation, fluid supplementation, macro and micronutrient supplementation are all ordered as needed. Laboratory testing is followed throughout the patient’s stay.

Nursing and pharmacy education is routinely provided specific to medication and diabetic management.

4. Substance Abuse and Chemical Dependency

Cleveland Clinic Rehabilitation Hospital (CCRH) is committed to preventing opioid overdose deaths by improving opioid prescribing, reducing exposure to opioids, and preventing misuse. CCRH has formalized review of opioid management through healthcare prescribing, data collection and use of non-pharmacologic treatment for pain.

All CCRH healthcare providers have been provided education resources to improve pain management and have access to available services for consultation/referral of patients with complex pain needs. Medical staff is actively involved in creating protocols and reviewing quality metrics related to pain management. 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. Pain management education with regard to developing a pain management plan is provided to the patient upon admission. Patients discharged with an opioid prescription are educated on the risks and side effects of opioid use and given a list of community providers of pain management services.

CCRH is committed to providing safe patient care, providing effective pain treatment utilizing a multifaceted approach to pain management while reducing the number of people who potentially misuse or overdose from these drugs.

Appropriate referrals to community programs, such as AA, NA, or mental health resources are delivered by case management and psychology staff.

C. Healthcare for the Elderly

The population in the Avon Rehabilitation community is expected to age, and providing an effective continuum of care for those over 65 years of age (including rehabilitation services) will be challenging. As such we are leveraging our relationships with providers across the continuum of post-acute care to cross refer, provide education and support self-advocacy. Recognizing the health literacy needs of our community and wide array of post-acute care options, we have developed a large network of clinical liaisons deployed throughout the community to assist elderly consumers in understanding their post-acute care options, offer facility tours and coordinate with our acute care case management partners.

Falls represent a particular concern for our elderly populations. Working with the clinical teams at CCRH, we have developed education to be provided to internal and external stakeholders specific to fall prevention, environmental modifications, balance exercises and home safety assessments. In addition to focusing on fall prevention, education on how to reduce the likelihood of injury should a fall occur is also discussed.

Medication management can also be a concern for elderly patients as it relates to planning, sorting, timing and self-administration. Issues related to under or over dosing can have negative impacts on re-hospitalization. The nursing and pharmacy team at CCRH along with the physician provide education related to prescribed medication during the hospital stay and guidance for community re-entry.

D. Wellness

Wellness needs are met by a holistic assessment of an individual, including: physical, cognitive, emotional, religious, spiritual, and cultural needs. Patient treatment plans may be modified and individualized needs communicated to optimize wellness. Patients are asked on admission if there are any spiritual or cultural needs that can be attended to during their hospitalization. The interdisciplinary team meeting also addresses any wellness concerns, and ways for the team to provide opportunities to promote wellness.

Tobacco use is a risk factor for a number of medical conditions commonly treated in the inpatient rehabilitation setting. It also increases risk for recurrence and presents a significant barrier to healthy living. Smoking cessation aligns well with our goals for our patients. Since we are a smoke free campus already, our patients have a head start on stopping smoking. A smoking cessation program is more than just nicotine replacement therapy (NRT). NRT addresses the physiologic need for nicotine, but the psychological need to smoke has to also be addressed. Patients do best with both pharmacologic therapy and counseling together. A formalized smoking cessation program will be developed to include resources/ education that can

be deployed for patients during an inpatient rehabilitation stay as well as connect with linkages in our community for ongoing follow up. Low or no cost community resources will also be investigated.

VI. Needs Hospital Will Not Address:

A. Economic Development and Community Conditions

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

Avon Rehabilitation and other Cleveland Clinic Rehabilitation Hospitals service populations across Northeast Ohio and thus have a wide-reaching economic impact through its hiring practices to support patient care.

