

FOR OFFICIAL USE ONLY

Adopted: 7/2022

Revised: x/xxxx



2022

COMMUNITY HEALTH  
ASSESSMENT

ZANESVILLE - MUSKINGUM COUNTY HEALTH DEPARTMENT

## **Governance**

The Board of Health is comprised of six members representing the community. The mayor of the City of Zanesville and the Zanesville City Council appoint three members and the District Advisory Council, which covers all of the villages and townships within the county, appoints three members. As required by the State of Ohio, Board of Health members must obtain two hours of continuing education per year. As part of regular meetings of the Board of Health, opportunities for continuing education are provided to members.

## **Mission, Vision and Values**

The mission of the Zanesville-Muskingum County Health Department is to prevent, promote, and protect public health in Muskingum County. Public health is our passion!

### Vision:

- For our agency: Our team, striving for excellence, educating and empowering with every encounter.
- For our community: Muskingum County is the healthiest place to live, learn, work, and play.

### Values:

- Work Together: We engage with our community to establish common goals and achieve desired results.
- Help Others: We are helpful, adaptive, and take pride in providing excellent service.
- Do the Right Thing: We are fair, honest, ethical, and accountable.
- Improve: We continually look for ways to improve our efficiency and effectiveness.
- Respect: We accept diversity and practice kindness.

This plan has been approved and adopted by the following individual/s:

\_\_\_\_\_

Name, Title

\_\_\_\_\_

Date

## REVISIONS

Date	Description of Change	Pages Affected	Reviewed or Changed by

## FOREWORD

Dear Community Member,

The members of the Healthier Muskingum County Network are pleased to present the 2022 Muskingum County Community Health Assessment (CHA). This comprehensive CHA is the result of mobilizing partnerships to improve community wellness and quality of life in Muskingum County.

We invite individuals, agencies, stakeholders, and community partners to take an active role in creating a better Muskingum County. Together, we can use this data to formulate a new community health improvement plan (CHIP) for Muskingum County.

***Alone we can do so little. Together we can do so much. -Helen Keller***

The CHA gives a snapshot of our community, as well as a comparison to the state and nation. It is our hope that the data presented in this report provides you valuable information for developing strategies, educating, and implementing services focused on wellness, access to care, and unmet community needs. It provides additional insight into our health status, and it has the potential to play a significant role in influencing our course of action supporting health, wellness, and prevention in our community.

Comparing data from previous assessments will allow community partners and stakeholders to identify trends, write more detailed grants, formulate strategic plans and be part of a movement that envisions Muskingum County as the healthiest place to live, learn, work, and play.

The Healthier Muskingum County Network will use this information to strengthen its efforts to bring about healthy changes in our community. We hope this report will be a valuable tool to you as an agency or community member and encourage you to be part of the movement to improve health and wellness in this county we call home.

Working toward our best health,

Corey Y. Hamilton, MS, RD, LD  
Health Commissioner  
Zanesville-Muskingum County Health Department

## ACKNOWLEDGEMENTS

**The Southeast Ohio Health Improvement Collaborative commissioned and funded this report:**

Coshocton City Health Department

Coshocton County Health Department

Genesis HealthCare System

Morgan County Health Department

Noble County Health Department

Ohio Alliance for Population Health

Ohio University's College of Health Sciences and Professions

Ohio University's Voinovich School of Leadership and Public Service

Perry County Health Department

Zanesville/Muskingum County Health Department

### **Contact Information:**

#### **Diana Zaato, MPH**

Epidemiologist

Zanesville-Muskingum County Health Department

205 N. 7<sup>th</sup> Street

Zanesville, Ohio 43701

Email: dianaz@zmchd.org

Phone: 740-454-9741

#### **Lakyn Craig, MPH**

Community Health Planner

Zanesville-Muskingum County Health Department

205 N. 7<sup>th</sup> Street

Zanesville, Ohio 43701

Email: lakync@zmchd.org

Phone: 740-454-9741

### **Project Management, Secondary Data, Data Collection, and Report Development Hospital Council of Northwest Ohio**

The Hospital Council of Northwest Ohio (HCNO) is a 501(c)3 non-profit regional hospital association located in Toledo, Ohio. They facilitate community health needs assessments and planning processes in 40+ counties in Ohio, Michigan, and Oregon. Since 2004, they have used a process that can be replicated in any county that allows for

comparisons from county to county, within the region, the state, and the nation. HCNO works with coalitions in each county to ensure a collaborative approach to community health improvement that includes multiple key stakeholders, such as those listed above. All HCNO project staff have their master's degree in public health, with emphasis on epidemiology and health education.

**Emily Gensler, MPH**

Community Health Improvement Manager

**Mallory Ohneck, MPH, CHES**

Community Health Improvement Data Manager

**Gabrielle Mackinnon, MPH**

Community Health Improvement Manager

**Jodi Franks, CHES**

Graduate Assistant

**Data Collection & Analysis**

**Joseph A. Dake, Ph.D., MPH**

Professor and Chair

School of Population Health

University of Toledo

**Aaron J. Kruse-Diehr, Ph.D.**

Consultant

**Samantha Schroeder, MPA**

Consultant

**Ohio University's College of Health Sciences and Professions**

**Ohio University's Voinovich School of Leadership and Public Service**

**The 2022 Muskingum County Health Assessment is available on the following websites:**

Zanesville-Muskingum County Health Department

<http://www.zmchd.org/>

Hospital Council of Northwest Ohio

<http://www.hcno.org/community-services/community-health-assessments/>



# TABLE OF CONTENTS

- Zanesville-Muskingum County Health Department ..... 1
- Revisions ..... 2
- Foreword ..... 3
- Acknowledgements..... 4
- EXECUTIVE SUMMARY ..... 12
- Introduction..... 12
- Methods..... 12
- Key Findings ..... 13
- Demographics ..... 13
- Community Health Status ..... 14
- Healthcare Access and Utilization..... 15
- Community and Civicism..... 15
- Local Government..... 15
- Physical Environment..... 16
- Glossary..... 18
- Acronyms..... 19
- INTRODUCTION ..... 21
- Community Health Assessment..... 21
- Purpose ..... 21
- Process ..... 22
- Content and Organization..... 23
- MUSKINGUM COUNTY..... 24
- History..... 24
- Geography..... 24
- Muskingum as an Appalachian County..... 25
- Tourism and Attractions ..... 25
- Commerce and Industry..... 26



METHODOLOGY .....	27
Frameworks and Theory .....	27
Social Determinants of Health .....	28
Health Equity.....	28
Methodology.....	29
Data Collection methods.....	29
Adult Opinion Survey .....	30
Community Health Status Assessment.....	31
Data Analysis.....	32
Limitations.....	33
FINDINGS.....	36
Demography of Muskingum County .....	36
Population and Growth.....	36
Age and Gender Distribution .....	36
Race and Ethnicity.....	38
Language .....	38
Religion.....	38
Disability.....	39
Veterans.....	40
Education .....	41
Employment.....	43
Income .....	44
Poverty.....	44
Households .....	45
COMMUNITY HEALTH STATUS.....	46
Measuring Health in Ohio.....	46
County Health Rankings.....	46
Quality of life.....	47
Vital Statistics.....	48
Births .....	48

Life Expectancy.....	49
MORTALITY .....	49
Infant and Child mortality .....	50
Morbidity – Chronic Disease .....	51
Cardiovascular Disease .....	51
Morbidity - Infectious Disease.....	55
Leading Cause of Infectious Disease .....	55
Health Behaviors.....	56
Physical and mental health status .....	56
Weight Status.....	56
Physical Activity.....	57
Nutrition.....	57
Tobacco Use .....	58
Alcohol Use .....	59
Drug Abuse.....	59
Reproductive and Sexual Health.....	60
Maternal and child health.....	61
Mental Health .....	62
Healthcare Access and Utilization.....	63
Healthcare Coverage.....	63
Healthcare Access .....	64
Healthcare Utilization .....	64
THE BUILT/PHYSICAL ENVIRONMENT.....	65
Safety and Crime.....	66
Housing.....	68
Housing Demographics .....	68
Homelessness.....	69
Transportation.....	70
Access to transportation.....	70

Walkability, Bikeability and Transit Scores .....	71
Public Transit.....	72
Broadband Access .....	73
Food Insecurity.....	74
Education and Literacy.....	77
Life Skills.....	77
Student Success .....	77
Job Training .....	77
Health Literacy .....	78
Environmental health and Air quality.....	78
Air Quality Index .....	78
Lead.....	79
Emergency Preparedness.....	79
Conclusion.....	80
Appendix.....	81
Document.....	81
Photographs.....	81
Quotations .....	81
Images.....	81
Tables.....	82

<page intentionally left blank>



# EXECUTIVE SUMMARY

## INTRODUCTION

A Community Health Assessment (CHA) is an integral part of improving and promoting the health of a community. It involves the ongoing collection and analysis of data to inform the community on health status and priorities, making it a product as well as a process. This collaborative practice mobilizes community partners, agencies, organizations and businesses, socio-cultural institutions, stakeholders and residents to be a part of the process. The primary objectives of this assessment are three-fold, to:

- Describe the overall health of Muskingum County residents;
- Understand underlying factors that influence existing health outcomes;
- Identify opportunities for improvements.

The 2022 Muskingum County Community Health Assessment was conducted from December 2020 to June 2022. The Zanesville-Muskingum County Health Department engaged community agencies, businesses, social groups, students and residents throughout the process. Encompassing primary and secondary data from local, state and federal sources, the completed community health assessment serves as a resource for community agencies and residents to understand and utilize findings for community improvement. The process was guided by the Healthier Muskingum County Network (HMCN), which was originally convened to serve as a steering committee for the CHA in 2011.

## METHODS

The decision to use the Social Determinants of Health (SDH) as a framework for modeling the community health assessment came after an extensive review of the community health assessments from other cities, counties and states. To accomplish this assessment, several methods were selected. The methods included qualitative, quantitative, primary and secondary data. Data came from a wide variety of resident characteristics and perspectives. The methods employed include:

- A community health status assessment, which captured over 200 data points for Muskingum County as well as some comparison data from state, national, and Healthy People 2030 benchmarks;

- A quantitative Adult Opinion survey which was administered to over 3,000 adult residents;
- Six Focus Group Discussions and 6 Key Informant Interviews that engaged over 50 residents;
- Local Public Health System Assessment (LPHSA), Forces of Change Assessment (FOCA), and a Community Themes and Strengths Assessment, which identified capabilities, stakeholders, partners and resources that contribute to public health.

## KEY FINDINGS

### DEMOGRAPHICS

#### **Population, Age and Growth**

As of July 1, 2021, the United States Census Bureau reported that Muskingum County had 86,410 residents, having grown overall by 2% over the last fifteen years. Across gender, there have been no changes of significance; females making up 51.33% of the population, their male counterparts, 48.67%. Muskingum County portrays characteristics consistent with aging patterns; a steady increase in older population coupled with a negative growth in the young adult (-1.3%) and child populations (-0.7%). Since 2000, the median age has risen steadily from 37 to 40.5 years. This exceeds the state and national average of 39.5 and 38.2 years respectively.

#### **Racial and Ethnic Diversity**

Muskingum County is predominantly White or Caucasian, accounting for 91.9% of the population. Blacks or African Americans make up 3.9% of the county. Three percent (3.2%) of the population identified as two or more races. The remaining 1% includes Asians, American Indians/Alaskan Natives, Native Hawaiian and Other Pacific Islander, representing 0.6%, 0.3%, 0.1%, respectively. In 2020, 91% of the population reported not Hispanic or Latino, and 1.3% reported Hispanic or Latino origin, according to the United States Census Bureau.

#### **Educational Attainment**

The United States Census Bureau reports that among Muskingum County residents over the age of 25, 88.7% have at least a high school diploma (or equivalent), 17.5% of which had a bachelor's degree or higher. Current education attainment rates indicate about a 1.3% decrease in high school graduation. About 10% of Muskingum County residents

are classified as lacking Basic Prose Literacy Skills (BPLS), limiting the ability to perform simple and everyday tasks.

### **Income, Poverty and Employment**

In Muskingum County, 15% of residents live below the Federal Poverty Level (FPL), according to the United States Census Bureau. Children suffer disproportionately, with over 21% living in poverty, as reported by County Health Rankings. The median household income in Muskingum County for 2020 was \$48,350, with a per capita income of \$26,736. Ohio and the United States both have significantly higher median household income rates, at \$58,116 and \$64,994, respectively (Census). The county has an unemployment rate of 7.8%, which is slightly lower than that of the state (8.1%), but higher than the national (4%) unemployment rates (County Health Rankings).

## **COMMUNITY HEALTH STATUS**

### **Overall Health Status**

In 2022, the County Health Rankings placed Muskingum County 67 out of 88 counties in Ohio for health outcomes, falling two spots from the previous year. A 2021 assessment of Quality of Life in the Adult Opinion Survey indicated that 32% of Muskingum County survey respondents were limited in some way because of physical, mental, or emotional problems, increasing to 47% for those with annual incomes less than \$25,000. Those who were limited in some way reported the following limiting problems or impairments: stress, depression, anxiety, or emotional problems (33%); chronic illness (18%); fitness level (17%).

### **Leading Cause of Mortality**

In 2021, Muskingum County's crude death rate was 1,374.1 per 100,000 with the three leading causes of death being cancer, cardiovascular disease, and COVID-19. Diabetes rose to 7th place on the list from 9th place in 2015. Premature deaths were highly attributed to cancer, cardiovascular disease, and accidents. Intentional self-harm and septicemia, which were on the premature list, did not make the overall mortality list (Ohio Data Warehouse).

### **Chronic Disease**

Chronic diseases like heart disease, cancer and diabetes are leading causes of overall and premature mortality. Healthy behaviors like engaging in physical activity, improving nutrition and seeking preventative care were mentioned in all focus group discussions, with safety, transportation and access to healthcare coming up as challenges.

### **Infectious Disease**

In Muskingum County in 2021, the three leading causes of (reportable) infectious diseases were COVID-19, Chlamydia and Gonorrhea. COVID-19 infections made up 94% of all reported infectious diseases.

### **Mental Health**

As a mental healthcare shortage area, Muskingum County has a mental healthcare provider to patient ratio of 540:1, according to County Health Rankings. This is compounded by the ongoing drug epidemic and the COVID-19 pandemic. Delays in outreach to patients treated for medical complications and long wait times for referrals to initiate mental health services reduces the efficacy of people committing to rehabilitation. However, major portions of interventions needed to support drug addiction rehabilitation were more social-cultural than medical. COVID-19 lockdowns affected residents in ways that are still to be fully understood.

## **HEALTHCARE ACCESS AND UTILIZATION**

In 2020, 94.3% of all Muskingum County residents had health insurance, a slight decrease from 95.2% in 2016. About 40% of all county residents depend on public health insurance. Adult Opinion Survey results showed that despite having health insurance, residents were worried about insurance policies not covering enough care and being unable to afford deductibles and co-pays. In the event that they proceeded to seek care, they worried about getting convenience appointments times.

## **COMMUNITY AND CIVICISM**

When asked to describe Muskingum County, Focus Group Discussion community residents noted the family, neighborliness, kindness and togetherness, visible through residents taking care of family, connecting and participating in community activities and volunteering. Residents selected family, friends and their church congregations as making up their social lives. While county residents feel they have community, it does not extend beyond their neighborhoods; their school, church, work and home. Beyond these places, they feel disconnected. There are limited places and opportunities for them to meet other county residents and participate in community centers or community activities.

## **LOCAL GOVERNMENT**

There is a community perception of limited local government presence and participation in community activities. Interestingly, this is a mutual feeling on the part of local government; both entities feel disconnected from the other. This gap is evident in low civic engagement at the community level. Residents report feeling unaware of information needed to make informed decisions about or participate in local



government, or its activities and events (Focus Group Discussions & Key Informant Interviews).

## **PHYSICAL ENVIRONMENT**

### **Safety**

Residents who participated in Focus Group Discussions overwhelmingly identified safe neighborhoods as one of the most important things that make a healthy community. Drug activity, robberies, and theft, were identified as the biggest safety issues. These safety issues relate to the amount of time that families and children spend outdoors, including public spaces, especially parks. Just over one-third (34%) of Muskingum County adults surveyed in the Adult Opinion Survey reported that their neighborhood was extremely safe; 44% reported it to be quite safe, 21% reported it to be slightly/not safe.

### **Housing and Homelessness**

According to the United State Census Bureau, Muskingum County had 38,337 housing units in 2021, of which 91.5% were occupied. Of the occupied housing units, 70% were owner-occupied, with 30% rented. In a FGD on homelessness, residents discussed the challenges of living in and emerging out of poverty. They identified feeling stigmatized when seeking medical care or housing and when applying for jobs. The challenge of securing housing is not only a financial issue. While the requirements to apply for housing have not changed much over time, the pool of applicants seeking accommodation has changed. Increasingly, many applicants have a history of substance abuse/addiction or a criminal record along with recent evictions. Any of these conditions may become major disqualifiers for public and private housing alike.

### **Transportation**

In Muskingum County, almost 85% of all Adult Opinion Survey respondents depend on private vehicles for transportation. However, Zanesville has pockets of high poverty populations who find transportation as a major challenge. FGD participants admitted missing activities due to lack of transportation. When asked what forms of transportation they used regularly, 11% of survey respondents reporting biking while 18.5% reported walking. Improving 'walkability' and 'bikeability' were major recommendations for many sections of the population, including the youth who identified with these modes of transportation.

### **Nutrition**

The Ohio Department of Job and Family Services (ODJFS) reported 8,339 households (15,621 active members) received Supplemental Nutrition Assistance Program (SNAP)

benefits in December 2021. Reports from the local 2-1-1 Helpline call center received over 1,575 calls for food assistance in Muskingum County in 2021. Of these calls, 1,250 were for food pantry assistance. Proximity to healthy food is another access factor that influences food security. According to the 2022 County Health Rankings (CHR) Muskingum County's Food Environment Index is 6.9, which is similar to Ohio's Food Environment Index at 6.8. County Health Rankings estimated that 15% of Muskingum County's population is considered to be food insecure. Forty-one percent (41%) of the Adult Opinion Survey respondents live two or more miles away from fresh, healthy food. In addition to accessibility, cost, time and food preparation knowledge are also barriers to healthy eating.

### **Environmental Quality**

Asthma, which is the leading chronic illness among children, is greatly impacted by air quality. In Muskingum County, 11.3% of children were diagnosed with asthma at some point in their life. Lead is another environmental exposure and is a major concern in Muskingum County. Sixty-seven percent (67%) of the housing stock was built before 1978, when lead paint was banned. Three high-risk zip codes have been identified that require blood-lead testing in children.

### **Conclusion**

Based on secondary, social, economic, and environmental health data, discussions with residents and leaders, and a community survey, this assessment report provides an overview of the social and economic environment of Muskingum County's health status, strengths, and opportunities for growth. The 2022 Muskingum County Community Health Assessment (MC CHA) will be made available to the public, in draft version for comments. The final version will be presented to the Board of Health, Healthier Muskingum County Network. The CHA will then be available on the Zanesville-Muskingum County Health Department website, <http://www.zmchd.org>. It will also be available as a hard copy at the health department. Once completed, a process to identify 3-5 major priorities of the CHA will be conducted. The priorities will be included in the next Community Health Improvement Plan which will be implemented over the next three years ending in December of 2025.

### **Key definitions**

#### **Community Health Assessment**

A systematic examination of the health status indicators for a given population that is used to identify key problems and assets in a community; the ultimate goal of a community health assessment is to provide data to develop strategies to address the community's health needs and identified issues (PHAB)

#### **Community Health Improvement Plan**

A long-term, systematic effort to address public health problems based on the results of the community health assessment and community health improvement process; the plan is used by health and other governmental education and human service agencies, in collaboration with community partners, to set priorities and coordinate and target resources (PHAB)

#### **Health Disparities**

A particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion (Healthy People 2030)

#### **Social Determinants of Health**

The conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. (WHO)

## ACRONYMS

ACA	Affordable Care Act
ACOG	American College of Obstetricians and Gynecologists
AHA	American Heart Association
AOS	Adult Opinion Survey
BPLS	Basic Prose Literacy Skills
BRFSS	Behavioral Risk Factor Surveillance Survey
CDC	The Centers for Disease Control and Prevention
CHA	Community Health Assessment
CHNA	Community Health Needs Assessment
CHR	County Health Rankings
COPD	Chronic Obstructive Pulmonary Disease
CIW	Canadian Index of Wellness
CKD	Chronic Kidney Disease
CVD	Cardiovascular Disease
DD	Developmental Disabilities
DSL	Digital Subscriber Line
ED	Emergency Department
EPHS	Essential Public Health Services
FEI	Food Environment Index
FGD	Focus Group Discussion
HCNO	Hospital Council of Northwest Ohio
HMCN	Healthier Muskingum County Network
HUD	Housing and Urban Development
IHME	United States Institute for Health Metrics and Evaluation
KII	Key Informant Interview
KRA	Kindergarten Readiness Assessment
LBW	Low Birth Weight
LHDs	Local Health Departments
LPHS	Local Public Health System
LPHSA	Local Public Health System Assessment
MAPP	Mobilizing For Action through Planning and Partnerships
MCCHA	Muskingum County Community Health Assessment
MVA	Motor Vehicle Accident
MVESC	Muskingum Valley Educational Services Center
NCES	National Center for Education Statistics
NICHQ	National Institute for Children's Health Quality
ODE	Ohio Department of Education
ODH	Ohio Department of Health
OMAS	Ohio Medicaid Assessment Survey
PedNSS	Pediatric Nutrition Surveillance System

PHAB	Public Health Accreditation Board
PSA	Prostate-Specific Antigen
QoL	Quality Of Life
RWJF	Robert Wood Johnson Foundation
SDH	Social Determinants of Health
SNAP	Supplemental Nutrition Assistance Program
SPSS	Statistical Package for Social Sciences
STEM	Science, Technology, Engineering, and Mathematics
STI	Sexually Transmitted Infections
USDA	United States Department Of Agriculture
UWPHI	University of Wisconsin's Population Health Institute
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children
ZMCHD	Zanesville-Muskingum County Health Department
ZPD	Zanesville Police Department

# INTRODUCTION

## COMMUNITY HEALTH ASSESSMENT

### PURPOSE

A Community Health Assessment (CHA) is an integral part of improving and promoting the health of a community. It involves the ongoing collection and analysis of data to inform the community on health status and priorities, making it a product as well as a process. This collaborative practice mobilizes community partners, agencies, organizations, businesses, socio-cultural institutions, stakeholders and residents to be a part of the process. The primary objectives of this assessment are three-fold, to:

1. Describe the overall health of Muskingum County residents;
2. Understand underlying factors that influence existing health outcomes;
3. Identify opportunities for improvements.

By accomplishing this assessment, the Zanesville-Muskingum County Health Department benefits in a number of ways. The agency is able to provide the highest quality of targeted public health services to the community. This is quintessential to acquiring future public health funding. This assessment also puts the agency on track for accreditation through the Public Health Accreditation Board, a nationwide non-profit organization. The rigorous peer-reviewed process ensures that all accredited agencies meet a set of nationally agreed-upon standards, have a means to identify performance improvement opportunities, enhance management, develop leadership, and strengthen relationships with members of the community. While not mandated nationally, the Ohio Revised Code required each local health department to apply for accreditation by the summer of 2020. Being accredited



would show evidence that the agency meets high standards in the provision of the 10 Essential Public Health Services.

## PROCESS

The 2022 Muskingum County Community Health Assessment was conducted from December 2020 to June 2022. The Zanesville-Muskingum County Health Department engaged community agencies, businesses, social groups, students and residents throughout the process. Encompassing primary and secondary data from local, state and federal sources, the completed community health assessment serves as a resource for community agencies and residents to understand and utilize findings for community betterment.

The Zanesville-Muskingum County Health Department released its 2022 Community Health Assessment in July of 2022. A core team was established to facilitate this process. Over the course of the first three months, the goal was to draw up a road map for completing the assessment process. This comprised of a review of the 2016 health assessment and its improvement plan and determining critical assessments necessary to capture a comprehensive view of the county's QoL. During this planning phase, a budget and timeline were determined for completing six selected assessments.

Originally convened to serve as a steering committee for the 2011 Community Health Assessment, the Healthier Muskingum County Network (HMCN) was established as a networking group to address priority issues from the health improvement plan. Member agencies of the network represent an array of social determinants of health, safety, education, employment, healthcare and housing among others. The network's goal is to increase awareness of community resources, identify networking opportunities and reduce duplication of available services. New and existing members were invited to be part of the 2020-2022 assessment process.

The decision to use the Social Determinants of Health (SDH) as a framework for modeling the community health assessment came after an extensive review of the community health assessments from other cities, counties and states. A review of other existing models like Thriving Communities, Mobilizing for Action through Planning and Partnerships (MAPP), and the Canadian Index of Wellness (CIW) identified components that would be ideal for a rural/Appalachian county. This helped determine how to collect primary data. Aligning the community health assessment with the Public Health Accreditation Board's (PHAB) standards was another key component of the planning process. The board delineates a set of standards to which each health department's performance is measured. This assessment fulfills a significant portion of Domain 1 of the PHAB standards, which focuses on surveillance, measuring health status and identifying health problems facing the community.

Data collected for this document was specifically selected to incorporate participation from a wide cross-section of community residents and stakeholders. There was also an interest in maintaining a good balance of qualitative and quantitative data. The order of implementation was strategically organized with the intention of investigating further, any new concepts/constructs that were derived from the data collected. The methodology, which discussed the different methods or strategies implemented for data collection, is not followed in the organization of document; findings from each strategy are combined and reorganized into subject matter themes.

## CONTENT AND ORGANIZATION

The 2022 Muskingum County Community Health Assessment (MCCHA) comprises several smaller assessments that have been synthesized into one document. This assessment covers physical and socioeconomic status of the county, resident health

**Image 1: Social Determinants of Health**

Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education			
Support	Walkability				

**Health Outcomes**  
 Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

Source: Henry J. Kaiser Family Foundation

status, community resources and an assessment of the local public health system. The report has been broken down into several sections:

**Executive Summary** - This section provides an abridged version of the entire CHA document, commenting on its purpose, process and findings.

**Introduction** - This section serves as a backdrop for the assessment, background information on the county and the community health assessments, as well as why they are done.

**Methodology** - This section discusses how the assessment was done; the theory, tools and strategies employed; how data was collected and analyzed, as well as limitations that were encountered through the process. It also discusses how the assessment will be presented and disseminated.

**Findings** - This section is the heart of the document. It presents findings from all the assessments divided into demographics and health status. It delves into the cultural, environmental, political and social environment.

**Vision** - This section presents the perspectives on the county’s future from residents and stakeholders. These views address the next three to five years. This is based on



their understanding of the county's current health status and the socioeconomic environment.

## MUSKINGUM COUNTY

### HISTORY

In the 1790s, Colonel Ebenezer Zane and his son-in-law John McIntire, who blazed Zane's Trace, the original pioneer trail into the Old Northwest Territory, established a settlement at the confluence of the Licking and Muskingum Rivers. Zane, a Revolutionary War veteran, was commissioned by the U.S. Congress to blaze a pathway



into the rolling hills and the dense forests of the Ohio Valley, and to establish ferry crossings at three major rivers including the Muskingum. Muskingum County was authorized by the Ohio government on January 7, 1804.

Muskingum County was a hub of river traffic and is famous for the "Y"

bridge, built in the confluence of the Muskingum and Licking Rivers. Transportation played a key role in the rich history and development of the community. Zane's Trace later became the National Road, the major east-west artery for trade and travel and one of the pioneers' main routes to the west throughout the 1800s. The Muskingum River with a canal, lock and dam system transported steamboats and barges up from the Ohio River. Zanesville's pivotal position made the community a center for commerce, travel and trade throughout its history.

The county's name originated from a Native American word for "near the river", 'Mooski-gung.' The city of Zanesville was established on March 1, 1804, by Zane's son-in-law, John McIntire. In 1810, Zanesville became Ohio's capital until 1812.

### GEOGRAPHY

Muskingum County is located in Southeastern Ohio, covering a land area of 673 square miles, eight of which is covered by the Muskingum River. Coshocton, Guernsey, Noble, Morgan, Perry and Licking counties, surrounds it

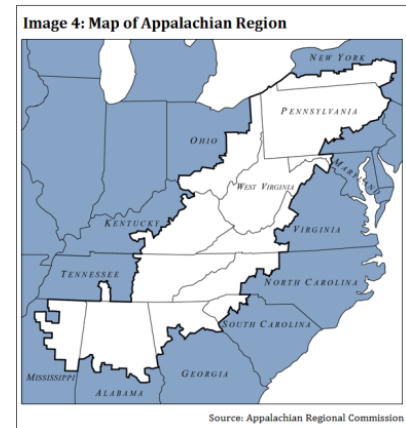
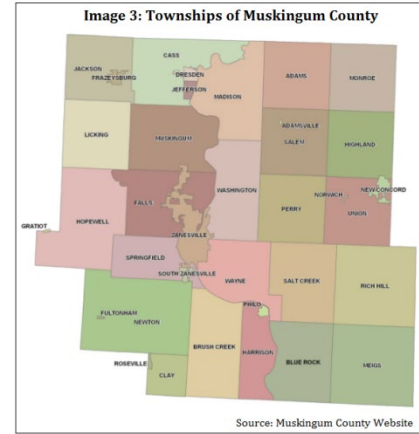


clockwise. The county makes up part of the Columbus Statistical Area.

Within the borders of Muskingum County, there is one city, Zanesville, and 10 incorporated villages; Adamsville, Dresden, Frazeytsburg, Fultonham, Gratiot, New Concord, Norwich, Philo, Roseville, and South Zanesville. This also includes 28 unincorporated communities. Muskingum County is made up of 25 townships, having the largest and smallest townships in the State of Ohio, Newton and Jefferson townships respectively.

### MUSKINGUM AS AN APPALACHIAN COUNTY

Muskingum County is identified as an Appalachian county. Appalachia is a cultural region in the Eastern United States that stretches southwest from the southern tier of New York to northern Alabama, Georgia and Mississippi. As of 2019, the region was home to approximately 25.7 million people. The Appalachian Regional Commission reports this as a 1.8% increase, or 455,000 more residents than 2010. Since its recognition as a distinctive region in the



late 19th century, Appalachia has been a source of enduring myths and distortions regarding the isolation, temperament, and behavior of its inhabitants as being uneducated and prone to impulsive acts of violence. This was coupled with aspects of the region's culture, such as moonshining and clan feuding.

While endowed with abundant natural resources, Appalachia has long struggled and been associated with poverty. Adults in Appalachian counties are more likely to live in poverty, lack a high school diploma, be unemployed and uninsured, and have unmet health needs. Children in Appalachian counties face unique health disparities that include poverty, food insecurity, obesity and poor access to pediatric care.

### TOURISM AND ATTRACTIONS

Nature granted the area rich natural resources such as sand, clay and iron, making Zanesville and Muskingum County ideal for the manufacture of steel, glass and pottery.



Ceramic tile and art pottery are an important part of the heritage of the community, Zanesville becoming known as the "Pottery Capital of the World" and the "Clay City." The production of pottery still makes

Muskingum County a destination point for visitors from all over the world. Glass, steel and ceramics remain some of the community's most important industries.

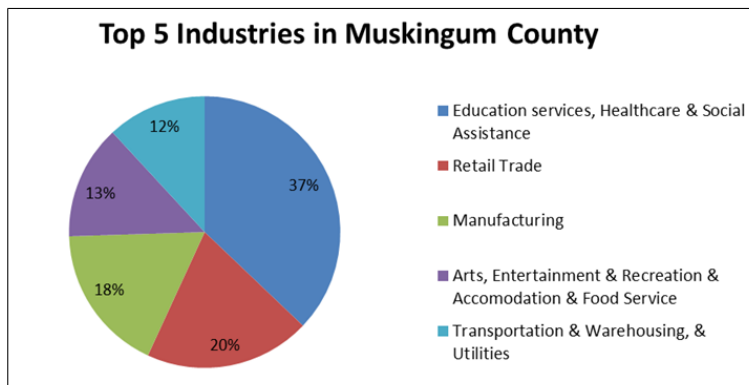
Many prominent Americans have called Zanesville and Muskingum County home. John Glenn, a native of New Concord, was the first American astronaut to orbit the earth and was a U.S. Senator. William Rainey Harper was the founder of the University of Chicago and Cass Gilbert was an architect for the U.S. Supreme Court building. Actors Richard Basehart and Agnes Morehead, and author Zane Grey, are all notable Muskingum County natives.

Muskingum County has many interesting places to see and a variety of exciting things to do. It is home to attractions such as the Y-Bridge, The Wilds, Dillon State Park, the Lorena Sternwheeler, many old churches and the John and Annie Glenn historic site.

## COMMERCE AND INDUSTRY

Muskingum County has a diverse workforce with just over 41,000 people, as reported by the Zanesville-Muskingum County Port Authority. This is represented by several industries like healthcare/education, manufacturing and retail sales. This provides employment for 77.3% of the workforce, the remaining 22.2% and 0.5% working outside the county and state respectively. In the last 15 years, nearly 5,700

Image 5: Leading Industries in Muskingum County



Data Source: United States Census, 2021

manufacturing jobs have been lost, a 56% decline. This has left a group of experienced, skilled and motivated workers, often underemployed or unemployed. In recent years, new industries like distribution and oil drilling have changed skill demands on the workforce.

Muskingum County provides employment opportunities for many, with approximately 9,000 commuters traveling to Muskingum County to work.

The Zanesville-Muskingum County Chamber of Commerce, which currently has a membership of 663, dates back to 1905. Membership spans a wide array of organizations. These include local government agencies, small businesses and

Image 6: Top Five Employers in Muskingum County

Company/Industry	Employees
Genesis Healthcare System Hospitals, clinics, outpatient	4000
Dollar General Distribution center for retail stores	820
Continuing Healthcare Solutions Nursing home	750
AutoZone Auto parts distribution center	648
Spectrum Inbound Call Center	561

Data Source: Muskingum County Port Authority

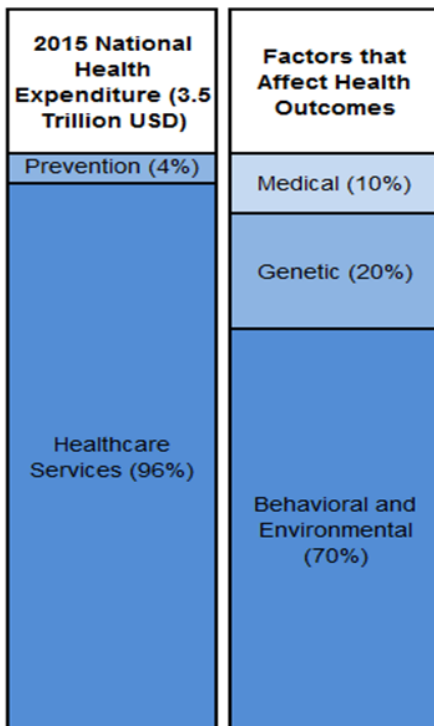
collaboratives among others. This organization has a long-standing tradition of service to the community.

## METHODOLOGY

### FRAMEWORKS AND THEORY

Defined by the World Health Organization as “a complete state of physical, mental and social well-being, and not merely the absence of disease or infirmity,” health is described as a state of being that enables a full life. In effect, the absence of disease or infirmity makes up only one of several components of health. The definition of health exists beyond individual physical abilities or dysfunction. Health encompasses a wide range of experiences and events and their interpretation may be relative to social norms and context. More broadly, health is ‘not just the physical well-being of the individual but the social, emotional and cultural well-being of the whole community. It

Image 7: United State Health Expenditure



Data Source: Centers for Medicare and Medicaid Services

influences not just how we feel, but how we function and participate in the community. As such, individuals, groups and societies may have very different interpretations of what constitutes illness and what it means to be in good health.

According to Centers for Medicare & Medicaid Services (CMS), in 2020, U.S. health care spending grew 9.7% to \$4.1 trillion or \$12,530 per person. In comparison, the 2015 estimated health care expenditure was \$3.5 trillion. Of this, medical services and preventive services accounted for 96% and 4% of the health care expenditure, respectively. However, the factors that influence health status are 70% behavioral and environmental, 20% genetic and 10% medical (1). With almost 70% of healthcare dollars going to hospitals, healthcare providers and prescription medication, the greater remainder supports long-term and home health services, as well as durable medical equipment, all of which support secondary and tertiary healthcare.

Addressing the behavioral, socioeconomic and physical environments supports the need for a focus on social determinants of health as the leading approach to achieving success in health promotion. The challenge presented in this shift are seated in the reduction in the funding of a rapidly growing healthcare expenditure, and channeling funds to healthy promotion and preventative health programs, which are difficult to quantify.

## SOCIAL DETERMINANTS OF HEALTH

The environment in which we live, from as early as in the womb to later in life; where we are born, grow up, live, work and age, is an intricate network. Within the community and built environments in which we live. Factors like air quality, healthcare, industry, social capital and transportation infrastructure contribute to poor physical, mental or emotional health or illness. These factors are collectively termed Social Determinants of Health (SDH). Together, they create the context for which a community may thrive, and this system becomes a part of us and may predict our health outcomes. Studies show that however the social gradient is sliced; it has a strong direct relationship with health status.

While our genetic make-up provides each person with a unique set of codes, which give us the potential for particular health outcomes, the environment individuals find themselves in, and the resources available to them will either support or hinder this

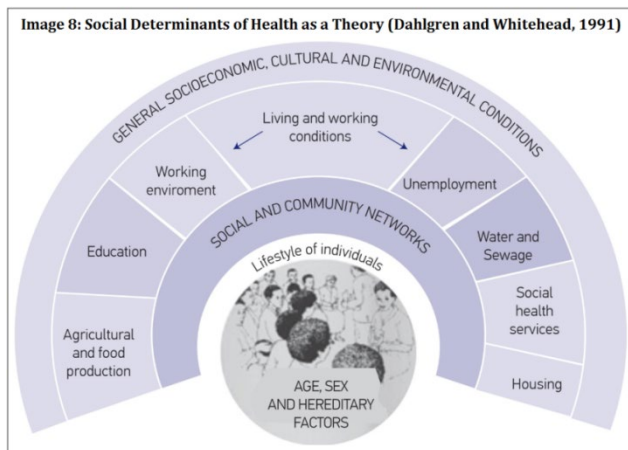


Image Source: Sucupira, Ana Cecilia et al. (2014).

potential. While cancer or diabetes may be a predisposition, proper nutrition and physical activity are a larger determining factor for each of these three outcomes. Proper nutrition and adequate exercise require easy access to healthy food and safe environments to play, as well as time to conduct both activities. In fact, recent studies, originating from the Delmar Divide in St. Louis, Missouri, support the new theory that one's zip code may be more important health indicator than his or her genetic code.

## HEALTH EQUITY

Regardless of how resources are distributed across a community, individual health outcomes vary. The health outcome differences seen between specific sub-populations are known as health disparities. These differences are evident across the social

determinants of health like residential neighborhoods, levels of educational attainment or race/ethnicity. For a long time, the focus on health assessments was a focus on health disparities, identifying populations that suffer an uneven burden of health outcomes within communities. Some health disparities may stem from determinants like gender (breast cancer/prostate cancer rates), race/ethnicity (hypertension) and age (Coronary Heart Disease), which cannot be modified. However, socio-economic and physical environments as well as community infrastructure are factors that can be adjusted to better meet the needs of each individual. This realization creates an opportunity to address social determinants of health. Health equity serves to seek out the root causes of social determinants and to determine a fair/just way of allocating resources to ensure comparative health outcomes. Its primary goal is to create a fair and just inclusion so all can participate and prosper.

## METHODOLOGY

### DATA COLLECTION METHODS

The Zanesville-Muskingum County Health Department and the Healthier Muskingum County Network, taking a broad view of health and functioning, and incorporating social determinants of health, conducted the 2022 Muskingum County Community Health Assessment (MCCHA). The MCCHA seeks to help community members:

1. Better understand the context and influence of community, local economy, built environment and the social determinants of health that influence resident health;
2. Assess the breadth and strength of this network; focusing on gaps, duplication of services and opportunities for expansion; identifying and addressing the health inequities that exist across the county;
3. Engage partners and stakeholders to create a collective vision and plan for the community's 3-year future, and
4. Identify challenges and strategies to achieving success.

To accomplish this, several methods were selected. They comprised qualitative, quantitative, primary and secondary data. Data gathered came from a wide variety of resident characteristics and perspectives. This combination provides a dense chunk of information that would create a clear identity for Muskingum County, and effectively inform the Community Health Improvement Plan (CHIP) priorities and interventions.

Muskingum County Community Health Assessment Data Collection Methods					
Data Collection Method	Type of Data				Data Level
	Quantitative	Qualitative	Primary	Secondary	
Adult Opinion Survey	x		x		Individual
Community Health Rankings	x			x	System
Focus Group Discussions		x	x		Group
Key Informant Interviews		x	x		Individual
Local Public Health Assessment		x	x	x	System
Forces of Change Assessment		x	x		Individual

Table 1

## ADULT OPINION SURVEY

### **Instrument Development**

One adult survey instrument was designed for this assessment. As a first step in the design process, health education researchers from The University of Toledo and staff members from The Hospital Council of Northwest Ohio (HCNO) met to discuss potential sources of valid and reliable survey items that would be appropriate to assess the health status and health needs of adults. The investigators decided to derive the majority of the adult survey items from the BRFSS. This decision was based on being able to compare local data with state and national data.

The project coordinator from The Hospital Council of Northwest Ohio conducted a meeting with the Southeast Ohio Health Improvement Collaborative. During this meeting, HCNO and the Southeast Ohio Health Improvement Collaborative reviewed and discussed banks of potential survey questions from the BRFSS. Based on input from the Southeast Ohio Health Improvement Collaborative, the project coordinator composed a draft survey containing 110 items for the adult survey. IRB approval was granted to Ohio University by their universities Social and Behavioral IRB.

### **Sampling**

The sampling frame for the adult survey consisted of adults ages 19 and older living in Muskingum County. There were an estimated 64,205 people ages 19 and older living in Muskingum County. The investigators conducted a power analysis to determine what sample size was needed to ensure a 95% confidence level with a corresponding margin of error of 6% (i.e., we can be 95% sure that the “true” population responses are within a 6% margin of error of the survey findings). A sample size of at least 266 adults was needed to ensure this level of confidence for the general population. The random sample of mailing addresses of adults from Muskingum County was obtained from Melissa Data Corporation in Rancho Santa Margarita, California. Surveys were mailed in early April 2021 and returned through mid-May 2021.

## **Data Collection**

Prior to mailing the survey, Ohio University mailed an advance letter to 2,000 adults in Muskingum County. The letter introduced the county health assessment project and informed readers that they may be randomly selected to receive the survey. The letter also explained that the respondent's confidentiality would be protected, and it encouraged the reader to complete and return the survey promptly if they were selected. Letters returned as undeliverable were not replaced with another potential respondent to receive the survey. Lastly, it is important to note that the advance wave letter stated that if the recipient was selected to receive the survey, they would receive a \$2 bill as a thank you for their time to complete the survey. After sending the letter, Ohio University encountered problems with this recruitment strategy due to institutional rules about exchanging money. A gift card drawing replaced the \$2 bill incentive that was originally noted. The letter included additional information regarding the drawing, with information on how to enter by filling out a postage-paid card that was included in the mailing. Individuals that received the survey and post card were asked to provide either their phone number or email address, and were instructed to mail the postage paid post card separately from their survey.

Thirteen weeks following the advance letter, an additional mailing was administered. The mailing included a personalized, hand signed cover letter (on Southeast Ohio Health Improvement Collaborative stationery) describing the purpose of the study and the chances of winning a gift card, the questionnaire, a self-addressed stamped return envelope, and a postcard to enter the drawing for a \$100 or \$25 gift card. The mailing materials were included in a large colored envelope. Three thousand (3,000) surveys were sent out by Ohio University. Surveys returned as undeliverable were not replaced with another potential respondent. The response rate for the adult population was 5% (n=151: CI=± 7.97). The survey was distributed again in November of 2021, due to a low response rate. The survey was made available online and targeted at event participants in low-income neighborhoods. An addition 86 surveys were collected, ending with a total of 237 respondents.

## **COMMUNITY HEALTH STATUS ASSESSMENT**

The Community Health Status Assessment creates a profile for the county, describing its economic, health and socio-political make-up; the measures of several indicators collectively determining the quality of life or status of the community, thus creating a snapshot of information for a point in time. The data collected came from several levels of government, non-profit and the private sector entities. At the county level, sources of data include the Muskingum Valley Educational Services Center (MVESC), Genesis Healthcare System, law enforcement and the Zanesville-Muskingum County Health Department (ZMCHD). Data from the Ohio Department of Health (ODH), the Ohio



Medicaid Assessment Survey (OMAS) and the Ohio Department of Education (ODE) are among several state level sources. The U.S. Census Bureau, the Robert Wood Johnson Foundation's County Health Rankings and the Network of Care not only counted as national sources for data, but they provided avenues for comparison across counties, states and national measures.

### **Focus Group Discussions (FGDs)**

Six Focus Group Discussions (FGDs) were held across the county, bringing together groups of 10-12 people with shared interests or common challenges. Marginalized or special populations were specifically targeted to help understand population concerns. Discussions focused on Muskingum County community residents were conducted among parents of young children, the aging, and adults working with youth. The team also met with residents who experienced homelessness and families of residents with disabilities. Community gatekeepers were identified to help recruit participants for each FGD.

### **Key Informant Interviews (KIIs)**

Key informant interviews were conducted at the latter end of the data collection period, once the assessment team started analyzing preliminary data. Topics discussed with knowledgeable community residents and leaders were based on findings and results from the other data collection processes. Community leaders in homelessness, education, safety, and food insecurity were among a select few who were interviewed as key informants.

### **Local Public Health System Assessment (LPHSA)**

The Local Public Health System (LPHS) is a network of direct health, supportive and complimentary services that enable a community to achieve and sustain good health. The assessment focuses on public health and its support services across the community, and how well they work together to meet all 10 Essential Public Health Services (ESPHS). This assessment focuses on agencies and organizations, their mission and the populations they serve. ZMCHD staff members, organized by division, collectively completed a LPHSA survey, a tool created to capture function, strength/challenges and vision. This activity was offered to all partner agencies of each division. This information is presented in both narrative form and as a visual representation.

## **DATA ANALYSIS**

Data from the 2016 Community Health Assessment and the Genesis Healthcare System's 2019 Community Health Needs Assessment (CHNA) were reviewed to determine data collection tools and methods, indicators and priority areas. This process determined the design of data collection tools, the selection of indicators for trending and the identification of emerging trends worth exploring.

Qualitative data was collected from the FGDs, KIIs, and Forces of Change Assessment. Data collected from these sources were reviewed immediately after each session and summarized. Once each method was completed, the data was coded into themes. This was done to the point of saturation. Once all data collection was completed, it was organized into categories based on the social determinants of health. Findings were presented within the findings section, as part of narratives or illustrative quotations.

Quantitative data collected by Zanesville-Muskingum County Health Department from primary and secondary sources were analyzed with Microsoft Excel, SPSS and the Ohio Department of Health Data Warehouse, which were enabled to build custom reports. Findings were presented within the narrative as charts or tables.

Individual responses were anonymous. Only group data was available for reporting. Health education researchers at the University of Toledo using Statistical Product and Service Solutions 26.0 (SPSS) analyzed all quantitative data collected by HCNO. Crosstabs were used to calculate descriptive statistics for the data presented in this report. To be representative of Muskingum County, the adult data collected was weighted by age, gender, race, and income using Census data (Note: income data throughout the report represents annual household income). Multiple weightings were created based on this information to account for different types of analyses.

## LIMITATIONS

Through the process of designing a methodology for this assessment process, the team acknowledged several factors that would prove to be a challenge, including Muskingum County being a small rural county. Its homogenous make-up limits the ability to use racial/ethnicity as a measure of comparison. For comparison purposes, age, education and income were used. The team does, however, acknowledge the correlation between these three factors/measures and health status. Limitations acknowledged through this assessment process are reported by data level.

As with all county health assessments, it is important to consider the findings with respect to all possible limitations. If any important differences existed between the respondents and the non-respondents regarding the questions asked, this would represent a threat to the external validity of the results (the generalizability of the results to the population of Muskingum County). If there were little to no differences between respondents and non-respondents, then this would not be a limitation. Furthermore, while the survey was mailed to random households in Muskingum County, those responding to the survey were more likely to be older. While weightings are applied during calculations to help account for this sort of variation, it still presents a potential limitation to the extent that the lower response from younger individuals might be substantively different from the majority of Muskingum County residents.

Additionally, 2,000 participants were mailed the advance letter and 3,000 participants were mailed the survey packet in an effort to increase the sample size. This means that many potential respondents did not receive the advance letter that notifies them to anticipate an upcoming survey. It is possible that the potential respondents who received the survey without an advance notice may not have felt as inclined to participate, like the respondents who received both the advance letter and the survey packet.

It is important to note that, although several questions were asked using the same wording as the CDC questionnaire, the adult data collection method differed. CDC adult data were collected using a set of questions from the total question bank and adults were asked the questions over the telephone rather than via mail survey. Lastly, caution should be used when interpreting subgroup results, as the margin of error for any subgroup is higher than that of the overall survey.

## **COVID-19**

Data collection occurred during the COVID-19 pandemic. It is important to consider the pandemic when reviewing the report due to the influence the pandemic may have on changes with the health status of the community.

### **Secondary Data**

Several of the secondary sources, which provided quantitative data for the CHA, did not go to county level; data was collected at a state or regional level. Data that was collected at the state or regional level may not be statistically representative of the county, limiting its power of inference and the possibility for stratification within the county.

Another limitation encountered was the age of the data collected; it was not always recent. Some data clearly dated a few years back, while other data values for the recent years were repeated, aggregated or estimated based on older data sets, indicating inaccurate change over time. This affected the ability to compare current data that was obtained from a dataset to previous data that accounted for multiple years.

A single but significant limitation was identified in the request for data from warehouses. The criteria for pulling data fell to the analyst (person pulling or requesting data), which is prone to bias. In recognizing these challenges, high-density data sources (like the US Census Bureau) were prioritized. Through the process, preference was also given to county level data.

In addition, HCNO collected secondary data, including county-level data, from multiple sources whenever possible. HCNO utilized sources such as the Behavioral Risk Factor Surveillance System (BRFSS), County Health Rankings, numerous CDC webpages, U.S.

Census data, Healthy People 2030, and other national and local sources. All primary data in this report was collected for the 2022 Muskingum County Community Health Assessment (CHA). All other data is cited accordingly.

### **Primary Data**

Findings from the regional adult opinion surveys were not representative of the county, despite achieving a good sample size. Due to limited resources, the team used a convenient sampling method as opposed to a simple randomized sampling, the gold standard for statistical studies. With a third of the county's 86,410 population concentrated within 12 of 673 sq. miles, and a majority of the remaining residents living across several incorporated villages, the team focused sampling around high-density locations.

The selection of participants for focus group discussions also presented some challenge. The team recruited participants by working with community gatekeepers to determine participants for community-based discussions. Due to few entities within the sampling frame interested in participating in focus group discussions, the team extended invitations to entities that responded first, showed interest, or were willing to participate. This not only limited the possibility of a well-represented table, it may have brought together more opinionated and mission-focused voices. Other than directions based on demographics, all the gatekeeper's recruited participants at their discretion.

The data collected and analyzed for the community health assessment will primarily be used to inform the Community Health Improvement Plan. It serves the additional purpose of informing ZMCHD's strategic plan. The Community Health Assessment will be and disseminated publicly in print and online. It will serve as a resource for local agencies and organizations to address issues that impact population health.

# FINDINGS

## DEMOGRAPHY OF MUSKINGUM COUNTY

### POPULATION AND GROWTH

According to US Census population estimates, as of July 1, 2021, Muskingum County had 86,410 residents, making it the 31st most populous of 88 Ohio counties and home to 0.73% of the state’s population. Muskingum County is also the seventh largest of the 32 Appalachian counties in Ohio, which range from 235,463 to 13,251. Muskingum County residents live across 25 townships with varying population (range of 8140 to 180 residents), clustered into 10 villages and 28 unincorporated communities. The city, on the other hand, has 25,372 residents, making up close to 30% of the county’s population. Over half of Muskingum County residents live in urbanized areas or clusters (53%), 47% living in rural areas. The county is made up of US-born residents; only 1% having been foreign-born. Most of the foreign-born residents come from Europe (40%), Asia (37%) and South America (18%).

Muskingum County Population (2010 to 2020)					
Region	Annual Population			% Change in Population 2010-2020	% Change in Population 2015-2020
	2010	2015	2020		
MK	85,951	86,290	86,410	0.53%	0.14%
OH	11,512,430	11,575,977	11,799,448	2.49%	1.93%
USA	303,965,272	316,515,021	331,449,281	9.04%	4.72%

Table 2 Data Source: US Census, 2021

While the county has seen some fluctuation in its population over the last five years, there has been a small but steady increase in its population over the last 10 years, growing by 2%, from 85,951 in 2010. Muskingum County’s population saw a growth of 0.14% over the last five years, factoring in a net migration rate of less than 1%.

### AGE AND GENDER DISTRIBUTION

Overall, the county population has grown about 2% over the last 15 years. A closer look at the county population shows changes in its age distribution. Across gender, there have been no changes of significance; females making up 51.3% of the population, their

male counterparts, 48.7%. This has remained consistent, fluctuating by less than 1% over the past 15-year period. In comparison with Ohio and the United States, Muskingum County has an older population; the median age of 40.5, older by 2 years. The largest population group of people, aged 40 to 59, is currently at the peak of their productive lives, is paving the way for the 20 to 39 age group, which is currently smaller than the state and national proportions. Muskingum County portrays characteristics

Muskingum County Population- Age Group										
Region	9 years and under	10 to 19 years	20 to 29 years	30 to 39 years	40 to 49 years	50 to 59 years	60 to 69 years	70 to 79 years	80 years and older	Median age (years)
MK	12.3%	12.8%	12.8%	11.4%	12.6%	13.9%	12.3%	7.5%	4.3%	40.5
OH	11.9%	12.9%	13.3%	12.5%	12.1%	13.6%	12.4%	7.2%	4.2%	39.5
US	12.1%	12.9%	13.8%	13.3%	12.4%	13.1%	11.5%	6.9%	3.9%	38.2

consistent with aging patterns; a steady increase in older populations coupled with

Table 3 Data Source: US Census, 2021

stunted to negative growth in the young adult (-1.3%) and child populations (-0.7%), consistent with aging patterns. Since 2000, the median age has risen steadily from 37 to 40.5 years.

A significant proportion of growth within the county occurred among people aged 55 years and older, which has also increased by 33% since 2000. This accounts for the increase in Muskingum County’s median age of 40.5 years, from 37 years in 2000. This exceeds the state and national average of 39.5 and 38.2 years respectively.

Muskingum County Age Distribution and Change (2000 -2020)				
Age Group	Proportion of Population			Growth (2000-2020)
	2000	2010	2020	
Under 20 years	29.1%	26.8%	25.1%	-13.7%
20 to 54 years	47.3%	45.3%	43.4%	-8.2%
55 years and older	23.6%	27.9%	31.4%	33.1%

Table 4 Data Source: US Census, 2021

The labor force, which has also seen a steady decline over the past decade, has seen its under-20 and 20 to 54-age brackets shrink by 13.7% and 8.2% respectively. This shrinking of

Muskingum County’s working population, coupled by an ever-increasing dependence of the aged and children, increases the burden on the county workforce. This proportion of working to non-working, measured by dependency ratio at 65.2, has increased by two points over the last decade.

## RACE AND ETHNICITY

Muskingum County is predominantly White or Caucasian, accounting for 91.9% of the population. Blacks or African Americans make up 3.2% of the county. The remaining 1% includes among Asians, American Indians/Alaskan Natives, Native Hawaiian and Other Pacific Islander, representing 0.6%, 0.3%, and 0.1% respectively. In 2020, 3% of the population identified as two or more races. In 2020, 91% of the population reported not Hispanic or Latino, and 1.3% reported Hispanic or Latino origin.

In comparison with 2016, there has been a significant increase in diversity, the multiracial population increasing by 14.4% over the course of 6 years. A majority of multiracial residents describe themselves as Caucasian and African American (42%), or Caucasian and American Indian/Native Alaskan (30%). While Muskingum County may still be described as a minimally diverse county, the demographic landscape may be seeing growth spurts within smaller segments, minority and multiracial, to be specific.

The ethnic/racial diversity in Muskingum County has changed slightly over the last decade, with minority populations increasing from 6% to 7% between 2000 and 2014 (and dropping from 7.4% in 2010). Most of Muskingum County ancestry is traced to Europe; the largest portion, 21% tracing their ancestry to Germany. Other larger groups trace back to Ireland (12.4%), and England (9.4%). Only 10.0% of local residents trace their ancestry from within the United States.

## LANGUAGE

English is the most widely spoken language within Muskingum County homes. At 98%, a minute portion of the population does not speak English. A tracing of a majority of Appalachian ancestry to Europe is evident in Indo-European languages being spoken by 1.3% of the population. Spanish/Creole is spoken in the homes of 0.5% of the population. A 72% majority of residents who do not speak English as their primary language at home have a good grasp of the English language. The remaining residents who do not speak English well tend to speak Asian, Pacific Islander language, and other languages. Many who do not speak English are aged 65 and older.

## RELIGION

About 40% of Muskingum County residents affiliate with a religion, mostly Christian. Less than 2% of the population combined claim Jewish, Muslim or Buddhist faiths combined. Protestants make up the largest Christian denomination, at 71%, with 12.1% Roman Catholics coming in a far second. Latter-day Saints (Mormons) and Jehovah Witnesses make up 1.8% and 1.5% of the county religious respectively. While 40% report being affiliated with a religion, they do not necessarily attend services regularly. The remaining 60% do not indicate irreligion or atheism.

## DISABILITY

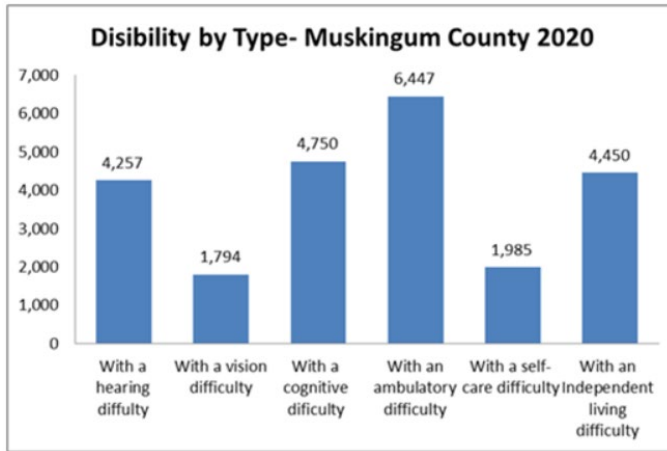


Table 5 Data Source: US Census, 2021

independently, and another 2.5% have self-care difficulties. People with disabilities make up 27% of the county's labor force and have a low unemployment rate of 1.5%.

Accessibility is a primary concern for people with mobility needs. Accessibility was extensively discussed in the focus group discussion with senior residents. The lack of mobility limits independence and makes life difficult, even when a person has help. Many day-to-day places that people access do not have automated doors. In these instances, maneuvering a wheelchair or assistive device makes using a mechanical door difficult. Residents agreed that some effort has been made to make downtown Zanesville more accessible by installing ramps and tactile paving.

During a focus group with the senior residents, they also voiced concerns about difficulties with driving around town. Being more cautious and careful, they find it challenging driving with more aggressive drivers and on narrow streets. Previously, residents shared that they were able to meet most of their needs while shopping in downtown Zanesville. They were able to walk from store to store while grocery shopping, household shopping, and having lunch. "Zanesville now is so split up. You have the North end, downtown, south end. Downtown before everything was right there." Now, several buildings are empty or demolished and many lots are empty. Seniors must travel to several corners of the community to meet their needs, and this requires transportation by vehicle. For most seniors who depend on family and friends, they still have to prioritize their outing, settling on rides to medical appointments or grocery trips over any social activity. Several residents agreed that they stay home because they have no other choice.

Parent perspectives of children with developmental disabilities shed a light on community life from their perspective. The FGD noted loneliness and isolation

In Muskingum County, 15.7% of the population has at least one disability, in comparison with the state and national averages of 14.0% and 12.7% respectively; the leading disability being ambulatory difficulties. This affects 8.1% of the entire population; however, it is most common among residents 65 and above (21.9%). While a greater proportion of residents with disabilities are autonomous, 6.8% of them have difficulties living



increased during COVID-19, and this is already a challenge for families of individuals with developmental disabilities. A great resource within the county is the informal parent and support groups; the groups report sharing 'insider information'. With limited accessibility to local disability resources, parents depend on each other (through support groups etc.) for guidance and resources, as well as sharing experiences. Support groups for families transitioned to virtual meeting during the COVID-19 pandemic to continue to provide support to families in need.

Despite the availability of local resources, families felt the processes for finding and accessing support and opportunities were limited across Muskingum County. Channels for seeking information, direction and services were not centralized. They felt that the responsibility of searching for resources and determining eligibility fell to the family. Families had to navigate changes from child to adult Medicaid/Medicare, while little assistance from insurance companies. A FGD member shared, "It would be nice to have resources for the families explaining how/what/when and what to do to keep those insurances. Along with updated Dr. lists that take those insurances – as it is not easy." Participants expressed the need for medication assistance- getting the medications, sorting medications, and understanding/organizing medications for their loved ones.

In regards to concerns within Muskingum County, participants shared that the community is safer when compared with bigger cities, but feel that the communities have become less safe due to the drug epidemic. Within the community, there is a need for people with disabilities to be properly recognized and provided with needed support and resources to enable them to live normal lives. Families shared that recreation for individuals with disabilities seemed to be limited to one or two leagues, and that it would be nice to see additional opportunities. FGD participants identified additional transportation to recreation, healthcare, and education as a need. Individuals and families with developmental disabilities shared that they needed help learning how to use public transportation. "My son needs to be familiar with who is transporting him to feel safe."

## VETERANS

About 8.1% of Muskingum County residents claim veteran status. Over half of this population is female (52.0% versus 48.0% males). Vietnam veterans are the largest portion of the group, with 33.5% of the veteran population having served between 1955 and 1975; this explains the 75 to 85 age group being the largest veteran segment. Veterans have a 57.9% participation rate in the labor force (74.4% for non-veterans). About 18.8% of veterans have a disability, in comparison with the average disability rate of 15.7% among non-veterans. The US Department of Veterans Affairs reported that veterans have a lower poverty rate in comparison with their non-veteran counterparts. They also report that the poverty rate for veterans aged 18-34 years old is

higher than those between ages 35-54 years old, and the poverty rate for disabled veterans is higher than disabled non-veterans.

**EDUCATION**

Education Attainment Among Population 25 Years and Over		
Educational Level	2015	2020
Less than 9 <sup>th</sup> Grade	3.0%	3.2%
9 <sup>th</sup> to 12 grade, no diploma	8.8%	8.1%
High school graduate (and equivalency)	40.4%	42.3%
Some college, no degree	22.9%	18.5%
Associate's degree	9.4%	10.5%
Bachelor's degree	10.6%	10.8%
Graduate or professional degree	4.9%	6.7%

According to the National Center for Education Statistics (NCES), 10% of Muskingum County residents are classified as lacking Basic Prose Literacy Skills (BPLS), in comparison with Ohio, with 9%. These

Table 6 Data Source: US Census, 2021

residents are unable to read and understand any written information. This figure includes a small proportion of residents who could not complete the assessment due to language barriers.

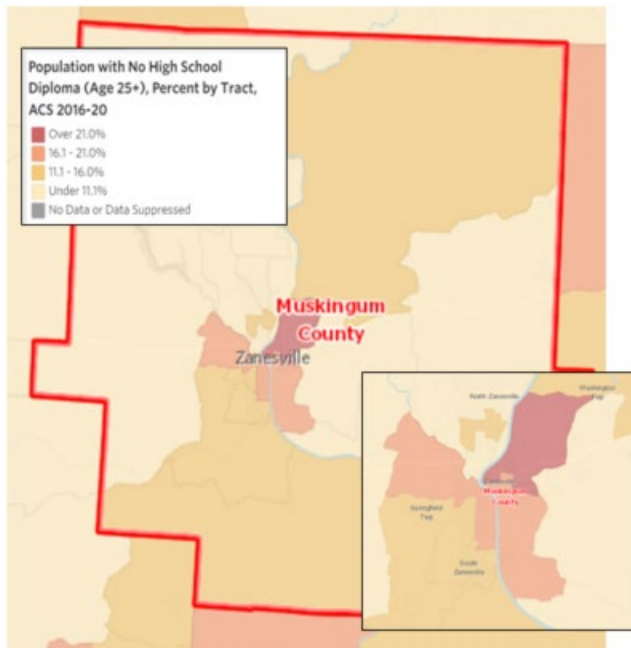


Image 9 Source: US Census ACS

Among Muskingum County residents over the age of 25, 88.7% have a high school diploma or its equivalent. This is slightly less than in Ohio (90.8%), but higher than the national average of 88.5%. Current education attainment rates indicate almost a 2% decrease in high school (or equivalent) graduation among this population since 2010. While there has been a marked decrease in high school completion, attainment of some college, an associate's degree and bachelor's degrees are increasing.

Across the county, there are pockets with low levels of education; adults without a high school diploma (or equivalent), some with levels over 20%. Low levels of education attainment seem to be concentrated within four census tracts, mostly covering the city of Zanesville. Low education sections of the county tend to have less access to community resources and worse health outcomes.

Ohio Kindergarten Readiness Assessment			
School District	Demonstrating	Approaching	Emerging
East Muskingum Local	80.0%	17.2%	2.8%
Franklin Local	45.5%	34.3%	20.1%
Maysville Local	58.3%	30.9%	10.8%
Tri-Valley Local	43.9%	43.0%	13.1%
West Muskingum Local	33.6%	36.8%	29.6%
Zanesville City	26.0%	40.6%	33.3%
Average	47.88%	33.8%	18.3%

Table 7 Data Source: Ohio Department of Education, 2021

kindergarten with sufficient skills, knowledge and abilities to engage with kindergarten-level instruction. While 33.8% need some support (Approaching Readiness), 18.3% of them are classified as, 'Emerging in Readiness', requiring significant support to cope in school. In a focus group discussion with parents, there was a consensus about the need for early intervention when children need support. Some of the challenges with getting needed support include knowing what resources are available and making them accessible.

For many children, it will not be until they are failing academically that they may be identified and offered help or support. This delayed identification leads to students struggling through school. During the 2019-2020 academic year, only 63.9% of 3rd Graders met the state reading proficiency standards and by graduation, only 38.8% of seniors were well prepared for the work world or for pursuing post-secondary education. Parents are aware of these challenges but struggle to support their wards.

Muskingum County Education Report Card Highlights – 2019-2020					
School District	Overall Performance Index (out of 100%)	Graduating Seniors Prepared for Success	3 <sup>rd</sup> Graders Meeting the State Reading Proficiency Standard	Chronic Absenteeism	Spending Per Pupil
Maysville Local	62.5%	36.3%	61.5%	20.6%	\$7,915
Tri-Valley Local	70.0%	45.4%	68.1%	10.2%	\$9,322
West Muskingum Local	64.0%	38.5%	79.6%	19.7%	\$8,047
East Muskingum Local	73.8%	49.5%	65.5%	18.1%	\$8,971
Zanesville City	50.7%	28.2%	41.2%	46.9%	\$8,790
Franklin Local	61.1%	35.0%	67.2%	25.8%	\$10,222
Average	63.7%	38.8%	63.9%	23.6%	\$8,878

Table 8 Data Source: Ohio Department of Education, 2021

resources and support for students with Developmental Disabilities (DD) has improved significantly in Muskingum County. However, support for DD students is primarily geared towards the classroom or academic work. Beyond the classroom, DD students may be alienated from participating in extracurricular activities, if they do not have home or private support. Parents also acknowledged persistent difficulties with learning and accessing available resources.

In recent years, the focus on Science, Technology, Engineering and Mathematics, also known as STEM subjects, has become a priority. This has had several consequences. The

Educational challenges are seen across the county as early as kindergarten, according to the 2019-2020 Ohio Kindergarten Readiness Assessment (KRA). In Muskingum County, only 47.8% of all students are described as 'Demonstrating Readiness.' This means they entered

The challenges they face include conflicting work demands and a poor understanding of student assignments.

Educational

focus on STEM subjects has relegated the arts, physical education, life and vocational skills to the background. All school districts in Muskingum County show little to moderate success in meeting Ohio's physical education standards. In 2019-2020 academic year, none of the school districts participated in the Physical Activity Pilot Program funded by the Ohio Department of Health.

In FGDs and KIIs, education and job preparation was a major theme. They identified that a major challenge with new entrants into the workforce was a lack of preparation; they reported that students entering the workforce were not well equipped for the work environment. They required micromanagement, had poor work ethic, and had unrealistic expectations of the work world.

The focus on STEM led to a narrow focus on high-achieving students going on to 4-year colleges. Students who are not on this trajectory may not feel successful in their academic careers. While technical and vocational programs have been around, they have long been treated as second-rate; alternatives for students who are not good enough to pursue mainstream schooling. Over time, non-traditional schools have gained popularity. Programs offered now extend beyond skill-based learning for terminal employment like cosmetology and carpentry. Newer programs offer skills that may be built upon, like automation, digital media and robotics. Despite the emergence of these technical programs at the secondary level that provide students with workforce skills and industry-specific credentials, most students encouraged to attend them, use these skills as a stepping stone into tertiary programs and not necessarily the workforce. Students in these programs are earning certificates and associate degrees to prepare them for college.

Overall, residents felt that while students may receive a good education, it might not prepare them for the workforce. In FGDs with community members, education and job preparation was a major theme. Preparing the youth for life requires an education that equips them to be productive, socially and civically engaged, financially responsible as well as resilient. This resounded among adults working with youth and parents, key informants and focus group discussions.

## EMPLOYMENT

As of 2021, 59.4% of Muskingum County residents aged of 16 years and older participate in the labor force. Employed residents make up 56.2% of this population. The unemployment rate of 7.8% is slightly lower than that of the state (8.1%), but higher than the national rate (4%), as reported by County Health Rankings.

For 15.6% of county residents, annual incomes fall below the federal poverty level. Another indicator of employment quality is participation in health insurance through an

employer. Among the 95% of county residents with insurance, around 60% are covered by employers. Many (40%) still depend on public funding for insurance.

## INCOME

The median household income in Muskingum County for 2020 was \$48,350, with a per capita income of \$26,736. Ohio and the United States both have significantly higher rates, at \$58,116 and \$64,994 respectively. Taking into consideration the average household income of \$61,555, a greater proportion, 41%, of county households make less than \$50,000. This may also indicate income disparities. Wealth distribution, which is measured by the gini index, determines how proportionately income/wealth is shared across a population. Measured on a spectrum of 0 to 1, 0 indicates equal distribution and 1, perfect inequality. Muskingum stands at 0.42, measuring slightly better than Ohio, at 0.47.

## POVERTY

As an Appalachian, rural county, poverty is pervasive, with 15.6% of county residents living below the federal poverty level. A closer look shows poverty unevenly distributed by age, children suffering disproportionately. Over 22.8% of Muskingum County children live in poverty. This compares unfavorably to adults (15.3%) and seniors 65 and older (7.4%).

Poverty in aging populations may require special attention. While this population may indicate low levels of poverty (8.3%), conversations across several focus group discussions suggest otherwise. Fixed incomes, coupled with increasing healthcare costs and daily cost of living, created challenges for this population group. Participants in the senior focus group discussion agreed unanimously that for seniors, many of their lives now revolve around economics, making it through each day within their shrinking means. They mentioned places like the Senior Center, Christ Table, Eastside Community Ministries and some of the available and affordable places to go. They benefit from the connections made and learning how to use their resources. However, many financial constraints for the elderly lie in transportation. For many, even getting to free activities or events is a challenge. This particular section of the population also has limited knowledge to accessing public assistance. There is a special need to normalize (public)

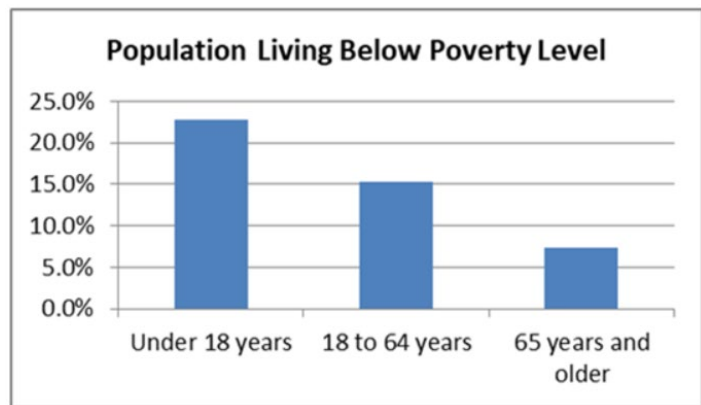


Table 9 Data Source: US Census, 2021

assistance among the senior population, a group that contributed a lifetime to these resources.

Poverty, while quantifiable, is a relative concept in terms of an incomes ability to meet household needs. Estimates from the ODJFS Public Assistance Monthly Statistics Report report 15,621 active members receiving SNAP in Muskingum County in December 2021. The USDA reports that 82% of all eligible people receive SNAP in Ohio and 43% of people who are eligible for SNAP and are age 60 or older.

## HOUSEHOLDS

The average household size in Muskingum County in 2020 was 2.49 people, with families accounting for 64% of households, and 36% non-family households. Married-couple households are the majority, making up 45.1% of all household types. The proportion of married-couple households has declined significantly from 70.3% in 2000. The current 45.1% is comparable to the state and national rates of 45.5% and

Muskingum County Households					
Type of Households (HH)	Total	Married-couple Family	Male Householder, no wife present	Female householder, no husband present	Nonfamily
Total Households	33,797	15,239	1,853	4,496	12,209
Average Household Size	2.49	3.14	3.60	3.30	1.20
Families	21,588	15,239	1,853	4,496	(x)
Average family size	3.07	3.12	2.83	3.01	(x)
<b>Selected Types</b>					
HH with one or more under 18 years	28.6%	28.6%	68.0%	63.1%	1.2%
HH with one or more 60 years and over	42.7%	42.7%	20.6%	28.3%	51.3%
Householder living alone	30.9%	-	-	-	85.4%
65 years or older	13.4%	-	-	-	37.0%

Table 10 Data Source: US Census, 2021

48.1% respectively.

A closer look at family household structures shows that 29.4% of all family households are single-parent homes; 20.8% mothers and 8.6%

fathers. Most non-family households are individuals who live alone (30.9%), 13.4% of which are 65 years or older. Unmarried partners make up 2.3% of county households, 6% of which are same-sex couples. Across the county, 28.6% of all households have at least one child (under 18), while 42.7% of them have at least one adult 60 years or older.

# COMMUNITY HEALTH STATUS

## MEASURING HEALTH IN OHIO

### COUNTY HEALTH RANKINGS

Attributing the overall health status of a county to a number value is as daunting a challenge as it seems. There are hundreds of health indicators, with varying degrees of importance, which together describe the health status of a population. This has become a mission of the Robert Wood Johnson Foundation (RWJF), in collaboration with the

County Health Rankings (2016/2022)			
Ranking out of 88 Counties		Change	Indicators
2016	2022		
71	67	+	Health Outcomes
56	70	-	Length of Life
83	66	+	Quality of Life
68	58	+	Health Factors
83	63	+	Health Behaviors
45	40	+	Clinical Care
67	54	+	Social and Economic Factors
76	83	-	Physical Environment

University of Wisconsin's Population Health Institute (UWPHI). The County Health Rankings (CHR) measures overall health by looking at a variety of indicators

Table 11 Data Source: County Health Rankings, 2022

grouped into health factors and

health outcomes. Health factors address health behaviors (smoking, excessive drinking etc.), clinical care (insurance coverage, preventable hospital stays etc.), socioeconomic factors (high school graduation, children in poverty etc.) and environmental factors (air pollution, long commutes etc.) that affect health. On the other hand, health outcomes look at the product of health factors, length and quality of life. These two are measured in premature death and poor health days. Health scores are weighted composites, calculated based on the importance of each measure. Ranking is done for all counties in each

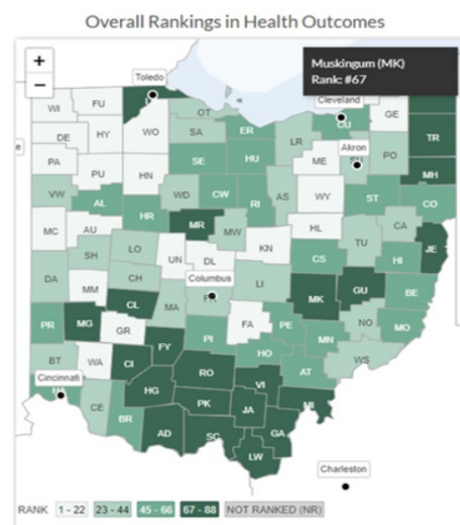


Image 10 Source: County Health Rankings

state, with the lowest score, a 1, being the best-ranked county in the state.

In 2022, Muskingum County was ranked an overall 67th out of 88 counties in Ohio, gaining four spots since reported in the last health assessment in 2016. This ranking is made up of scores for health outcomes (67/88) and health factors (58/88). It is important to note that the change in scores may not necessarily indicate county conditions or outcomes getting better or worse since another county doing better or worse each year may upset a county's rankings. This ranking however, is a comparison across the state: a tool to determine how well a county compares to others of similar demographics. The rankings provide each county the opportunity to identify avenues for assistance, collaboration and improvement.

## QUALITY OF LIFE

Ultimately, the goal of a community is to achieve a great Quality of Life (QoL). This is a broad concept that acknowledges negative and positive features of living. It aligns with the World Health Organization's definition of health: a state of complete physical, mental, and social wellbeing, and not merely the absence of disease or infirmity. QoL had also been a primary focus of Healthy People 2020, by identifying ways of creating social and physical environments that promote good health for all. CHR notes that knowing the physical and mental health of a community can aide in identifying inequities, tracking trends, and identifying risk factors. CHR's QoL rankings are composed of data from birth outcomes, and self-reported overall health, physical health, and mental health. Measuring QoL is challenging due to its subjective nature.

In the 2019 Ohio Behavioral Risk Factor Surveillance Survey (BRFSS), 21% of Muskingum County residents self- reported having fair to poor health. Additionally, residents reported having an average of 5.7 mentally unhealthy days within the past 30 days. This supports the concept of health or wellness being constructed by more than normal/healthy biometric measures. A primary goal of the assessment is to understand the community's perception of health; this will inform the improvement plan, identifying priorities and strategies that garner community support.

When asked to describe a healthy community during several focus group discussions and key informant interviews, residents honed in on community resources, recreation, access to healthcare, and the socioeconomic environment. Concerning physical health, residents focused more on the accessibility and quality of healthy, fresh foods, and recreation centers and activities affordable and accessible to all. Overall, respondents felt that safety within neighborhood and the community, mentors for youth, and positive relationships with community resources are what make a healthy community.



## VITAL STATISTICS

### BIRTHS

In 2021, Muskingum County recorded 980 births, representing a birth rate of 11.4 per 1000 population. While this indicates a decrease from 2020, the county's birthrate is an average of 11.5 over the past 4 years. The health status of a child at birth may be a good predictor of the child's health over his or her lifetime. As such, several indicators are utilized to assess a community's health status.

Among the 2021 births, 5.8% of them were born to mothers under the age of 20 years, while another 9.9% of them were to mothers 35 years or older, both populations having higher perinatal risk factors due to age.

Muskingum County Births		
Year	Number of Births	Birth Rate (per 1,000)
2018	1027	11.9
2019	957	11.1
2020	1015	11.8
<b>2021</b>	<b>980</b>	<b>11.4</b>

Table 12 Source: ODH Data Warehouse

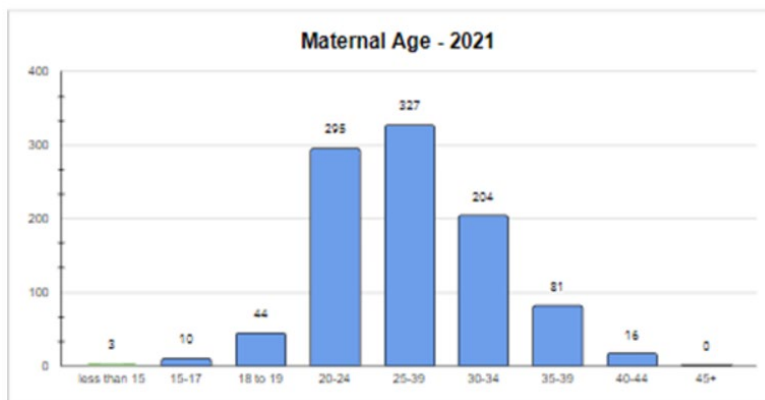


Table 13 Source: ODH Data Warehouse

Gestational age, which measures prematurity, birth before 37 weeks, shows a strong correlation to low birth weight (LBW). Term births (>37 weeks) made up 90% of all the babies born, 7.9% pre-term (32 to 36 weeks) and 1.5% being very pre-term (<32

weeks). Being born at a low birth weight indicates a higher risk for developing adverse health outcomes through childhood and beyond.

Behavioral factors that contribute to low birth weight include alcohol, tobacco and illicit drug use and inadequate prenatal care. In 2021, 91.6% of all pregnant women received prenatal care, 78.7% in the first trimester.

## LIFE EXPECTANCY

The life expectancy of Muskingum County residents is 75.1 years which is 1.8 years less than Ohio. Both male and female life expectancies have increased in the past year. Premature deaths,

Muskingum County Life Expectancy		
Muskingum	Ohio	USA
75.1	76.9	78.8

Table 14 Source: ODH Data Warehouse

which occur before the age of 75, accounted for 50.5% of all deaths. A total of 10,200 years were lost prematurely in Muskingum County. Total years lost has increased each year by an average of 500 years over the past 4 years. In 2021, Muskingum County residents lost 2,000 more years prematurely as compared to Ohio (8,700 years.)

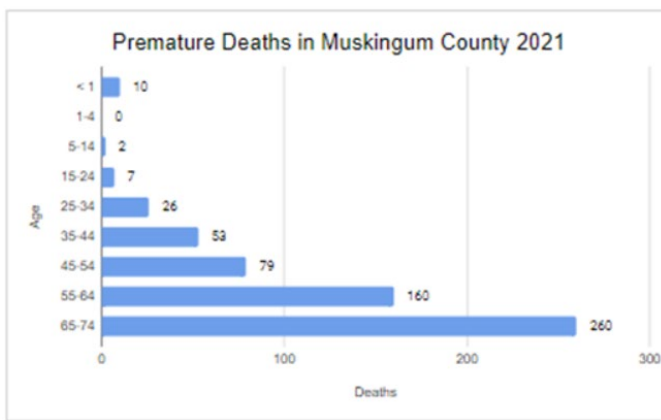


Table 15 Source: ODH Data Warehouse

Years of Potential Life Lost	
2019	8700
2020	9100
2021	9600

Table 16 Data Source: County Health Rankings, 2022

## MORTALITY

**Leading Causes of Death**

The crude mortality rate for Muskingum County was 1,374.1 deaths per 100,000 populations in 2021, representing 1,182 deaths. The two leading causes of death in

Overall Leading Cause of Mortality		MK per 100,000 pop	OH
1	Cardiovascular Disease	152	158
2	Cancer	147	126
3	COVID-19	52	61
4	Accidents (Unintentional Injuries)	38	40
5	Chronic Lower Respiratory Disease	37	31
6	Alzheimer's Disease	34	25
7	Diabetes	22	21
8	Cerebrovascular Disease	21	35
9	Septicemia	15	10

Table 17 Source: National Vital Statistic Report 2019 & County Health Rankings 2022

Muskingum (MK) County are cardiovascular and cancer, accounting for 43% of deaths in 2021. Due to the pandemic, COVID 19 is represented as the 3rd leading causing of death (7.5%.) Besides COVID 19, there are a few other noteworthy changes to the list of leading causes of death. Kidney Disease and Parkinson’s Disease fell below the top 10 causes of death. Diabetes moved from 9th in 2015 (2.5%) to 7th (4.9%) which is

twice the state’s rate.

Defined as all deaths occurring before the age of 75, premature deaths are considered preventable. Cancer, cardiovascular and accidents were the leading causes of premature death in Muskingum County. The top 10 has remained consistent over the years, while their positions shift up and down. Accidents rose to third while cerebrovascular disease dropped to tenth position. COVID 19 and septicemia are new to the list.

**Actual Cause of Death**

Leading causes of death are generally manifestations of underlying actual causes of death; unhealthy behaviors and practices. Premature and preventable deaths in Muskingum County are heavily attributed to such behavioral and modifiable factors like tobacco use, physical inactivity, poor diet, alcohol, illicit drug use and suicide.

Leading Cause of Death	Underlying Risk Factors (or Actual Cause of Death)	
Cardiovascular Disease	Tobacco use Elevated blood cholesterol High blood pressure	Obesity Diabetes Sedentary Lifestyle
Cancer	Tobacco use Improper diet	Alcohol Environmental/Occupational exposures
COVID-19	Obesity Diabetes Safety belt compliance Alcohol/Substance abuse	Environmental/Occupational exposures Fatigue/Stress Environmental/Occupational exposures

Table 18 Source: ODH Warehouse

The most effective preventive services are not screenings but counseling interventions to change unhealthy behaviors. Community-level initiatives like tobacco-free campuses, pedestrian-friendly cities and increasing access to nutritious food sources also play a critical role in changing health-related behaviors.

**INFANT AND CHILD MORTALITY**

Infant mortality is an important gauge of the health of a community because infants are uniquely vulnerable to the many factors that impact health, including socioeconomic disparities. In 2021, 10 deaths occurred before the age of 1 year in Muskingum County. This brought the county’s infant mortality rate to 10.7 per 1000 live births, exceeding the state rate of 6.8 in 2021. Though the infant mortality rate in Ohio declined from 7.8 in 2006 to 6.9 in 2019, Ohio and Muskingum County’s rate remains higher than the national average. Black (African American & Multi-racial) infants are overrepresented in death (50%) compared with their representation in Muskingum County births (11%.) Of the 10 infant deaths in 2021, five were Caucasian and five were Black. In the past three years, extreme premature deaths (birth before 28 weeks) make up 48% of all infant deaths in Muskingum County. Prematurity and infant mortality are the leading health indicators in maternal, infant and child health. In 2021 there were zero child (1-4 years) deaths to report.

## MORBIDITY – CHRONIC DISEASE

### CARDIOVASCULAR DISEASE

Cardiovascular disease (CVD) is a broad term for a range of diseases affecting the heart and blood vessels. Known as the "silent killer" because many people do not realize they have it, hypertension increases the risk for heart disease and stroke. A heart attack or stroke may be the first warning of an underlying condition. CVD is the leading cause of death in Muskingum County, at a rate of 152 per 100,000 population in 2019. This is in comparison with Ohio’s rate of 158 per 100,000. Heart disease is not only the most widespread but the most costly of healthcare expenditures. Co-morbidities like diabetes, hypertension, obesity and renal disease also pose a significant challenge with managing cardiovascular disease. Although heart disease is caused by genetic, environment and clinical risk factors or unhealthy behaviors, it is among the most preventable of the leading causes of death.

The Leading Modifiable Risk Factors for Heart Disease	
High blood pressure	Physical inactivity
High cholesterol	Overweight and obesity
Tobacco use	Diet and nutrition
Diabetes	

Cardiovascular or heart disease comprises several conditions that affect the heart. According to the 2021 Adult Opinion Survey (AOS) respondents, 8% of adults had survived a heart attack. Nearly half (46%) of survey respondents had high blood cholesterol, 46% were obese, 34% had high blood pressure, and 19% were current smokers, which are four known risk factors for heart disease and stroke. The 2020 BRFSS report indicated that 7.6% of Ohio’s population

Table 19 Source: American Heart Association

report having had been told by a physician that they had suffered a heart attack or have heart disease. According to Ohio Department of Health, Bureau of Vital Statistics, from 2014-2017 the years of age-adjusted, potential life lost before age 75 per 1,000 population is 11.01.

### **Cerebrovascular Disease (Stroke) and Adult Hypertension**

Cerebrovascular disease limits blood and oxygen supply to the brain, resulting in stroke. The AOS report shows that 3% of respondents reported they had survived a stroke, increasing to 7% of males and 8% of those over the age of 65; this is in comparison with BRFSS's 3.5% across the state reporting that they had suffered a stroke. Of AOS respondents, nearly 90% had their blood pressure checked within the last year. More than one-third (34%) of adults had been diagnosed with high blood pressure. Out of adults diagnosed with high blood pressure, over half (58%) were 65 years old or older and 43% were male. Data from the 2019 Ohio's State Health Assessment (SHA) reports the estimated crude prevalence of adults ever diagnosed with hypertension as 34.7%.

### **Diabetes**

Diabetes occurs when the body cannot produce or respond appropriately to insulin, a hormone needed to absorb sugar into cells. Diabetes reduces life expectancy by up to 15 years, increases the risk of heart disease by 2 to 4 times, and is the leading cause of kidney failure, lower limb amputation and adult-onset blindness. Diabetes has maintained its position as one of the top ten leading causes of death in Muskingum County; it ranks 7th with a mortality rate of 22 per 100,000 population. In 2021, 13% of Muskingum County AOS survey respondents were diagnosed with diabetes at some time in their lifetime, increasing to 25% of those older than the age of 65. Four percent (4%) of Muskingum County adults are diagnosed with pre-diabetes or borderline diabetes at some time in their lifetime. Ohio's diabetes rates are lower, at 10. Seventeen percent (17%) of AOS respondents with diabetes rated their health as fair or poor. Muskingum County adults diagnosed with diabetes also had one or more of the following characteristics or conditions: overweight or obese (83%), high blood cholesterol (74%), high blood pressure (44%). Evidence suggests that up to two-thirds of all people with diabetes are not aware of the condition. This may imply a higher burden of disease than the data shows. Traditionally, diabetes was considered as an adult onset disease; however, this is increasingly changing. In 1994, children made up 5% of all newly diagnosed cases of diabetes; today, this figure is at least 20%.

### **Obesity**

Obesity is often due to poor diet and limited physical activity, which are influenced significantly by people's environment and social circumstances. Obesity increases the risk for coronary heart disease, hypertension, high cholesterol, diabetes, cancer, stroke, and other health conditions. According to the 2022 County Health Rankings,

Muskingum County had an adult obesity rate of 39%, up from 33% in 2016. This was higher than Ohio’s obesity rate (35%) in comparison. Obesity rates are markedly high in all age groups and are seen as early as the pre-school years. According to the Health Resources and Services Administration (HRSA) Maternal and Child Health of the U.S. Department of Health and Human Services, in 2018 Ohio’s Pediatric Nutrition Surveillance System (PeDNSS) reported that children ages 2-5 years, 15.4% are overweight and 12.1% are obese. HRSA Maternal and Child Health’s Child Health FY2020 Annual Report predicts that more than half of current children in the U.S. are going to be obese by 35. The Early Childhood Obesity Prevention Program (ECOPP) focuses on the behaviors of healthy eating, physical activity, and screen time to prevent obesity. Delayed action regarding obesity prevention leads to steeply rising costs and morbidity, while early intervention can lead to decreased health risks later.

**Cancer**

Cancer, which is the second leading cause of disease and the leading cause of premature death in Muskingum County, occurred at an incidence rate of 496.4 per 100,000 population in 2017, according to the Ohio Annual Cancer Report 2020. The same report indicates that males had a 14% higher cancer incidence rate than females in Ohio. In 2021, 15% of Muskingum County survey respondents had been diagnosed with cancer at some time in their life, increasing to 31% of those over age 65. The Ohio Department of Health (ODH) indicates that, from 2017-to-2019, cancers caused 20% (613) of all (3,105) Muskingum County resident deaths. Of those diagnosed with cancer, survey respondents reported the following types: other skin cancer (37%), prostate (30%), breast (25%), melanoma (16%), cervical (13%), leukemia (5%), colon (5%), and renal (5%). Five percent (5%) of adults were diagnosed with multiple types of cancer.

Leading 5 Cancers in Muskingum County- Mortality			
Cancer	MK	OH	US
	Rate per 100,000		
All Types of Cancer	187.4	172.3	155.5
Lung & Bronchus	56.7	46.7	38.5
Prostate	19	19.3	19
Breast (Female)	17.1	21.9	20.1
Colon & Rectum	14.1	15.1	13.7
Pancreas	11.8	12	11

Table 20 Source: Ohio Cancer Incidence Surveillance System & Bureau of Vital Statistics, Ohio Department of Health 2021

Based on the most recent data comparable to state and national rates, (2014-2018), the three most common types of cancer that occur in the county are lung/bronchus, prostate, and breast. Of the five leading types of cancer (incidence rates), colon and rectum cancers, occur slightly lower rates in Muskingum County than Ohio rates.

However, the incidence of breast, prostate, lung and bronchus, and uterus cancers remain significantly higher than Ohio rates. In addition, all five most common types of cancer in Muskingum County occur higher than national rates. According to the Ohio Department of Health Muskingum County Cancer Profile, the leading types of cancer mortality in Muskingum County (2014-2018) were lung and bronchus, prostate, female breast, pancreas, and colon and rectum accounted for 54% of all cancer deaths. Ohio

Department of Health reports that both incidence and mortality rates among males were higher than the rates among females for Muskingum County. In addition, ODH higher cancer incidence rates in White people than Black people, but higher mortality rates among Black people than White people in Muskingum County.

Cancers are categorized into stages; in situ, local, regional and distant, describing the magnitude/severity of a particular cancer. A major factor of the high cancer-related mortality is stage of diagnosis; later stage diagnosis is associated with higher mortality. In Muskingum County, there were higher proportions of late stage lung and bronchus (69%), cervical (64%), female breast (28%), and prostate (27%) when compared to Ohio (68%, 51%, 27%, and 21%, respectively), according to the ODH Muskingum County Cancer Profile.

Leading 5 Cancers in Muskingum County- Incidence			
Cancer	MK	OH	US
	Rate per 100,000		
All Types of Cancer	505.8	467.5	450.5
Breast (Female)	130.8	129.6	129.1
Prostate	113.3	107.2	111.3
Lung & Brochus	82.3	67.3	53.1
Uterus	42.5	31.1	28.1
Colon & Rectum	39.1	41.3	37.8

Table 21 Source: Ohio Cancer Incidence Surveillance System & Bureau of Vital Statistics, Ohio Department of Health 2021

In the case of cancer, how early or late a diagnosis is made, greatly affects treatment options and prognosis. This makes screenings extremely critical for the leading incidence cancers. Regular

screening for cancers of the breast, colon and rectum, cervix, prostate, testis, oral cavity and

pharynx, melanoma of the skin and lung/ bronchus at earlier stages, result in better treatment options and outcomes. The five- year relative survival probability for all screenable cancers combined is about 86%. This is even higher for selected sites/types like female breast cancer, which is about 89%, and melanoma of the skin (91%). If all of these cancers were diagnosed at a localized stage through regular cancer screenings, the five-year survival probability increases to about 99% for female breast cancer and 98% for melanoma of the skin.

Screening rates still show significant room for improvement. According to the 2018 BRFSS report published in the ODH Muskingum County Cancer Profile 2021, 69.4% of adults ages 50 through 75 in Muskingum County report having had a sigmoidoscopy or colonoscopy, which should be done every five to ten years. Among women ages 21 through 65 in Muskingum County, 81.2% report having had a Pap test in the last three years. The report also indicated that about 85.4% of women ages 50 through 74 Muskingum County reported having had a mammogram in the last two years.

As controversial as this is for medical professionals, the breast cancer-screening rate is another statistic that may be unreliable. Recommendations from the American College of Obstetricians and Gynecologists (ACOG) and the U.S. Preventive Services Task Force Services (USPSTF) hold two different theories on mammogram initiation and spacing,

one recommending them as early as 40 years (ACOG) and the other suggesting it can wait until 50 years. The lack of a converged directive may challenge adherence to recommendations.

**Unintentional Injuries**

Unintentional injuries, or accidents, accounted for 69 out of 1,158 deaths in Muskingum County in 2020, according to the ODH Data Warehouse. The three leading causes of unintentional injuries were accidental poisonings and exposure to noxious substances (3.54%), motor vehicle accidents (1.21%), and falls (1.21%), respectively.

**MORBIDITY - INFECTIOUS DISEASE**

**LEADING CAUSE OF INFECTIOUS DISEASE**

The surveillance and reporting of infectious diseases by ZMCHD plays a significant role in detecting, controlling and preventing the spread of communicable diseases. This falls under two of the ten Essential Public Health Services (EPHS) that Local Health Departments (LHDs) provide. To accomplish this, the agency reports the incidence of a

2019 Infectious Disease County/State Comparison - Incidence		
Infectious Disease	Incidence Rate (per 100,000 pop)	
	MK	OH
1 Chlamydia	423.4	504.8
2 Influenza-associated Hospitalization	163.5	93.1
3 Gonorrhea	150.8	262.6
4 Hepatitis A	48.7	13.9
5 Campylobacteriosis	26.7	20.9
6 Cryptosporidiosis	22	5.9
7 Streptococcus pneumoniae	19.7	10.9
8 Salmonellosis	17.4	13.7

Table 22 Source: 2019 Disease Reporting System, ODH

selection of communicable diseases to the Ohio Department of Health (ODH).

In 2021, Muskingum County had 14,037 cases of reportable infectious diseases spanning 39 conditions. This represents a rate of 16,246 per 100,000 population. The leading causes of disease were

COVID-19, Chlamydia and Gonorrhea, representing 94%, 2.4% and 1% of the county’s disease burden. Collectively accounting for 97.4% of the infectious disease burden, these three conditions have maintained their positions over the past five years.

COVID-19 was the leading cause of morbidity, considering the fact that Muskingum and Ohio were still facing third and fourth waves of the pandemic. It is also important to note that the incidence of COVID-19 may be heavily underreported as about 70% of cases were asymptomatic, testing supplies were not always available and there may have been a significant amount of unreported cases. Chlamydia and Gonorrhea occurred at a rate lower than the state, as well as when compared with their respective five-year



averages. However, data for 2020 and 2021 may not be typical due to the COVID-19 lockdowns and social isolation practices. There was less geographic mobility, social interaction and access to healthcare and laboratory testing. While COVID-19 is a respiratory infection, Chlamydia and Gonorrhea are both categorized as sexually transmitted infections (STIs).

## HEALTH BEHAVIORS

### PHYSICAL AND MENTAL HEALTH STATUS

The 2021 Adult Opinion Survey had 46% of Muskingum County adults rated their health as excellent or very good, and 12% rating it fair or poor. Muskingum County adults with higher annual incomes (45%) were most likely to rate their health as excellent or very good, compared to 34% of those with annual incomes less than \$25,000. Similarly, 21% of adults reported that poor mental or physical health kept them from doing usual activities such as self-care, work, or recreation.

Over one-quarter (26%) of Muskingum County adults rated their physical health as not good on four or more days in the previous month. On average, they reported poor physical health on 4.6 days in the previous month. Poor mental health days were reported at a higher rate, more than two-fifths (41%) of Muskingum County adults rated their mental health as not good on four or more days in the previous month. Females and residents with annual income under \$25,000 were more likely to rate their mental health as not good (on four or more days during the past month).

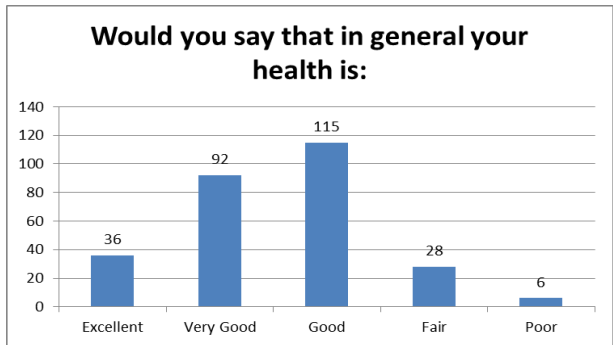


Table 23 Source: 2021 Adult Opinion Survey

### WEIGHT STATUS

Obesity is often due to poor diet and limited physical activity, which are influenced significantly by people’s environment and social circumstances. Obesity increases the risk for coronary heart disease, hypertension, high cholesterol, diabetes, cancer, stroke, and other health conditions. According to the 2022 County Health Rankings, Muskingum County had an adult obesity rate of 39%. This was higher in comparison with Ohio (35%). Obesity rates are markedly high in all age groups and are seen as early as the pre-school years. By Body Mass Index (BMI), 82% of all survey respondents were overweight (36%) or obese (46%). About 15% of the respondents did not

participate in any physical activity in the past week. This included 1% of them who reported that they were unable to exercise. Some respondents indicated that they were working on reducing their weight, using several strategies to accomplish it. The most common were eating less/low fat foods (51%), exercising (49%), drinking more water (47%) and health coaching (6%). An additional 4% took diet supplements, 2% vomited after eating and another 2% took laxatives.

## PHYSICAL ACTIVITY

According to the 2022 County Health Rankings, 31% of Muskingum County residents were physically inactive. Physical inactivity within this context is defined as not getting the American Heart Association's (AHA) recommended 30 to 60 minutes of aerobic exercise, three to four days a week. Ohio overall had 26% physical inactivity. Access to exercise opportunity does not reflect physical activity. Sixty-two percent of survey respondents indicated that they engaged in some type of physical activity or exercise for at least 30 minutes three or more days per week. More than one-third (34%) exercised five or more days per week. Fifteen percent (15%) of adults did not participate in any physical activity in the past week, including 1% that was unable to exercise. Those who exercised mostly did walking (26%), manual labor/chores (6%), running/jogging (5%), exercise machines (4%), exercise videos (4%), strength training (2%), occupational exercise (2%), cycling (1%), and other (3%). Thirty-seven percent (37%) of adults engaged in multiple types of exercise. For those unable to exercise, the weather (25%), time (25%), self-motivation (24%) and pain/discomfort (24%) were the biggest reasons for not doing it. Poorly maintained sidewalks, safety in the neighborhood, no available walking/biking trails and no parks or gyms were several reasons that could be addressed within the built environment.

## NUTRITION

Nutrition is the process of obtaining the food necessary for health and growth. A healthy diet is a critical pathway in influencing chronic conditions like cancer, cerebrovascular and cardiovascular diseases. Poor dietary outcomes result in under-nutrition (micronutrient deficiency; anemia etc.) and over-nutrition (overconsumption of macronutrients; obesity etc.). While hunger may be a primary driver of nutrition, a multitude of factors, social and economic, play a major role on an individual's diet. The food environment is complex and difficult to navigate, however the goal is to achieve food security. Food security, as defined by the United Nations' Committee on World Food Security, is the condition in which all people, at all times, have physical, social and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

According to the County Health Rankings (CHR), Muskingum County scored a 6.9 on the Food Index. The Food Index is a measure of the quality of the food environment in a county on a scale from zero to 10 (zero being the worst value in the nation, and 10 being the best). The two variables used to determine the measure are limited access to healthy foods and food insecurity. According to the AOS, 45% of all respondents lived within 1 mile of a grocery store or other location at which they could source fresh, healthy food. On the other end, the CHR reports that 11% of Muskingum County residents live 10 or more miles from a grocery store/fresh food access.

Fruit and vegetable consumption among the surveyed respondents was low, when compared with the USDA’s recommendations. In the 2021 survey, 33% of respondents ate 1-to-2 servings of fruits and/or vegetables per day; 44% ate 3-to-4 servings per day, and 21% ate 5 or more servings per day, while 2% ate no servings of fruits and vegetables per day. On the other hand, a larger portion of respondents reported consuming at least 1 sugar-sweetened or caffeinated beverage at least once a day. When asked about their food choices, taste/enjoyment (72%), cost (54%), healthiness of food (54%) and ease of preparation (53%) were identified as their main reasons for eating what they do.

**TOBACCO USE**

In Muskingum County, tobacco use has always been higher than the state (15%) and national (22%) rates. At 26%, according to the Community Health Rankings, the Muskingum County tobacco use rate may not include all forms of tobacco use, which includes e-cigarettes, hookahs and vaping. In the 2021 AOS, while 19% of adults self-reported as current smokers, 26% were considered former smokers. Respondents who smoke mentioned e-cigarettes/vapes, chewing tobacco/snuff, hookah, pipes and cigars/cigarillos, as some of the different products that they use.

It is important to note that while 7% of survey respondents admitted to using e-cigarettes and vapes, this practice is fastest growing in the teen/youth age group (who did not complete the survey). The Youth Behavior Risk Survey indicates that 21.5% of Ohio high school students had tried a cigarette, in comparison with 48% of them that had used an electronic vapor product. Among those who used tobacco, more were likely to be single, have a household income less than \$25,000, and have asthma (25%).

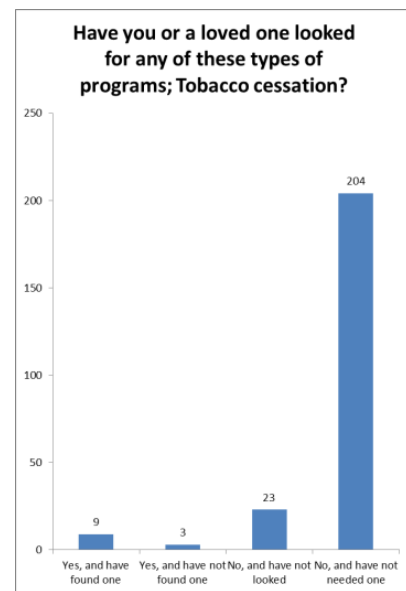


Table 24 Source: 2021 Adult Opinion Survey

While a variety of tobacco cessation resources are available to Muskingum County residents, it does not seem to be utilized much. Between national hotlines, Employee Assistance Programs, Rambo Memorial Services and other local services, there are a variety of methods of treatment available. The AOS survey showed that few reported needing and utilizing these services.

Despite the practice, many smokers had rules/practices surrounding smoking in the home; 65% did not allow smoking in their homes, 6% did not allow smoking around children. Another 71% did not allow smoking in their cars or when children were in it (13%). When asked about smoking bans, many said they would support smoking bans in vehicles with minors (62%), on college/university campuses (54%), on parks/ball fields (54%) and in multi-unit (49%) and rental (47%) homes. In the AOS, 66% of respondents indicated they believed e-cigarette vapor was harmful to themselves, 54% believed it was harmful to others, 3% did not believe e-cigarette vapor was harmful to anyone, and 24% did not know if e-cigarette vapor was harmful.

**ALCOHOL USE**

Substance abuse, be it alcohol, tobacco or illegal drugs, emerged as the largest health issue facing Muskingum County, a major factor of accidents, malfeasance, chronic disease and safety, leaving the county facing the growing challenge of addressing substance abuse. According to the 2019 BRFSS results, about 17 % of Muskingum County adults admitted to engaging in binge drinking in the last 30 days. Binge drinking is defined as the consumption of four or five servings of alcohol in about two hours by women and men respectively.

**DRUG ABUSE**

According to the Ohio Department of Health, Bureau of Vital Statistics, Muskingum County’s 2020 age adjusted overdose death rate (per 100,000 population) was 46.4. This was similar to Ohio’s rate of 47.2. This reflects an average of 31.2 overdose fatalities over the last 5 yrs. Recreational use of prescription and illicit drugs is a major concern among many Muskingum County residents voicing the implications in several focus group discussions. They mentioned that the increase in drug/substance abuse led to safety concerns for seniors and youth. A small number of survey respondents (2%) admitted to using recreational marijuana during the past 6 months. Six percent (6%) of adults had used medication not prescribed for them or took more than prescribed to feel good or high and/or more active or alert during the past six months. Another 2% reported using marijuana for the same reason. Interestingly, a higher number of respondents reported that they, an

Year	Overdose Fatalities
2017	16
2018	41
2019	27
2020	41
2021	31
ZMCHD Vital Statistics 2022	

Table 25 Source: ZMCHD

immediate family or household member used illicit drugs in the last 6 months. Most frequently mentioned were Cannabidiol (CBD) oil (13%), recreational marijuana or hashish (10%), medical marijuana (9%), meth/amphetamines or speed (6%) and cocaine/crack/coca leaves (4%). Prescription drugs most frequently used by respondents, an immediate family or household member in the last six months include tranquilizers like Valium/Xanax (9%), Codeine/Demerol/Morphine/Percocet/Dilaudid or Fentanyl (9%). When it comes to the disposal of prescription drugs, about 56% of respondents used proper disposal methods, utilizing collection programs (43%) or deactivation pouches (4%); 26% keeping the drugs at home.

In the AOS survey, 21% of all respondents reported having five or more (male) or 4 or more (female) alcoholic drinks in one sitting, at least once in the last 30 days. This was higher in males and older people, in comparison with their female/younger counterparts. An additional 8% of all who reported drinking in the last 30 days, admitted to driving after.

## REPRODUCTIVE AND SEXUAL HEALTH

While Ohio is one of 22 states that mandate sex and HIV education in schools, there is no requirement for medical accuracy or eliminating bias (ODH). Sex education curriculums are independently determined by the board of each school district, based on Ohio's abstinence-only law/policy. However, state data from the 2019 Youth Risk Behavior Survey (YRBS) shows 37.7% of responding 9th through 12th graders admitted ever having sexual intercourse, 8.3% reporting having had sex with four or more persons during their life. Among students who had sexual intercourse in the three months prior to completing the survey, 16.7% drank alcohol before sex, and 55% of them failed to use a condom.

A small proportion (5%) of AOS survey respondents reported having intercourse with one or more partners in the past year. While this was not different across gender, the rate was higher in respondents whose household incomes were less than \$25,000.

The most frequently used forms of birth control were female sterilization (18%), male sterilization (12%), and withdrawal method (10%) and male/female condoms. It is interesting to note that the most common forms of birth control (40%) and 91% of all the other methods did not protect from sexually transmitted infections.

In 2021, there were 505 reported cases of sexually transmitted infections (Chlamydia, Gonorrhea and Syphilis). This reflects a rate of 469 per 100,000. These rates seem consistent with the Pre-COVID 19 years (2015-2019) despite heightened social distancing and infection control protocols.

In Muskingum County, 33.2% of women aged 13 to 44 need publicly funded contraceptive services and supplies. The county has four sites that provide needed care, none of which provide IUDs or implants. For many young adults, public funded reproductive health services are not only affordable; they also provide much needed care and education. However, recently and possibly in the future, these services may be at risk of being defunded as collateral damage from Ohio’s attempt to defund Planned Parenthood and abortion services, (despite only three out of 37 family planning clinics providing abortion services). This would effectively deprive a large proportion of low-income families from healthcare needs.

**MATERNAL AND CHILD HEALTH**

Muskingum County recorded 814 live births in 2021. More than half of all the births were term (39-41 weeks), the remaining 42.6% being born preterm. Maternal age ranged from 14 to 42 with an average of 26.7, more than half (52.3%) were unmarried mothers. The average mother (92.4%) of all mothers had at least a high school diploma. Medicaid (50.2%) and private insurance (46.8%) were the primary payer sources. Over

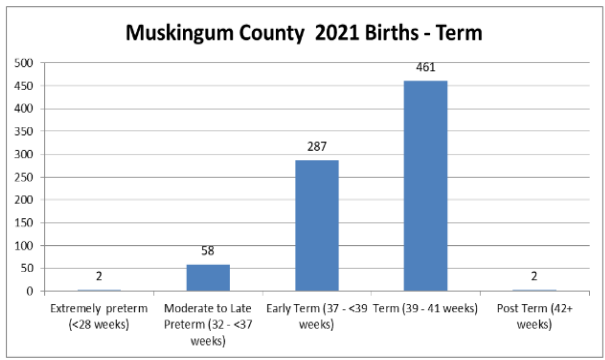


Table 26 Source: ODH Data Warehouse

half (58.6%) of all mothers chose to breastfeed, 42.9% of which reported, exclusively. At the time of birth, 31.0% of mothers were currently receiving Women Infant and Children (WIC) supplementation.

In 2021, 83.5% of pregnant women living in Muskingum County sought prenatal care within the first trimester, while another 14.5% did so in second trimester. Less than 1% received no prenatal care at all. Regular prenatal care identifies potential health problems to be able to improve birth outcomes. Among mothers who

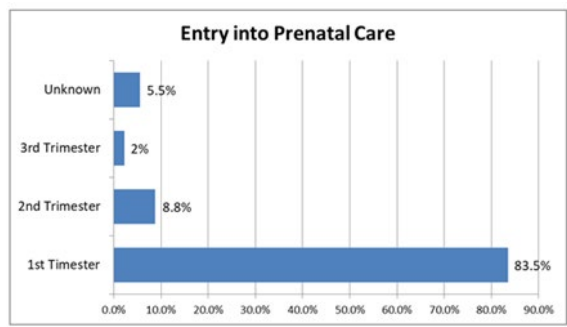
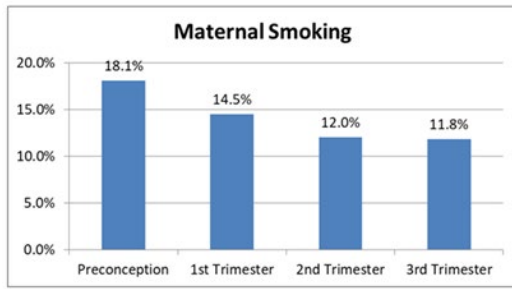


Table 27 Source: ODH Data Warehouse

who sought prenatal care, 62.9% received at least 12 or more prenatal visits before delivery. Current recommendations suggest about 12 to 14 visits during the 9-month period (ACOG).

Maternal smoking has been found to be a major indicator for poor health outcomes. Babies born to mothers who smoke have elevated risk stillbirth, low birth weight, prematurity and childhood

asthma (CDC). In Muskingum County, 25.9% of all women in childbearing years (between 18 to 44) smoke. This is higher than Ohio's rate of 20.8% (CFHS-ODH). In 2021, 18.1% of all births were to mothers who smoked during the 3 months prior to getting pregnant. By the third trimester, 34.7% of all who smoked pre-conceptually no longer smoked.



Alcohol consumption within the 3 months before pregnancy is reported by close to 60% of all Ohio mothers. This figure declines to about 7% of all mothers reporting that they consumed alcohol in the last 3 months of their pregnancies. Alcohol consumption has not declined from 2006-2010. Effects of prenatal alcohol consumption range from low birth weight, growth retardation and Sudden Infant Death Syndrome to Fetal Alcohol Syndrome, a lifelong disability (Not a Single Drop-ODH).

Table 28 Source: ODH Data Warehouse

The use of drugs while pregnant is another indicator of poor birth outcomes. This is an ever-increasing concern in Muskingum County. The March of Dimes (MoD) reports that in 2014, 1 in every 20 pregnant women used street drugs. This is visible in Ohio and

Neonatal Abstinence Syndrome Hospitalizations	
2020	14
2016-2020	85

Muskingum County. Between 2008 and 2013, the discharge rate for Neonatal Abstinence Syndrome (NAS) increased by 84%. NAS is a neonatal withdrawal resulting from a child being born addicted to whatever drug his/her mother used while

Table 29 Source: ODH

pregnant. In Muskingum County, discharge rate increased from 0.4 in 2008 to 13.8 per 1000 live births in 2020.

## MENTAL HEALTH

Muskingum County is considered a Mental Health Shortage Area with a healthcare provider to patient ration of 1: 540 (CHR). The county currently faces a scarcity of well-qualified mental health providers and the aging out of the workforce among current providers. In an interview with a mental health key informant, delays in outreach to patients treated for medical complications and long wait time for referrals for initiating mental health services reduce the efficacy of people committing to rehabilitation. It is important to note that the small proportion of care received by seniors may be understated. This demographic is primarily represented as a Medicare population. According to Medicare reports, 18.3% of all county beneficiaries had a depression diagnosis. This is comparable to Ohio's rate of 18.1% (SAMHSA).

Findings from the 2021 AOS survey indicated that 19% of the respondents felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing

usual activities, increasing to 38% of those with annual incomes less than \$25,000. More than a quarter of them (29%) were also told they had a depressive disorder (including depression, major depression, dysthymia, or minor depression). There was another 1% that seriously considered attempting suicide in the past year. This period was particularly hard for many. January 2020 saw the beginning of the COVID-19 pandemic, which was devastating to many residents in various ways. This pandemic came with an initial lockdown which lasted for weeks. During this time, many residents could not leave their homes, work or see family/friends. This limited the ability to get food, pay mortgages/rent and utilities. While there are signs of some recovery, the full impact of the 2020-2021 COVID-19 pandemic are still to be fully understood.

During this period, survey respondents reported that they themselves or someone else in their households were diagnosed or treated for a mental health issue. Most commonly reported were anxiety/emotional problems (34%), depression (33%) and anxiety disorders/panic attacks/phobias (28%). More than a third of them also report that they or someone in their household took medication for one or more of these mental health issues. In drilling down to the primary causes of the anxiety/stress and depression, survey respondents selected the following as causes of anxiety, stress, or depression: (then) current news/political environment (38%), job stress (34%), financial stress (31%) and the death of close family member or friend (30%).

## HEALTHCARE ACCESS AND UTILIZATION

### HEALTHCARE COVERAGE

In 2021, 94% of Muskingum County adults had health care coverage, leaving 6% uninsured. Employer-covered, Medicare (26%) and Medicaid or medical assistance (13%) were the most common forms of health insurance. Respondents of the Adult opinion survey indicated unfamiliarity with their health insurance coverage, with up to 68% not being sure of at least one benefit that their health insurance provided. While medical (100%), prescription (95%) and outpatient therapy (83%) were identified by many, very few residents were aware of their access to hospice care (68%), skilled nursing (64%) and medical transportation (62%) coverage.

In 2020, 94.3% of all Muskingum County residents had health insurance. Breaking down the coverage by age, the 65 and older population had the highest coverage (99.7%), followed by children (96.3%). Adults between the ages of 18 and 64 had a 92.0% coverage. All three age groups fared better than in Ohio with child, adult and senior rates at 97.5% (child), 94.4.% (adult) and 99.8% (seniors) respectively.

About 55% of all county residents utilize private insurance, mostly through employers, leaving 45% to depend on public health insurance. The three major forms of public



health insurance are Medicaid, Medicare and the Veterans Affairs (VA) benefits. Employer based health insurance is mostly utilized by children, 48.1% of them receiving it. Public insurance on the other hand, is most common amongst the 65 and older population (47.2%).

## HEALTHCARE ACCESS

When needing healthcare services or medical advice, a significant number of Muskingum County residents went to their primary care providers' office (73%), urgent care center (9%) or a hospital emergency room (6%). Only 1% of all residents reported having no usual place for health care services. Out of all the respondents, 90% reported having at least one person that they thought of as their personal doctor or healthcare provider while 77% reported having had a routine check-up in the last 12 months.

Designated a medically underserved community by the Health Resources and Services Administration, Muskingum County has a IMUS score of 65.8. It is not surprising that 30% of responding residents indicated that they sought healthcare services outside the county. Specialty care (14%), primary care (10%) and dermatological care (10%) showed the greatest need. When looking at healthcare related programs and services, disability (69%), weight/obesity (48%) and marital/family problems (40%) were the most unsuccessfully sought after.

## HEALTHCARE UTILIZATION

When accessing health care, a significant number of survey respondents felt confident to do the following: follow instructions correctly on a medicine or prescription container (91%), follow the advice of their health care provider (85%), fill out medical forms accurately (81%), know their health care providers exchange information so they can care for them accurately (67%), know how to obtain health insurance that best fits their needs (51%); 6% did not feel confident to do any of the above.

### **Preventative Medicine**

Nearly two-thirds (64%) and a quarter (28%) of survey respondents had received an influenza and pneumonia vaccine, respectively, in the last year. At least 50% of all respondents were up to date on their MMR (78%), DPT (77%), Varicella (59%) and Hepatitis B (50%) vaccines. HPV (17%), Meningococcal (22%) and Shingles (23%) vaccines were reported to have been received at a lower rate.

### **Women's Health**

Women respondents to the AOS primarily used their gynecologist (48%), general or family physician (30%) for their female healthcare needs, while 12% reported having no usual source of female health services. Across female respondents, 65% reported having had a mammogram (40+), 55%, a clinical breast exam and 45%, a Pap smear, in

the last year. While 56% met the definition for obese, 39% had high blood cholesterol, 29% with high blood pressure and 20% were identified as current smokers; all known risk factors for cardiovascular and cerebrovascular diseases.

### **Prenatal Health**

Almost one quarter (23%) of female respondents reported having been pregnant in the last 5 years. During their pregnancies, 70% received prenatal care within the first three months, 70% took a multi-vitamin with folic acid, and 30% received a dental exam. Additionally, Women, Infants and Children (WIC) services were received by 40% of all respondents, while 55% did none of the above.

### **Men's Health**

Less than half of the male respondents reported having had at least one prostate-specific antigen test (PSA) in their lifetime, with 34% of them reporting having had a PSA test in the last year. While 71% met the definition for obese, 52% had high blood cholesterol, 43% with high blood pressure and 18% were identified as current smokers; all known risk factors for cardiovascular and cerebrovascular diseases.

### **Oral Health**

In the past year, 64% of survey respondents reported visiting a dentist or dental clinic, decreasing to 57% of those with annual incomes less than \$25,000. While 67% of respondents with dental insurance reported having been to the dentist in the past year, only 53% of those without dental insurance had. Cost (35%) and fear/apprehension (24%) are the main reasons why residents may not see their dentist.

# **THE BUILT/PHYSICAL ENVIRONMENT**

## SAFETY AND CRIME

The built or physical environment includes our homes, neighborhoods and the places we go to for daily activities. It also includes factors like safety, transportation and access to basic needs. These factors contribute to enhancing a network that is conducive for a

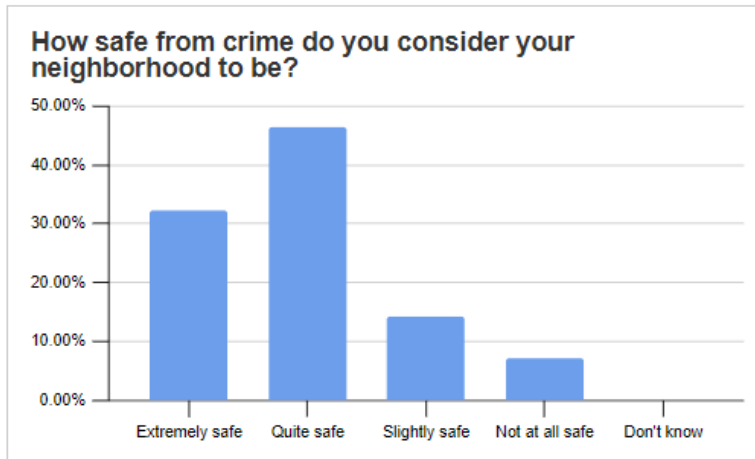


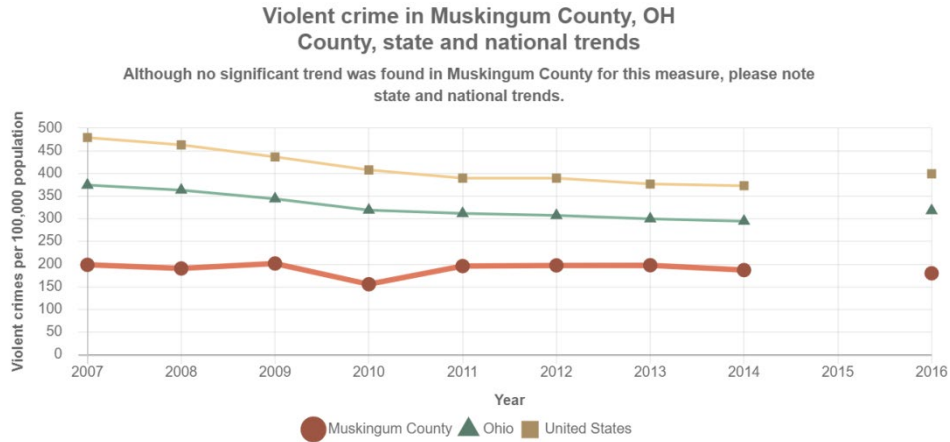
Table 30 Source: 2021 Adult Opinion Survey

healthy community.

Just over one-third (34%) of Muskingum County adults participating in the AOS reported that their neighborhood was extremely safe; 44% reported it to be quite safe, 21% reported it to be slightly/not safe. Of those surveyed with an annual income less than \$25,000, 11% indicated they felt

their neighborhood to be extremely safe from crime, 41% quite safe and 46% indicated their neighborhood to be slightly or not safe from crime. CHR shares the importance of violent crime rates in relation to physical safety and psychological well-being for county residents. Crime rates in a community can impact many aspects of life, from healthy behaviors to chronic stress. CHR determines crime rates by using the Unified Crime Reporting Program and data from the County-Level Detailed Arrest and Offense Data report. According to CHR, Muskingum County had 156 annual average violent crimes. The most recent comparable data shows Muskingum County crime rates significantly to be lower than Ohio and United States crime rates.

However, safety concerns in the community were reflected by multiple FGD and KII, notable individuals experiencing homelessness and youth. Individuals experiencing homelessness struggle to find safe, welcoming places to spend their time. During the day, they feel unwelcome in public outdoor spaces. Signs have been posted for no loitering in public parks and outside public buildings. At night, these individuals struggle to find a place to sleep as tents are no longer permitted within city limits.



Notes:  
2015 data are unavailable for all counties and states.

Table 31 Source: County Health Rankings

Youth FGD participants shared that they do not feel safe in their neighborhoods or sometimes even their homes. Youth also shared that they are extremely aware of crime and drug activity happening throughout the community. Many of the youth saw used needles and drug paraphernalia scattered in their neighborhoods. They shared that they know it is unsafe to walk alone and at night. Additionally, some did not feel safe in the presence of law enforcement because of experiences they have witnessed with family.

A KII supported these findings, and shared that students' feelings of safety often depend on which neighborhood they live in. Those students that have families with higher incomes tend to live in neighborhoods where kids feel safe. "However, some live in neighborhoods where they aren't allowed to be outside, especially at certain times. They see violence and drug activity, and they don't trust their neighbors." Students see and share more of these experiences as they move into middle school and high school. By the time students are in high school, some have been arrested and are in the legal system. These students have shared their experiences with fellow classmates and teachers, and discuss a "they aren't for us" mentality about the legal system.

Law enforcement is aware of the different perceptions that exist toward them. Law enforcement notes that generations have different views, as well. Younger ages often view law enforcement differently, due to a generational gap and living in a world after 9/11. The younger generation grew up in the age of body cameras, social media, and cell phones. *"This technology has shown the different situations when law enforcement has to act as social workers, marriage counselors, etc. Many older generations didn't see this side of law enforcement, because they didn't have the exposure on social media or cell phones. Older generations are most familiar with law enforcement during drug enforcement in the 1970s and 1980s."*

Law enforcement works to keep a good presence in the city of Zanesville, and to be visible to the community. Law enforcement is aware that they can work on increasing positive interactions in the community. ZPD & MCSO build positive relationships with students by providing school resource officers to most school districts in the county. Franklin Local Community School does not currently have a resource officer due to geographic constraints. Many law enforcement members are involved in other community activities that others don't see. A few activities to build relationships with youth include: school resource officers, Project Blueprint, and working through summer lunch programs. Law enforcement noted three successful peaceful protests within the City of Zanesville since 2020. The police presence at these events was to direct traffic, and there were no negative interactions at either event.

## HOUSING

### HOUSING DEMOGRAPHICS

In 2021, Muskingum County had 38,377 housing units, according to the US Census Bureau. Of the occupied housing units, 69.8% were owner-occupied, with 23,575 homeowners, and 32% rented. AOS survey respondents reported that 18% rented their home. The housing stock in Muskingum County is relatively older. Over half of all homes

Monthly Median Housing Costs (2016-2020)			
Location	Rent	Owner Costs- with a mortgage	Owner Costs- without a mortgage
MK	\$702	\$1,112	\$390
OH	\$825	\$1,286	\$480

Table 32 Source: US Census, 2021

(66.7%) were built before 1979, many in need of lead paint remediation. Additionally, 76.9% of all county housing stock was built before the 1991 Americans Disability Act (ADA).

The cost of housing presents challenges for many residents. Almost half of all renters (48.9%) pay more than 30% of their gross household income on rent. For many in need of housing, landlords not accepting Section 8, felony records and eviction histories have been major barriers. Residents also recognize their difficulty navigating the housing and assistance systems. Adequate housing for the county's aged (24.2% 60+) and disabled (15.7%) is a major and growing concern. Renter-occupied units account for 3.4% of the county's housing stock. Housing may feel some pressure as the aging population and people with disabilities become more independent and live longer. This was a concern

among both population groups during focus group discussions. They noted that most existing housing units were not ADA friendly, making independent living a challenge and increasing the risk of accidents (especially falls).

CHR reports that 12%, or 3,932 households, experience a severe housing burden. This means that 50% or more of their household income is spent on housing. However, 21%

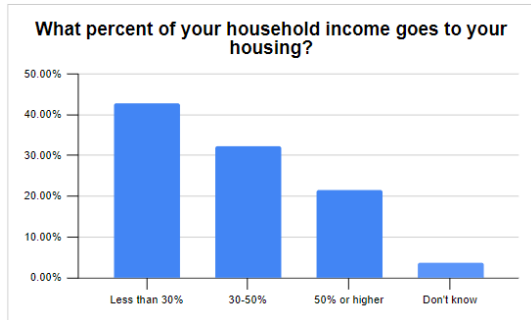


Table 33 Source: 2021 Adult Opinion Survey

of AOS survey respondents responded that they spend 50% or more of their household income on housing, 32% of respondents spent between 30-50% of their household income on housing and 43% spent less than 30% of their household income on housing. In Muskingum County, the median household income in 2020 is \$48,350, as reported by the US Census Bureau.

## HOMELESSNESS

Homelessness as a social determinant of health creates a completely new dimension of health disparities. The homeless population is systematically disconnected from the

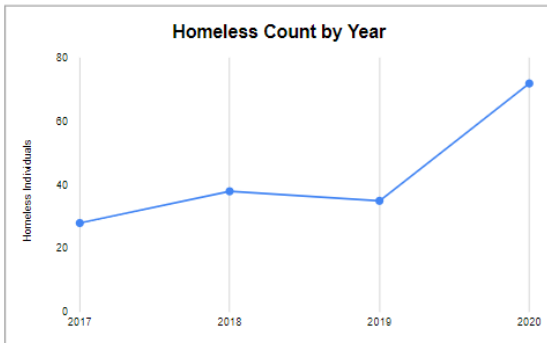


Table 34 Source: ZMCHD

community and becomes more susceptible to worse health outcomes due to poor living conditions, such as food insecurity and limited resources for survival. In 2020, the Point-in-time Counts, conducted every January in Muskingum County for the Housing and Urban Development (HUD), reported 72 homeless individuals living in

Muskingum County, a significant increase from the preceding years (28 in 2017, 38 in

2018 and 35 in 2019). It is important to note that these figures may be a gross underestimation. Additionally, the HUD definition of homelessness excludes some categories of the population. Residents who 'couch surf' or unofficially live with friends and family for extended periods (due to homelessness) cannot be tracked or counted.

In a FGD, teachers reported seeing indicators of homelessness in their classrooms; students reported moving around, having no power/heat and struggling to get food when they are not at school and sudden drops in school grades. "We see students struggling with homelessness, whether it is their families couch surfing or being transient frequently. Other students experience unsafe housing conditions with

difficulty accessing utilities. Water bills in Roseville are so expensive that at home students are not allowed to freely use water to shower or wash their clothes as often as they would like.” They also mentioned having several students whom they know depend on the Summer Lunch Program for food.

In a FGD on homelessness, residents discussed the challenges of living in and emerging out of poverty. Several mentioned the need for addresses and telephones as these are critical to apply for jobs. They identified feeling stigmatized at healthcare facilities, when applying for jobs or seeking accommodation. The lack of an address hindered not only the above listed activities, but also when applying for any welfare or disability benefits. This created a situation where overcoming homelessness seemed too difficult of an undertaking.

They also identified public housing as the most realistic option for housing for themselves and their families, however, most public housing had long wait times and a limited number of housing available. They found security in the permanence of public housing.

The challenge of securing housing is not primarily a financial issue. While the criteria and or requirements have not changed much over time, the pool of applicants seeking accommodation has changed. Increasingly, alcohol, drug and criminal histories as well as recent evictions have become major disqualifiers for public and private housing alike. Residents who are emerging from addiction, financial instability and homelessness find the housing system unforgiving, reporting that their only options may be to live with family/friends or remain homeless.

## TRANSPORTATION

### ACCESS TO TRANSPORTATION

Being a rural Appalachian county, Muskingum residents are widely dispersed beyond the city limits. Zanesville has pockets of high poverty populations, getting around is a major challenge. In Muskingum County, 85% of AOS survey respondents depend on private vehicles for transportation. It is important to note that this may not indicate that 85% have access to vehicles, but that they have access to people who drive them. This implies that more than the remaining 15% of residents with no private transportation may need it. Out of all the AOS survey respondents, 19% walk, 11% bike, and 7% use public transportation.

Participants of FGD and KII who were experiencing homelessness shared their barriers to using bikes for transportation. Multiple participants shared their frustrations with

the lack of bike friendly infrastructure in the downtown areas. Another member of the group expressed the need for bikes to get to and from locations for meals, work, and shelter.

The FGD and KII for individuals experiencing homelessness shared transportation was a barrier for those trying to get to work or for everyday activities. Bus routes had been suspended due to COVID-19, which created a new barrier for the individuals who used the routes regularly. A few community agencies did offer transportation to and from work, but several members of the group were not aware of this resource. If members of the discussion were able to find transportation to work, it was likely to limit their job opportunities. “I wish that there were rides to different jobs. I have a bad heart and it’s a

tough job, but I have to work there because I have a way to and from.”

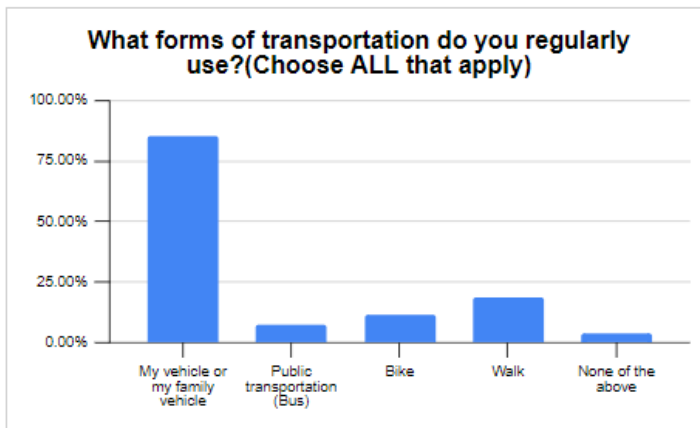


Table 35 Source: 2021 Adult Opinion Survey

Multiple FGD participants expressed the need for access to transportation outside of normal business hours, as they still needed assistance getting places during evening and weekends. Members of the senior citizen FGD shared that they were often able to find a

ride to and from medical appointments, but they needed mobility assistance to get in and out of their house, the vehicle, and the medical center. “My mother cannot walk. She can get out, maybe in a wheelchair. She needs help from the house to the vehicle and vehicle back into the house.” Another transportation barrier was identified during the adults working with youth FGD. Teachers noticed that their students, notably in Roseville, struggled to find transportation to Zanesville. One cause of this barrier, was that Roseville spans two counties, Muskingum County and Perry County, and often times transportation did not cross between the two.

## WALKABILITY, BIKEABILITY AND TRANSIT SCORES

Walkability, bikeability, and transit scores are relatively new concepts used to rate cities on how easy and friendly they are to each of these modes of transportation. Each composite score is derived from factors like number of commuters, bike lanes, etc. The city of Zanesville (ZIP Code 43701) has a walkability score of 41, indicating most



Score	Bikeability	Walkability	Transit
90–100	Biker's Paradise Daily errands can be accomplished on a bike	Walker's Paradise Daily errands do not require a car	Rider's Paradise World-class public transportation
70–89	Very Bikeable Biking is convenient for most trips	Very Walkable Most errands can be accomplished on foot	Excellent Transit Transit is convenient for most trips
50–69	Bikeable Some bike infrastructure	Somewhat Walkable Some errands can be accomplished on foot	Good Transit Many nearby public transportation options
25–49	Somewhat Bikeable Minimal bike infrastructure	Car-Dependent Most errands require a car	Some Transit A few nearby public transportation options
0–24		Car-Dependent Almost all errands require a car	Minimal Transit It is possible to get on a bus

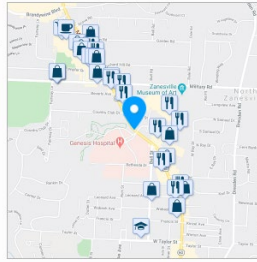
**Maple Avenue**  
Zanesville, Ohio, 43701  
Commute to **Downtown Zanesville**  
9 min 18 min 56 min View Routes

Favorite Map Nearby Zanesville Apartments on Redfin

**Walk Score 43**  
Car-Dependent  
Most errands require a car.

**Bike Score 52**  
Bikeable  
Some bike infrastructure.

About your score



errands require a car. It is however important to note that each road has its own score; the ZIP or city scores are aggregated for a designated area. For the same geographic area, the Bike score is 40. While no transit score has been determined for this ZIP code, it is most likely to fall within the 'Somewhat Bike able' and Some Transit levels. Initiatives to increase walkability downtown Zanesville has been supported by community resident for a few years, however it has been unsuccessful.

Muskingum County has five bike trails, two across parks and three recreational, almost all most of the county's biking trails outside city limits. Recent road construction downtown does not show any indication to adapt road to being biker-friendly. During focus group discussions, youth participants stressed the need for more bike and pedestrian friendly streets; at least around the downtown area. A biker/pedestrian downtown would increase people coming around; more people would 'hang out', shop and attend events.

For many youth in the city, during summer, bicycles are the primary mode of getting themselves around; to places like the library, community activities as well as park locations for the Summer Lunch Program. For many of them who are still unable to drive, walking and biking are a mobility option for when not accompanied by adults. While they acknowledged that the downtown streets may not be 'bike-friendly,' they could be more 'friendly to bikes'. This would include creating designated locations and installing hardware for locking bicycles.



## PUBLIC TRANSIT

The South East Area Transit (SEAT) serves as the sole public transit provider for Muskingum County with an annual ridership of about 90,000 in Muskingum County in 2021. SEAT completed 7,511 street routes for 2021, and notes street routes were shut down for most of the year due to COVID. There are no taxis or alternative public transportation means. SEAT is a Regional Rural Transit Authority providing public transportation to the residents in Muskingum, Guernsey, and Noble Counties, with limited services in Belmont County. SEAT has a One-Stop Call Center Transit Center located at 224 Main Street in downtown Zanesville. SEAT provides five fixed route services within Zanesville and additional demand response (door to door) services across the county. SEAT's fixed routes provide access to transportation from south Walmart to the North end Social Security Office. Fixed-Route services also run east to west through Zanesville from Troon Crossing to OUZ/Zane State College. SEAT's door-to-door service schedules 18,000 trips per month. Trips are available for passengers to travel up to 150 miles from their home residence. Discounted rates are available for those who are elderly, disabled, or are traveling to work. As a Regional Rural Transit Authority, SEAT's mission is to provide "Safe, Efficient, Affordable Transportation" (SEAT). Door-to-door rides are available on a first-come, first, serve basis. Advance scheduling is preferred. SEAT runs Fixed Route in Muskingum County from 6 am to 6 pm, Monday to Friday, and door-to-door services Monday-Friday between 4 am and 8 pm. All SEAT vehicles are accessible with lifts and provide service to those using mobility devices. SEAT is closed on 12 federal holidays.

Residents who identified having issues with the local public transportation system, indicated their primary reason as not having bus routes/public transportation access close to where they lived or public transportation needs during evening/weekend hours. A parent in the FGD for families of individuals with developmental disabilities shared that individuals with developmental disabilities and families of these individuals could benefit from assistance on learning how to use public transportation, especially to health care, education and recreational activities. The parent shared a barrier could be different individuals providing transportation: *"My son needs to be familiar with who is transporting him to feel safe."*

## BROADBAND ACCESS

As described by CHR, access to reliable and high-speed broadband internet can have an impact on improving education, employment, health care opportunities, and economic development. The same source reports that, on average, half of the counties in the United States have speeds that are below the federally defined broadband standard of 25Mbps down/3 Mbps up. Rural areas, along with low-income urban areas, are two settings that struggle to access broadband internet. A KII with a Zanesville City School

teacher shed light on the struggle of internet access in Muskingum County: “Students have a mixed experience with internet access at home. A fair amount of hotspots were used during COVID. The main barriers are cost and living in a rural area.” In addition, a FGD held with adults that work with youth, identified internet access as an issue that needs to be addressed in the community. Youth are not the only age group that recognize the benefits of the internet, in a FGD with senior citizens, multiple participants expressed the need for computer skills classes to begin after the COVID pandemic. Half of the senior citizens in the group shared that they get their news via the internet.

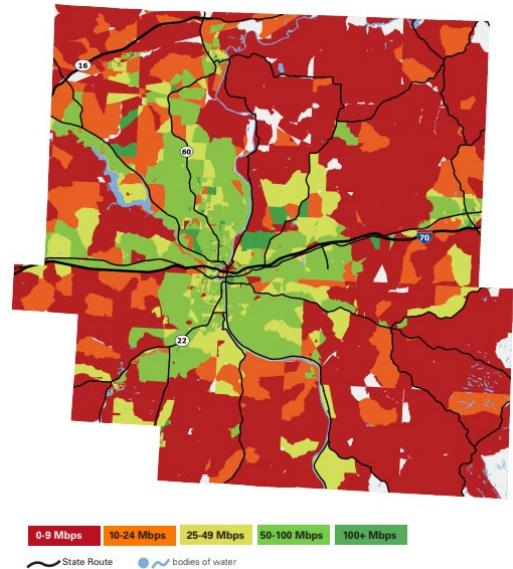


Image 12 Source: Ohio Department of Development

CHR and US Census Bureau data in regard to broadband access looks at the number of households with broadband internet access through any type of subscription, including cable, DSL, satellite, fiber-optic, cell phone, or tablet. The US Census Bureau refers to access as, “whether or not someone in the household uses or connects to the Internet, regardless of whether or not they pay for the service.” The question can be posed as, “At this house, apartment, or mobile home- do you or any member of this household have access to the Internet?” CHR results show 81% of Muskingum County as having access to broadband, falling behind Ohio’s overall broadband access of 85%. However, Ohio Department of Development reports 74% of the populated area, and nearly one in four (24%) households, in Muskingum County do not have access to the broadband standard, or minimum 25/3 Mbps. The same source reports 63%, or 6,433 households, of the households that do not have access to the broadband standard have below 10/1 Mbps.

## FOOD INSECURITY

Nutrition is the process of obtaining the food necessary for health and growth. A healthy diet is a critical pathway in influencing chronic conditions like cancer, cerebrovascular and cardiovascular diseases. Poor dietary outcomes result in under-nutrition (micronutrient deficiency; anemia etc.) and over-nutrition (overconsumption of macronutrients; obesity etc.). While hunger may be a primary driver of nutrition, a multitude of factors, social and economic, play a major role on an individual’s diet. The food environment is complex and difficult to navigate, however the goal is to achieve

food security. Food security, as defined by the United Nations' Committee on World Food Security, is the condition in which all people, at all times, have physical, social and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

**Accessibility**

In March 2022, 22% of households in Muskingum County received Supplemental

Caseload Summary Statistics Report March 2022				
SNAP	Caseload		Demographics	
Issuance County	Household	Active Members	Adult	Children
Muskingum	8,434	15,893	10,089	5,804

Nutrition Assistance Program (SNAP) benefits. This caseload number of 8,434

Table 37 Source: ODJFS

households is slightly lower than the March 2021 caseload of 8,691. Reports from the local 2-1-1 Helpline call center received 1,575 calls for food assistance in Muskingum County in 2021. Of the food assistance calls, 1,250 calls were for food pantries.

Proximity to healthy food is another access factor that influences food security. Food insecurity is not suffered by just the poor, but across several income brackets in the community. According to the 2022 County Health Rankings (CHR) Muskingum County's food environment index is 6.3. Ohio's food environment index is 6.9. The Food Environment Index (FEI), which ranges from 0 (worst) to 10 (best) factors in two indicators of the food environment; low income access to healthy food and reliable access to healthy food in the past year. It is important to note that CHR defines 'living close to a grocery store' differently for rural and non-rural areas. In rural areas, living close to a grocery store is defined as living less than 10 miles from a grocery store. In non-rural areas, this is defined as living less than one mile from a grocery store. In the AOS, 41% of respondents indicated living two or more miles away from fresh, healthy food. Access to farmers markets, another good alternative to grocery stores, is poor in Muskingum County with a rate of 0.1 farmers markets per 10,000 people, as reported by National Initiative for Children's Healthcare Quality (NICHQ). The same source reports 1.6 grocery stores per 10,000 people. Fast-food restaurants, on the other hand, are very common, at a rate of 8.6 per 10,000 people.

Muskingum County has a produce drop twice a month for the Hunger Network. A lot of the fresh produce goes to the homebound meals that are delivered. Recipients at home are able to peel and dispose of trash easier in their homes. Pantries and meal sites tend to purchase canned foods due to longevity and easy storage. Individuals and families living in a food desert, such as Putnam, face an additional barrier to accessing fresh produce, because there is nowhere that sells produce. Several of these families do not have reliable transportation to access fresh produce. Local farmers markets accept

SNAP, WIC, and produce vouchers, but evening and weekend access to transportation can prevent families from utilizing these benefits.

### **Food Insecurity During COVID-19**

Food pantry staff share that the hunger situation is very unpredictable over the next six months with inflation from COVID and SNAP benefits expected to return to pre-pandemic monthly amounts. “The effects of COVID are not over. We expect to continue to see increasing prices, and supply chain issues.” Food pantries are facing the challenge of low retail pick up due to food shortages and supply chain issues. This means that pantries and meal sites now have to purchase supplies that were typically donated pre-COVID. In addition, the prices for these items are now higher than before COVID due to inflation. Pantries are in need of donations to curb these unforeseen challenges, as well as additional volunteers. The age of pantry volunteers throughout the county is increasing. As of right now, they are not seeing a younger volunteer workforce for local pantries.

A KII, with a Christ’s Table representative, shed light on the recent events impacting food pantries and hot meal sites across the county. In Muskingum County, food insecurity heightened during the COVID-19 pandemic. Food pantries and hot meal sites began serving 25-40% more people at the beginning of the pandemic. After SNAP dollars were increased in response to COVID-19, it caused a drop in food pantry and hot meal site use across the county. As of April 2022, the food insecurity KII states, “*It is hard to project numbers for meal sites and pantries now, because they haven’t returned to ‘normal’ numbers yet.*”

### **Cost**

A study from Utah State University (USU), found that following the 2020 MyPlate Dietary Guidelines for Americans would cost anywhere from \$1,000-\$1,200 for a family of four a month. The USDA reported middle-income families spending \$6,224 on food per year and low income families spending closer to half of that at \$3,682 per year. The cost of following dietary guidelines may be difficult for a middle income family, let alone a low income family. In addition, USU reports, if you examine, food costs per calorie, unhealthy food costs less, but if you look at food costs per typical portion, many healthy foods are less expensive than unhealthy foods. The cost of healthy food is higher than that of a ‘normal’ diet. Within this context, healthy food will be defined as a diet rich in fruits, vegetables, lean meats, fish and nuts and whole grains. A healthy diet is also characterized by a reduced consumption of processed food. There are several financial challenges with eating a healthy diet that affect low-income individuals disproportionately. Most produce and fresh meats have a short shelf life; they need to be bought more often. Eating a healthy diet requires more preparation and careful storage in comparison with traditionally bottled, boxed and canned foods. These processes require the right equipment and experience, which gets expensive. At the

bottom line for many households looking to stretch a dollar, energy-rich foods go further than a nutrient rich option. Residents in a few FGDs indicated that they also find that paying for fresh food competes with other necessities like utilities, healthcare, and other bills. AOS survey respondents shared that they were equally as likely to choose to eat food for enjoyment (59%) and cost (59%).

## EDUCATION AND LITERACY

Integrity, self-confidence, life skills and workforce development were identified as characteristics of a successful adult. These are findings from several Focus Group Discussions held for Muskingum County residents. They believe that children need to be taught to be better citizens; however the process to achieving this has been a challenge.

### LIFE SKILLS

Education, literacy and life skills were identified as major needs in the community, spanning the life cycle. There is an understanding that education challenges are inherited, passing down from generation to generation. To this end, education and life skills are needed even before a child is born. Parenting classes on newborn care, raising healthy children and developing healthy parent/child relationships are all seemingly lacking across the county. Residents identified that the educational solutions do not always need to be formal. Support groups, family events, and recreational opportunities are all effective solutions.

### STUDENT SUCCESS

Student success is another issue that was discussed extensively. For many students, the lack of family stability and support make it hard to do well in school. This means that students depend on more than academic growth from schools. For many, homework support, personal development/growth (activities/clubs/sports/mentoring), basic life skills, and nutrition falls on the school system, which is not equipped. Many youth need basic life skills as well as academic support (homework and summer school). There are a few opportunities for students to learn life skills that do not come at a cost, afterschool and Agriculture/ 4H programs, to name a few. These opportunities are elective and not required of all youth.

### JOB TRAINING

Basic life skills are building blocks for job training. For many students who do not go on to complete post-secondary education, they are expected to enter the workforce ill-

equipped to manage themselves and whatever responsibilities they are given. FGD participants shared that they would like to have access to educational and job training opportunities since many jobs require specific skills or expertise.

## HEALTH LITERACY

For many adults in Muskingum County, health literacy is still a major issue. While closely associated with education, literacy is a more functional building block and application of education. In essence, literacy provides a person with the ability to understand and use information they receive. Understanding health insurance policies, doctors' instructions, prescription directions and navigating the healthcare systems are confusing for many, even those who are educated.

## ENVIRONMENTAL HEALTH AND AIR QUALITY

Residents interact with the environment constantly. These interactions affect the quality of life, years of healthy life lived and health disparities.

### AIR QUALITY INDEX

Air Pollution - Particulate Matter is defined as the average daily density of fine particulate matter in micrograms per cubic meter (PM<sub>2.5</sub>) in a county. Fine particulate matter is defined as particles of air pollutants with an aerodynamic diameter less than 2.5 micrometers. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

According to the 2022 County Health Rankings, Muskingum County's air pollution-particulate matter is 8.8, comparative to Ohio's air pollution-particulate matter of 9.0.

Air quality plays a significant role in respiratory diseases like Asthma, Chronic Obstructive Pulmonary Disease (COPD) and Emphysema. According to the CDC Asthma Surveillance Data, the asthma prevalence in Muskingum County for adults is 10.4% and 6.8% for children. In Muskingum County, Emergency Department visits due to asthma occur at a rate of 29.1 per 10,000 population and inpatient rates of 4.7 per 10,000 population. This is lower than that of both Ohio rates (ED 45.7 per 10,000 population and inpatient 5.8 per 10,000 population, respectively) Asthma, which is the leading chronic illness among children, is greatly impacted by air quality. In Ohio, 11.3% of children, along with 13.6% of adults, had been diagnosed with asthma sometime in their lifetime.

## LEAD

Lead is a naturally occurring element found in small amounts in the earth. While it has many beneficial uses, it can be toxic to humans and animals. Exposure to lead, especially in children, can result in lifelong negative health impacts. It was commonly used in paint, gasoline, jewelry and cosmetics, toys and household goods. As a result of the Lead-Based Paint Poisoning Prevention Act of 1971 and an amendment to the Clean Air Act (in 1990), lead was removed from paint beginning in 1976 and gasoline in 1995.

There is no safe level of lead exposure for children, however, the level of 5 micrograms per deciliter has been established as 'blood lead level of concern'. Lead exposure may be from objects, soil or air. However for children, a primary source of lead poisoning is living in a home or frequently visiting a home that was built before 1978 due to the risk of the home possibly having lead based paint in or around the home.

In Muskingum County, in 2022, approximately 67% of houses were built before 1978. Three high-risk zip codes (43701, 43702, and 43777) have been identified for lead, requiring blood lead testing for children less than 6-years of age.

Elevated Blood Lead Levels, Muskingum County 2020				
Confirmatory Sample	Confirmed			
Blood Lead Level	5-<10 ug/dL	10-<45 ug/dL	45+ ug/dL	Total
High Risk ZIP Code	Test Count	Test Count	Test Count	Test Count
High Risk	24	9	0	33
Not High Risk	4	1	0	5
Unknown	0	0	0	0
Total	28	10	0	38

Table 38 Source: ODH Data Warehouse

## EMERGENCY PREPAREDNESS

In the event of an emergency; man-made or natural disaster, the ability for a community to weather the storm and resume a normal life depends greatly upon how well each member is prepared. Events like floods, tornadoes, bioterrorism and outbreaks are examples of events likely to occur without warning. During an emergency, the community still has basic needs, which include food, water and shelter. For other members in the community who have access and functional needs (depending on an interpreter, electrical wheelchair or requires dialysis), they may suffer severe consequences.

Recommendations from the Department of Homeland Security Emergency preparedness determine that an emergency supply sustain a household for three days. A key informant who spoke on the subject noted that many households might feel



prepared for an emergency, however, few are. Citing water as an example, each household requires at least 1 gallon of water per person, per day; in that, a family of four would need at least 12 gallons of water. This increases when some members of the family require more. About 66% of AOS respondents determined that their households could be sustained for at least 3 days. Television (30.5%), radio (24.5%) and cell phone (24.8%) were reported as the primary modes through which they would receive information during an emergency event. Finally, in the event that they had to evacuate their homes, most worried about leaving pets at home alone (30.5%), leaving property behind (22.0%) and being less safe by leaving home.

## CONCLUSION

Based on secondary, social, economic, and environmental health data, discussions with residents and leaders, and a community survey, this assessment report provides an overview of the social and economic environment of Muskingum County's health status, strengths, and opportunities for growth. The 2022 Muskingum County Community Health Assessment (MCCHA) will be made available to the public, in draft version for comments. The final version will be presented to the Board of Health, Healthier Muskingum County Network and upon request. It will also be disseminated online, on the Zanesville-Muskingum County Health Department website, <http://www.zmchd.org>. It will also be available as a hard copy at the health department. Once completed, a process to identify three-five major priorities of the CHA will be conducted. This will be implemented over the next three years of the 2022 CHA-CHIP cycle.

# APPENDIX

## DOCUMENT

### PHOTOGRAPHS

Visit Zanesville of Zanesville-Muskingum County CVB provided all photographs used in this document.

### QUOTATIONS

All quotations used in this document are direct quotes from individuals who live and work in Muskingum County. Quotes are from focus group discussions and key informant interviews.

### IMAGES

Image 1: Social Determinants of Health

Source: Henry J. Kaiser Family Foundation

<http://kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/>

Image 2: Muskingum and Appalachian Counties of Ohio

Source: Muskingum County Geographic Information System

[http://www.muskingumcounty.org/images/rob\\_appalachia.jpg](http://www.muskingumcounty.org/images/rob_appalachia.jpg)

Image 3: Townships of Muskingum County

Source: Muskingum County Website

<http://www.muskingumcounty.org/mctownshipmap.html>

Image 4: Map of Appalachian Region

Source: Appalachian Regional Commission

[https://www.arc.gov/appalachian\\_region/MapofAppalachia.asp](https://www.arc.gov/appalachian_region/MapofAppalachia.asp)

Image 5: Leading Industries in Muskingum County

Data Source: United States Census Bureau (DP03P)

[https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_15\\_5YR\\_DP03&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_15_5YR_DP03&prodType=table)

Image 6: Major Employers in Muskingum County

Data Source: Zanesville-Muskingum County Port Authority

<https://zmcport.com/workforce-information/#:~:text=Abundant%20Workers&text=The%20labor%20force%20in%20the%20counties%20to%20go%20to%20work>

Image 7: United State Health Expenditure

Data Source: Centers for Medicare and Medicaid Services

<https://www.cms.gov/research-statistics-data-and-systems/statistics-trends-and-reports/nationalhealthexpenddata/downloads/highlights.pdf>

Image 8: Determinants of Health as a Theory

Image Source: Sucupira, Ana Cecília et al. (2014). Social Determinants of Health among children aged between 5 and 9 years within the urban area, Sobral, Ceará, Brazil.

[http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1415-790X2014000600160](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1415-790X2014000600160)

Image 9: Education Attainment among 25 years and Older - Muskingum County, 2016-2020

Source: United States Census Bureau ACS

[https://data.census.gov/cedsci/table?tid=ACSDP5Y2020.DP02&g=0400000US39\\_0500000US39119](https://data.census.gov/cedsci/table?tid=ACSDP5Y2020.DP02&g=0400000US39_0500000US39119)

Image 10: Overall Rankings in Health Outcomes

Source: County Health Rankings

Image 11: Car-Dependent, Bikeable

Source: Walk Score

Image 12: Broadband Access

Source: Ohio Department of Development

## TABLES

Table 1: Muskingum County Community Health Assessment Data Collection Methods

Source: ZMCHD (CHA)

Table 2: Muskingum County Population (2010-2020)

Source: United States Census Bureau

- Table 3: Muskingum County Population (Age Group)  
Data Source: United States Census Bureau
- Table 4: Muskingum County Population (Age Group)  
Data Source: United States Census Bureau
- Table 5: Disability by Type Muskingum County 2020  
Data Source: United States Census Bureau
- Table 6: Educational Attainment Among Population 25 Years and Older  
Data Source: United States Census Bureau
- Table 7: Ohio Kindergarten Readiness Assessment  
Data Source: Ohio Department of Education
- Table 8: Muskingum County Education Report Card Highlights  
Data Source: Ohio Department of Education
- Table 9: Population Living Below Poverty  
Source: United States Census Bureau
- Table 10: Muskingum County Households  
Source: United States Census Bureau
- Table 11: Muskingum County: County Health Rankings (2016-2022)  
Data Source: County Health Rankings
- Table 12: Muskingum County Births  
Data Source: Ohio Department of Health Data Warehouse, 2022
- Table 13: Maternal Age- 2021  
Source: Ohio Department of Health Data Warehouse, 2022
- Table 14: Muskingum County Life Expectancy  
Data Source: Ohio Department of Health Data Warehouse, 2022
- Table 15: Premature Deaths in Muskingum County  
Data Source: Ohio Department of Health Data Warehouse, 2022
- Table 16: Years of Potential Life Lost  
Data Source: County Health Rankings, 2022
- Table 16: Quality of Life in Muskingum County  
Source: ZMCHD (AOS)
- Table 17: Overall Leading Cause of Mortality  
Source: ZMCHD (AOS)
- Table 18: Leading Cause of Death and Underlying Risk Factors  
Source: Ohio Department of Health Data Warehouse, 2022
- Table 19: The Leading Modifiable Risk Factors for Heart Disease  
Source: American Heart Association
- Table 20: Leading 5 Cancers in Muskingum County - Mortality  
Source: Ohio Cancer Incidence Surveillance System & Bureau of Vital Statistics, Ohio Department of Health 2021
- Table 21: Leading 5 Cancers in Muskingum County - Incidence

Source: Ohio Cancer Incidence Surveillance System & Bureau of Vital Statistics,  
Ohio Department of Health 2021

Table 22: 2019 Infectious Disease County/State Comparison- Incidence

Source: Ohio Disease Reporting System, ODH

Table 23: What Would You Say Your General Health Is?

Source: 2021 Adult Opinion Survey

Table 24: Have You Or a Loved One Looked for These Types of Programs; Tobacco  
Cessation?

Source: 2021 Adult Opinion Survey

Table 25: Overdose Fatalities

Source: ZMCHD Vital Statistics 2022

Table 26: Muskingum County 2021 Births- Term

Source: ODH Data Warehouse

Table 27: How Entry into Prenatal Care

Source: ODH Data Warehouse

Table 28: How Maternal Smoking

Source: ODH Data Warehouse

Table 29: Neonatal Abstinence Syndrome Hospitalizations

Source: ODH

Table 30: How Safe From Crime Do You Consider Your Neighborhood to Be?

Source: 2021 Adult Opinion Survey

Table 31: Violent crime in Muskingum County

Source: 2022 County Health Rankings

Table 32: Monthly Median Housing Costs (2016-2020)

Source: United States Census Bureau

Table 33: What Percent of Your Household Income Goes to Housing?

Source: 2021 Adult Opinion Survey

Table 34: Homeless County by Year

Source: ZMCHD, 2020

Table 35: What Forms of Transportation Do You Regularly Use?

Source: 2021 Adult Opinion Survey

Table 36: Bikeability, Walkability, Transit

Source: Walk Score

Table 37: SNAP Caseload Summary Statistics Report March 2022

Source: Ohio Department of Job and Family Services

Table 38: Elevated Blood Lead Levels, Muskingum County 2020

Source: Ohio Department of Health Data Warehouse, 2022