Upper Peninsula Community Health Needs Assessment 2024



Reporting on the Health Status of Michigan's Upper Peninsula Residents

Upper Peninsula Community Health Needs Assessment

2024

Downloadable at www.wupdhd.org

"Si Quaeris Peninsulam Amoenam Circumspice"

(Michigan's Motto: If you seek a pleasant peninsula, look about you)

Published in August 2025 by:

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Partner Acknowledgements

This report brings together data and analysis from a regional community health needs assessment led by Western U.P. Health Department in conjunction with all other Upper Peninsula local public health departments and additional partners who care deeply about the health of the Upper Peninsula's 300,000 residents.

All partners, including the project's largest funder, the Michigan Department of Health and Human Services, have contributed their energy, ideas and dollars to make this regional health needs assessment possible on an unprecedented scale – across 15 counties. The partners are listed alphabetically below:

Chippewa County Health Department

Public Health of Delta & Menominee Counties

Dickinson-Iron District Health Department

Luce-Mackinac-Alger-Schoolcraft District Health Department

Marquette County Health Department

Michigan Department of Health and Human Services

Western U P Health Department

Upper Peninsula Health Plan

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ABREVIATION LIST

ACA = Patient Protection and Affordability Care Act
ACE = adverse childhood experience
ACS = American Community Survey
ADI = Area Deprivation Index
adjOR = adjusted odd ratio
AHRQ = Agency for Healthcare Research and Quality
AI/NA = American Indian/Native Alaskan
AIDS = acquired immune deficiency syndrome
ALICE = Asset Limited, Income Constrained, Employed
BRFS = Behavioral Risk Factor Surveillance System
BMI = body mass index
BPD = bipolar disease
CDC = Centers for Disease Control and Prevention
CHIP = Children's Health Insurance Program
CHNA = community health needs assessment
CI = confidence interval
CKD = chronic kidney disease
CMH = community mental health
CMHSPs = county-based community health mental health services programs
COPD = chronic Obstructive pulmonary disease
COVID-19 = coronavirus disease 2019
CT scan = computerized tomography scan
DSM-5 = *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition*
DTaP = diphtheria, tetanus, acellular pertussis
EPDS = Edinburgh Postnatal Depression Scale
FBI = Federal Bureau of Investigation
HAV = Hepatitis A virus
(vaccine) HBV = Hepatitis B virus
(vaccine) HCV = Hepatitis C virus
HIB = Hemophilus influenza b
HIV = human immunodeficiency virus
HKD = Healthy Kids Dental
HPSAs = Health Professional Shortage Areas
HPV = Human papillomavirus
HSgFOBT = high sensitivity guaiac-based fecal blood test
HSPA = Health Shortage Population Area
HUD = United States Department Housing and Urban Development
ICD-9CM = Inter-National Classification of Diseases, Ninth Revision, Clinical Modification
IMU = Index of Medical Underservice
ISD = Intermediate School District
IUD = intrauterine device
LARC = long-acting reversible contraceptive
LMAS = District Health Department including Luce, Mackinac, Alger, and Schoolcraft counties
MAT = medication-assisted therapy
MBDR = Michigan Birth Defects Registry
MCIR = Michigan Care Improvement Registry
MDHHS = Michigan Department of Health & Human Services

MDSS = Michigan Disease Surveillance System Syndrome
MenACWY = meningococcal vaccine
MHASC = Michigan Health and Hospital Association Service Corporation
MiBRFS = Michigan Behavioral Risk Factor Survey
MUAs = Medically Underserved Areas
MMR = measles, mumps, rubella
NAS = neonatal abstinence syndrome
NICU = neonatal intensive care unit
NSDUH = National Survey on Drug Use and Health
OECD = Organization for Economic Coordination and Development
OR = odds ratio
OUIL = operating under the influence of liquor
OWPD = operating with presence of drugs
PAP = Papanicolaou test/smear
PCV = pneumococcal vaccine
PIHP = Prepaid Inpatient Health Plan
PRAMS = Pregnancy Risk Assessment Monitoring System
PSA = prostate-specific antigen
PTSD = post-traumatic stress disorder
RESA = Regional Education Service Agency
RR = relative risk
RSV = respiratory syncytial virus
SARS-CoV-2 = coronavirus responsible for COVID-19
SD = standard deviation
sDNA-FIT = stool DNA plus fecal immunochemical test
SDOH = social determinants of health
SE = standard error
SIDS = sudden infant death syndrome
SSP = syringe service programs
STI = sexually transmitted infection
SUD = substance use disorder
TB = tuberculosis
Tdap = booster for tetanus, diphtheria, and acellular pertussis
THC = tetrahydrocannabinol
UCR = Federal Bureau of Investigation's Uniform Crime Reporting
UPCHIPS = Upper Peninsula Community Health Issues and Priorities Survey
UPHP = Upper Peninsula Health Plan
USD = United States dollars
USPSTF = United State Preventive Services Task Force
VA = Veteran's Health Administration
WIC = Special Supplemental Nutrition Program for Women, Infants, and Children
WUPHD = Western Upper Peninsula Health Department
YRBS = Youth Risk Behavior Surveillance System

1 EXECUTIVE SUMMARY

1.1 Introduction

The objective of the 2024 Upper Peninsula Community Health Needs Assessment (CHNA) is to gather accurate, actionable, local information to advance our knowledge of our current health status, our future health needs, and identify our health-related priorities. With the input of community members, this information can be used to generate plans (such as Community Health Improvement Plans), develop policies, allocate resources to improve the health of our local communities, and measure the impact of interventions.

This endeavor began in 2012 with an innovative and unique partnership between the institutions responsible for promoting, treating, and safeguarding the health of residents in our region. The 2012 CHNA, [1] which included Baraga, Gogebic, Houghton, Keweenaw, and Ontonagon counties, was repeated in 2015[2] adding Iron County and expanded to include the entire Upper Peninsula in 2018. [3] All 15 counties of the Upper Peninsula were included in the 2017, 2021, and 2024 CHNAs. [4]

The foundation of this CHNA is a resident survey, the Upper Peninsula Community Health Issues and Priorities Survey (UPCHIPS), that was distributed in September 2024. The survey is based on the Behavioral Risk Factor Surveillance System (BRFS) survey conducted annually by the Centers for Disease Control and Prevention (CDC). Although county-level data, even for small, rural communities, is often included in state and national surveys, the sample sizes from many counties are too small to extract enough useful information for local health agencies to develop policies or to plan for the future. Most Upper Peninsula counties are sparsely populated, so we distributed enough 2024 UPCHIPS surveys in each county to develop a thorough understanding of their residents' health needs priorities and to measure changes in factors that impact their health over time.

This survey, completed by over 3,500 adults, including residents from every county in the Upper Peninsula, provides a robust assessment of the health determinants and priorities in each county and the ability to evaluate similarities and differences across the region.

Like its predecessors, this CHNA will provide Upper Peninsula policymakers, stakeholders, and residents with a plethora of data that can serve as a springboard for thoughtful, data-driven Community Health Improvement Plans. Updated data identify our current position on a number of community health issues, and, when used in conjunction with previous CHNAs, allow evaluation of the progress made through the implementation of community-level programs and policy changes. Ongoing CHNAs, scheduled to be published every three years, will continue to inform regional efforts going forward.

This document contains data and information from a wide range of indicators that either describe or impact the health of local residents. Although no single indicator tells a complete story, each contributes to an overall understanding of our community health needs. The reader will find data ranging from pollution levels, to exercise practices, to how often vegetables are eaten, to household incomes, to how often residents see a healthcare provider, to how many adults have dental insurance, and hundreds of other indicators that impact health. Not surprisingly, many indicators identified in Upper Peninsula residents reflect state and national trends. The regional survey data should allow us to address questions specific to our community such as: What does our population look like? Is cancer more or less prevalent here than elsewhere? How does economic status impact the health of our residents? Are local

citizens able to access the health care services they need? Are these services readily available and accessible? Taken as a whole, the results of this assessment, along with the results of previous assessments, allow us to highlight past and current health conditions and enable us to identify trends for the future and plan accordingly.

1.2 Key Themes

The most important take-away messages from this report will differ for each reader. However, four relevant themes have emerged for service providers, policy-makers, and other stakeholders to consider when planning for the future.

1.2.1 The COVID-19 Pandemic

The COVID-19 pandemic was a transformative event. Conversations regarding public health events are often categorized as either pre-pandemic, during the pandemic, or post-pandemic. We are still in the process of learning lessons from the pandemic. We need to realistically assess the capacities of our health care systems and public health agencies to deliver services both between and during pandemics. We discovered who had our backs and, much to our chagrin, how the prevalence of abject individualism undermined the ability of members of the community to come together to help each other when doing so mattered the most. Politics became more important than protecting the health of our citizens, resulting in an unnecessary prolongation of the pandemic and unnecessary morbidity and mortality.

The ability of health care systems to absorb surges of patients with a serious, deadly contagious disease was also tested. Maintaining a healthy, happy, engaged workforce provided previously unanticipated challenges. The psychological burden placed on health care workers also extended into the community as the opportunities to socialize were limited. Many preventative screening procedures and vaccinations were postponed during the pandemic.

The COVID-19 pandemic provided us with an opportunity to come together as a community to address a challenge head-on with each individual doing what was needed to protect themselves, their families, and members of their community. Unfortunately, we were not up to the challenge and the long-term damage resulting from the pandemic has yet to be determined.

1.2.2 Impact of Aging Population

Age is the number one risk factor for most chronic diseases. With the advent of sanitation measures, vaccines, and antibiotics, fewer people die in infancy, childhood, and childbirth, allowing more people to live long enough to develop progressive diseases that can take decades to emerge. Examples include cardiovascular disease, cancer, and chronic diseases of the lungs, kidneys, and other organs. In the Upper Peninsula older adults account for a higher percentage of the total population than the in rest of the state or the nation. Consequently, the management of chronic disease will continue to be a priority for regional health care.

Long-term economic stagnation has historically led many young people to emigrate from the area in search of economic opportunity. This, combined with a nationwide trend toward declining birth rates, has resulted in a local population that is considerably older. For example, there were 2181 births in 2022 to Upper Peninsula residents, which represents a 20.5% decrease since 2012. All counties have seen a

decrease or little change in the birth rate since 2012, with the exception of a 27.8% increase in Mackinac County. The trend may be shifting as there are signs of an infusion of people from the outside in response to climate change and the increase in opportunities to work from home. The impact of these "climate refugees" has yet to be seen.

In Michigan, 19.2% of residents are aged 65 years or older, while in the Upper Peninsula 24.2% fit this description. All counties in the Upper Peninsula have a higher percentage of residents aged 65 years or older than the state average except for Houghton County (18.4%), with its large college population. Ontonagon County has the highest percentage with 38.7%.

The shift of a community's age distribution toward older cohorts will have profound implications on the needs for health care and elder services. Seniors face a complex set of needs and must balance a loss of earnings, increased health concerns, service shortages, decreased mobility, and limited housing options. Since the chronic disease burden is higher in older adults, aging adults can be expected to have greater needs for home health services, assisted living, and nursing home care. Conversely, many communities will face declining school enrollment, declining tax bases, reduced services, and a dearth of younger caregivers for the burgeoning aging population.

1.2.3 Importance of Prevention

Prevention is a cost-effective strategy that must be utilized to address the crisis of exploding healthcare costs and chronic disease burden. Of the 30-year increase in the average survival seen in the past century, 25 of those years can be attributed to prevention measures, such as improved sanitation and vaccination programs. With better control of infectious diseases, prevention measures have shifted to focusing on the leading root causes of preventable death — tobacco use and obesity, which are often the basis for chronic diseases.

Chronic diseases such as heart disease, cancer, stroke, diabetes, and arthritis, are the leading causes of death and disability in the Upper Peninsula, as well as in the state and the nation. Heart disease and cancer are responsible for half of local deaths. About 13.5% of Upper Peninsula adults have diabetes. Diabetes mortality rates in Baraga, Chippewa, Iron, Mackinac, and Ontonagon counties are substantially higher than the statewide rate. According to the 2024 UPCHIPS, an estimated 66.7% of Upper Peninsula adults reported being either overweight or obese, compared with 72.3% in 2021 and 72.3% 70.9% in 2017. The survey results indicate that the average body mass index (BMI) and the prevalence of those overweight and obese may have reached a plateau. It is not clear whether these rates have stabilized from better eating and exercise or have reached their maximum expected value.

High rates of tobacco and alcohol use in local residents contribute to the chronic disease burden locally. The percentage of current smokers among Upper Peninsula adults had decreased from 17.8% in the 2017 to 15.5% in the 2021 survey but increased back to 19.7% in the 2024 survey. The combination of current and former smokers was 49.3% in the current survey compared to 50.0% in 2017 and 45.9% in 2021. Unfortunately, there have been increases in the use of e-cigarettes, especially among young people, which may result in more individuals becoming addicted to nicotine. An estimated 11.2% (a decrease from 16.2% in 2021) of local adults are heavy drinkers.

Other factors that can significantly impact health and lend themselves to prevention and/or early intervention include:

- Prenatal Care. Pregnant women in the Upper Peninsula are more likely to have characteristics and behaviors that can negatively impact their own health and the health of their infants. Concerning is that 40% of women smoked during pregnancy in Keweenaw County, with more than 30% of women smoking during pregnancy in Baraga, Chippewa, Iron, Menominee, Ontonagon, and Schoolcraft counties. The rate for Michigan was 11.8%.
- Contagious Diseases. Successful prevention strategies include vaccination, health screening, health education, quarantines, sanitation measures, and vector abatement.
- Oral Health. Dental disease is a common chronic illness that disproportionately affects low-income adults and children. It contributes to many negative health outcomes, and in spite of this, 36.5% of adults received no dental services in the past year (an increase from 28.2% in 2021 and 29.5% in 2017) did not have dental insurance. Data from the 2021 UPCHIPS indicates disruption in oral health services in localities. Fortunately, nearly all children in Michigan have dental coverage, but geographic barriers exist to access to dental care.
- Mental Health. An estimated 38.4% of Upper Peninsula adults report having been told by a physician, nurse, or health professional that they had depression: a treatable condition with multiple negative health consequences. The prevalence of mental illness combined with a reported shortage of mental health services for adults and children indicates an unmet community health need.
- Substance Abuse. The emerging opioid epidemic continues to take its toll in the region with its broad impact on maternal and child health, child abuse and neglect, neonatal drug addiction/withdrawal, overdoses, incarceration, and employment.

1.2.4 Social Determinants of Health

Historically, when addressing community health, the focus has been on specific diseases, prevention measures, specific programs, and personal health behaviors. As important as these factors are to health outcomes, attention has increasingly been shifted towards the environmental conditions in which we live, work, and go to school that contribute to our quality of life and health outcomes. These “Social Determinants of Health (SDOH)” often explain why some individuals face more difficult challenges in achieving and maintaining good health.

The CDC has identified five key areas of SDOH: economic stability, poverty/education, social and community context, health care access/literacy, and neighborhood/housing. In other words, the neighborhood you live in, whether you experience racism or other discrimination, have access to a decent job or a quality education, are safe walking down your sidewalk, or even have a sidewalk upon which to travel, may be as important, or even more important, to your lifelong health than whether you have a doctor to call when you are sick. Differences in SDOH lead to health disparities not only between individuals but also between large groups. Health equity for all requires understanding and addressing these health determinants. To address SDOH, this assessment includes data assessing poverty levels, levels of education, employment rates, race, and rates of childhood abuse and neglect.

A SDOH that has garnished inordinate attention in past couple of years is the scarcity of affordable housing shortage across the region. Whether fueled by the demand for short-term rental properties or the influx of climate refugees, the paucity of affordable housing is impacting households at all income levels. The housing shortage has interfered with the ability of businesses and universities to recruit candidates.

Although the Upper Peninsula spans over 16,000 square miles and comprises approximately one third of Michigan’s land mass, its residents are more alike than they are different. A cursory analysis of county-

level health statistics, such as leading causes of death, combined with a thorough review of the 2024 UPCHIPS results, confirms that health disparities are not primarily between regions, but instead closely correlate with socioeconomic factors like employment status, income level, and education level. The differences in health needs are more pronounced between socioeconomic levels than between counties or between the Upper Peninsula and the rest of Michigan.

Within our region, low-income adults, and those with lower levels of education, report poorer physical and mental health, higher rates of disease and disability, and lower rates for annual physical exams and appropriately timed cancer screenings. Inequalities of socioeconomic status contribute to disparities in access to services, and socioeconomic factors (income and education) strongly correlate with health status.

The median income in every county in the Upper Peninsula is below the state median income. With the exceptions of Alger, Dickinson, Gogebic, Houghton, Marquette, and Menominee counties, all counties have a higher percentage of household with children 18 years and younger living in poverty than the statewide percentage.

One of the most striking and illustrative examples of health disparity based on socioeconomic status is that 43.8% of the region's adults who did not graduate high school are current smokers. By comparison, 8.9% of college graduates are current smokers. The impact of lower educational levels and lower socioeconomic status on disease risk, disability rates, and premature death may be amplified by the association of these factors with currently smoking.

1.3 Upper Peninsula Community Health Issues Priorities Survey

The previous iterations of the UPCHIPS in 2017 and again in 2021 demonstrated that Upper Peninsula residents intuitively understand that a wide variety of issues impact their health and the health of their community. The top four priority issues identified in the 2017 survey from among 16 listed concerns were:

- Health insurance is expensive or has high costs for co-pays and deductibles
- Drug abuse
- Lack of health insurance
- Unemployment, wages, and economic conditions

In the 2021 UPCHIPS, the same 16 priority items were listed for consideration and the top four priority issues (in order of frequency) were:

- Health insurance is expensive or has high costs for co-pays and deductibles
- Unemployment, wages, and economic conditions
- Drug use
- Shortage of mental health programs and services, or lack of affordable mental health care

In the 2024 UPCHIPS, 14 of the same 16 priority items were listed for consideration and the top four priorities (in order of frequency) were:

- Health insurance is expensive or has high costs for co-pays and deductibles

- Shortage of mental health programs and services, or lack of affordable mental health care
- Shortage of dentists, or lack of affordable dental care
- Lack of affordable healthy foods, including year-round fresh fruits and vegetables

These four selections reflect 3 of the 5 key areas of SDOH: health and health care, economic stability, and social/community context. The high profile of drug abuse as a community concern is one of growing concern in the Upper Peninsula and reflects the national, state, and local opioid epidemic. The recent pandemic challenged not only our healthcare system with rapidly increasing needs for treatment but also local law enforcement, courts, support agencies assisting families impacted by substance use, public health, and employers who are struggling to hire a healthy workforce. There is some evidence that changes in laws concerning the prescription of opioids have reduced the number of prescriptions dispensed.

Of note, 12 of the 16 listed priorities in the 2017 and 2021 surveys, saw a decrease in the percentage who identified the priority as "very important – should be a priority" across that time span. In the 2024 survey, the 14 listed priorities tended to return to their 2017 levels, with several showing a spike in those who identified them as very important.

1.4 Final Notes

Over the course of the last century, life expectancies lengthened dramatically as the result of developments in medical care, antibiotics, vaccines, improved sanitation, and worker safety. While there are parts of the developing world where infectious and vector-borne diseases like tuberculosis, HIV-AIDS, dysentery, and malaria are leading causes of death, increasingly mortality and morbidity worldwide are the result of chronic diseases. Heart disease, cancer, and diabetes are among the most prominent diseases of affluent countries. Tobacco use and obesity are the leading root causes of preventable death in the United States. Poor diet and lack of physical activity are becoming the leading killers of the 21st Century just as microbes were for most of human history. The prediction that children born today will not, on average, survive as long as their parents has been in part attributed to our collective poor dietary habits and the lack of physical activity.

Health is not something we achieve in isolation, instead, health is something we can and must help each other attain. This includes compliance with mitigation measures during a pandemic and implementing measures, such as vaccination, to protect others. This goal of the current Upper Peninsula CHNA is to serve as an important first step in a long and robust journey toward health equity for all.

As communities move forward in community health improvement planning, non-traditional partners in healthcare, such as educators, volunteer organizations, leaders in the business community, city council members, county commissioners, and legislators need to be at the table. Regardless of the government agency involved, the health implications should be considered during the policy development process.

This report provides the foundational information for pursuing funding for programs needed to attain health improvements in our communities and be used as a baseline assessment against which to measure future community health improvement efforts. We hope the Upper Peninsula CHNA will provoke a call to action to develop strategies to ensure that all Upper Peninsula residents have opportunities to live healthier lives.

The Western U.P. Health Department wishes to thank the many people and organizations who backed this project and generously contributed their time and encouragement. The UPCHIP was initially designed and administered by former health department staff members Ray Sharp and Teresa Frankovich, MD, MPH, and this effort would not have been possible without their contributions. Kelly Kamm, PhD provided the framework for analyzing the regional surveys. Above all, a debt of gratitude is owed to the over 3,500 Upper Peninsula residents who completed the lengthy health survey in the service of improving community health. May we honor their contributions by working together for healthier communities.

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2 INTRODUCTION

How healthy are the inhabitants of the counties of the Upper Peninsula? How does one measure this? Several factors contribute to the health of our population, with some factors being easier to measure than others. Some organizations have taken it upon themselves to use available health, environmental, and demographic data to develop health rankings at a county level. For example, County Health Ranking & Roadmaps have ranked the 83 counties in Michigan for overall health and wellbeing as well as community conditions. Scores were assigned by County Health Ranking & Roadmaps based on health outcomes, length of life, quality of life, health factors, health behaviors, clinical care, social and economic factors, and physical environment. In their 2025 report, numerical rankings were not provided but each county's value was shown graphically. The average score for Michigan counties was higher than the average for counties across the United States for both health and wellbeing as well as community conditions. For the counties in the Upper Peninsula, Iron, Ontonagon, and Schoolcraft counties were below the national average for both measures. Alger, Delta, Dickinson, Houghton, Keweenaw, and Marquette counties were at or above the state average for both measures. Baraga County was between the state and national averages for health and wellbeing, but below the national average for community conditions. Chippewa was above the state average for health and wellbeing and between the two averages for community conditions. Gogebic County was at the state average for health and wellbeing and between the averages for community conditions. Luce County was at the national average for community conditions and between the averages for health and wellbeing. Mackinac County was above the averages for health and wellbeing, but below the averages for community conditions. Menominee County was able the averages for health and wellbeing, and between the averages for community conditions were between the national and the state average. [1] One area in which the counties of the Upper Peninsula excelled was air quality. Shown in **Table 2-1**, the average daily density of particulate matter (in micrograms per cubic meter) was lower than state average in all counties with the exception of Menominee County. [1] These values have been trending down since 2003, but do not include the summer of 2023 when the smoke from fires in Canadian forests negatively impacted our air quality.

It is difficult to interpret the value or the importance of these rankings as they are based on calculations generated by scores assigned to data collected by disparate sources. The accuracy and the usefulness of the data used for their calculations may be suspect. For example, some health data may not have been captured. This is often the case in Menominee County, where a large portion of its inhabitants received their health care across the river in Wisconsin. Furthermore, the formulas used to calculate the scores that form the rankings reflect the priorities of the people at County Health Ranking & Roadmaps, and may not be aligned with the priorities of people living in the Upper Peninsula. In other words, the counties in the Upper Peninsula are being judged by an external standard. The purpose of this Community Health Needs Assessment (CHNA) is to provide accurate information so the communities in the Upper Peninsula can apply this information, using their own priorities, to improve the health of their communities.

2.1 Project Background

The foundation of this report are the findings from the Upper Peninsula Health Issues and Priorities Survey (UPCHIPS) regional community health needs assessment survey conducted in the fall of 2024 by the Western Upper Peninsula Health Department (WUPHD) in collaboration with our community partners.

Table 2-1: Average Daily Particulate Matter (micrograms/cubic meter), 2020.

Region	micrograms/ cubic meter
United States	7.3
Michigan	6.7
Alger County	5.3
Baraga County	4.8
Chippewa County	5.8
Delta County	6.3
Dickinson County	5.9
Gogebic County	5.3
Houghton County	4.9
Iron County	5.4
Keweenaw County	4.4
Luce County	5.1
Mackinac County	5.7
Marquette County	5.6
Menominee County	6.8
Ontonagon County	4.9
Schoolcraft County	4.8

Data for the UPCHIPS come primarily from the survey of 3,504 residents of the 15 Upper Peninsula counties. Secondary sources of data were gleaned from the following sources: Agency for Healthcare Research and Quality, America's Health Rankings, American Academy of Child and Adolescent Psychiatry, American Community Survey, American Dental Association, American Psychiatric Association, American Society of Addiction Medicine, Center for Health Workforce Studies, Centers for Disease Control and Prevention, the Centers for Medicare & Medicaid Services, City of Marquette Ad-Hoc Housing Committee, County Health Rankings & Roadmaps, Dispense, Federal Bureau of Investigation, Feeding America, Health Resources and Services Administration, KFF Health News, Kids Count Data Center, Lake Superior State University, MI School Data, March of Dimes Peristats™, Michigan Associations of United Ways, Michigan Cannabis Information, Michigan Department of Corrections, Michigan Department of Health and Human Services, Michigan Department of State Police, Michigan Disease Surveillance System, Michigan League for Public Policy, Michigan Marijuana Regulatory Agency, Michigan Technological University, National Academies of Sciences, Engineering, and Medicine, National Alliance on Mental Illness, National Cancer Institute, National Center for Statistics and Analysis, National

Center for Homeless Education, National Center of Family Homelessness, National Council on Alcoholism and Drug Dependence, National Institute of Alcohol Abuse and Alcoholism, National Institute on Drug Abuse, NorthCare Network, Northern Michigan University, Office of the Assistant Secretary for Planning and Evaluation, Office of the Secretary of State of Michigan, Statistical Atlas, Substance Abuse and Mental Health Services Administration, Suicide Prevention Resource Center, United for ALICE, United States Bureau of Labor Statistics, United States Census Bureau, United States Department of Health and Human Services, United States Department of Housing and Urban Development, United States Department of Justice's Drug Enforcement Agency, United States Department of Justice's Bureau of Justice Statistics, United State Department of Transportation National Highway Traffic Safety Administration, United States Department of Veterans Affairs, United States Environmental Protection Agency, United States Preventive Services Task Force, the World Health Organization, and other government and private agencies.

While state and national survey data achieve their objective of globally representing the national or state population, populations like those found in the counties of the Upper Peninsula are not large enough to accurately portray the situation at the county level. To address this shortcoming and to allow us to understand the health needs of our residents more thoroughly, surveys patterned after the Behavioral Risk Factor Surveillance System (BRFS) survey, used yearly by the Centers for Disease Control and Prevention (CDC) and state health departments, were first sent out to the residents served by the Western U.P. Health Department in 2012 and again, with addition of Iron County, in 2015. In 2017, the reach of the project was extended to all 15 counties in the Upper Peninsula and a section was added for ranking the perceived importance of 16 broad community health issues. The content of the local survey, after taking input from our partners in the community, included questions on mental health, substance abuse, access to care, dementia, and elder care. The 2021 survey used the same survey tool as in 2017, which allowed assessment of any changes in responses and priorities in the 4 years between the surveys. The survey distributed in 2024 was a slightly abbreviated version of the 2017/2021 survey.

The Western U.P. Health Department would like to thank the many people and organizations who backed this project and generously contributed their time and encouragement. Above all, a debt of gratitude is owed to the over 3,500 Upper Peninsula residents who completed the lengthy health survey in the service of improving community health. We must honor their contributions by working together to use the information they have provided to secure a future with healthier communities.

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2.3 How to Use This Report

2.3.1 Report Organization

The early sections of this report contain information from secondary sources, beginning with a statistical description of the demographics (population counts, ages, racial makeup) the people living in the Upper

Peninsula, which includes data on selected social determinants of health such as poverty, unemployment, and education levels. The ability of the population to access medical care is assessed next. From there measures of maternal and infant wellbeing, health data on young children and adolescents, and vaccination rates from the Michigan Care Improvement Registry (MCIR) are reported. A summary of reportable infectious diseases is then presented using data gathered from the Michigan Disease Surveillance System (MDSS). Chronic disease and mortality statistics are the next major topics, followed by data and statistics related to mental health and substance abuse. Finally, a chapter on public safety is included.

Two final chapters of the report are devoted to the findings of the UPCHIPS. The first is the latest iteration of behavioral risk factor survey begun in the Western U.P. Health District in 2012, which estimates the prevalence of various health behaviors, medical conditions, and preventive health care practices. The last chapter is the third installment of respondents' rankings of 16 community health issues.

Finally, a dashboard of health statistics for each county is included.

2.3.2 Understanding Health Statistics

The data included in this report are generally summarized in one of four forms: trends over time, single-year tabulations, multi-year tabulations, or snapshots in time. Trends are identified when multiple years of data are available or when examining an indicator over time. Trends can provide meaningful insights into whether a problem/condition is increasing, being resolved, or not responding to interventions. Single-year tabulations or snapshots are used when a single year's worth of data or a snapshot gives a reasonably representative picture of the situation, or when trend data are not available. Multi-year tabulations are used for rare or low-probability events in which single-year calculated rates can fluctuate excessively with the addition of relatively few events. The distinction between a single-year tabulation and a snapshot is that a single-year tabulation is a count of events within a defined period, such as the number of new cases (incidence) of pertussis reported in a county within a calendar year; whereas a snapshot measures the percentage of people who fall into a category (prevalence) on a particular date (for instance, the percentage of completed immunization status for all children in a jurisdiction who are age 19-35 months on December 31).

2.3.2.1 Incidence versus Prevalence

Two main types of rates appear in this report: incidence and prevalence. *Incidence* is the rate of new (or newly diagnosed) cases of the disease occurring within a period of time (e.g., per month, per year). It is more meaningful, for comparison's sake, when the incidence rate is reported as a fraction of the population at risk of developing the disease (e.g., percentage or per 100,000 population per year). An example of this is the incidence of Lyme disease infections, which are often reported as cases per 100,000 population per year.

Cumulative incidence is the total number of cases per population that accumulate over time. Cumulative incidence is typically depicted in graphs that demonstrate the number of cases increasing with time. For example, **Figure 8-1** charts the number of confirmed and probable cases of COVID-19 per 1,000 population in each county over the course of the pandemic.

Prevalence is the number of cases alive with a particular disease or condition either during a period of time (period prevalence) or on a particular date in time (point prevalence). Period prevalence provides the better measure of the disease burden since it includes all new cases and all deaths between two dates, whereas point prevalence only counts those alive on a particular date who have not recovered from the illness. An example of point prevalence is the percentage of survey respondents ever told by a health professional they had diabetes. Another example is the percentage of survey respondents who report currently having asthma. This rate is a prevalence rate because it estimates the percentage of adults within the population currently living with asthma, but does not include those who had asthma in the past but do not have asthma currently.

2.3.2.2 Population Statistics

Several statistical concepts are useful in making the best use of the information in this report. Wherever possible, data resulting from an accounting of *all* individuals in a region appear in this report. Examples of these types of data are population statistics taken from the U.S. Census, as well as annual birth and death counts. For the time period in which they were collected, these data have little uncertainty associated with them.

2.3.2.3 Estimates and Confidence Intervals

When it is not possible or feasible to collect data on *all* individuals in a region, population estimates are made based on a survey administered to a random, hopefully representative, sample of the population. From this sample, one can make the inference that the results apply to the entire population. An example of this is political polling. Since not everyone in the population can be surveyed, only a sample of the population is contacted. Sampling error is unavoidable, so any estimate derived from the poll will have a degree of uncertainty, which is why results are reported with the qualification that "the margin of error is plus or minus X%." The more people surveyed, the closer one gets to sampling the entire population, and the less uncertainty associated with the estimate. The degree of uncertainty in the estimates is conveyed to the reader by the use of confidence intervals.[1] A *confidence interval* is the range around an estimate that conveys the precision of the estimate. A narrow interval indicates a more precise estimate. In this report, 95% confidence intervals are reported, unless otherwise noted. In determining how to interpret a 95% confidence interval, the following example may be helpful.

Suppose a survey given to a random sample of Michigan adults indicated that 23.3% ± 1.3% of those adults are current smokers. The 1.3% indicating the 95% confidence interval extends from 22.0% to 24.6%. While the best estimate, based on the data collected in the survey, is that 23.3% of Michigan adults are current smokers. If the survey was performed 100 times with the same number of respondents, the estimates from these 100 surveys would be within the range of 22.0% and 24.6% in 95 of the 100 surveys. This can also be interpreted as there being a 5% chance that the current adult smoking rate is lower than 22.0% or higher than 24.6%.

When comparing estimates that have confidence intervals associated with them, non-overlapping confidence intervals are an indication that a *statistically significant* difference exists between the two groups being compared. If confidence intervals overlap, then a statistically significant difference is unlikely to exist.

[1] These intervals do not take into account response errors, which result if data is incorrectly requested, provided, or recorded.

The span of the confidence interval is dependent principally on the number of people surveyed, so readers will note that Michigan rates given in this report, which are drawn from thousands of data points, generally have narrower confidence intervals than county estimates, which are drawn from only several hundred respondents each. As a result, state-level estimates are more trustworthy than county-level estimates.

2.3.2.4 Infrequent Events and Effect on Rates

A rate of a particular event occurring within a population is calculated by dividing the number of events by the number of persons in the population of interest (or at risk). A small number of events in the numerator of this calculation results in a rate that is highly sensitive to small changes in the numerator. For example, recording two events versus one event will in effect double the observed rate in the same manner as four events is doubling of two events. For example, in calculating the 14-day average number of cases of COVID-19 per million per day in Keweenaw County, a single case increases the rate by 32.98 cases per million per day, while a single case in Marquette County increases the rate by 1.07 cases per million per day.

In general, having less than twenty events in the numerator is prone to yield an unreliable result because of random error. For this reason, some secondary sources do not publish rates for events with fewer than six, 10, or 20 occurrences over a specified time interval. Additionally, sensitive health data are often suppressed when there are only a few events in a given time period at the county level in order to protect individual privacy. When the number or rate is not available, that fact will be connoted by using the (*) symbol in data tables.

2.3.2.5 Weighting and Adjusting

Throughout this assessment, some estimates have been *weighted or adjusted*, most commonly for age, sex, income, educational achievement, or region, to make comparing numbers from two populations more meaningful. For example, the population in the Upper Peninsula is, on average, older than the population of Michiganders living below the bridge. Certain diseases, such as heart disease, lung disease, and diabetes, are more likely to affect people as they age. Similarly, some diseases, such as gonorrhea, some events – such as motor vehicle accidents and homicides, and some behaviors – such as binge drinking, are seen more frequently in younger people. The raw, unadjusted rate of deaths from heart disease in the Upper Peninsula is higher than the raw rate in the Lower Peninsula. Is the higher rate in the Upper Peninsula because people are older in the Upper Peninsula or because they were actually dying more frequently from heart disease? Weighting/adjusting involves taking the number of outcomes in each age group and multiplied this number by the percentage of the corresponding age groups in a standard population. So, if you had 200 heart disease deaths in the Upper Peninsula in those over 65, which made up 19% of the population, you would multiply the 200 deaths by the 12% of those over 65 in the standard population. As a consequence, the weight of the 200 deaths in a standard population would be less. On the other end, any events seen in younger populations would be weighted more to align with the standard population. After the weighting/adjustments are completed for both populations, the rates of disease that result are more comparable as they would no longer be influenced by the difference in age between the two populations.

2.4 Geographic Scope of Report

This community health needs assessment covers the 15 Upper Peninsula counties of Michigan: Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft counties, an area bounded by Lake Superior to the north, and the state of Wisconsin and lakes Michigan and Huron to the south.

References

[1] County Health Rankings & Roadmaps 2025. Michigan: Data by County. countyhealthrankings.org/health-data/michigan?year=2025.

3 DEMOGRAPHICS

3.1 Introduction

Demography, the starting point for a community health needs assessment, is the study of the statistical characteristics of a population; of its various cohorts such as age, gender and ethnic groups; and of trends and rates of change. Demographics provide a count of people living in a county, region, or catchment area for health care services. Trends in population growth or decline are useful in planning for future programs and resource allocations. Furthermore, the distribution of a population among its subsets or cohorts can be used to understand the needs of residents in greater detail.

Age and gender are the two most important demographic characteristics in health assessment. Many health conditions, diagnoses, and procedures, such as pregnancy, prostate cancer, and mammography, are sex-exclusive. Similarly, age is a primary factor in planning for prevention and health care services. The health care needs of infants, pre-adolescents, teens, young adults, and older adults vary greatly. Guidelines for preventive services, including vaccinations and cancer screenings, are age-specific. In general, rates of disease, disability, and mortality increase with age. Regions, such as the Upper Peninsula, with a higher percentage of older adults can expect to have higher gross rates of the age-related diseases such as heart disease, cancer, stroke, and chronic obstructive pulmonary disease (COPD).

3.2 Population Change

The decennial census is a count of everyone residing in the United States, both citizens and non-citizens. A person's "usual residence" determines the address at which he or she is counted during the census. Usual residence is defined as the place where a person lives and sleeps most of the time. This place is not necessarily the same as the person's voting residence or legal residence. Two notable outcomes of the "usual residence" principle are that full-time college students are counted toward the population of the county in which the campus is located, and incarcerated persons are counted toward the population of the county in which the correctional facility is located. For the 2022-2023 school year, 7,692 students attended Northern Michigan University in Marquette County, 6,117 students at Michigan Technological University in Houghton County, 2,060 students at Lake Superior State University in Chippewa County, 2,616 students at Bay De Doc Community College, 713 students at Bay Mills Community College, 713 students at Gogebic Community College, and 173 (2020-2021 school year) student at Keweenaw Bay Ojibwa Community College/Niiwin Akeaa Center. [1]

The Upper Peninsula is home to six state correctional facilities, which house only men.[2] Given several of these facilities are located in counties with relatively small populations, the demographic characteristics of these men impact county-level demographic measures. **Table 3-1** provides information from the Michigan Department of Corrections *2022 Statistical Report*. [2]

[2] Alger Correctional Facility, Baraga Correctional Facility, Chippewa Correctional Facility, Kinross Correctional Facility, Marquette Branch Prison, and Newberry Correctional Facility.

Table 3-1: Upper Peninsula Department of Correction Facilities, 2024					
Facility	County	Number of inmates	Identify as White	Percentage	Median Age
Alger Correctional Facility	Alger	764	218	28.5	33
Baraga Correctional Facility	Baraga	710	171	24.1	33
Chippewa Correctional Facility	Chippewa	1639	599	36.5	38
Kinross Correctional Facility	Chippewa	1275	424	33.3	43
Marquette Branch Prison	Marquette	608	315	51.8	36
Newberry Correctional Facility	Luce	1028	432	42.0	39
Total		6024	2159	36.0	

The population in the Upper Peninsula continues to decline. **Table 3-2** lists the population by county in 2000, 2010, 2020 and 2023. The percentage change in population by county from 2010 through 2023 is shown in **Figure 3-1**. [3]

Overall, the Upper Peninsula has seen a 4.56% population decrease since 2000, a 2.65% decrease since 2010, and a 1.02% increase since 2020. Michigan's population has seen slight increases and decreases over this period but is up 0.99% since 2000 and 1.02% since 2010. The counties with the largest declines in population since 2020 were Ontonagon, Gogebic, Iron, Luce, and Menomonee counties with decreases of 24.46%, 18.11%, 10.64%, 8.39%, and 9.40%, respectively. Marquette County has seen an increase (3.66%) since 2000, but a minimal decrease (0.01%) since 2010. The sudden drop in population in Gogebic County from 2018 to 2019 may reflect the closure of the Ojibway Correctional Facility, but the county has seen a 2.76% increase since 2020.

Table 3-2: Population Changes from 2000 through 2023						
Year	2000	2010	2015	2020	2023	Percent Change from 2000
Michigan	9,938,444	9,883,640	9,900,571	9,984,795	10,037,261	0.99%
Upper Peninsula	317,616	311,361	309,071	296,181	303,123	-4.56%
Alger	9,862	9,601	9,476	9,015	8,757	-11.20%
Baraga	8,746	8,860	8,690	8,164	8,310	-4.99%
Chippewa	38,543	38,520	38,586	36,958	36,264	-5.91%
Delta	38,520	37,069	36,712	35,612	36,790	-4.49%
Dickinson	27,472	26,168	26,012	25,112	25,982	-5.42%
Gogebic	17,370	16,427	15,824	13,842	14,224	-18.11%
Houghton	36,016	36,628	36,660	35,126	37,599	4.40%
Iron	13,138	11,817	11,507	11,066	11,740	-10.64%
Keweenaw	2,301	2,156	2,198	2,119	2,172	-5.61%
Luce	7,024	6,631	6,477	6,126	6,435	-8.39%
Mackinac	11,943	11,113	11,044	10,839	10,851	-9.14%
Marquette	64,634	67,077	67,582	65,834	66,999	3.66%
Menominee	25,326	24,029	23,717	22,608	22,945	-9.40%
Ontonagon	7,818	6,780	6,298	5,656	5,906	-24.46%
Schoolcraft	8,903	8,485	8,288	8,104	8,149	-8.47%

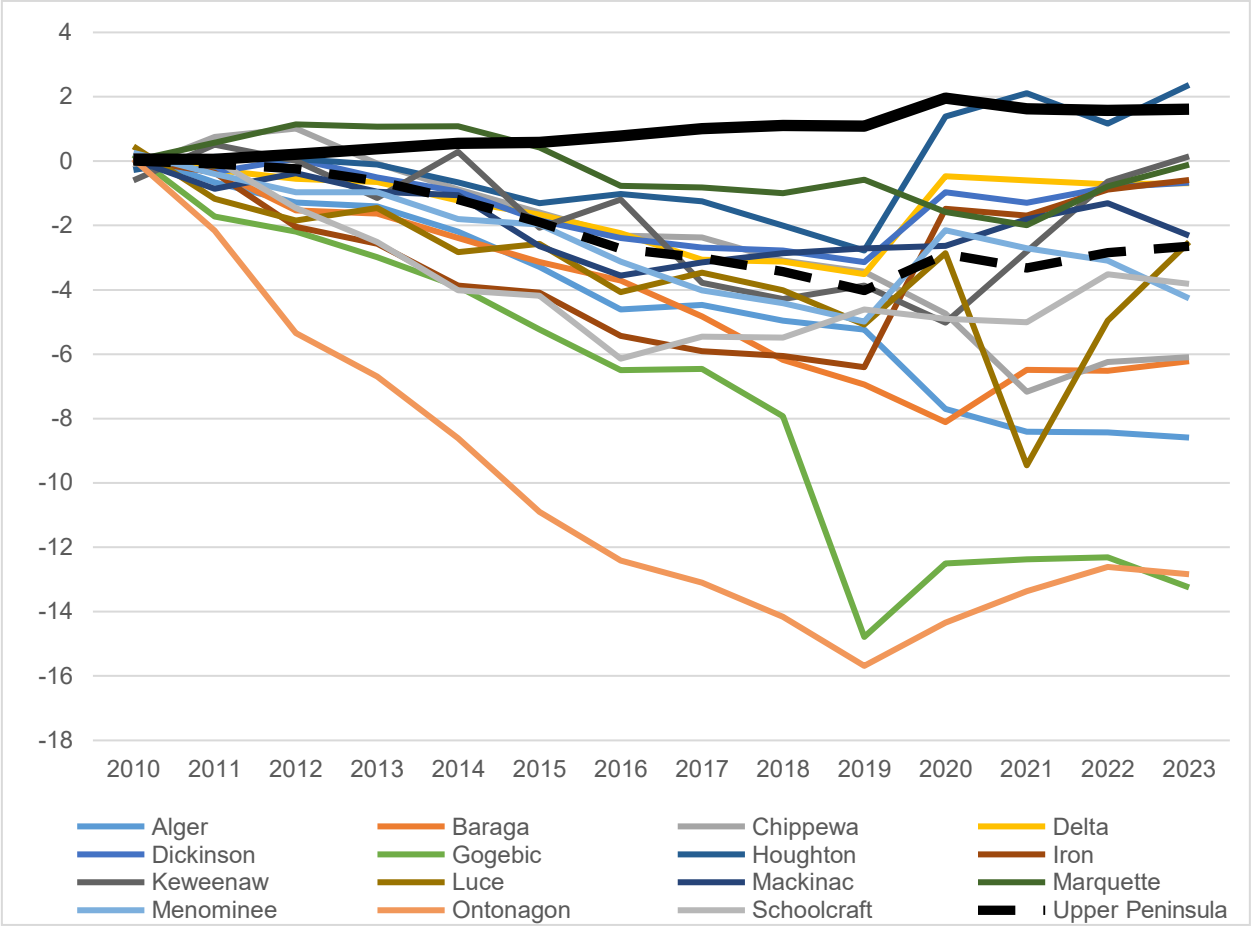


Figure 3-1: Percentage change in population by county beginning 2010.

3.3 Age Distribution

The Upper Peninsula has a higher percentage of persons 65 years and older (24.2%) than the entire state of Michigan (19.2%). These percentages are increased from 2020 (17.7% and 22.9%, respectively). Alger, Delta, Gogebic, Iron, Keweenaw, Mackinac, Menominee, Ontonagon, and Schoolcraft counties are among the demographically oldest counties in Michigan. The age distribution for the counties in the Upper Peninsula are shown in **Table 3-3** and **Figure 3-2**. If the college populations in Chippewa, Houghton, and Marquette Counties and the prison populations in Alger, Baraga, Chippewa, Luce, and Marquette counties are subtracted, the percentage of those 65 years and older increases from 27.7% to 30.3% in Alger County, from 23.3% to 25.5% in Baraga County, from 19.9% to 23.1% in Chippewa County, from 18.4% to 22.0% in Houghton County, from 24.1% to 28.7% in Luce County, and from 20.7% to 23.6% in Marquette County. Making this adjustment for the entire Upper Peninsula, the percentage of persons 65 years and older increases from 24.2% to 26.1%.

Statewide, the median age for Michigan increased from 2013 through 2023. [6] Men increased from 38.0 to 39.2, women increased from 40.8 to 41.6. For both sexes combined, the median increased from 39.5 to 40.4. [4]

Table 3-3: Age Distribution by County, 2023			
	Percentage less than 5 years of age	Percentage less than 18 years of age	Percentage 65 years and older
Michigan	5.3%	21.0%	19.2%
Upper Peninsula	4.3%	17.8%	24.2%
Alger	3.9%	14.5%	27.7%
Baraga	4.7%	17.3%	23.3%
Chippewa	4.3%	17.9%	19.9%
Delta	4.5%	19.0%	26.6%
Dickinson	4.7%	19.8%	24.9%
Gogebic	3.7%	16.2%	30.1%
Houghton	4.9%	19.6%	18.4%
Iron	3.4%	17.0%	32.3%
Keweenaw	2.9%	15.3%	36.5%
Luce	4.2%	16.2%	24.1%
Mackinac	3.9%	14.9%	30.6%
Marquette	4.4%	17.6%	20.7%
Menominee	3.6%	16.8%	27.8%
Ontonagon	3.0%	12.5%	38.7%
Schoolcraft	4.4%	18.0%	29.3%

3.4 Housing

Using U.S. Census terminology, the household refers to the person in whose name the housing unit is owned or rented. A housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is intended to be occupied as separate living quarters. Not included are group quarters, such as dormitories, prisons, or nursing homes where ten or more unrelated persons live.

Housing units across the Upper Peninsula decreased from 185,009 units in 2013 to 179,689 units in 2023. [5] All counties experienced a decrease, with the exception of Houghton and Iron counties. Houghton increased by 421 housing units and Iron by 29 during the ten-year period. The greatest loss of housing units between 2013 and 2023 in the Upper Peninsula was in Menominee County at 948, followed by Chippewa and Marquette counties with a decline of 893 housing units each. [6]

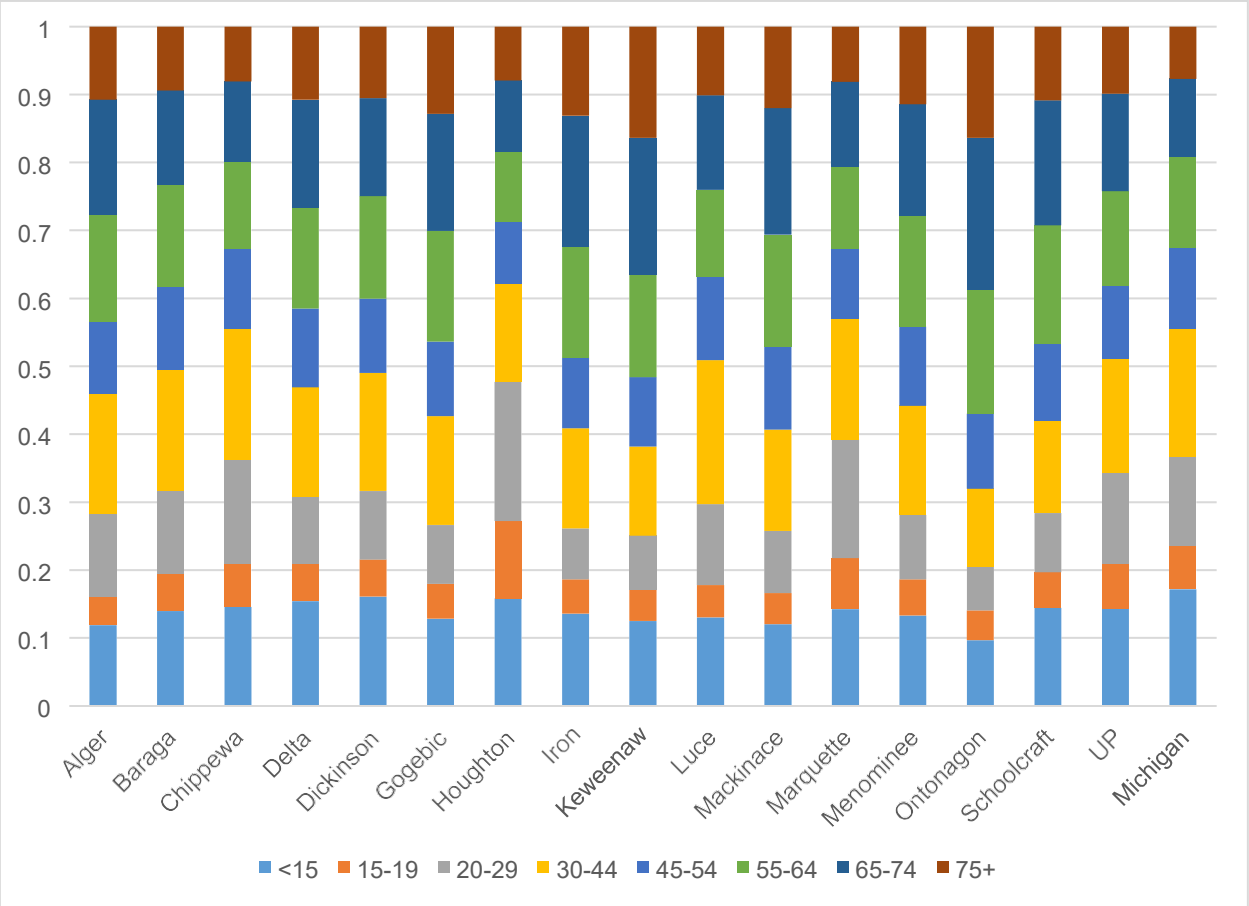


Figure 3-2: Percentage of population by age group, 2023.

In **Table 3-4**, the median value of owner-occupied housing and the median gross rent payments by county are shown. [7]

The percentage of housing units that are owner-occupied, by county, and the percentage whose rent or housing costs exceed 35% of household income are also shown in **Table 3-5**. [8] The percentage of households with at least one of four problems (overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities) from 2013 through 2017 as well as from 2016 through 2020 for each county is shown in **Table 3-6**. [9]

While the entire nation is facing a housing crisis, the effects may be more acute in the Upper Peninsula. Universities have conveyed their difficulties in recruiting faculty and staff from outside the area because of the paucity of housing, let alone affordable housing. The housing shortage is impacting all income strata. The lack of housing may be from the pause in housing construction during the COVID-19 pandemic, the influx of climate refugees, and the conversion of year-round residences to short-term rental partners. For example, the City of Marquette has 250 licenses for residential properties to operate as short-term rentals. This translates into 250 families being unable to buy and occupy a year-round residence.

Table 3-4: Housing Values and Median Rents by County, 2018-2022						
Region	Percent housing units owner-occupied	Median value of owner-owned housing	Median gross rent (2014-2018)	Percentage of those with rent more than 35% of household income	Percentage of those with housing cost, with a mortgage, more than 35% of income	Percentage of those with housing cost, without a mortgage, more than 35% of income
Michigan	72.5%	$201,100	$1,037	40.0%	16.9%	10.7%
Alger	81.9%	$156,500	$716	23.5%	21.3%	9.6%
Baraga	76.9%	$121,700	$562	28.5%	19.9%	6.0%
Chippewa	73.6%	$142,000	$785	43.1%	15.6%	8.3%
Delta	78.4%	$139,200	$655	30.6%	20.2%	7.8%
Dickinson	83.2%	$122,600	$710	38.1%	10.5%	5.6%
Gogebic	82.6%	$87,800	$503	34.8%	16.0%	11.1%
Houghton	69.0%	$129,200	$743	45.6%	13.7%	6.9%
Iron	84.1%	$95,800	$627	26.0%	27.2%	12.4%
Keweenaw	93.3%	$155,900	$638	24.6%	19.7%	7.3%
Luce	82.4%	$104,600	$746	50.3%	17.6%	7.9%
Mackinac	76.0%	$157,000	$749	32.2%	20.2%	8.8%
Marquette	71.2%	$184,300	$904	44.8%	15.2%	6.9%
Menominee	80.6%	$132,200	$663	30.0%	13.9%	9.2%
Ontonagon	88.4%	$89,700	$545	33.9%	18.8%	11.0%
Schoolcraft	84.3%	$129,100	$572	37.1%	20.8%	9.2%

Median value of owner-owned housing from 2019 to 2022 increased between 18.1% (Schoolcraft County) and 38.0% (Menominee County) in the counties in the Upper Peninsula (**Table 3-4**). The data in **Table 3-4** is from 2022 and housing prices have only accelerated since then. For example, in Marquette County the median value of an owner-owned house was $149,000 in 2019 and $184,300 in 2020, yet, according to Rocket Homes, in July 2024 the median price for house sales in Marquette County was $299,000 (a 100.7% increase from 2019 and a 62.2% increase from 2022). In the City of Marquette in August 2024, the median home sales price was $314,000. The high price of barrier of buying a home, let

Table 3-5: Housing Statistics by County, 2018-2022				
Region	Percent housing units owner-occupied	Percentage of those with rent more than 35% of household income	Percentage of those with housing cost, with a mortgage, more than 35% of income	Percentage of those with housing cost, without a mortgage, more than 35% of income
Michigan	72.5%	40.0%	16.9%	10.7%
Alger	81.9%	23.5%	21.3%	9.6%
Baraga	76.9%	28.5%	19.9%	6.0%
Chippewa	73.6%	43.1%	15.6%	8.3%
Delta	78.4%	30.6%	20.2%	7.8%
Dickinson	83.2%	38.1%	10.5%	5.6%
Gogebic	82.6%	34.8%	16.0%	11.1%
Houghton	69.0%	45.6%	13.7%	6.9%
Iron	84.1%	26.0%	27.2%	12.4%
Keweenaw	93.3%	24.6%	19.7%	7.3%
Luce	82.4%	50.3%	17.6%	7.9%
Mackinac	76.0%	32.2%	20.2%	8.8%
Marquette	71.2%	44.8%	15.2%	6.9%
Menominee	80.6%	30.0%	13.9%	9.2%
Ontonagon	88.4%	33.9%	18.8%	11.0%
Schoolcraft	84.3%	37.1%	20.8%	9.2%

alone securing a mortgage, has force more people to live in rental properties. This increase in demand has increased the price of rent. With income being diverted to increasing rent, it is more difficult to save enough to make a down payment on a home. A common avenue for a family to accumulate wealth is to buy a house and use money currently diverted to rent payments to build equity. With the current high prices of homes and high rent payment, a new generation is being denied the opportunity to build personal wealth.

Table 3-6: Percentage of Households with Housing Problems

Location	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities (2016-2020)
Michigan	13
Alger	12
Baraga	11
Chippewa	12
Delta	10
Dickinson	10
Gogebic	10
Houghton	15
Iron	12
Keweenaw	11
Luce	10
Mackinac	14
Marquette	12
Menominee	9
Ontonagon	11
Schoolcraft	10

Typically housing costs should not exceed 30% of the household income. Not surprisingly, renters were much more likely to exceed the recommended portion of income dedicated to housing, followed by those with mortgages, and then by those without mortgages. Property taxes are included in owner housing costs, so a senior citizen living on a fixed income could have no mortgage but still have high costs because of property taxes.

The 2017, 2021, and 2024 UPCHIPS inquired how many adults were living in the household. The raw average number of adults in household was 1.72, 1.75, and 1.73, respectively. There was no statistically significant difference between these estimates (F= 1.18, p=.3060) There was no difference based on the gender of the people completing the survey in 2017 and 2021, but women reported higher numbers in 2024 (2017: t=1.07, p=.2860; 2021: t=-0.08, p=.9392; 2024: difference 0.12, 95%CI: 0.075, 0.169; t=5.12,

p<.0001). The number of adults in household decreased with the age of the person completing the survey (2017: t=-15.33, p<.0001; 2021: t-14.88, p<.0001; 2024: t=-13.53, p<.0001). The average was 1.89 (2017), 2.02 (2021), and 1.93 (2024) in those 18 to 39 years of age, 1.83 (2017), 1.89 (2021), and 1.89 (2024) in those 40 to 64 years, and 1.63 (2017), 1.64 (2021), and 1.60 (2024) in those 65 years and older. The trend is statistically significant (2017: t=-11.70, p<.0001; 2021: t=-11.57, p<.0001; 2024: t=11.44, p<.0001). As annual income increases, the raw average number of people in the household also increases. In those earning less than $25,000 per year, the average number of people in the household was 1.41 in 2017, 1.42 in 2021, and 1.42 in 2024. For those earning $25,000 to $49,999 the average was 1.75 in 2017, 1.72 in 2021, and 1.67 in 2024, and 1.98 in both 2017 and 2021 and 1.73 in 2024 in those earning $50,000 or more (trend: 2017: t=26.45, p<.0001; 2021: t=19.55, p<.0001; 2024: t=17.48, p<.0001). As education level increased, the number of adults in the home also increased (t=6.72, p<.0001). For those with less than a high school education the average number of adults in the home was 1.58 in 2017, 1.56 in 2021, and 1.58 in 2024, while those with a high school degree or equivalent the average was 1.68 (2017), 1.69 (2021), and 1.67 (2024). For those with some college the average was 1.75 (2017), 1.73 (2021), and 1.75 (2024) and for those with a bachelor's degree or higher it was 1.78 (2017), 1.84 (2021), and 1.73 (2024). The trend was statistically significant (2017: t=5.50, p<.0001; 2021: t=5.63, p<.0001; 2024: t=3.84, p=.0001). The differences between counties was statistically significant in the 2017 survey (F=2.10, p=.0114), but not in the 2021 survey (F=1.13, p=.3242) or the 2024 survey (F=0.93, p=.5156). When the data from the three surveys are combined and placed in a multivariate analysis, county of residence (p=.8557) was not a significant factor, but age (p<.0001), income level (p<.0001), education level (p<.0001) and gender (p=.0048) were significant factors.

3.4.1 Seniors Living Alone

Most older adults live in private homes or apartments for the majority of their senior years and may need supportive services based on their health, level of independence, and the availability of relatives or friends to assist them. The region has a higher percentage of older adults living alone, highlighting the ongoing need for primary care, medical specialties, medical transportation, home nursing, and social and emotional supports for older adults. **Table 3-7** shows the percentage of occupied housing units for which the householder is age 65 or older and living alone, according to data collected in the American Community Survey from 2014 to 2018 and from 2018 to 2022. [10]. Of those 60 years and older, 27.5% in Michigan and 25.7% nationally report living alone. [11]

In all three UPCHIPS surveys it was asked how many adults were living in the household, including the person completing the survey. For those 65 years of age and older in the 2024 survey, the percentage who responded that there was only one adult in the household was 43.7%. The percentages at the county level are provided in **Table 3-8**. Women who completed the survey were more likely than men completing the survey to report being the only adult in the household in all three surveys (2017: 47.9% versus 33.4%, OR=1.83, 95%CI: 1.56, 2.16; 2021: 45.8% versus 34.0%, OR=1.62, 95%CI: 1.35, 1.94; 2024 45.6% versus 40.7%, OR=1.22, 95%CI: 1.02, 1.47). The percentage of those reporting living alone in the UPCHIPS may be higher than reported in the American Community Survey because the question could be misinterpreted as asking for the number of *additional* adults in the household. It is unclear how many respondents 65 years and older misinterpreted the question. If the question was misinterpreted one would expect that it was misinterpreted consistently across the counties and across surveys.

Table 3-7 Percentage of Seniors Living Alone, 2014-2018, 2018-2022		
	Percent of those 65 years and older living alone	
	2014-2018	2018-2022
Michigan	11.6%	8.4%
Alger	17.4%	7.1%
Baraga	12.8%	6.0%
Chippewa	13.2%	9.7%
Delta	14.9%	10.1%
Dickinson	19.0%	9.3%
Gogebic	18.4%	11.7%
Houghton	13.8%	8.6%
Iron	20.5%	10.7%
Keweenaw	17.0%	10.7%
Luce	15.0%	9.2%
Mackinac	14.3%	7.8%
Marquette	12.2%	7.7%
Menominee	15.9%	8.9%
Ontonagon	18.0%	9.1%
Schoolcraft	15.5%	10.8%

3.4.2 Homelessness in Children

The Department of Housing and Urban Development (HUD) considers an individual to be "literally homeless" if they are living in a shelter, in transitional housing, or in places not meant for human habitation. [12] Educational institutions use the more expansive definition as laid out in the McKinney-Vento Homeless Assistance Act. This would include the chronically homeless, the episodically homeless, the transitionally homeless, and the provisionally occupied — often referred to as the "hidden homeless" who "couch surf," double up in the homes of others, and live in hotels — who have no immediate prospects for acquiring permanent housing and temporarily live with others without a guarantee of being able to stay on a long-term basis.[13] In Michigan among those ungraded 3 to five years of age and kindergarten through twelfth grade 32,935 (2.2%) for school year 2019-2020, 26,867 (1.9%) for school year 2020-2021, and 28,724 (2.0%) for school year 2021-2022. Of the homeless

Table 3-8: UPCHIPS: 65 Years and Older Living Alone, 2017, 2021, 2024			
County	2024	2021	2017
Alger	38.6%	37.4%	42.3%
Baraga	42.8%	43.5%	37.6%
Chippewa	46.0%	37.8%	35.8%
Delta	40.9%	46.3%	42.2%
Dickinson	46.2%	41.5%	51.0%
Gogebic	45.9%	39.5%	54.4%
Houghton/Keweenaw	51.5%	40.1%	39.0%
Iron	40.2%	36.7%	42.8%
Luce	51.4%	45.0%	44.4%
Mackinac	43.0%	34.5%	38.0%
Marquette	43.1%	38.0%	37.2%
Menominee	45.5%	44.9%	45.6%
Ontonagon	43.6%	44.7%	39.7%
Schoolcraft	35.5%	43.0%	38.5%

identified in Michigan in school year 2021-2022, 388 (1.35%) identified as Native American, 183 (0.64%) as Asian, 8009 (27.88) as Black, 3365 (11.71) as Hispanics, 45 (0.16%) as Native Hawaiian/Pacific Islander, 2196 as two or more races, and 14,538 (50.61%) as White. Nationally, those identifying as Native American are 1.9 times more likely to be homeless. Nationally, among those reporting homeless, 75.96% were “doubling-up” (sharing housing with other because of loss of housing, economic hardship, or a similar reason), 10.87% lived in shelters or transitional housing, 8.85% lived in a hotel or motel, and 4.27% were unsheltered. [14] The trends for student homelessness in Michigan from 2013 through 2023 are shown in **Figure 3-3** and **Figure 3-4**.

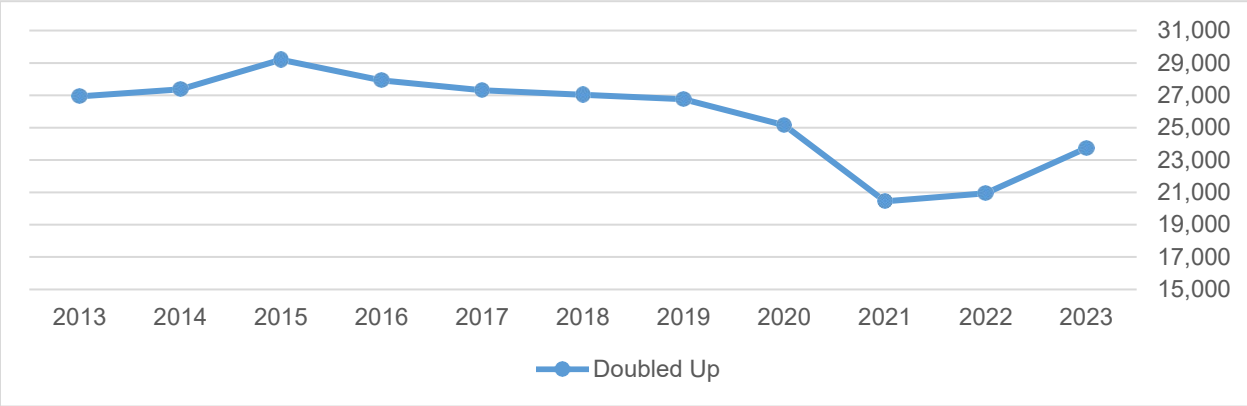


Figure 3-3: Michigan student homelessness — sharing housing with others, 2013-2023

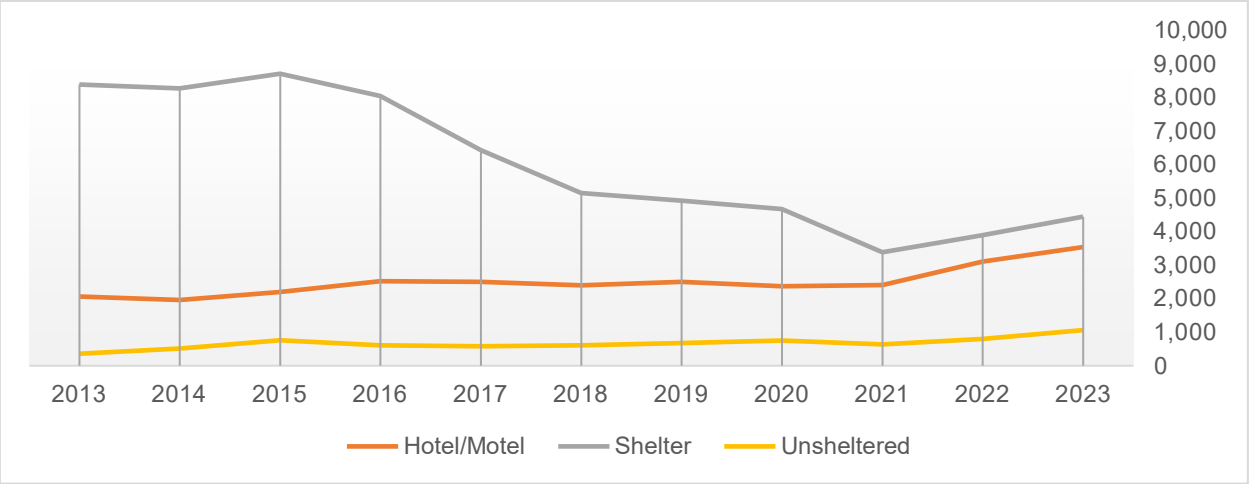


Figure 3-4: Michigan student homelessness, 2013-2023

3.5 Race and Ethnicity

In the UPCHIPS, people were not asked about their racial or ethnic identity, so local survey results by race or ethnicity are not available. Instead racial and/or ethnic identity data were gleaned from United State Census Bureau and presented in **Table 3-9**. [16] The Upper Peninsula is overwhelmingly White (87.6%), even more than Michigan as a whole (78.7%). Houghton County's population identifying as Asian (2.6%) is partly attributed to the diversity of students and staff associated with Michigan Technological University.

These data include students attending colleges and universities and men incarcerated at correctional facilities. The lower percentage of incarcerated white men may be responsible for the increased percentage of those identifying as Black/African Americans reported living in Alger, Baraga, Chippewa, and Luce counties. If the incarcerated men are removed from the census numbers, the percentage of those identifying as White increases from 83.8% to 89.1% in Alger County, from 73.1% to 77.7% in Baraga County, from 70.7% in 73.8% in Chippewa County, from 77.2% to 84.1% in Luce County, and from 93.3% to 93.7% in Marquette County.

Native Americans form the largest minority group in the region, with concentrated populations in Baraga, Chippewa, and Mackinac counties. In Baraga County, 13.9% of the population identified as "American Indian or Alaska Native," while in Chippewa County the percentage was 16.6%. When excluding the incarcerated population housed at the correctional facilities in these counties, the figures climb to 15.1% and 18.1%, respectively.

3.6 Educational Attainment / Internet Access

The highest level of education achieved and access to computer and broadband internet according the United States Census Bureau are listed in **Table 3-10**. Persons in the Upper Peninsula were more likely to finish high school but less likely to earn a bachelor's degree or higher than all those living in Michigan.

Table 3-9: Racial/Ethnic Identification by County

	White	Black	Native American	Asian	Two or more Races	Hispanic
Michigan	78.7%	14.1%	0.8%	3.6%	2.8%	6.0%
Upper Peninsula	87.6%	3.1%	5.6%	0.7%	3.0%	2.1%
Alger	83.8%	7.7%	4.7%	0.5%	3.3%	1.8%
Baraga	73.1%	7.9%	13.9%	0.4%	4.7%	2.0%
Chippewa	70.7%	6.1%	16.6%	0.7%	5.7%	2.3%
Delta	92.9%	0.5%	2.9%	0.6%	3.1%	1.5%
Dickinson	95.7%	0.6%	1.1%	0.8%	1.8%	2.1%
Gogebic	93.0%	0.8%	3.3%	0.5%	2.3%	2.1%
Houghton	94.0%	1.1%	0.8%	2.6%	1.5%	1.9%
Iron	95.1%	0.8%	1.6%	0.5%	2.0%	2.4%
Keweenaw	97.1%	0.3%	0.4%	0.2%	2.0%	1.6%
Luce	77.2%	13.1%	5.8%	0.3%	3.6%	2.1%
Mackinac	73.9%	4.2%	15.9%	1.1%	5.0%	2.6%
Marquette	93.3%	1.6%	2.1%	0.8%	2.2%	2.1%
Menominee	93.5%	1.0%	3.2%	0.5%	1.8%	2.7%
Ontonagon	95.0%	0.5%	2.1%	0.7%	1.8%	1.9%
Schoolcraft	85.2%	0.7%	9.6%	0.4%	4.1%	1.8%

Access to broadband internet was lower in all counties of the Upper Peninsula than for Michigan as a whole. The rates of high school completion were lower in the counties with correctional facilities, which may reflect the highest level of education achieved by those incarcerated.

Not surprisingly, the two counties, Houghton and Marquette, with large universities and medical facilities had the highest percentage of the population with a bachelor's degree or higher. Such organizations often employ a significant number of persons possessing advanced degrees.

The levels of educational achievement reported in the UPCHIPS are shown in **Table 13-2** county level in **Tables 13-3** through **13-16**. In both the 2017 and the 2021 UPCHIPS men were found to have higher levels of education than women (2017: χ^2_3=19.88, p=.0002; 2021: χ^2_3=9.82, p=.0201; 2024: χ^2_3=9.96, p=.0190). The level of education also varied significantly by county of residence (2017: χ^2_{39}=106.97, p<.0001; 2021: χ^2_{39}=66.60, p<.0001; 2024: χ^2_{26}=105.76, p<.0001). The impact of the level of educational achievement on risk for chronic disease are discussed in Chapter 9.

Table 3-10: Levels of Education and Broadband Internet Access, 2018-2022				
	High School Education or Higher	Bachelor's Degree or Higher	Percent Households with Computer	Percent Households with Broadband Internet
Michigan	91.8%	31.1%	93.4%	87.8%
Upper Peninsula	93.8%	25.8%	90.0%	83.3%
Alger	93.7%	20.7%	91.2%	83.0%
Baraga	91.3%	15.6%	87.4%	80.2%
Chippewa	92.3%	22.9%	90.4%	85.9%
Delta	92.3%	19.7%	89.4%	83.7%
Dickinson	96.0%	23.9%	91.0%	85.5%
Gogebic	96.2%	22.4%	86.6%	81.7%
Houghton	94.2%	35.8%	90.3%	84.8%
Iron	92.7%	19.9%	86.2%	77.1%
Keweenaw	98.1%	38.3%	93.9%	82.1%
Luce	91.8%	17.3%	87.6%	80.1%
Mackinac	92.6%	25.7%	91.6%	81.1%
Marquette	95.4%	34.7%	92.3%	83.6%
Menominee	92.7%	16.7%	86.2%	80.7%
Ontonagon	93.6%	15.2%	88.2%	81.9%
Schoolcraft	89.0%	20.1%	90.4%	84.5%

3.7 Unemployment

The United States Department of Labor Bureau of Labor Statistics reports unemployment numbers and percentages.

In 2023, the highest average unemployment rates were reported in Mackinac (8.9%), Alger (7.7%), Ontonagon (7.0%), and Baraga (6.2%) counties. [17] **Figure 3-5** provides unemployment estimates over time by county.

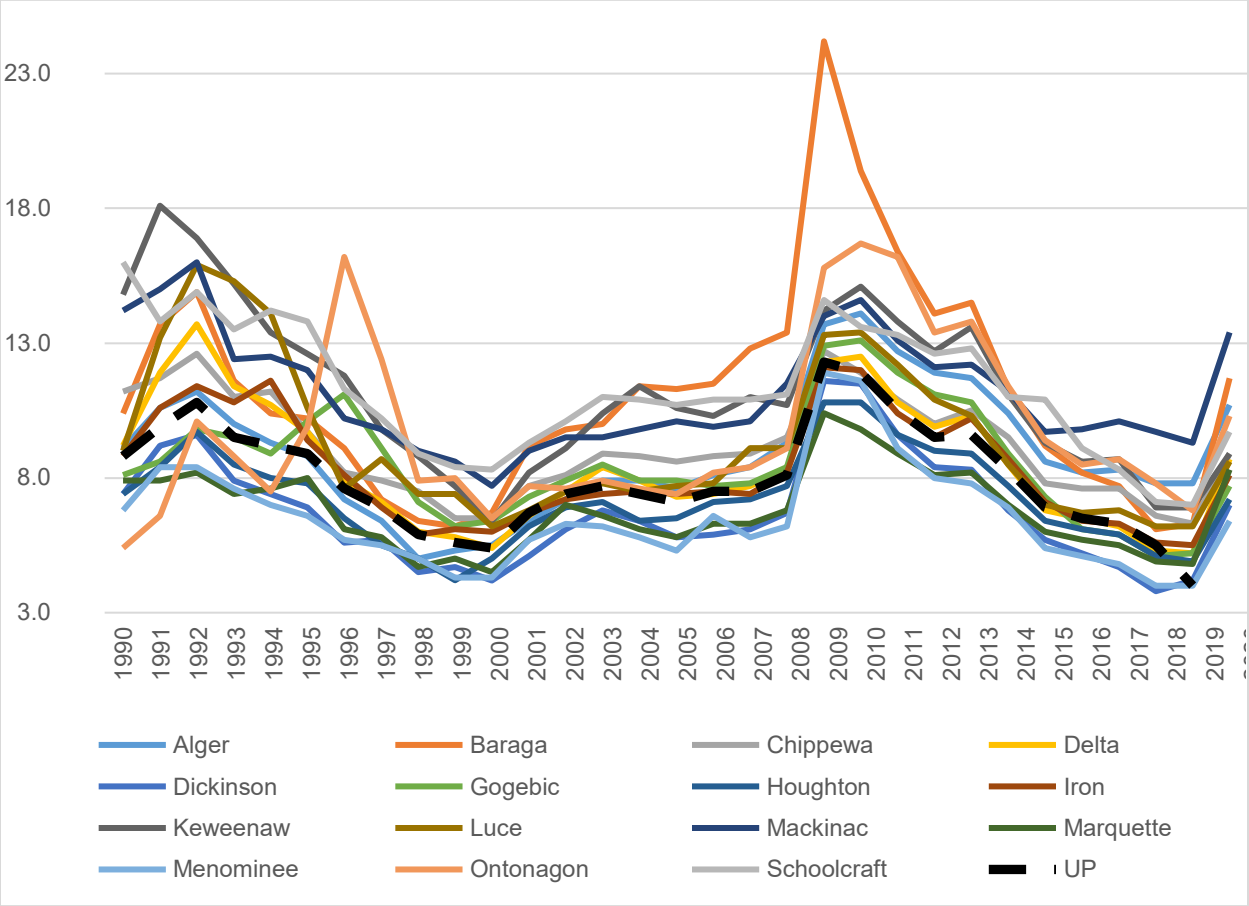


Figure 3-5: Annual unemployment rate by county from 1990 through 2024

3.8 Income and Poverty

Income and poverty are very strong social determinants of health. **Table 3-11** provides data on average household income, poverty rates, income stratification, the percentage of families with children who live below the poverty level, and the ratio of household income for those earning at the 80th percentile to those earning at the 20th percentile. [18,19] The median household income and the per capita income for all counties in the Upper Peninsula are below the Michigan values.

The income levels reported in the UPCHIPS are shown in **Table 13-2** with county level values in **Tables 13-3** through **13-16**. In all three UPCHIPS surveys, men were found to have higher levels of income than women (2017: χ^2_2=14.67, p=.0007; 2021: χ^2_2=15.64, p=.0004; 2024: χ^2_2=6.41, p=.0405). The level of education also varied significantly by county of residence (2017: χ^2_{26} 106.97, p<.0001; 2021: χ^2_{26} 110.48, p<.0001; 2024: χ^2_{26}=99.96, p<.0001). The impact on income level on the risk of chronic diseases is discussed in Chapter 9.

While the government sets the poverty threshold, researchers have developed methods to identify the households with employed individuals that exceed the poverty threshold but unable to make ends meet financially. These households have been described as **A**sset **L**imited, **I**ncome **C**onstrained, **E**mployed (ALICE). To fall into this category, a household's income must exceed the poverty threshold and fall below the Household Survival Budget, which is calculated based on the minimal combined local costs of

Table 3-11: Income and Poverty by County

	Median Household Income (2022)	Per Capita Income	Percentage persons in poverty	Percentage of families with children less than 18 years of age in poverty	Household income less than $25K	Household income $25,000 to $49,999	Ratio of household income at 80th percentile to income at the 20th percentile
Michigan	$68,505	$37,929	13.4%	14.7%	16.6%	20.3%	4.6
Alger	$55,528	$25,099	11.3%	6.4%	19.8%	23.5%	3.8
Baraga	$51,911	$28,665	14.2%	17.6%	11.1%	25.2%	4.6
Chippewa	$58,408	$31,167	13.4%	19.4%	12.4%	16.7%	4.5
Delta	$53,852	$32,311	12.5%	16.9%	10.6%	21.4%	4.7
Dickinson	$59,651	$35,722	13.0%	10.4%	7.5%	19.4%	3.8
Gogebic	$47,913	$33,516	16.8%	14.1%	13.2%	21.4%	4.8
Houghton	$52,736	$29,173	14.4%	12.2%	11.6%	17.2%	5.3
Iron	$52,241	$31,990	12.8%	21.9%	10.6%	21.8%	4.4
Keweenaw	$55,560	$41,795	10.4%	14.9%	5.8%	19.2%	5.3
Luce	$51,015	$23,599	16.1%	21.3%	10.0%	25.0%	4.2
Mackinac	$60,620	$35,512	14.3%	21.4%	12.9%	18.5%	4.3
Marquette	$63,115	$32,711	11.4%	13.1%	8.3%	13.7%	4.0
Menominee	$54,074	$31,313	12.2%	10.9%	9.5%	22.6%	4.1
Ontonagon	$48,316	$30,182	14.3%	21.5%	11.1%	23.4%	3.8
Schoolcraft	$55,071	$33,805	12.8%	21.4%	11.6%	17.8%	4.7

housing, child care, food, transportation, health care, and a basic smartphone plan. In Michigan, the average Household Survival Budget for a single adult is $2,281 per month, which would require a full-time wage of $13.69 per hour to support (Federal Poverty Level $1,132.50). For a single senior the budget is $2,635 per month supported by a $15.81 per hour job. For a household with two adults, one preschooler, and one infant the budget is $6,124 per month, which would require a full-time wage of $39.34 per hour to support (Federal Poverty Level $2,312.50). Not surprisingly the largest expense for this young family is child care. [20]

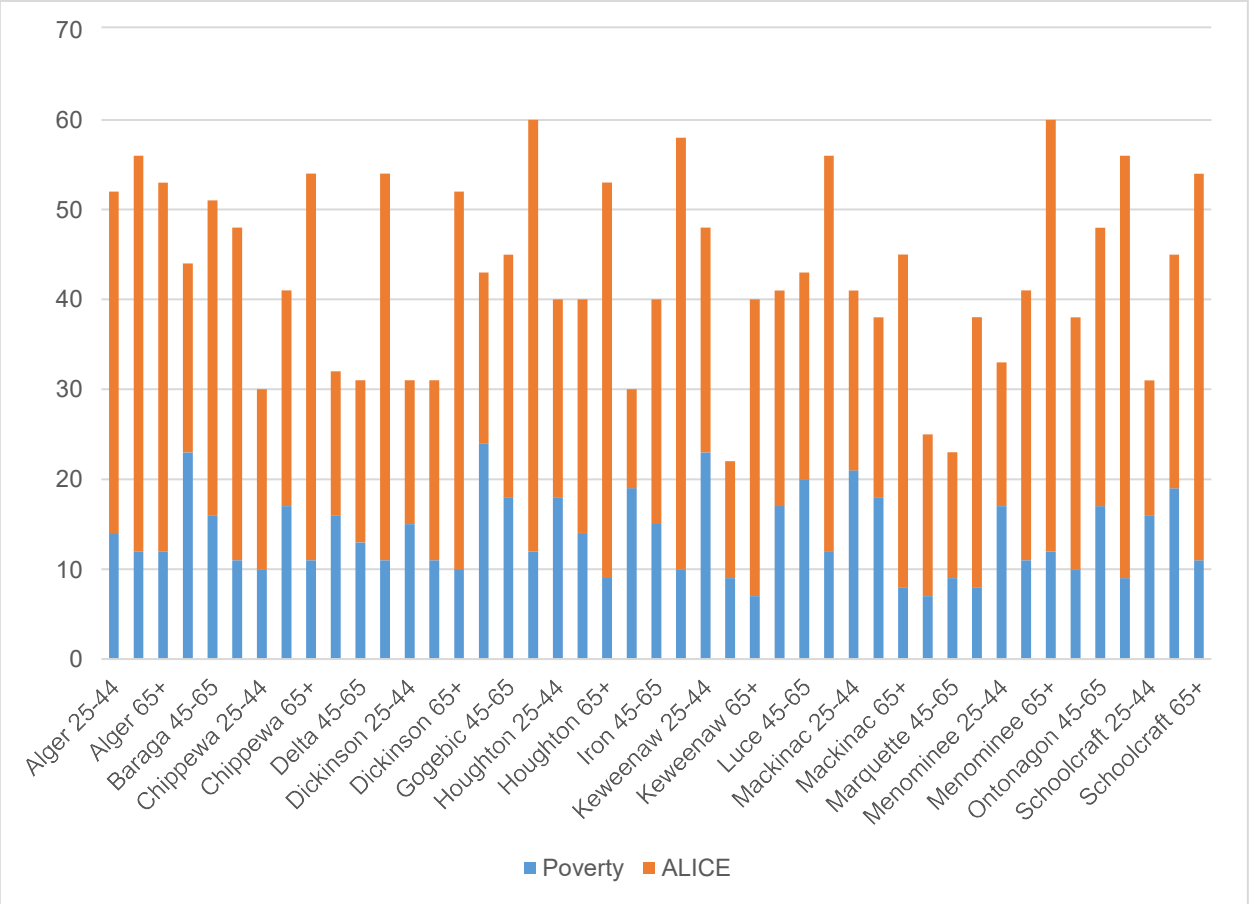


Figure 3-6: Percentages living below the poverty threshold and those meeting the ALICE criteria (between the poverty threshold and the Household Survival Budget) broken down by county and age group, 2022

Figure 3-6 shows the percentages of those living below the poverty line and those meeting the ALICE criteria (between the poverty threshold and the Household Survival Budget) broken down by county and age group. Of note, the percentage of those living below the poverty threshold goes down with age, with those over 65 years of age living below the poverty level ranging from 7% to 13% (with the exception of Alger County at 21%), and the percentage of those meeting the ALICE criteria increasing with age. This may reflect that programs such as Social Security aim to limit the number below the poverty threshold, yet leaves seniors short of making ends meet financially. Overall, those below the Household Survival Budget, including those below the poverty threshold, increased with age group.

Table 3-12 provides the percentages of households below the poverty threshold, meeting the ALICE criteria, and below Household Survival Budget for each county in 2010, 2012, 2014, 2016, 2019, 2022. **Table 3-13** shows the percentages of households below the poverty threshold, meeting ALICE criteria, and below Household Survival Budgets for each of the counties for families with children, married families with children, households headed by single women, and household headed by single men. Across the Upper Peninsula, married families fared the best (16.0% earning below the Household Survival Budget), while 78.5% of households headed by single women did not earn enough to meet the Household Survival Budget. [21]

Table 3-12: Percentage of Households Below Poverty Threshold and ALICE[a] from 2012 through 2022

	Poverty					ALICE[a]					Poverty & ALICE				
Year	2012	2014	2016	2019	2022	2012	2014	2016	2019	2022	2012	2014	2016	2019	2022
Alger	13	13	14	12	13	36	34	33	42	39	49	47	47	54	52
Baraga	14	15	15	16	14	34	37	39	33	39	48	52	54	49	53
Chippewa	19	17	16	17	16	31	31	30	30	31	50	48	46	47	47
Delta	17	16	16	13	15	26	27	26	26	30	43	43	42	39	45
Dickinson	12	14	15	12	10	28	26	26	26	27	40	40	41	38	37
Gogebic	19	18	19	18	16	31	33	30	33	35	50	51	49	51	51
Houghton	21	21	21	19	19	30	31	28	30	32	51	52	49	49	51
Iron	13	14	18	14	14	36	34	35	32	33	49	48	53	46	47
Keweenaw	15	14	15	11	7	25	31	28	24	34	40	45	43	35	41
Luce	14	17	18	17	19	33	39	33	32	32	47	56	51	49	51
Mackinac	14	14	14	17	16	27	31	28	25	25	41	45	42	42	41
Marquette	20	16	14	13	14	20	27	24	21	26	40	43	38	34	40
Menominee	14	15	15	14	12	29	28	28	34	35	43	43	43	48	47
Ontonagon	16	16	15	13	14	28	33	38	38	37	44	49	53	51	51
Schoolcraft	17	19	20	16	14	27	30	32	31	30	44	49	52	47	44
Upper Peninsula	17	16	16	15	15	28	30	28	28	30	45	46	44	43	45

[a] Asset Limited, Income Constrained, Employed (ALICE).: Household income exceeds poverty threshold below the Household Survival Budget

Another measure of economic health within the community is the Area Deprivation Index (ADI). This index is based on a measure created by the Health Resources & Services Administration about three decades ago and has been validated at the neighborhood level. The index includes the theoretical domains of income, education, employment, and housing quality. The Center for Health Disparities Research at the University of Wisconsin School of Medicine and Public Health has developed a Neighborhood Atlas® that provides ADI ratings at the census tract level. **Figure 3-7** is a map showing the ranking of the census tracts with the Upper Peninsula in comparison to the rest of Michigan by deciles, while **Figure 3-8** is a map ranking of these census tracts compared to the rest of the United States by percentiles. Many of the census tracts cross county borders, so rankings for the individual counties are not available. The Neighborhood Atlas® website (https://www.neighborhoodatlas.medicine.wisc.edu/)

Table 3-13: Percentage of Households with Children Below Poverty Threshold and ALICE[a] by Household Type, 2022

Region	Married			Household Headed by Single Woman			Household Headed by Single Man		
	Poverty	ALICE[a]	Poverty & ALICE	Poverty	ALICE[a]	Poverty & ALICE	Poverty	ALICE[a]	Poverty & ALICE
Alger	3.4%	32.6%	35.9%	22.5%	65.0%	87.5%	0.0%	0.0%	0.0%
Baraga	12.0%	14.2%	26.2%	38.8%	36.2%	75.0%	0.0%	0.0%	0.0%
Chippewa	5.1%	12.4%	17.5%	55.1%	30.1%	85.1%	29.1%	39.4%	68.5%
Delta	10.1%	5.3%	15.3%	46.2%	41.0%	87.2%	18.7%	27.5%	46.1%
Dickinson	4.9%	10.2%	15.1%	38.4%	37.0%	75.4%	14.3%	19.5%	33.9%
Gogebic	8.5%	19.9%	28.3%	21.1%	60.1%	81.2%	27.3%	42.4%	69.7%
Houghton	4.3%	12.5%	16.8%	43.1%	35.6%	78.7%	23.5%	23.5%	46.9%
Iron	2.6%	9.4%	12.0%	65.8%	19.6%	85.4%	7.6%	23.7%	31.3%
Keweenaw	3.5%	17.6%	21.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Luce	9.0%	25.9%	34.9%	51.0%	18.3%	69.2%	0.0%	0.0%	0.0%
Mackinac	7.5%	11.5%	19.0%	40.4%	22.1%	62.4%	48.7%	25.7%	74.3%
Marquette	4.9%	5.3%	10.2%	43.0%	27.5%	70.5%	23.8%	25.8%	49.5%
Menominee	2.6%	8.2%	10.8%	35.8%	37.0%	72.8%	16.0%	37.1%	53.1%
Ontonagon	21.3%	6.2%	27.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Schoolcraft	10.1%	7.2%	17.2%	0.0%	0.0%	0.0%	19.1%	23.6%	42.7%
Upper Peninsula	6.0%	10.0%	16.0%	44.9%	33.6%	78.5%	21.9%	29.7%	51.6%

[a] **A**sset **L**imited, **I**ncome **C**onstrained, **E**mployed (ALICE).: Household income exceeds poverty threshold below the Household Survival Budget

contains interactive versions of these maps from which the ranking of each census tract can be determined.

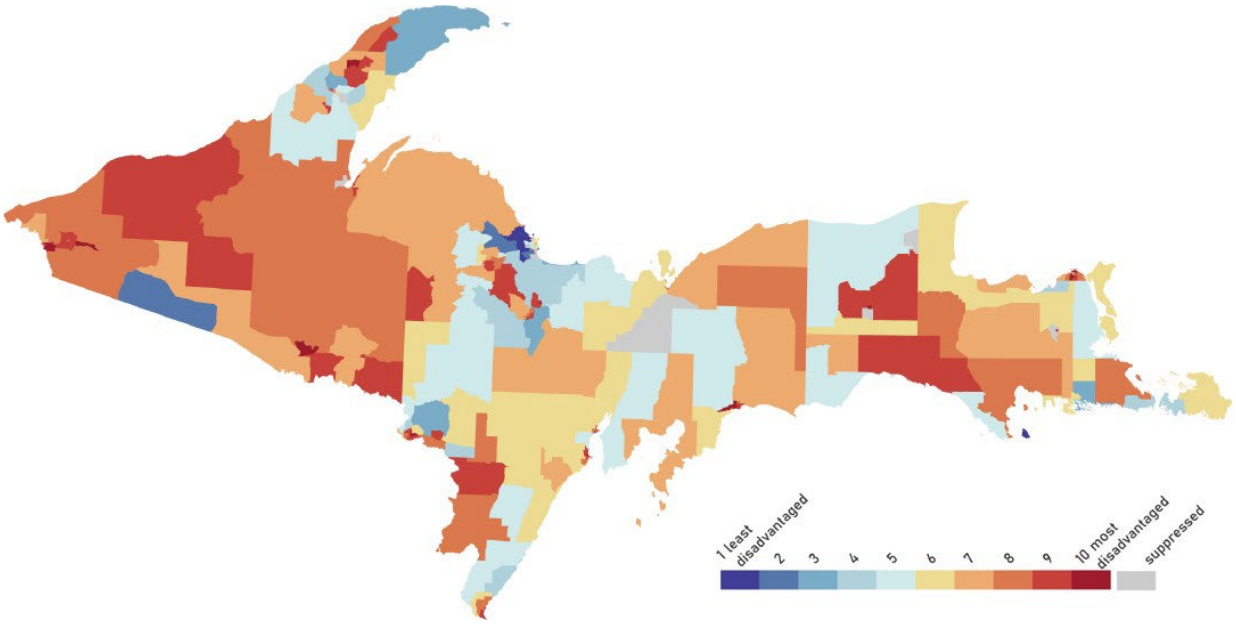


Figure 3-7: Area Deprivation Index state ratings at census tract level

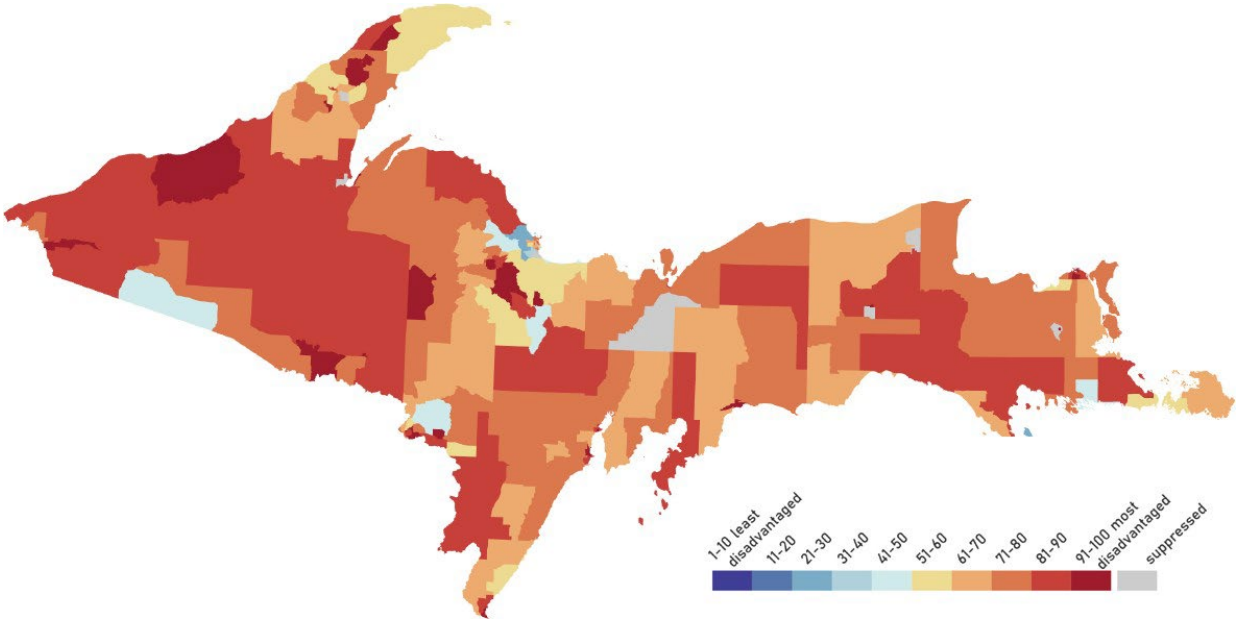


Figure 3-8: Area Deprivation Index national ratings at census tract level

3.9 Environment and Nutrition

The air we breathe, the water we drink, the food we eat, and the amount of exercise we get can have a strong impact on our health. The counties in the Upper Peninsula rank high in regards to the physical environment; however, our eating and exercise habits are less than ideal. **Table 3-14** lists the average daily density of fine particulate matter in micrograms per cubic meter collected in each county in 2019 by the Centers for Disease Control and Prevention's National Environmental Public Health Tracking Network, the data from 2021 providing the percentage of the population who lack adequate access to

Table 3-14: Air Quality and Access to Healthy Food and Exercise

Location	Average daily density of fine particulate matter in micrograms per cubic meter in 2019	Percentage of population who don't have a reliable source of food in 2021	Index of factors that contribute to a healthy food environment, from 0 (worst) to 10 (best) in 2019 & 2021	Percentage of population who lack access to locations for physical activity from 2020-2023
Michigan	6.8	12	7.2	14
Alger	4.9	13	7.5	20
Baraga	4.9	14	7.5	82
Chippewa	5.9	15	6.9	23
Delta	5.6	13	7.5	24
Dickinson	5.6	11	7.8	35
Gogebic	5.3	13	7.7	13
Houghton	5.1	12	7.8	23
Iron	5.3	14	7.3	18
Keweenaw	4.8	10	8	23
Luce	4.8	15	6.6	34
Mackinac	5.5	15	6.1	27
Marquette	5.3	12	7.7	15
Menominee	6.5	11	7.9	29
Ontonagon	5	14	6.6	40
Schoolcraft	4.2	15	5.8	33

food, the food environment index,[3] and the percentage of the population with adequate access to locations for physical activity. [23] The level of physical activity and the consumption of fruits and vegetables were addressed in the UPCHIPS with the results available in **Tables 13-35A, 13-35B, 13-36A, and 13-36B**.

The impact on eating fruits and vegetables on chronic diseases is discussed in Chapter 9.

[3] Index of factors that contribute to a health food environment, from 0 (worst) to 10 (best) using data collected in 2019 and 2021. [22]

3.10 Future Implications

The skewing of the age distribution toward older cohorts has profound implications on the needs for health care and elder services, especially for the growing population of seniors living alone. An aging population will increase:

- the prevalence of many chronic diseases within our communities
- the need for assisted living and long-term care facilities, and home health, hospice and other services, and
- the need for social and transportation services

With fewer people in the workforce and more in retirement, the declining tax bases could further diminish a community's resources and services. Younger people are also needed to be caregivers for the expanding elderly population.

According to the 2021 Michigan Behavioral Risk Factor Surveillance System (MiBRFS) survey, one in five (21.4%) Michigan adults currently provide care to family members or friends. Of these 32.5% reported taking care of a parent or parent in-law. The care of mothers was the most prevalent in that group at 20.2%, followed by 8.1% caring for fathers. Increasing since the 2017 severe, 17.1% the care recipients were a spouse or partner, 16.6% reported a non-relative, 11.0% reported a child or grandchild, 9.1% reported a sibling, and 6.9% reported another relative. Decreasing since the 2017 survey, 6.9% reported the care recipient as a grandparent in 2021. Of those receiving care and reporting a specific health problem, 21.8% had cardiovascular disease, 18.5% or care recipients experienced dementia, 16.2% had cancer, 11.5% had diabetes, and 6.9% had arthritis. Other health problems affecting care recipients include mental illness (9.8%) and developmental disability (6.3%). Among those who are not currently caregivers, 13.5% of Michigan adults expect to provide care or assistance to a friend or family member who has a health problem or disability in the next two years. [24]

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4 ACCESS TO CARE

4.1 Introduction

One of the most important aspects of community health is access to care, which simply means creating conditions in which any person can get the health care they need. Access to care is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity for all. Improving access to care involves addressing the interactions between insurance coverage, health services, timeliness of care for traditional health care, oral health care, mental health care, and the ability to obtain necessary prescription drugs.

According to the U.S. Department of Human Services' Agency for Healthcare Research and Quality (AHRQ), access to health services consists of four components:

- **Coverage** that facilitates entry into the health care system.
- Screening and prevention **services are** provided by having a usual source of care.
- Health care provided in a **timely** fashion with the need is recognized,
- A **workforce** of capable, qualified, culturally competent providers. [1]

Access to care often varies based on race, ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity, and residential location.

The five counties of Baraga, Gogebic, Houghton/Keweenaw (considered one region) and Ontonagon have local survey data available from the 2012, 2015, 2018, 2021, and 2024 surveys. From these surveys, among adults 18-64 years, the proportion who reported having no health insurance of any type went down precipitously from the 2012 to the 2015 survey from 18.6% to 8.5% in the western counties. For the entire Upper Peninsula those reporting not having health insurance dropped from 7.0% in the 2017 UPCHIPS to 4.4% in 2021 and increased back to 7.6% in 2024 (**Table 13-24A**). The initial drop can be attributed to the passage and the implementation of the Affordable Care Act. Unfortunately, the proportion among all adults in these counties who reported they did not have anyone they thought of their personal doctor or health care provider showed little improvement and varied widely from county to county (**Table 13-24A**). While there have been improvements in health insurance coverage, the availability of primary care health professionals has not been able to keep up. From 2021 to 2024 the ability to deliver dental care has deteriorated, with some counties being hit harder than others (**Tables 13-27A** and **13-28A**). Estimates for the ratio of the population to primary care physicians, dentists, and mental health providers from 2022 are shown in **Table 4-1**. [2] The range within the region emphasizes the unevenness of access to basic health care.

4.2 Health Shortage Population Area (HSPA) Designations

Health Professional Shortage Areas (HPSAs) and Medically Underserved Areas (MUAs) are areas, population groups, and facilities designated by the United States Department of Health and Human Services as having met criteria indicating a significant need for additional primary health care resources.[4]

[4] Determining whether an area is medically underserved involves application of the Index of Medical Underservice to data on a service area to obtain a score for the area. The Index scale is from 0 to 100, where 0 represents completely underserved and 100 represents best served or

Table 4-1 Ratio of Population to Providers, 2022

	Primary Care Physicians	Dentists	Mental Health Providers
Michigan	1280:1	1250:1	300:1
Alger	1260:1	2200:1	1260:1
Baraga	1370:1	1380:1	640:1
Chippewa	1420:1	1650:1	230:1
Delta	1230:1	1530:1	600:1
Dickinson	1360:1	920:1	270:1
Gogebic	1200:1	2050:1	460:1
Houghton	1440:1	1370:1	450:1
Iron	1450:1	2910:1	890:1
Keweenaw	x	2180:0	2180:1
Luce	760:1	1780:1	530:1
Mackinac	1560:1	1220:1	500:1
Marquette	870:1	1110:1	220:1
Menominee	2910:1	1940:1	710:1
Ontonagon	2930:1	1950:1	2930:1
Schoolcraft	1340:1	1360:1	360:1

The purpose of these designations is to identify areas of greatest unmet primary health care need in with the intention of prioritizing limited resources and directing them to those areas.

Primary Care Area HPSA scores across Michigan are shown in **Figure 4-1**. [3] All Upper Peninsula counties have multiple federal designations for health professional shortages (HPSAs) recognized by the Health Resources & Services Administration of the United States Department of Health and Human Services, either for the entire county, a part of the county, or a specific population within the county. [4]

least underserved. Under the established criteria, each service area found to have an Index of Medical Underservice (IMU) of 62.0 or less qualifies for designation as a Medically Underserved Area. The IMU involves four variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over. The value of each of these variables for the service area is converted to a weighted value, according to established criteria. The four values are summed to obtain the area's IMU score.

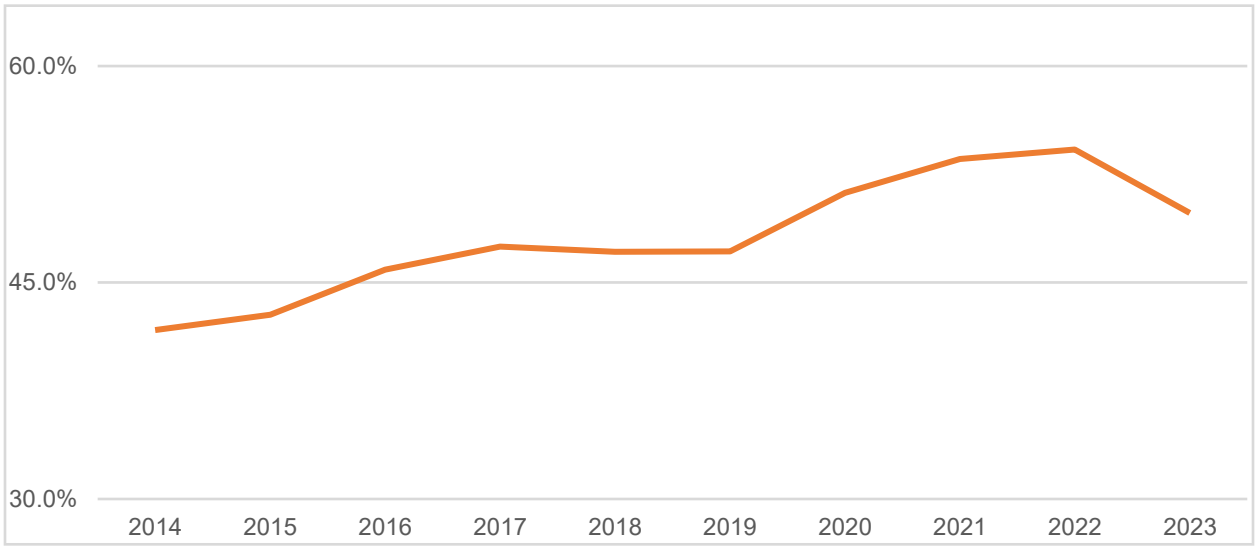


Figure 4-1: Primary Care Area Health Professional Shortage Area scores across Michigan

Table 4-2: Health Insurance Coverage by County, 2018-2022

	Percentage of persons without health insurance, under the age of 65
Upper Peninsula	6.7%
Alger	6.0%
Baraga	6.6%
Chippewa	7.5%
Delta	6.3%
Dickinson	5.1%
Gogebic	6.1%
Houghton	6.3%
Iron	7.7%
Keweenaw	4.8%
Luce	6.4%
Mackinac	10.8%
Marquette	5.9%
Menominee	6.3%
Ontonagon	7.1%
Schoolcraft	7.2%

4.3 Health Insurance Coverage

As part of the 2024 UPCHIPS, people across the Upper Peninsula were asked whether they had health insurance. These results are shown in **Tables 13-24A** and **13-24B**. The United States Census Bureau also collects this data. The 2018-2022 data are presented in **Table 4-2**. [5] Keweenaw, Dickinson, and Marquette counties had the lowest percentages uninsured (4.8%, 5.1%, and 5.9%), while Mackinac County had the highest rate (10.8%).

Barriers to accessing health care in the region noted in the 2024 UPCHIPS can be found in **Tables 13-25A** and **13-25B**.

Table 4-3: Medicaid and Healthy Michigan Enrollees each December, 2019 through 2024

	2019	2020	2021	2022	2023	2024
Upper Peninsula	43,103	48,179	51,362	53,855	49,597	40,800
Alger	1,258	1,334	1,382	1,369	1,250	1,037
Baraga	1,024	1,205	1,317	1,402	1,284	1,059
Chippewa	4,075	4,784	5,169	5,380	4,925	4,128
Delta	5,614	6,210	6,632	6,980	6,517	5,212
Dickinson	3,820	4,194	4,447	4,666	4,283	3,670
Gogebic	2,801	3,161	3,392	3,499	3,330	2,817
Houghton	5,467	6,110	6,522	6,766	6,117	5,095
Iron	2,111	2,382	2,647	2,865	2,734	2,322
Keweenaw	299	321	369	352	327	287
Luce	1,089	1,175	1,253	1,615	1,222	992
Mackinac	1,082	1,332	1,439	1,481	1,427	1,114
Marquette	9,126	10,074	10,485	10,891	9,987	7,943
Menominee	3,031	3,361	3,608	3,750	3,482	2,907
Ontonagon	836	918	1,015	1,071	1,002	879
Schoolcraft	1,470	1,618	1,685	1,768	1,710	1,338

4.4 Healthy Michigan Plan / Michigan Medicaid Program

The Michigan Medicaid Health Care Program is intended to provide medical and health-related assistance to low-income individuals and families who have no medical insurance or have inadequate medical insurance.

In January 2024, the federal poverty guideline was set at an annual income of $15.060 for a one-person

Table 4-4: Children 0-18 Insured by Medicaid Trend, 2014-2023

County	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Upper Peninsula	41.7%	42.8%	45.9%	47.5%	47.1%	47.2%	51.2%	53.6%	54.2%	49.8%
Alger	42.6%	42.9%	44.9%	48.6%	48.8%	47.6%	51.0%	49.3%	48.5%	46.6%
Baraga	42.5%	45.7%	49.3%	48.7%	47.9%	49.5%	56.1%	60.7%	61.1%	53.1%
Chippewa	39.1%	39.7%	42.2%	43.4%	42.9%	43.9%	49.1%	51.9%	53.9%	49.5%
Delta	41.3%	42.1%	43.4%	44.7%	44.3%	43.3%	46.1%	49.6%	49.4%	46.6%
Dickinson	39.7%	39.0%	41.9%	43.3%	43.4%	40.7%	44.2%	47.4%	47.7%	43.5%
Gogebic	47.5%	50.1%	54.8%	56.9%	59.2%	57.5%	62.4%	65.5%	62.9%	62.4%
Houghton	36.2%	35.0%	38.7%	39.1%	39.3%	38.5%	41.7%	44.2%	42.0%	39.7%
Iron	50.2%	52.9%	57.2%	59.0%	58.7%	58.1%	60.5%	64.0%	64.9%	59.6%
Keweenaw	40.2%	38.9%	43.4%	37.4%	37.7%	46.5%	52.5%	46.6%	42.8%	43.4%
Luce	49.6%	55.2%	55.9%	60.6%	56.6%	56.2%	61.3%	67.2%	78.9%	60.6%
Mackinac	38.1%	37.1%	39.6%	44.3%	44.5%	46.0%	49.0%	49.4%	47.9%	48.0%
Marquette	33.5%	33.1%	35.7%	36.8%	36.6%	36.5%	37.8%	39.5%	40.4%	36.6%
Menominee	38.4%	36.6%	38.5%	42.9%	43.3%	43.4%	47.9%	49.9%	50.4%	46.9%
Ontonagon	43.4%	45.5%	49.4%	50.8%	47.5%	44.0%	49.5%	59.6%	60.6%	55.4%
Schoolcraft	43.4%	47.9%	53.5%	55.8%	56.3%	55.8%	59.3%	58.7%	61.9%	55.3%

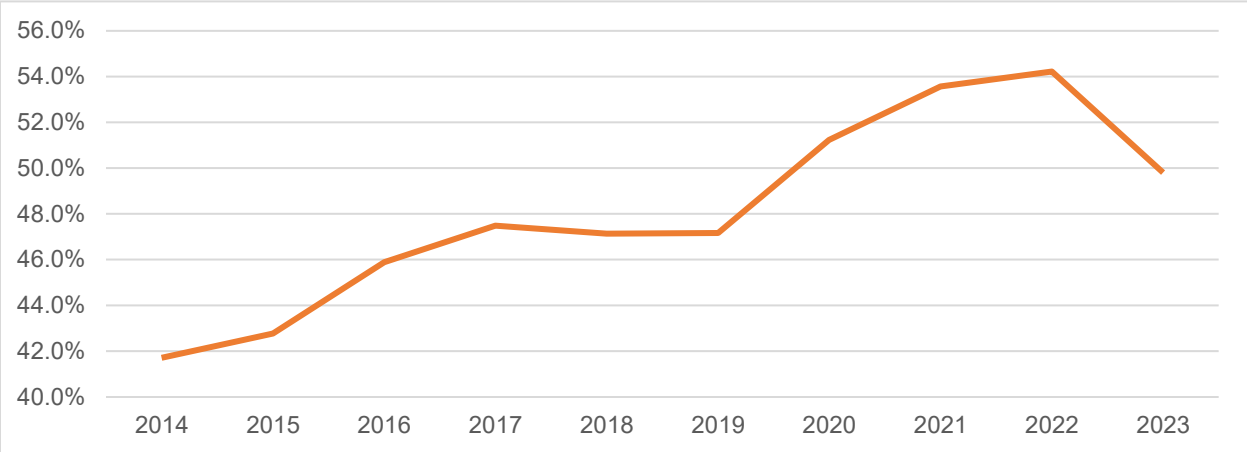


Figure 4-2: Children 0-18 insured by Medicaid trend, 2014-2023

household with an increase of $5,380 for each additional occupant. [6] The number of enrollees in Medicaid and Healthy Michigan Plan each December in 2019 through 2024 is shown in **Table 4-3**. [7] The percentages of children through 18 years of age insured by Medicaid from 2014 through 2023 are shown in **Table 4-4** and **Figure 4-2**. [8]

Table 4-5: Ambulatory Care Sensitive Conditions Hospitalizations, 2022

County	Hospital Admissions	Days of Care	Average Length of Stay	Percent of All Hospitalizations
Michigan	249,227	1,720,899	6.9	23.4%
Alger	143	1,078	7.54	18.4%
Baraga	213	1,435	6.74	23.3%
Chippewa	841	5,111	6.08	23.6%
Delta	492	2,771	5.63	18.2%
Dickinson	467	3,130	6.7	21.9%
Gogebic	258	1,609	6.24	21.8%
Houghton	446	2,351	5.27	15.1%
Iron	276	1,489	5.39	22.9%
Keweenaw	33	264	8.00	17.7%
Luce	79	486	6.15	15.7%
Mackinac	272	1,967	7.23	23.9%
Marquette	1,031	6,377	6.19	18.2%
Menominee	825	5,256	6.37	25.3%
Ontonagon	91	613	6.74	24.9%
Schoolcraft	97	533	5.49	15.9%

4.5 Ambulatory Care Sensitive Hospitalizations

The Michigan Department of Health & Human Services tracks the number of hospitalizations for conditions that could have been reduced or avoided through effective ambulatory care at the onset of a condition or illness. The number of admissions, days of inpatient care, and the average length of stay for ambulatory care sensitive conditions (based on a list of International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9CM) diagnostic codes) for 2022 for the counties and local health departments in the Upper Peninsula are shown in **Table 4-5**. The ten leading causes of ambulatory care sensitive hospitalizations for the State of Michigan in 2019 and 2022 are shown in **Table 4-6**. [9] It is unclear how many of these hospitalizations could have been avoided with better access to primary care health professionals earlier in the course of an illness/disease. In addition to limited access to care, the rates of these admissions in individual counties may also be impacted by the county's average age as one would expect a younger population to have fewer hospitalizations of all types.

Table 4-6: Ten Leading Causes of Ambulatory Care Sensitive Hospitalizations — Michigan, 2022

Ambulatory Care Sensitive Condition	Ambulatory Care Sensitive Hospitalizations	Percent
All	249,180	100.0%
Diabetes	46,198	18.5%
Congestive Heart Failure	18,815	7.6%
Bacterial Pneumonia	14,139	5.7%
Chronic Obstructive Pulmonary	11,199	4.5%
Grand Mal & Other Epileptic Conditions	8,432	3.4%
Cellulitis	6,328	2.5%
Asthma	4,585	1.8%
Dehydration	3,041	1.2%
Gastroenteritis	2,508	1.0%
Convulsions	2,274	0.9%
All Other Ambulatory Care Sensitive Conditions	131,661	52.8%

4.6 Access to Dental Care

According to the American Dental Association and the Health Policy Institute, on a national level in 2022 among adults 19 to 64 years of age, 62.4% had private dental insurance, 15.8% had dental insurance through Medicaid, and 21.8% had no dental insurance. For children aged 2 through 18 years, 53.4% had private dental insurance, 38.4% had coverage through Medicaid or the Children's Health Insurance Program (CHIP), and 8.2% had no insurance.[10] In the Michigan Oral Health Survey in 2021 to 2022, among those in third grade, 58% had experienced tooth decay, 28% had untreated tooth decay, and only 34% had previously had sealants applied to their teeth.[11] The ratio of the population to dentists in each of the counties in the Upper Peninsula are listed in **Table 4-1**. Dental Health Area HPSA scores across Michigan are shown in **Figure 4-3**. [3]

As seen in **Tables 13-27A**, **13-27B**, **13-28A**, **13-28B**, **13-29A**, and **13-29B**, the 2024 UPCHIPS confirms that access to dental care remains a serious problem for the population of the Upper Peninsula. Of the many barriers, the cost of care, lack of dentists, and lack of dental insurance topping the list. Access to dental care within certain counties changed dramatically between the surveys.

While regional data for the access of children to dental care is not available, the Healthy Kids Dental (HKD) program is open to Medicaid-eligible children under the age of 21. [12] Participating dentists agree to accept Delta Dental's payment for covered services as payment in full and do not charge the enrollee. Covered services include examinations, x-rays, teeth cleanings, fluoride treatments, sealants, fillings, and extractions. Eligible HKD enrollees can receive treatment from any dentist in Michigan who participates in Delta Dental.

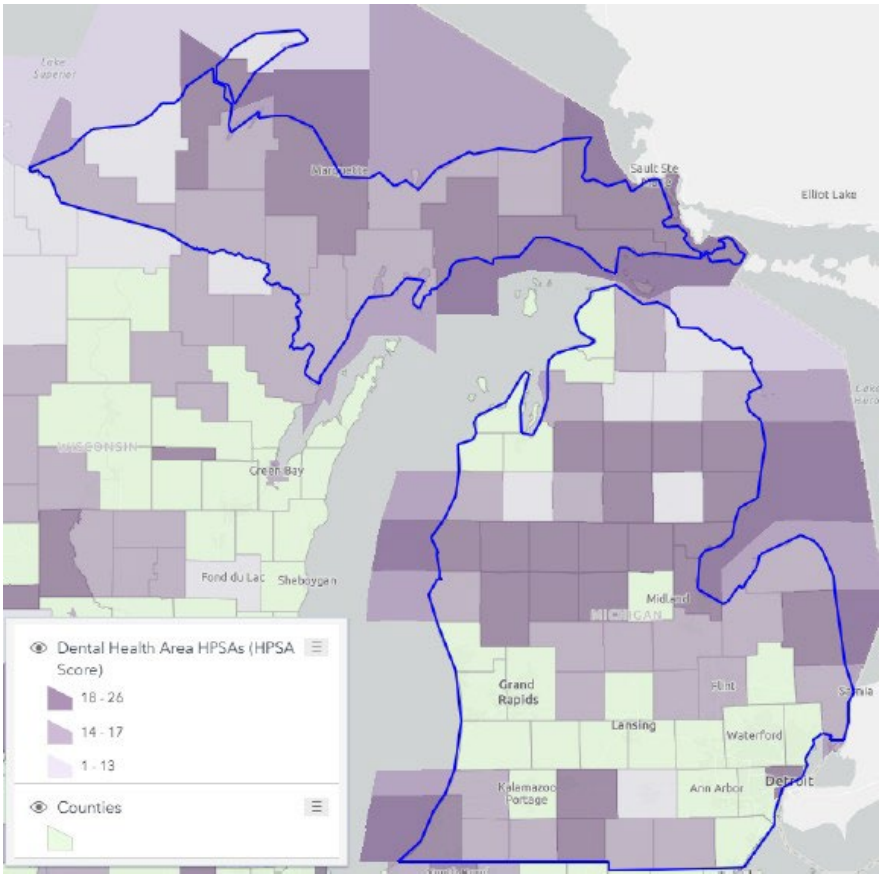


Figure 4-3: Dental Health Area Health Professional Shortage Area scores across Michigan

4.7 Access to Mental Health Services

As of April 1, 2024, 3,689,920 Michigan residents are in Mental Health Care Health Professional Shortage area. To meet the needs an additional 144 practitioners would be needed. [13] A tally of providers across the region is difficult as many of the providers are available through Telehealth. The paucity of inpatient psychiatric beds for adult patients and the absence of beds for pediatric patients has resulted in extended emergency department stays awaiting placement. The ratio of the population to mental health providers for each county in the Upper Peninsula are listed in **Table 4-1**. The wide range of availability of services underlines the inconsistencies in services noted in the UPCHIPS. The Mental Health Area HPSA scores across Michigan are shown in **Figure 4-4**. [3] The numbers from the 2017, 2021 and 2024 UPCHIPS surveys (**Tables 13-50A**, **13-50B**, **13-52A**, and **13-52B**) are too small to draw any clear conclusions regarding access and barriers to mental health services.

Community Mental Health Service Programs (CMH) in Michigan are delivered through county-based community mental health services programs (CMHSPs) using public funds. [14] Community Mental Health Services in the Upper Peninsula are available through Copper Country CMH, Gogebic CMH, Northpointe BHS, Hiawatha Behavioral Heath, and Pathways CMH under the umbrella of NorthCare Network.

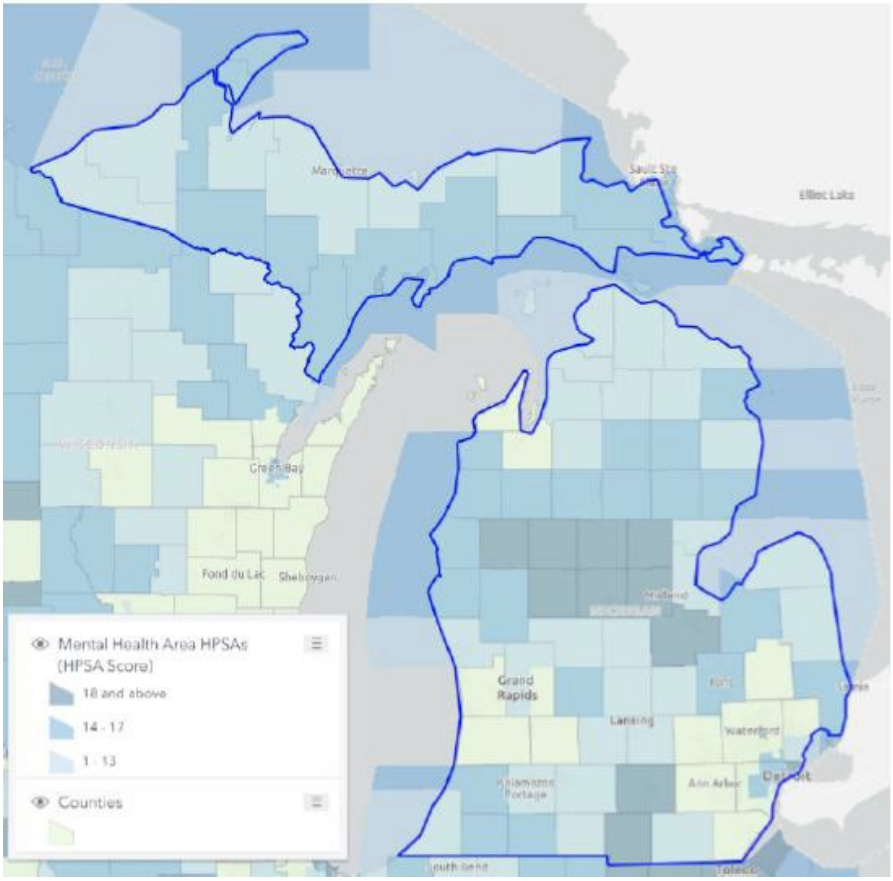


Figure 4-4: Mental Health Area Health Professional Shortage Area scores across Michigan

4.8 Vulnerable Populations

Vulnerable populations, in terms of community health, are groups of people who are at greater risk of disease, disability, and difficulty accessing services, based on socioeconomic status or other social determinants of health. These determinants are "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life." [15]. These can "affect a wide range of health and quality-of life-risks and outcomes." [16]

Any policy or program that addresses the health care needs of the community needs to determine how the most vulnerable will be impacted.

4.9 Potential Future Implications

- Demographic information can be used to focus outreach and services on populations with poorer access to care, such as low-income residents, to improve their access to care with the efficient use of limited resources.
- Continue efforts to increase the number of those providing primary medical care.
- Expand efforts to improve access to dental care to include adults.

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5 MATERNAL AND CHILD HEALTH

5.1 Introduction

According to the Centers for Disease Control and Prevention (CDC), improving the health of mothers, infants, and children is an important public health goal for the United States. Their wellbeing determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system. Reductions in maternal and infant mortality as well as preterm and low birthweight births, are important goals. Moreover, healthy birth outcomes and early identification and treatment of health conditions among infants can prevent death or disability and enable children to reach their full potential. Despite major advances in medical care, critical threats to maternal, infant, and child health continue to exist in the United States.

The risk of maternal and infant mortality and pregnancy-related complications can be reduced by increasing access to quality care before, during, and after pregnancy as well as addressing other social determinants of health.

5.2 Birth Demographics

Local birth rates have declined in the past ten years (2012 to 2022), as shown in **Table 5-1**.[1] In Michigan, of the households with children, 65.8% of the adults in the home are married, 25.8% have a single mother, and 8.5% have a single father. [2] These data were not available at the county level. **Table 5-2** presents the percentages of households in each of the Upper Peninsula counties that have children and the percentage of married and living alone households from 2018 through 2022.[3]

5.3 Maternal Risk Factors

A number of factors can increase a pregnant person's risk of a less than optimal birth outcome. The following sections present data regarding several of them. According to the Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) surveys from the 2022 birth year, 63.4% of births in Michigan were intended, 20.9% unintended, and 15.7% of respondents were unsure. In those less than 20 years of age, 32.2% of pregnancies were unintended, while the rates were 20.9% and 15.8% in those 20 to 29 years and 30 years and older, respectively. Those with a less than a high school education had a rate of 31.3%, those with only a high school diploma 26.2%, those with some college 22.5%, and those with a bachelor's degree or greater 13.5%. The rate of unintended pregnancies decreased with increasing household income.[4]

5.3.1 Births to Unmarried Women

The rate of births to unwed mothers in 2022 in the Upper Peninsula ranged from a low of 21.3% in Houghton County to 53.8% in Baraga Over half of the births Baraga, Iron, Luce, and Ontonagon counties involved unmarried mothers (see **Table 5-3**). [5] Among those identifying as Native American in Chippewa County in 2022 32.2 ± 9.7% were married, compared to 41.1 ± 3.0% of Native Americans in the State of Michigan. In the other counties in the Upper Peninsula, Native Americans were included as "All Other Races." Across the Upper Peninsula, for those who were included in "All Other Races" (with exclusion of Native Americans in Chippewa County), 47.8 ± 6.8% were married.

Table 5-1: Birth Rates in the Upper Peninsula, 2012, 2022							
	2012			2022			Percent Decrease in Birth Rate from 2012 to 2022
	Number of Births	Population	Birth Rate per 1,000 Population	Number of Births	Population	Birth Rate per 1,000 Population	
Upper Peninsula	2829	310,567	9.1	2181	301,175	7.2	20.5%
Alger	55	9,451	5.8	53	8,760	6.1	-4.0%
Baraga	81	8,726	9.3	78	8,262	9.4	-1.7%
Chippewa	347	38,993	8.9	278	36,310	7.7	14.0%
Delta	361	36,836	9.8	256	36,742	7.0	28.9%
Dickinson	250	26,172	9.6	189	25,872	7.3	23.5%
Gogebic	117	16,041	7.3	74	14,310	5.2	29.1%
Houghton	389	36,746	10.6	375	37,027	10.1	4.3%
Iron	92	11,565	8.0	76	11,617	6.5	17.8%
Keweenaw	17	2,167	7.8	17	2,157	7.9	-0.5%
Luce	55	6,479	8.5	39	5,302	7.4	13.3%
Mackinac	69	11,071	6.2	87	10,923	8.0	-27.8%
Marquette	695	67,826	10.2	515	66,664	7.7	24.6%
Menominee	195	23,731	8.2	70	23,256	3.0	63.4%
Ontonagon	30	6,413	4.7	23	5,822	4.0	15.6%
Schoolcraft	76	8,350	9.1	51	8,151	6.3	31.3%

5.3.2 Maternal Education

Mothers who have not graduated from high school are more likely to have difficulty finding employment and generally experience more economic stress than those with at least a high school diploma. As a result, children whose mothers have less than twelve years of education are more likely to live in poverty. Consequently, there is a decreased probability of receiving early and adequate prenatal care, increased probability of smoking during pregnancy, and poor birth outcomes, such as preterm birth and low birthweight. The percentages of births to mothers with less than twelve years of education is shown in **Table 5-3**. Dickinson, Houghton, and Marquette counties have the lowest rates of low maternal educational attainment compared to the state average and the remainder of the Upper Peninsula. [5]

Table 5-2: Types of Households by County, 2018-2022				
	Percent of households married with children	Total percent of households with children	Percent of households single women with children	Percent of households single men with children
Michigan	16.8%	27.7%	4.8%	1.3%
Alger	14.5%	20.5%	2.7%	0.2%
Baraga	11.1%	19.0%	3.4%	0.5%
Chippewa	15.4%	26.3%	4.4%	0.9%
Delta	14.4%	23.4%	3.0%	1.5%
Dickinson	15.4%	22.9%	2.5%	1.3%
Gogebic	10.2%	17.5%	3.1%	0.8%
Houghton	16.4%	23.9%	2.8%	0.9%
Iron	7.4%	17.7%	3.7%	1.2%
Keweenaw	13.3%	18.3%	3.5%	1.3%
Luce	8.0%	16.4%	2.5%	0.2%
Mackinac	11.2%	21.0%	1.7%	2.1%
Marquette	15.0%	22.7%	3.0%	0.9%
Menominee	12.8%	21.4%	2.9%	1.5%
Ontonagon	7.4%	12.4%	1.1%	0.4%
Schoolcraft	9.2%	18.6%	1.7%	2.7%

Among those identifying as Native American in Chippewa County in 2022 11.1 ±6.5% had not completed high school, compared to 13.6 ± 2.1% of Native Americans in the State of Michigan. In the other counties in the Upper Peninsula, Native Americans were included as "All Other Races." Across the Upper Peninsula, for those who were included in "All Other Races" (with exclusion of Native Americans in Chippewa County), 5.7 ± 3.2% had not completed high school.

5.3.3 Early Prenatal Care

Adequate, early, quality prenatal care is widely recognized as a key strategy to improve maternal and infant health and to reduce maternal death, preterm birth, low birthweight, and infant mortality. The American College of Obstetricians and Gynecologists recommends monthly prenatal care visits beginning in the first trimester until 28 weeks of pregnancy and every two weeks thereafter. Delays in

Table 5-3: Rates of Medicaid, Less than High School, & Married, 2022[a]

	Covered by Medicaid		Less than High School		Married	
	All Races	White	All Races	White	All Races	White
Alger	28.3 ± 12.1	28.6 ± 12.6	9.4 ± 7.9	10.2 ± 8.4	67.9 ± 12.5	65.3 ± 13.3
Baraga	43.6 ± 11.0	36.8 ± 12.5	15.4 ± 8.0	17.5 ± 9.9	46.1 ± 11.1	50.9 ± 13.0
Chippewa	46.0 ± 5.9	40.0 ± 7.1	9.0 ± 3.4	8.3 ± 4.0	54.7 ± 5.9	66.9 ± 6.9
Delta	44.2 ± 5.9	43.5 ± 6.1	9.4 ± 3.4	10.2 ± 3.7	55.1 ± 5.9	56.9 ± 6.1
Dickinson	51.6 ± 6.5	51.6 ± 6.7	6.7 ± 3.3	6.6 ± 3.3	59.6 ± 6.4	58.7 ± 6.6
Gogebic	51.9 ± 9.6	50.5 ± 9.9	7.7 ± 5.1	7.2 ± 5.1	56.7 ± 9.5	57.7 ± 9.8
Houghton	34.2 ± 4.8	33.0 ± 4.9	5.0 ± 2.2	4.7 ± 2.2	79.2 ± 4.1	79.1 ± 4.2
Iron	58.8 ± 10.5	58.8 ± 10.8	15.3 ± 7.7	16.3 ± 8.1	50.1 ± 10.6	48.7 ± 11.0
Keweenaw	5.9 ± 11.2	5.9 ± 11.2	0	0	100	100
Luce	61.5 ± 15.3	57.7 ± 19.0	7.7 ± 8.4	7.7 ± 10.2	48.7 ± 15.7	53.8 ± 19.2
Mackinac	27.3 ± 9.3	20.9 ± 9.7	15.9 ± 7.6	19.4 ± 9.5	68.2 ± 9.7	73.1 ± 10.6
Marquette	34.2 ± 4.1	32.5 ± 4.2	5.0 ± 1.9	5.2 ± 2.0	65.8 ± 4.1	66.9 ± 4.2
Menominee	51.8 ± 7.0	52.6 ± 7.4	7.6 ± 3.7	7.5 ± 3.9	48.7 ± 7.0	52.6 ± 7.4
Ontonagon	62.5 ± 19.4	60.9 ± 19.9	16.7 ± 14.9	17.4 ± 15.4	45.8 ± 19.9	47.8 ± 20.4
Schoolcraft	63.5 ± 13.1	59.5 ± 13.1	9.6 ± 8.0	9.5 ± 8.9	53.8 ± 13.5	64.1 ± 14.8
Upper Peninsula	42.5 ± 2.0	40.5 ± 2.0	7.8 ± 1.1	7.9 ± 1.2	61.5 ± 1.9	64.1 ± 2.0
Michigan	39.2 ± 0.2	32.1 ± 0.3	9.6 ± 0.2	8.3 ± 0.2	60.7 ± 0.3	69.7 ± 0.3

[a] Percentage of live births, ± 95% confidence interval

prenatal care are associated with certain maternal characteristics, such as age, education, income level, and whether or not the pregnancy was intended. Limited access to quality prenatal care may also decrease a woman's ability to receive care early in her pregnancy.

The percentage of women who obtained prenatal care beginning in the first trimester ranged from 56.6% to 93.1% (see **Table 5-4**). [5] The counties with rates below 70% were Alger, Luce, Mackinac, and Marquette. The rates somewhat, but not entirely, correspond with the presence of birthing centers in counties. The percentage for the Upper Peninsula (74.3%) is slightly lower than the Michigan rate (76.3%).

Table 5-4: Maternal Prenatal Care, 2022				
	Percent of births with adequate prenatal care (2023)	Percent with Prenatal Care in First Trimester	Percent Test for HIV during Pregnancy	Percent with "unhealthy" weight (BMI over 24.9) prior to pregnancy
Michigan	69.9%	76.3%	94.1%	62.6%
Upper Peninsula	66.5%	74.3%	91.4%	63.7%
Alger	50.0%	56.6%	94.3%	56.6%
Baraga	73.1%	71.8%	84.6%	61.5%
Chippewa	69.0%	73.0%	94.6%	66.5%
Delta	69.4%	79.3%	95.7%	67.6%
Dickinson	86.5%	93.1%	96.8%	59.3%
Gogebic	77.5%	81.1%	82.4%	60.8%
Houghton	67.9%	77.1%	86.7%	56.0%
Iron	68.9%	81.6%	88.2%	53.9%
Keweenaw	65.0%	88.2%	94.1%	64.7%
Luce	64.0%	66.7%	92.3%	64.1%
Mackinac	51.4%	67.8%	79.3%	69.0%
Marquette	60.2%	67.6%	94.8%	59.8%
Menominee	69.4%	75.7%	98.6%	68.6%
Ontonagon	64.0%	78.3%	91.3%	78.3%
Schoolcraft	60.9%	56.9%	98.0%	68.6%

Compared to the previous report, the percentage of women who received prenatal care in the first trimester decreased from 77.2%.

5.3.4 Insurance Coverage

In 2023, 5.9% of women of childbearing age were uninsured. [6] In 2019, 40.9% of births in Michigan were paid for by Medicaid. In 2023 this rate dropped to 37.5%. [7] The percentages of live births in 2022 covered by Medicaid is shown in **Table 5-3**. [5] The only county reporting data on those identifying as Native American was Chippewa County. Native Americans in other counties were included in the category “All Other Races.” In Chippewa County live births in Native Americans were covered by Medicaid was 55.5 ± 10.3%, while this rate was 53.0 ± 3.1% statewide. Among those categorized “All

Other Races" (excluding the Native Americans in Chippewa County), 56.5 ± 2.1% were covered by Medicaid.

5.3.5 HIV Testing During Pregnancy

HIV can be transmitted from a mother to her baby during pregnancy, delivery, or breastfeeding. Early identification and treatment can reduce this risk of transmission from 25% to less than 2%. The CDC recommends all women get an HIV test early in each pregnancy to identify infections and start treatment in order to improve maternal health and prevent perinatal transmission.

Overall, the testing rate in the Upper Peninsula is 91.4%, which is below the Michigan rate of 94.1%. Both rates are exemplary. Only Mackinac County has a testing rate below 80% (79.3%) In the previous report the testing rate for the Upper Peninsula was 77.2%. The rates of HIV testing are listed in **Table 5- 4**. [5] Rates of HIV testing during pregnancy have generally improved since data was reported in 2015.

5.3.6 Smoking during Pregnancy

Tobacco use in pregnancy is a risk factor for delivery of low birthweight infants, as well as increased perinatal and neonatal loss. Nicotine impacts the developing fetus by reducing blood flow through the placenta, which retards growth and contributes directly to low birthweight. Infants can be exposed to the chemicals from cigarette smoke that accumulates in clothing, furniture, carpeting, and other surfaces (such as floors). These "third-hand" exposures are often overlooked. Cigarette smoke suppresses prolactin levels in nursing mothers, which can decrease the production of breast milk.

In 2016 the United States 7.2% of women smoked during pregnancy. This decreased to 4.6% in 2021. [8] It is unclear if smoking was replaced with e-cigarette use. The smoking rates during pregnancy for the counties in the Upper Peninsula are presented in **Table 5-5**. [5] Remarkably, the smoking rates in every county in the Upper Peninsula are above, and often well above, the state rate. Those identifying as Native Americans outside of Chippewa County were categorized as "All Other Races." Across the Upper Peninsula, among those categorized as "All Other Races" (does not include the Native Americans from Chippewa County), 25.8 ± 5.9% reported tobacco use during pregnancy.

Estimates of maternal smoking rates are based on birth certificate data that are collected with every live birth, providing a complete data frame. Despite large, nearly complete numbers, there are downsides. Some completing the birth certificate, in an attempt to make themselves look better (*social desirability bias*), may fail to admit to smoking during the pregnancy. Many who inhale nicotine using electronic cigarettes (vaping) do not consider this activity to be smoking. Consequently, they may skip over the questions regarding smoking because they believe the questions do not apply to them. E-cigarette use data are not specifically collected. Racial/ethnic identification data at the county level is often not very useful. There may be an unwillingness of those providing answers for the birth certificate to identify within one of the groups that can be checked on the form. More importantly, the number of births to those who identify as "American Indian/Native Alaskan" (AI/NA) are insufficient to be reported separately in all the Upper Peninsula counties with exception of Chippewa County. In fourteen counties those identifying as AI/NA are included in the category of "All Other Races."[5] Those who identify as AI/NA will be referred to as "Native American."

[5] The justification for this action is based on the premise that below the threshold there are not enough people from which to draw useful inferences and, with small numbers, it may be difficult to maintain the confidentiality of individuals.

Table 5-5: Maternal Smoking Rates, 2022

Region	All Races	White	Native American
Alger	13.2 ± 9.1	12.2 ± 9.2	
Baraga	26.9 ±9.8	15.8 ± 9.5	
Chippewa[a]	26.3 ± 5.2	21.0 ± 5.9	36.7 ± 10.0
Delta	18.8 ± 4.6	18.8 ± 4.8	
Dickinson	13.8 ± 4.5	14.1± 4.7	
Gogebic	16.3 ± 7.1	14.4 ± 7.0	
Houghton	17.6 ± 3.8	18.4 ± 4.0	
Iron	27.1 ± 9.4	27.5 ± 9.8	
Keweenaw	11.8 ± 15.3	11.8 ± 15.3	
Luce	20.5 ± 12.7	7.7 ± 10.2	
Mackinac	10.2 ± 6.3	6.0 ± 5.7	
Marquette	13.9 ± 3.0	13.0 ± 3.0	
Menominee	9.13 ± 4.0	7.5 ± 3.9	
Ontonagon	25.0 ± 17.3	21.7 ± 16.9	
Schoolcraft	34.6 ± 12.9	38.1 ± 14.7	
Upper Peninsula	17.6 ± 1.5	15.9 ± 1.6	
Michigan	8.4 ± 0.2	8.8 ± 0.2	24.5 ± 2.6
[a] Chippewa County was the only county for which data on Native Americans were reported.			

5.3.6.1 Maternal Smoking in Upper Peninsula in those Identifying as "White"

Several factors were assessed to determine their impact on maternal smoking rates, include county of residence, average 2018 household income at the county level,[6] percentage within a county of adults with a bachelor's degree or higher at the county level, and year of birth. The number of live births markedly differs between counties, so the county-level data were weighted using the number of births in each county when performing linear regression analyses.

[6] Analyses were also performed using the percentage of household with a household income less and $25,000 per year and the percentage who earned less than Household Survival Budget. Average household income was more strongly correlated to maternal smoking rates than these other two measures. [9]

The role of county of residence is primarily used to provide a rough stratification tool. The maternal smoking rates in each of the counties from 2002 through 2021 broken down by race are shown in **Table 5-5**. When all data are considered in a general linear model, county of residence is a statistically significant factor impacting yearly maternal smoking rates (F=7.89, df=14, p<.0001).

The association between yearly maternal smoking rates and average household income in a count is statistically significant (β=-0.00000520, SE=9.37E-7, t=-5.54, p<.0001) (see **Figure 5-1**). This indicates that for each $10,000 increase in average household income, the maternal smoking rate decreases by 5.20%.

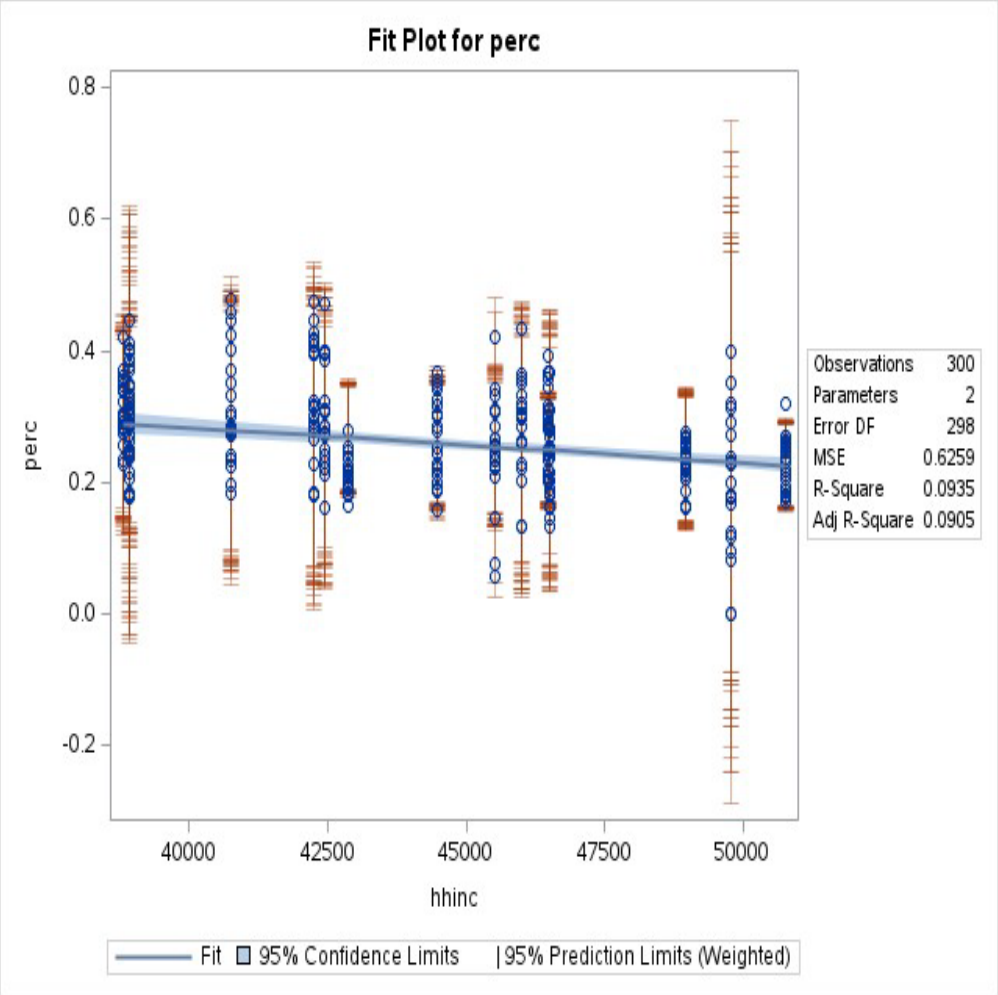


Figure 5-1: Linear relationship between yearly county-level weighted maternal smoking rates (y-axis) and average household income at the county level (x-axis) from 2002 through 2021. Best fit line (blue line), 95% confidence interval (shaded), and 95% prediction limits (dotted lines).

Yearly maternal smoking rates were found a statistically significant association with the percentage of those within county with a bachelor's degree of higher (β=-0.00437, SE=0.000532, t=-8.21, p<.0001) (see **Figure 5-2**). This indicates that for each 10% increase in those with a bachelor's degree or higher, the maternal smoking rate decreases by 4.37%.

Using weighted yearly maternal smoking rates, there was a statistically significant trend with the year of birth (β=0.00168, SE=0.000634, t=2.65, p=.0086) (see **Figure 5-3**). This indicates that with each year, the maternal smoking rate increased by 0.17%.

Looking at the yearly maternal smoking rate data for the entire Upper Peninsula (**Figure 5-4**), there does not appear to be a linear relationship. While linear regression analysis detects a significant linear relationship, looking at this graph suggests that a non-linear model may better portray the data. In a

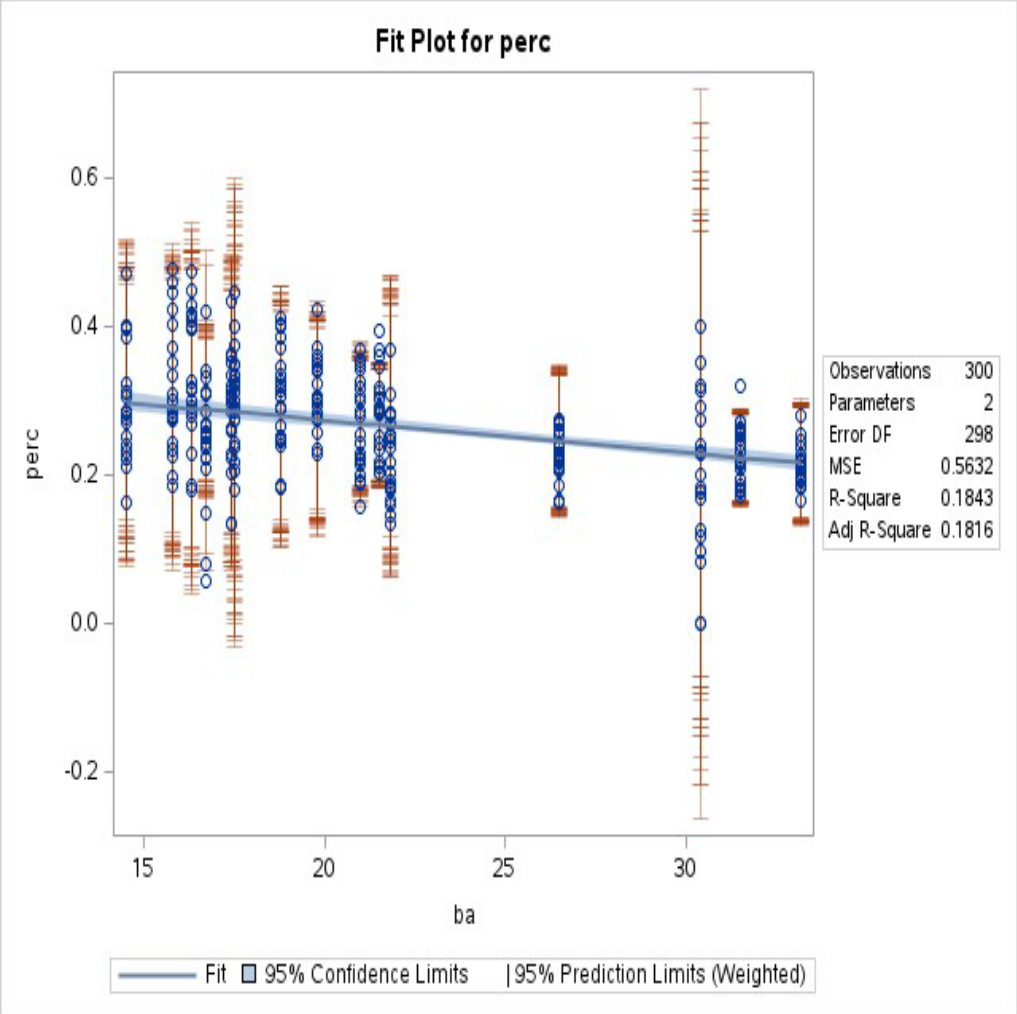


Figure 5-2: Linear relationship between yearly county-level weighted maternal smoking rates (y-axis) and the percentage within the county with a bachelor's degree or higher (x-axis) from 2002 through 2021. Best fit line (blue line), 95% confidence interval (shaded), and 95% prediction limits (dotted lines).

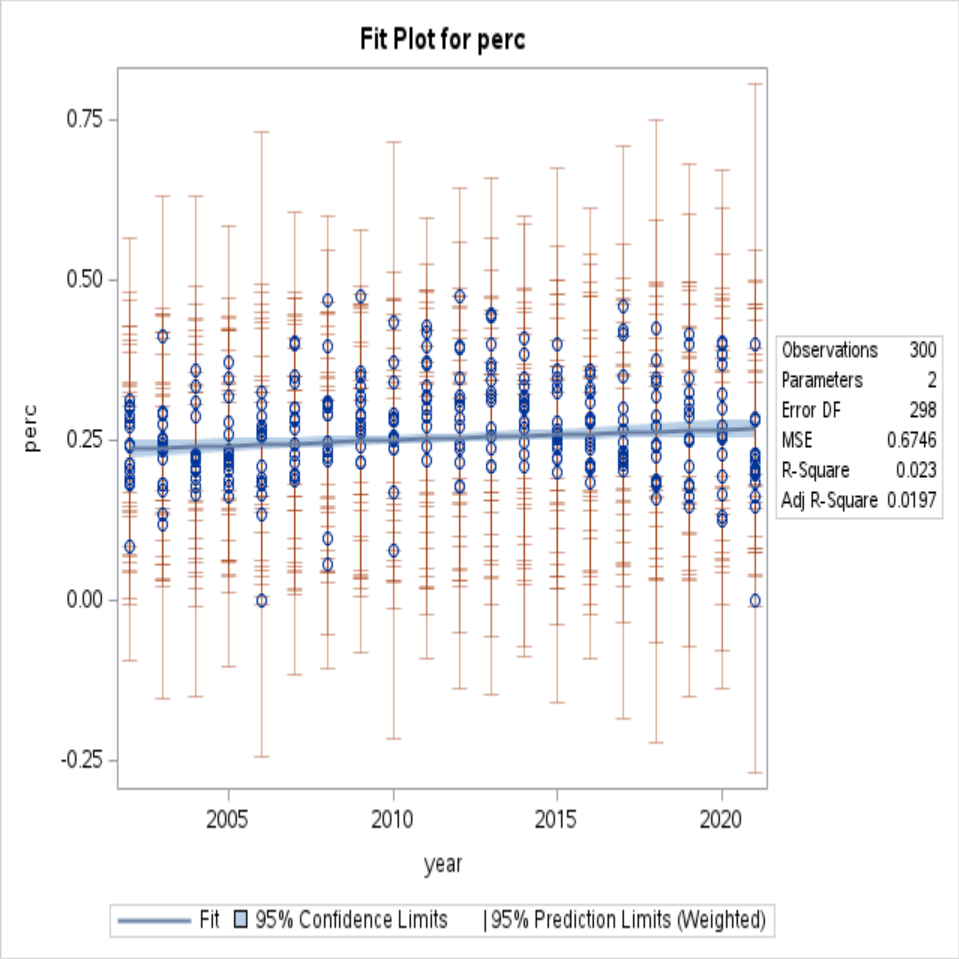


Figure 5-3: Linear relationship between yearly county-level weighted maternal smoking rates (y-axis) and year if birth (x-axis) from 2002 through 2021. Best fit line (blue line), 95% confidence interval (shaded), and 95% prediction limits (dotted lines).

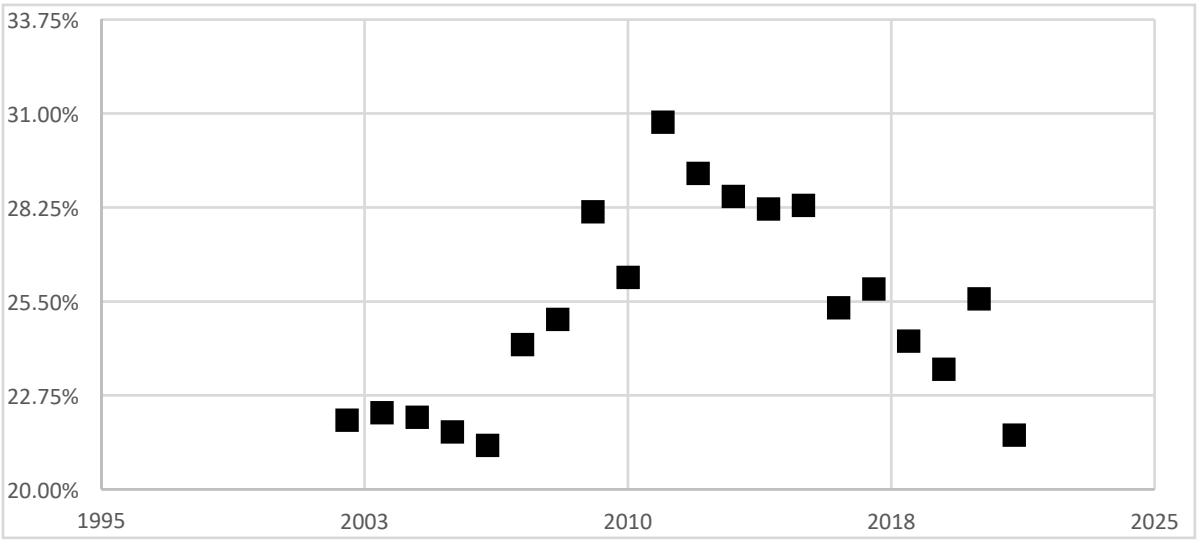


Figure 5-4: Plot of Upper Peninsula maternal smoking rates (y-axis) and year of birth (x-axis) from 2002 through 2021.

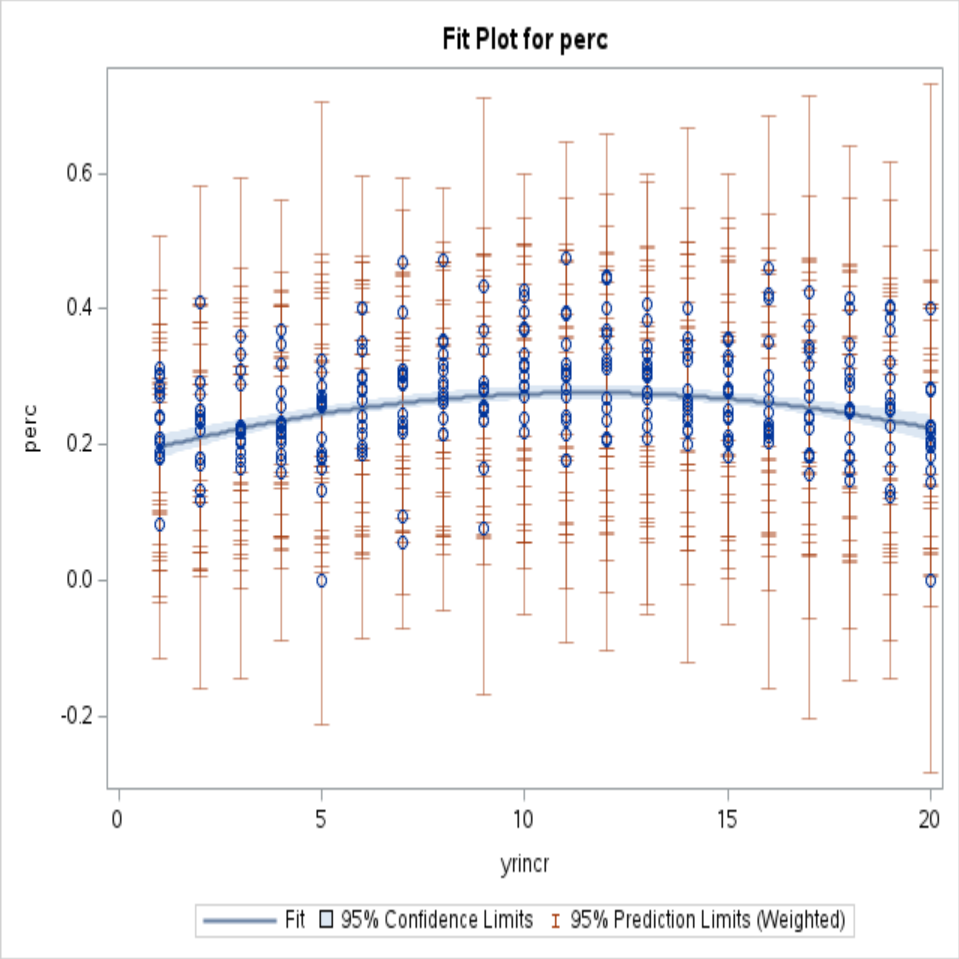


Figure 5-5: Second-order relationship between yearly county-level weighted smoking rates (y-axis) and year of birth (x-axis) from 2002 through 2021. Best fit line (blue line), 95% confidence interval (shaded), and 95% prediction limits (dotted lines).

model using yearly maternal smoking rate data, adding an exponential factor provided a much better fit (linear factor: β=0.0167, SE=0.00247, t=6.77, p<.0001; exponential factor: β=-0.000728, SE=0.000116, t=-6.28, p<.0001) (see **Figure 5-5)**. The shape of this curve can be explained by the rise in e-cigarette use and their replacing cigarette use.

The maternal smoking rate increased significantly over the twenty-year period from 2002 through 2021 in Alger, Dickinson, and Houghton counties. There was no significant change in Baraga, Chippewa, Gogebic, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft counties. A significant *increase* in was seen in Delta County (see **Table 5-6**). The linear regression of yearly maternal smoking rates at the county level is show in **Table 5-7**.

Table 5-6: Maternal Smoking Rates by Race from 2002 through 2021

County	All births	White	Native American	
Alger	28.69±2.41%	27.91±2.50%	39.04±9.33%	
Baraga	37.23±2.58%	29.67±2.55%	61.40±4.86%	
Chippewa	30.83±1.08%	26.76±1.22%	43.55±2.31%	
Delta	28.35±1.03%	27.75±1.05%	44.76±5.49%	
Dickinson	22.81±1.15%	22.61±1.17%	35.61±8.17%	
Gogebic	32.08±1.80%	31.02±1.88%	52.63±7.48%	
Houghton	20.76±0.91%	21.31±0.95%	18.47±5.10%	
Iron	30.46±2.10%	30.27±2.14%	43.86±12.88%	
Keweenaw	20.75±4.27%	20.87±4.29%	*	
Luce	35.16±2.80%	33.53±2.94%	50.43±9.14%	
Mackinac	25.36±2.01%	22.32±2.20%	36.54±4.69%	
Marquette	23.13±0.74%	22.79±0.75%	34.50±4.24%	
Menominee	26.34±1.32%	24.15±1.40%	61.08±5.38%	
Ontonagon	29.99±3.31%	29.80±3.37%	45.00±21.80%	
Schoolcraft	33.86±2.48%	31.50±2.63%	32.14±2.68%	
Upper Peninsula	26.49±0.36%	25.16±0.38%	41.36±1.99%	
Michigan	15.87±0.05%	17.00±0.06%	35.68±0.79%	
Lower Peninsula	15.60±0.11%	16.75±0.14%	31.84±1.77%	
* too few births to provide an estimate				

By including some or all of these factors into statistical models, a more complete understanding of what impacts maternal smoking can be uncovered. The results of various multivariable regression models are given in **Table 5-8**. The first model includes year of birth and county of residence. In this model county of residence is a significant categorical factor and the yearly trend remains statistically significant, which can be interpreted that the maternal smoking rate increases 0.179% each year.

The second model includes average household income and percentage with a bachelor's degree or higher. Both factors are statistically, indicating that both factors have individual contributions to explaining maternal smoking rates despite any collinearity.

Table 5-7: Linear Regression of Yearly Maternal Smoking Rates, County-level

County	Beta	Standard Error	t-value	p-value
Alger	0.00582	0.00263	2.21	0.0401
Baraga	-0.00174	0.00311	-0.56	0.5813
Chippewa	-0.00048747	0.00253	-0.019	0.8495
Delta	0.00460	0.00204	2.26	0.0368
Dickinson	-0.00298	0.00103	-2.88	0.0099
Gogebic	0.00177	0.00186	0.95	0.3534
Houghton	0.00225	0.000912	2.47	0.0237
Iron	-0.00126	0.00273	-0.46	0.6492
Keweenaw	0.00304	0.00428	0.71	0.4868
Luce	0.00381	0.00334	1.14	0.2691
Mackinac	-0.00198	0.0024	-0.82	0.4209
Marquette	0.0027	0.00145	1.86	0.0793
Menominee	-0.00079617	0.00334	-0.24	0.8143
Ontonagon	0.00013213	0.00265	0.05	0.9608
Schoolcraft	0.00584	0.00321	1.82	0.0852

The third model includes average household income, percentage with a bachelor's degree or higher, and county of residence. Both the income and education data are both measured at the county-level, so including county of residence does not add additional useful information, as the county variable is statistically significant, while the income and education variables are not. This indicates that using county of residence as a variable provides similar information as county-level education and income levels. Given this evidence of collinearity, a county of residence variable should not be used in models that contain either the income or educational level variables. The same phenomenon is seen in model 5.

The fourth model includes average household income, percentage with a bachelor's degree or higher, and year of birth. All three factors are statistically significant, indicating that each factor has individual contributions to explaining maternal smoking rates.

The fifth model includes average household income, percentage with a bachelor's degree or higher, county of residence, and year of birth. The results, consistent with model 3 that also contained both county of residence along with average household income and the percentage with a bachelor's degree or higher measured at a county level, provides an unstable model.

Table 5-8: Maternal Smoking Multivariable Regression Models

Model 1	Beta	Standard Error	t-value	p-value
Yearly Trend	0.001778751	0.0005471	3.25	0.0013
County of Residence	F=8.35 (df=14)			<.0001
Model 2				
Yearly Trend				
Average Household Income	-0.00000214	0.00000101	-2.11	0.0354
Percent Bachelor's Degree or Higher	-0.00374	0.00321	1.82	0.0852
Model 3				
County of Residence	F=2.83 (df=12)			0.0011
Average Household Income	0.000002566	0.00001121	0.23	0.8192
Percent Bachelor's Degree or Higher	-0.007181	0.007987	-0.9	0.3694
Model 4				
Average Household Income	-0.000002144	0.000001	-2.15	0.0326
Percent Bachelor's Degree or Higher	-0.003773	0.0005976	-6.31	<.0001
Year of Birth	0.001782	0.0005678	3.14	0.0019
Model 5				
County of Residence	F=2.92 (df=12)			0.0008
Average Household Income	0.000002013	0.00001103	0.18	0.8553
Percent Bachelor's Degree or Higher	-0.006847	0.007857	-0.87	0.3842
Year of Birth	0.001779	0.0005471	3.25	0.0013
Model 6				
Average Household Income	-0.000002101	0.00000092	-2.28	0.023
Percent Bachelor's Degree or Higher	-0.003864	0.00055044	-7.02	<.0001
Year of Birth	0.017242	0.002166	7.96	<.0001
Year*Year	-0.0007471	0.002166	-7.36	<.0001

Table 5-9: Odds Ratios For Upper Peninsula versus Lower Peninsula Maternal Smoking Rates for Each Year from 2002 through 2022

Year	Odds Ratio	Lower 95% Confidence Interval	Upper 95% Confidence Interval
2002	1.842	1.6798	2.0199
2003	1.9891	1.8176	2.1768
2004	2.0571	1.8754	2.2563
2005	2.0226	1.8433	2.2194
2006	1.9583	1.7843	2.1493
2007	2.0536	1.8726	2.2521
2008	1.6463	1.5056	1.8
2009	1.8964	1.737	2.0703
2010	1.7589	1.6074	1.9248
2011	1.9806	1.8174	2.1585
2012	1.8056	1.6557	1.969
2013	1.7445	1.5969	1.9058
2014	1.9226	1.7617	2.0981
2015	2.0563	1.8791	2.2502
2016	1.9911	1.8151	2.1841
2017	2.1568	1.9637	2.3688
2018	2.1158	1.9223	2.3288
2019	2.1792	1.9712	2.409
2020	2.2677	2.054	2.5028
2021	2.7906	2.5215	3.0884
2022	2.5377	2.2799	2.8246

To provide the most precise model, an exponential factor for the year of birth was added to model 4. All factors were statistically significant. This model best represents the relationship between these factors.

The odds ratios for Upper Peninsula versus Lower Peninsula for each year from 2002 through 2021 are shown in **Table 5-9**. The odds ratios ranged from 1.65 in 2008 to 2.79 in 2021. The overall odds ratio, when stratified for year of birth, is 1.98 (95%CI: 1.94, 2.02).

5.3.6.2 Maternal Smoking in Upper Peninsula in those Identifying as Native American

In fourteen of the fifteen counties in the Upper Peninsula, the number of live-births identifying as Native America were not sufficient for that specific racial identification to be listed as a separate category. The numbers of Native American births across the Upper Peninsula, included in "All Other Categories" were estimated using available census data. Individuals currently in state prisons and attending universities were adjusted for. Some counties have sizable percentages of people whose racial identification puts them in a racial group, which at the state-level, has a very low smoking rate. For example, in Houghton County 3.0% of the population identifies as "Asian/Pacific Islander." At the state level, the maternal smoking rate for those identifying as Asian/Pacific Islander from 2002 through 2021 was only 2.06%. So, it is not a surprise that the "All Other Races" maternal smoking rate in Houghton County is 10.95%, much lower than other counties.

Chippewa County tallied enough births who identified as Native American to exclude their "All Other Races" from analysis. Based on the census of the "All Other Races" births, it is estimated that 426 of these would identify as "Asian Pacific Islander." Given a 2.06% maternal smoking rate among "Asian Pacific Islander" across Michigan, this would translate to 9 in this racial group smoking during pregnancy across the Upper Peninsula over the 20-year span. The total number of births identifying as Native American in Chippewa County plus the "All Other Races" for the other fourteen counties over the 20-year span was 6101 with 2356 (38.62%, 95%CI: 37.39%, 39.84%) admitting to smoking during pregnancy. If the numbers presumed to be "Asian Pacific Islander" are removed, 5675 births with 2347 smokers (41.36%, 95%CI: 40.08%, 42.64%) would likely be Native American.

Over the 20-year span across Michigan there were 14,066 Native American births, with 5019 smokers (35.68%) with 8391 Native American births with 2672 smokers (31.84%, 95%CI: 30.84, 32.84) in the Lower Peninsula. The maternal smoking rate is about 1.5 time higher among those identifying as Native American in the Upper Peninsula than in the Lower Peninsula (OR=1.51, 95%CI: 1.41, 1.62).

The maternal smoking rates in the Upper Peninsula of those who identify as Native American is twice as high as those who identify as White (OR=2.10, 95%CI: 1.98, 2.22). At the state level, maternal smoking rates were also more than twice as high in Native Americans than whites in 2021 (OR=2.19, 95%CI: 1.86, 2.59) and across the twenty-year span from 2002 through 2021 (OR=2.71, 95%CI: 2.62, 2.80).

The maternal smoking rates are much higher in the Upper Peninsula than in other regions of the country, including the Lower Peninsula. The reason for this is unclear. The increase followed by a decrease in the maternal smoking rate over the past years is not reassuring as it likely represents an increase in using e-cigarettes to deliver nicotine to the fetus during pregnancy. E-cigarette use is not currently captured by the methods used to collect maternal smoking data. It is not surprising that the decrease in maternal smoking rate coincides with the introduction of e-cigarettes. It is likely that incidence of fetal nicotine exposure continues to increase.

5.3.7 Obesity and Pregnancy Weight Gain

Women who are obese entering pregnancy or gain an excessive amount of weight during the pregnancy place their infants at higher risk of being stillborn, arriving prematurely, having a high birthweight, or

Table 5-10: Maternal Weight Gain and WIC Enrollment, 2022		
	Percent Excessive Weight Gain during Pregnancy	Percent on WIC program
Michigan	47.7%	30.6%
Upper Peninsula	46.5%	41.4%
Alger	35.3%	20.8%
Baraga	29.7%	44.9%
Chippewa	52.6%	44.2%
Delta	52.4%	35.5%
Dickinson	59.8%	41.3%
Gogebic	39.2%	44.6%
Houghton	51.5%	30.9%
Iron	56.8%	53.9%
Keweenaw	64.7%	x
Luce	59.0%	46.2%
Mackinac	46.0%	34.5%
Marquette	45.3%	29.1%
Menominee	31.4%	45.7%
Ontonagon	34.8%	56.5%
Schoolcraft	39.2%	51.0%
[x] Percentage does not meet the standards of precision or reliability		

having a birth defect. The women are also at an increased risk for complications later in life including diabetes, heart disease, and some cancers, while their infants are twice as likely to be obese and to develop type 2 diabetes later in life.

Recommendations for appropriate weight gain during pregnancy are based on pre-pregnancy body mass index (BMI); the recommended weight gain is higher for women who are underweight and lower for those women who are overweight or obese before they become pregnant. Gaining below or above the recommended weight gain guidelines can lead to health problems. Low weight gain is associated with the delivery of a low birthweight baby, which can lead to an increased risk of infant mortality, developmental delays, and other health complications.

The percentage of women with “heavy weight” prior to becoming pregnant are reported in **Table 5-4**. Most counties, and the Upper Peninsula as a whole, had a rate that was slightly higher than the statewide rate.

The percentage of women who experienced excessive weight gain during pregnancy, are reported in **Table 5-10**. [5] When compared to the last report, decreases were seen in Alger, Baraga, Chippewa, Gogebic, Houghton, Mackinac, Menominee, Ontonagon, and Schoolcraft counties, but increases in Delta, Dickinson, Houghton, Iron, and Luce counties were identified. Minimal change was noted in Marquette County.

5.3.8 WIC during Pregnancy

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) program is a federally-funded health and nutrition initiative that provides supplemental food, health care referrals, and nutrition education to low-income pregnant and postpartum women and children under 5 years old. By improving the nutrition of pregnant women, postpartum women, and breastfeeding mothers, the WIC program seeks to improve maternal health, reduce the likelihood of a low birthweight infant, and reduce infant mortality. Participants must meet income guidelines. Research has shown that the WIC program plays a role in improving birth outcomes, such as reducing low birthweight, prematurity, and infant mortality, and containing health care costs. WIC also provides direct economic benefit to the counties through funding provided to these women for retail food purchases. WIC serves families meeting the income eligibility, which is set at 185% of the poverty threshold. The high percentage of WIC enrollment is consistent with the economic state of the Upper Peninsula as discussed in section **§3.8**.

5.3.9 Maternal Depression

Maternal depression has been associated with inadequate prenatal care, poor nutrition, higher preterm birth, and low birthweight and may have a profound impact on the social-emotional and cognitive development of infants. About 10% of women are depressed during any trimester of pregnancy or any month within the first year after delivery. Depression can inhibit a woman’s ability to perform daily activities, bond with her infant, and relate to her family. Women should be routinely screened for depression during pregnancy and following delivery. An increase in postpartum depression was noted early in the COVID-19 pandemic. From February 2020 through July 2020, 38.2% scored 10 or higher in the Edinburgh Postnatal Depression Scale (EPDS) indicating postnatal depression. An EPDS score of 13 or higher, indicating major depression, was found in 21.8%. Fear of COVID-19 infection may have driven these increased rates. [10]

5.3.10 Maternal Vaccination

Routine vaccination of women before and during pregnancy as outlined by the CDC, can positively impact the health of their infants. In 2023 to 2024, 59.6% received Tdap during pregnancy, while 47.4% and 30.9% received the influenza and COVID vaccines, respectively. [11]

5.3.11 Access to Birthing Centers

Many communities in the Upper Peninsula are more than 60 minutes away from a birthing center. While the population may be sparse in many areas, the extended distance to a birthing center may limit a woman’s ability to access pre- and postnatal care and impact her ability to obtain the needed level of

Table 5-11: Closest NICU to Upper Peninsula Hospitals		
Hospital Location	Distance to Closest NICU (miles)	Closest NICU
Escanaba	67	MQT
Hancock	101	MQT
Iron Mountain	79/100	MQT/Green Bay
Iron River	88/122	MQT/Wausau
Ironwood	125/145	Wausau/MQT
Ishpeming	15	MQT
L'Anse	68	MQT
Laurium	112	MQT
Manistique	91	MQT
Marquette	0	MQT
Menominee	58	Green Bay
Munising	43	MQT
Newberry	104	MQT
Ontonagon	114	MQT
Saint Ignace	109	Traverse City
Sault Ste Marie	160/165	Traverse City/MQT
MQT = Marquette		

obstetrical and/or neonatal care in an expedient manner. This can impact outcomes for both mother and infant. In the Upper Peninsula, winter weather conditions may further constrain access to obstetric care. There are no birthing centers in Alger, Baraga, Iron, Keweenaw, Luce, Mackinac, Menominee, Ontonagon, and Schoolcraft, counties, but in most counties, satellite prenatal services are provided by providers from neighboring counties.

5.3.12 Proximity to a Neonatal Intensive Care Unit (NICU)

The only NICU in the Upper Peninsula is located in Marquette. For many hospitals in the Upper Peninsula, NICUs outside the Upper Peninsula may be closer. The distances from the hospitals in the Upper Peninsula to the closest NICU are listed in **Table 5-11**. The financial and emotional burdens placed on a family with an infant in the NICU are likely exacerbated by the distance from home.

Table 5-12: Cesarean Section Rate by County, 2022	
	Percent Delivered by Cesarean Section
Michigan	33.1%
Upper Peninsula	34.1%
Alger	45.3%
Baraga	42.3%
Chippewa	28.1%
Delta	32.4%
Dickinson	38.1%
Gogebic	23.0%
Houghton	28.0%
Iron	31.6%
Keweenaw	33.1%
Luce	43.6%
Mackinac	33.3%
Marquette	31.1%
Menominee	25.7%
Ontonagon	x
Schoolcraft	41.2%
x numbers too small to make an estimate	

5.4 Birth Outcomes

5.4.1 Cesarean Birth Rates

In 2023, 33.2% of newborns were delivered by Cesarean section. [6] The percentage of Cesarean deliveries steadily rose from 1996 and peaked in 2009. Significant efforts by the public health and medical communities have resulted in a reversal of the trend nationally, particularly among low-risk births. Six of the Upper Peninsula counties had Cesarean rates lower than the state rate. The rates were highest in Alger (45.3%) and Luce (43.6%) counties. The long distance for Luce County residents to a birthing center may contribute to Cesarean rate. Compared to the two previous reports, the rate of delivery by Cesarean section has decreased with a drop in Marquette County from 40.1% to 37.1% to

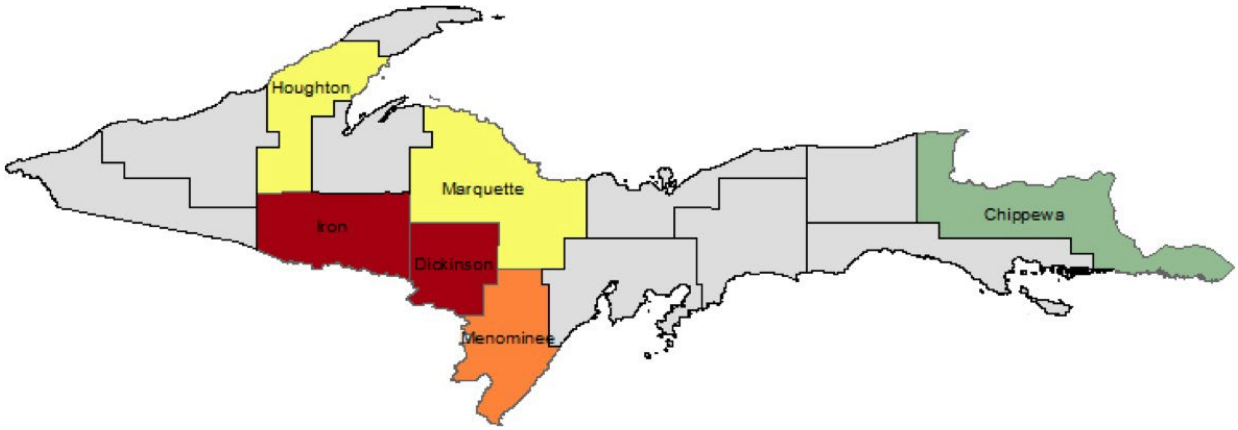


Figure 5-6: Severe Maternal Morbidity excluding Transfusions, 2017-2021 per 10,000 Inpatient Delivery Hospitalizations. Green = 62.7-83.3, yellow = 83.4-114.8, orange = 114.9-195.4, red = 195.5-362.1, gray = insufficient data available.

31.1% (see **Table 5-12**). [5]

5.4.2 Severe Maternal Morbidity

From 2018 through 2022, the rate of severe maternal morbidity per 10,000 inpatient delivery hospitalizations was 88.9 for the State of Michigan. [12] The rates of severe maternal morbidity (excluding transfusions) for 2017 through 2021 in counties in the Upper Peninsula are show in **Figure 5-6**. [13]

5.4.3 Maternal Mortality Rate

In 2020, the maternal mortality rate in the United States was 21 for every 100,000 births. This rate is markedly higher than the rates in New Zealand (7), Norway (2), the Netherlands (4), Germany (4), Sweden (5), Switzerland (7), the United Kingdom (10), Canada (11), or France (8). [14]

Maternal mortality ratio in the United States from 1987 through 2021 is shown in **Figure 5-7**. [15] Maternal mortality in the United States in 2021 by race/ethnicity is shown in **Figure 5-8**. [15]

In 2020 maternal mortality (all death during pregnancy, at delivery, or within one year of pregnancy) was 85.2 per 100,000 live births in the Upper Peninsula and 92.4 per 100,000 live births in the State of Michigan. [16]

5.5 Infant Risk Factors

5.5.1 Infant Mortality

Infant mortality rates are reported as the number of deaths per 1,000 live births. With an infant mortality rate of 5.4 per 1,000 live births in 2021, the United States ranks 33rd of the 38 Organization for Economic Cooperation and Development (OECD) countries, which have an average rate of 4.0. The

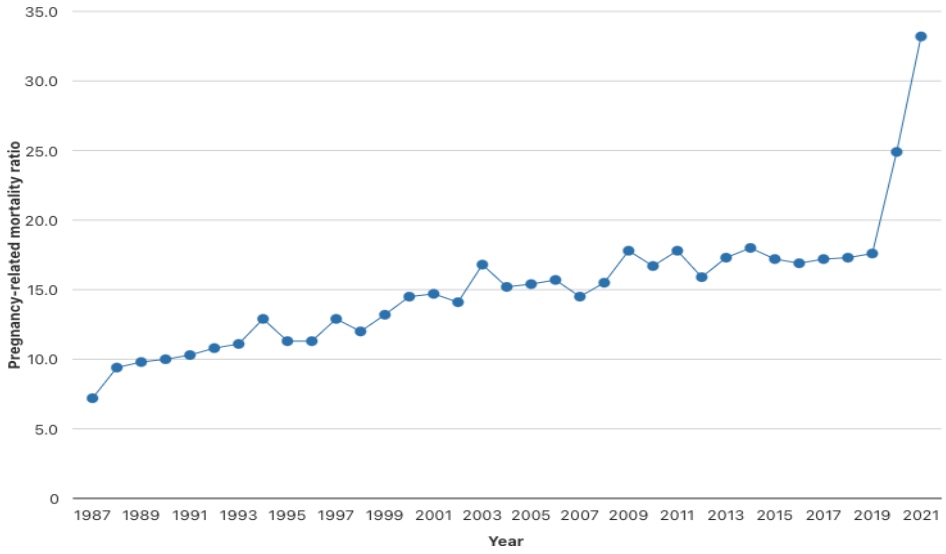


Figure 5-7: Pregnancy-related mortality ratio in United States: 1987-2021[15]

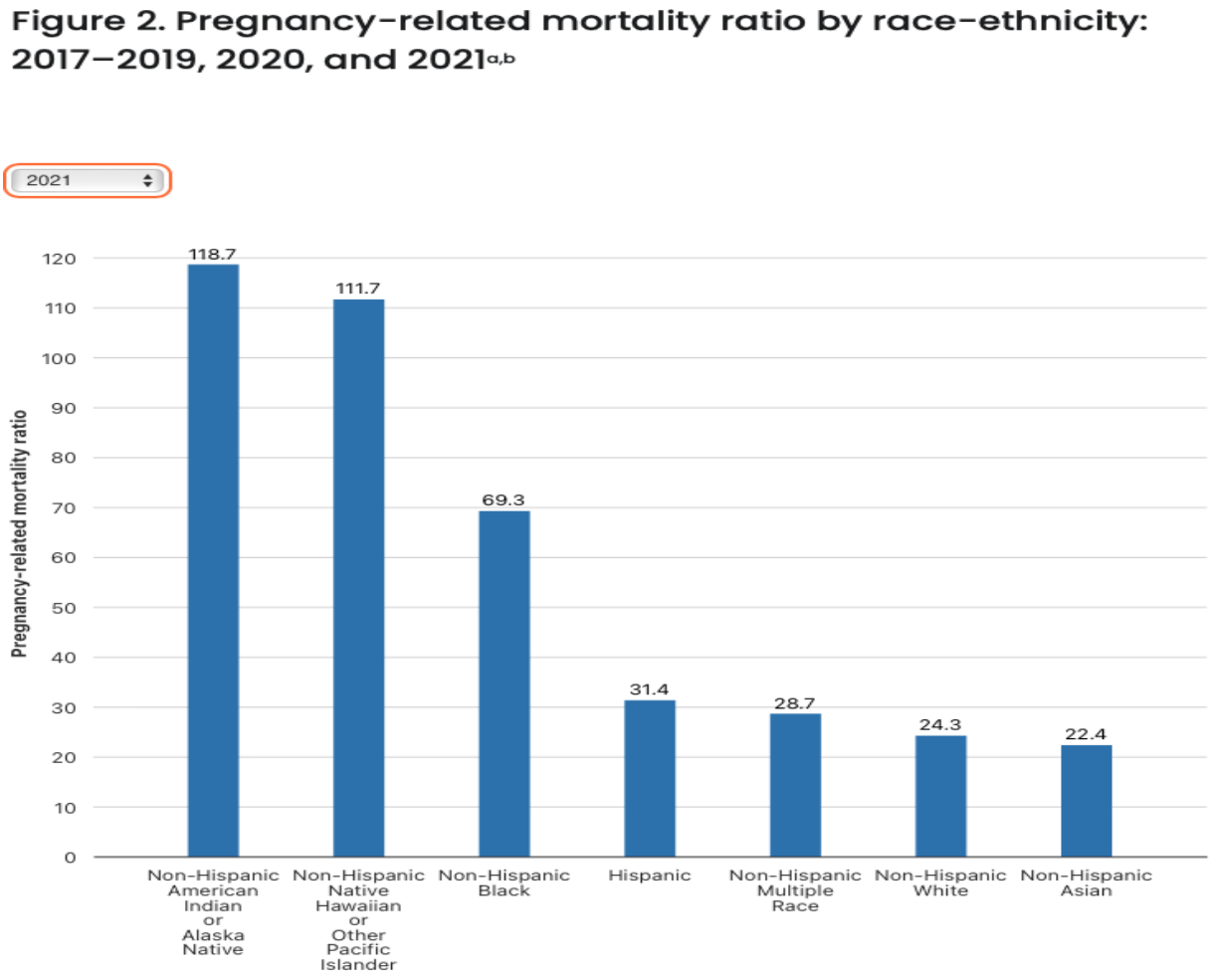


Figure 5-8: Pregnancy-related mortality ratio by race-ethnicity: 2021[15]

Table 5-13: Infant Mortality per 1,000 Births, 2018-2022

Region	Rate
Chippewa County	7.4 ± 4.4
Delta County	7.5 ± 4.2
Dickinson County	7.0 ± 4.8
Marquette County	4.0 ± 2.3
Menominee County	7.5 ± 5.9
Health Departments	
DIDHD[a]	8.4 ± 4.5
LMAS[b]	7.0 ± 4.6
PHDM[c]	7.5 ± 3.4
WUPHD[d]	2.7 ± 1.9
Upper Peninsula	5.6 ± 1.3
Michigan	6.5 ±0.2
[a] Dickinson-Iron District Health Department	
[b] Luce-Mackinac-Alger-Schoolcraft District Heath Department	
[c] Pubic Health Delta-Menominee Counties	
[d] Western Upper Peninsula Health Department — includes Baraga, Gogebic, Houghton, Keweenaw, and Ontonagon counties	

countries in this group with the lowest infant mortality rate are Japan and Norway Iceland with 1.7. [17] The Michigan Department of Health and Human Services tracks infant mortality rates at a county-by- county level. The most recent report includes data from 2022 as a combination of numbers from 2018 through 2022. [18] The infant mortality rates (per 1,000 births) for 2018 through 2022 are shown in **Table 5-13**.

5.5.1.1 Sleep-Related Infant Death (formerly known as SIDS)

The trends in the rates sudden infant death, accidental suffocation and strangulation in bed, and sudden unexpected deaths (per 10,000) births for Michigan from 1989 through 2022 are shown in **Figure 5-9**. Updated data for the Upper Peninsula is not available.

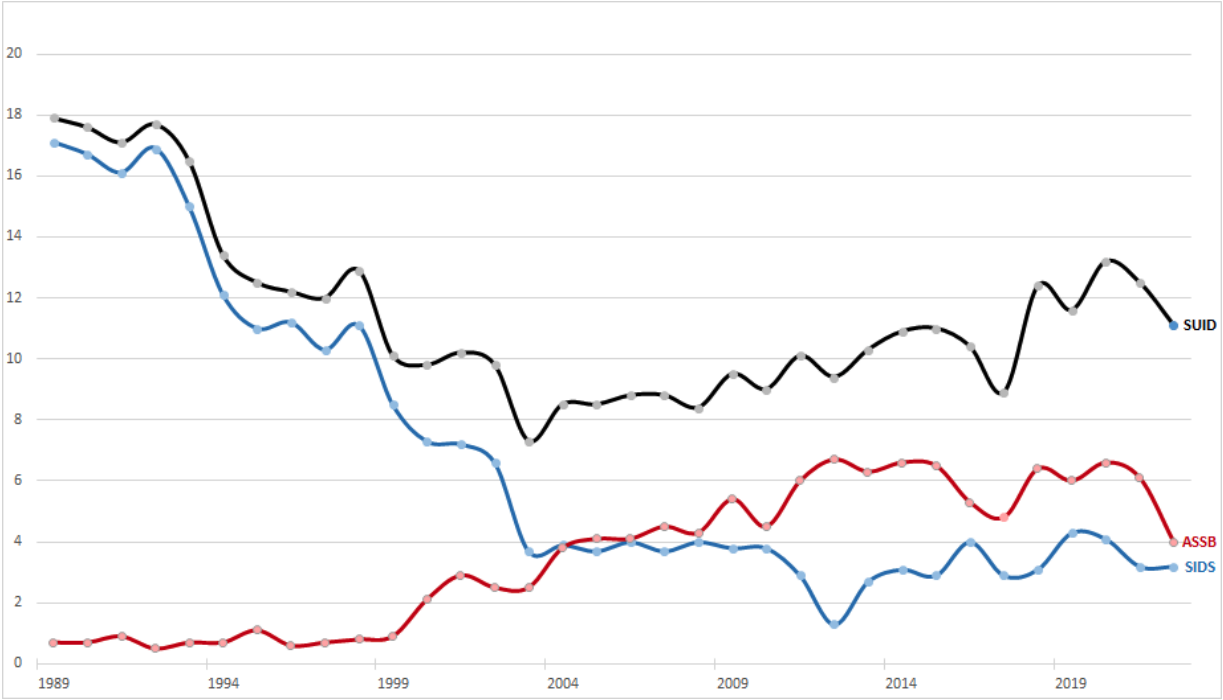


Figure 5-9: Sudden Infant Death Rates, Accidental Suffocation & Strangulation in Bed & Sudden Unexpected Infant Death Rates Michigan Residents, 1989-2022[19]

5.5.2 Low Birthweight

Low weight birth describes infants who weigh less than 2,500 grams (about 5.5 pounds) at birth. Some low birthweight babies are healthy, despite being small, but being low birthweight can cause serious health problems.

Babies may be born at low birthweight because of prematurity or because of growth restriction during pregnancy from chronic maternal conditions (such as high blood pressure), maternal smoking or being exposed to smoke during pregnancy, and other factors. Many infants born under 5.5 pounds suffer from early health complications, such as breathing difficulties, and long-term impacts, such as developmental delays. Low birthweight babies are also at increased risk of vision loss, and chronic conditions later in life such as diabetes and high blood pressure. In 2023, 8.9% of births in Michigan were low birthweight. [6]

The rates of low birthweight per 1,000 live births for each county in 2022 is shown in **Table 5-14**. [5] At the county level, with exception of Chippewa County, racial data was only available for "White" and "All Other Races." Chippewa County had enough births in those who identified as Native American for the data to be published. In the other counties those identifying as Native American would be included in "All Other Races." In Chippewa County the rate of low birthweight newborns among Native Americans was 44.4 ± 42.6 per 1,000 live births, while at the state level the rate was 96.6 ± 18.2. In the Upper Peninsula the rate in "All Other Races" (excluding the Native American identified in Chippewa County) was 100.5 ± 40.8.

Compared to the previous report the rates of preterm births and newborns with low birthweights have decreased (6.6% versus 9.0% and 4.4% versus 7.4%, respectively). [5]

Table 5-14: Rates of Low Birthweight, Prematurity, & Breastfeeding, 2022

	Low Birthweight[a]		Prematurity[a]		Breastfeeding[b]	
	All Races	White	All Races	White	All Races	White
Alger	75.5 ± 71.1	61.2 ± 67.1	94.3 ± 78.7	61.2 ± 67.1	83.0 ± 10.1	81.6 ± 10.8
Baraga	51.3 ± 49.0	70.2 ± 66.3	64.1 ± 54.4	87.7 ± 73.4	83.3 ± 8.3	84.2 ± 9.5
Chippewa	64.7 ± 28.9	71.8 ± 37.6	79.1 ± 31.7	77.3 ± 38.9	84.2 ± 4.3	84.5 ± 5.3
Delta	54.3 ± 26.7	51.0 ± 27.0	90.6 ± 33.9	86.3 ± 34.5	81.5 ± 4.6	81.6 ± 4.8
Dickinson	57.8 ± 30.5	61.0 ± 32.1	88.9 ± 37.2	93.9 ± 39.2	84.9 ± 4.7	85.4 ± 4.7
Gogebic	28.8 ± 32.2	10.3 ± 20.1	96.1 ± 56.7	72.1 ± 51.5	83.7 ± 7.1	83.5 ± 7.4
Houghton	57.9 ± 23.5	50.3 ± 22.6	121.1 ± 32.8	111.7 ± 32.6	92.6 ± 2.6	92.7 ± 2.7
Iron	94.1 ± 62.1	100.0 ± 65.7	129.4 ± 71.4	137.5 ± 75.5	83.5 ± 7.9	83.75 ± 8.1
Keweenaw	0	0	0	0	100	100
Luce	25.6 ± 49.6	0	102.6 ± 95.2	38.5 ± 73.9	87.2 ± 10.5	92.3 ± 10.2
Mackinac	56.8 ± 48.4	44.8 ± 49.5	45.5 ± 43.5	44.7 ± 49.5	85.2 ± 7.4	89.6 ± 7.3
Marquette	63.7 ± 21.0	58.7 ± 21.1	79.2 ± 23.2	79.7 ± 24.3	87.3 ± 2.9	87.8 ± 2.9
Menominee	50.8 ± 30.7	52.0 ± 33.1	60.9 ± 33.4	63.6 ± 36.4	94.9 ± 3.1	94.8 ± 3.3
Ontonagon	83.3 ± 110.6	43.5 ± 83.3	125.0 ± 132.3	130.4 ± 137.6	87.5 ± 13.2	87.0 ± 13.8
Schoolcraft	76.9 ± 72.4	71.4 ± 77.9	57.7 ± 63.4	47.6 ± 64.4	73.1 ± 12.1	78.6 ± 12.4
Upper Peninsula	58.8 ± 9.4	55.3 ± 9.7	87.4 ± 11.3	85.1 ± 11.9	86.7 ± 1.4	87.4 ± 1.4
Michigan	92.0 ±1.8	75.9 ± 1.9	104.8 ± 1.9	94.6 ± 2.1	86.4 ± 0.2	89.0 ± 0.2
[a] Rate per 1,000 live births, ± 95% confidence interval.						
[b] Percentage breastfeeding at time of perinatal hospitalization discharge, ± 95% confidence interval.						

5.5.3 Preterm Birth

Preterm birth is the birth of an infant before 37 weeks of gestation and is the greatest contributor to infant deaths, with most preterm-related deaths occurring among babies who were born before 32 weeks gestation. Preterm birth is also a leading cause of long-term neurological disabilities in children. Preterm birth increases the risk of death and disability for the infant. Preterm infants are more likely to

Table 5-15: Birth Defects Diagnosed in First Two Years of Life, 2010-2019

Region	Rate per 10,000 live births (± 95% confidence interval)
Alger	1327.3 ± 283.6
Baraga	1000.0 ± 206.6
Chippewa	858.8 ± 93.2
Delta	376.0 ± 74.6
Gogebic	239.3 ± 87.6
Houghton	730.1 ± 81.8
Iron	413.0 ± 128.6
Keweenaw	529.4 ± 336.6
Luce	1309.1 ± 281.9
Mackinac	1318.8 ± 252.5
Marquette	1128.1 ± 74.4
Menominee	261.5 ± 70.8
Ontonagon	766.7 ± 301.1
Schoolcraft	986.8 ± 212.0
Upper Peninsula	810.9 ± 31.8
Michigan (2019)	1548.3 ± 21.58

be low birthweight, have respiratory difficulties, hearing and vision problems, and require advanced hospital care. Caring for a preterm infant is also expensive. In 2023 in Michigan, 10.3% of births were premature. [6]

The rates of low birthweight per 1,000 live births for each county in 2022 is shown in **Table 5-14**. [5] At the county level, with exception of Chippewa County, racial data was only available for "White" and "All Other Races." Chippewa County had enough births in those who identified as Native American for the data to be published. In the other counties those identifying as Native American would be included in "All Other Races." In Chippewa County the rate of low birthweight newborns among Native Americans was 77.8 ± 55.3 per 1,000 live births, while at the state level the rate was 114.3 ± 19.6. In the Upper Peninsula the rate in "All Other Races" (excluding the Native American identified in Chippewa County) was 114.8 ± 43.2.

5.5.4 Birth Defects

Birth defects can be the result of genetics or environmental exposures. Statewide data on birth defects

is collected by the Michigan Birth Defects Registry (MBDR). The rate of birth defects diagnosed in the first two years of life (per 10,000 live births) in infants born in the Upper Peninsula from 2010 through 2019 are shown in **Table 5-15**. [20]

5.5.5 Newborn Screening

Newborns are routinely screened for hearing loss, hypothyroidism, and several inherited illnesses because early detection can lead to early interventions that can make ameliorate diseases and serious health disorders that can have profound health effects throughout an infant's lifetime.

5.5.6 Breastfeeding Rates

Breastfeeding has multiple short and long-term benefits for infants and mothers. For example, breast milk is easy to digest and contains antibodies that can protect infants from bacterial and viral infections. Breastfeeding reduces the risk of the infant becoming an overweight child with each additional month of breastfeeding, as well as lowering the risks of asthma, ear and respiratory infections, certain other infections, gastrointestinal problems, eczema, type 2 diabetes, and SIDS (sudden infant death syndrome/crib death). Benefits to the breastfeeding mother include lower rates of diabetes, and certain breast and ovarian cancers.

Mothers who are less than 20 years old, have less than a high school degree, and are unmarried are less likely to breastfeed.

According to the Michigan Pregnancy Risk Assessment Monitoring System (PRAMS) surveys from the 2022 birth year, 90% of mother initiated breastfeeding. 77.0% were still breastfeeding at 4 weeks postpartum and 68.5% and 62.3% at 8 and 12 weeks, respectively. Initiation of breastfeeding and duration breastfeeding increase with both education level and household income. [4]

The initiation of breastfeeding (see **Table 5-14**) was highest in Houghton (92.5%) and Keweenaw (100%) counties, and lowest in Schoolcraft (72.5%), and Gogebic (78.4%) counties. The percentage of mothers initiating breastfeeding showed marked improvement in all 15 counties in the Upper Peninsula compared to the data presented in the previous report. [5] The only county reporting breastfeeding rates among those identifying as Native American was Chippewa County, in which 83.3 ±7.7% initiated breastfeeding (compared to 83.9 ± 2.3% for Native Americans across the state). In the other counties Native Americans are included in the "All Other Races" category. For the "All Other Races" (which excludes Native Americans from Chippewa County) 81.3 ± 5.3% initiated breastfeeding.

5.6 Child Health

Poverty is a social determinant of health that disproportionately impacts children. **Figure 5-10** shows home many students are served by the various Intermediate School Districts (ISDs) and Regional Education Service Agencies (RESAs) across the Upper Peninsula. **Table 5-16** shows the number of students who are economically disadvantaged in each school district. **Figure 5-11** shows the percentage of students economically disadvantaged in each ISD/RESA. [21] In the State of Michigan in 2022, of those

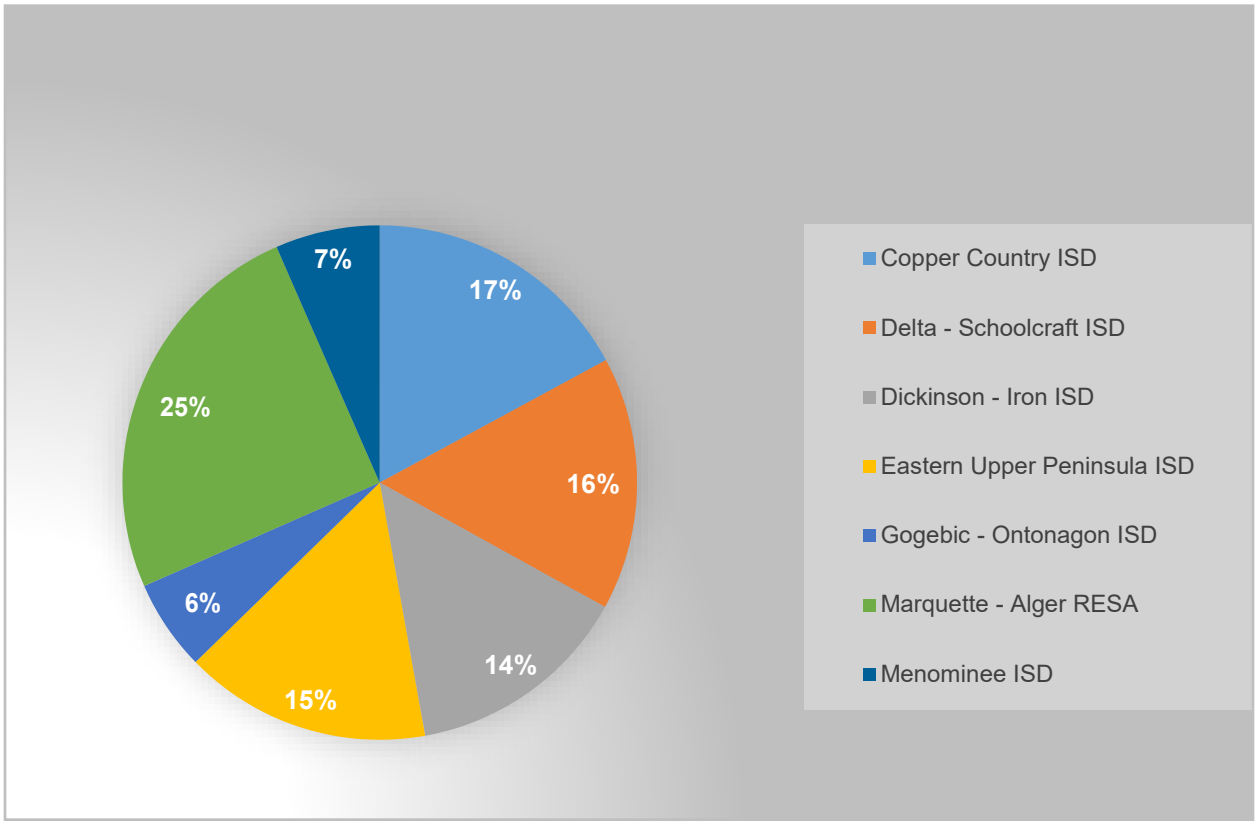


Figure 5-10: Distribution of students to the Intermediate School Districts and Regional Education Service Agencies in the Upper Peninsula, 2022

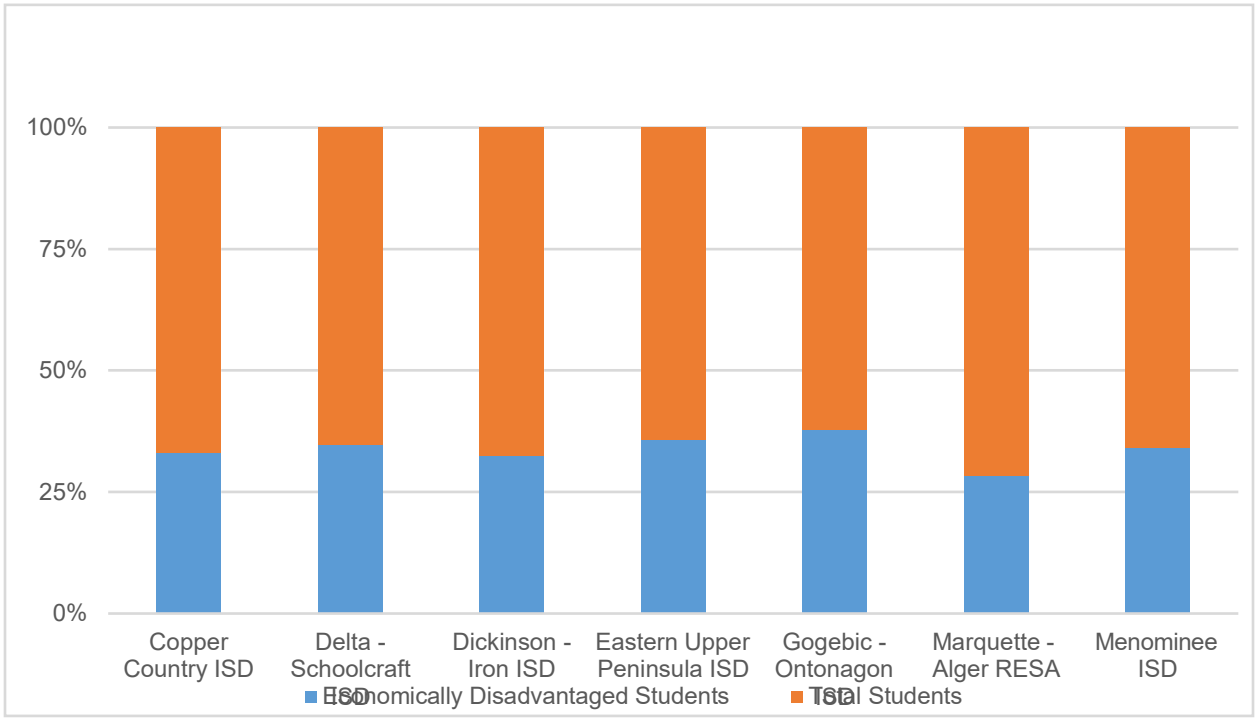


Figure 5-11: Percentage of students economically disadvantaged in each Intermediate School District and Regional Education Service Area, 2022

Table 5-16: Economically Disadvantaged Students by School District, 2021-2022

School District	Economically Disadvantage	Total Student	Percentage
Upper Peninsula	**16784**	**34252**	**49%**
Copper Country ISD	**2883**	**5856**	**49%**
Adams	195	458	43%
Arvon	6	9	67%
Baraga	215	334	64%
Chassell	98	203	48%
Dollar Bay - Tamarack City	205	322	64%
Elm River	2	4	50%
Grant #2	3	10	30%
Hancock	312	651	48%
Houghton - Portage	418	1418	29%
Lake Linden - Hubbell	213	366	58%
L'Anse	359	557	64%
CLK	759	1360	56%
Stanton	98	164	60%
	Economically Disadvantage	Total Student	Percentage
Delta - Schoolcraft ISD	**2898**	**5458**	**53%**
Bark River - Harris	351	717	49%
Big Bay De Noc	105	175	60%
Escanaba	1245	2146	58%
Gladstone	546	1513	36%
Manistique	515	716	72%
Mid-Peninsula	136	191	71%
	Economically Disadvantage	Total Student	Percentage
Dickinson - Iron ISD	**2324**	**4843**	**48%**
Breitung	759	1927	39%
Forest Park	240	444	54%
Iron Mountain	404	785	51%
North Dickinson	97	259	37%
Norway - Vulcan	260	605	43%
West Iron	564	823	69%

	Economically Disadvantage	Total Student	Percentage
Eastern Upper Peninsula ISD	**2953**	**5320**	**56%**
Bois Blanc Pines	3	4	75%
Brimley	446	484	92%
De Tour	52	84	62%
Engadine	224	336	67%
Les Cheneaux	73	208	35%
Mackinac Island	12	52	23%
Moran	59	95	62%
Pickford	165	461	36%
Rudyard	408	627	65%
Sault Ste. Marie	880	1948	45%
St. Ignace	271	444	61%
Tahquamenon	317	524	60%
Whitefish	43	53	81%
	Economically Disadvantage	Total Student	Percentage
Gogebic - Ontonagon ISD	**1187**	**1958**	**61%**
Bessemer	241	371	65%
Ewen - Trout Creek	99	170	58%
Ironwood	442	722	61%
Ontonagon	161	287	56%
Wakefield - Marenisco	133	264	50%
Watersmeet	111	144	77%
	Economically Disadvantage	Total Student	Percentage
Marquette - Alger RESA	**3380**	**8568**	**39%**
AuTrain - Onota	11	24	46%
Burt	23	29	79%
Gwinn	638	1002	64%
Ishpeming	399	654	61%
Marquette	940	3210	29%
Munising	263	570	46%
Negaunee	472	1473	32%
N.I.C.E.	351	1127	31%
Powell	30	35	86%

Republic - Michigamme	53	86	62%
Superior Central	192	343	56%
Wells	8	15	53%
	Economically Disadvantage	Total Student	Percentage
Menominee ISD	**1159**	**2249**	**52%**
Carney - Nadeau	181	280	65%
Menominee	567	1181	48%
North Central	179	329	54%
Stephenson	232	459	51%

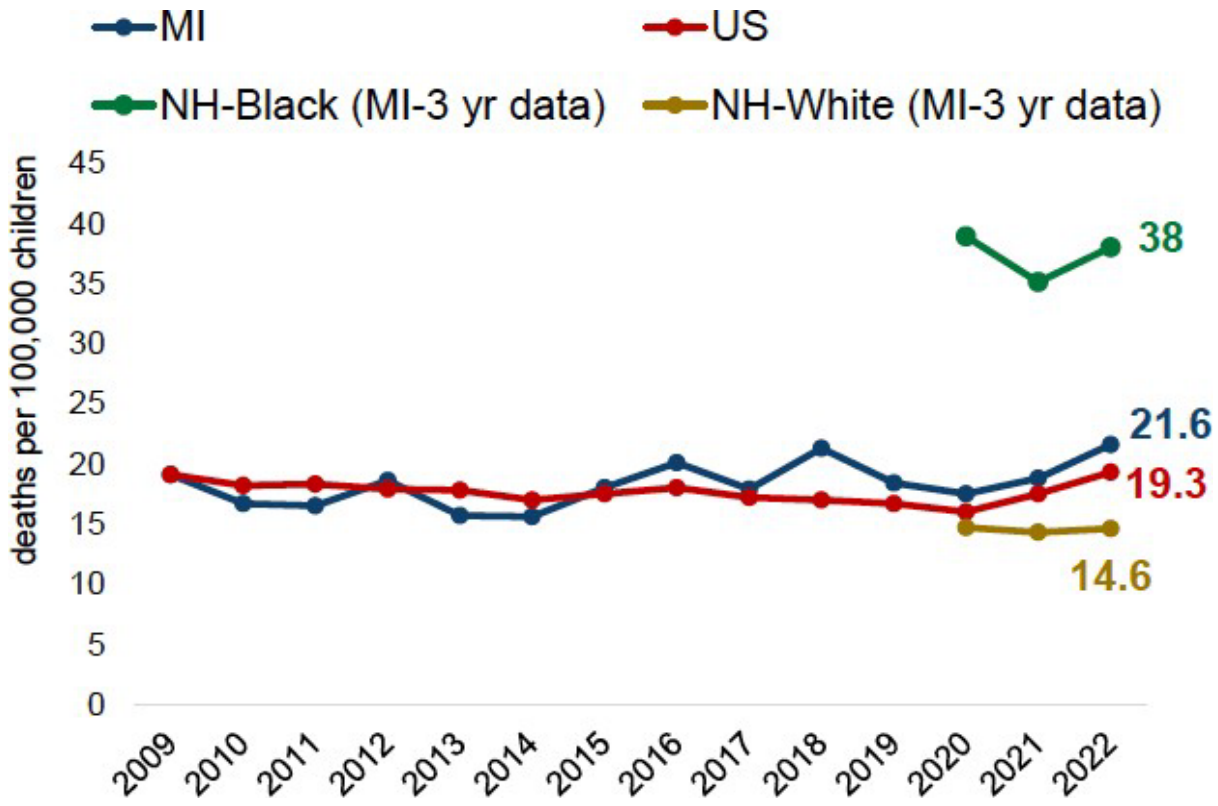


Figure 5-12: Child mortality rates — Michigan and United States, 2009-2022

up 19 years of age, 2.6 ± 0.2% were uninsured. [22] Updated county-level data is not available. Child health may also be impacted by living in single-parent households. The percentages of children living in single-parent households for each of the counties in the Upper Peninsula are shown in **Table 5-17**. [23]

The child mortality rates from 2009 through 2022 for Michigan and the United States are shown in **Figure 5-12**.

Table 5-17: Percentage of Children Living in Single-Parent Households, 2018-2022	
Location	Percentage of children that live in a household headed by single parent
Michigan	25
Alger	10
Baraga	15
Chippewa	23
Delta	22
Dickinson	16
Gogebic	19
Houghton	15
Iron	37
Keweenaw	29
Luce	17
Mackinac	21
Marquette	20
Menominee	16
Ontonagon	12
Schoolcraft	25

5.6.1 Lead Screening

Lead, a heavy metal, is a toxin that can affect multiple organ systems in the body. The developing brains of young children are particularly vulnerable to the effects of lead. Even low levels of blood lead can cause decreased intelligence quotient, attention problems, and decreased academic achievement in children. Because these effects are irreversible, prevention is key. Sources of lead include paint in homes built before 1978 (when lead paint was banned) and especially in homes built before 1950 — when lead paint use was pervasive, water pumped through lead soldered pipes, imported items (including clay pots), certain home remedies, some cosmetics, jewelry, and even candy.

The high prevalence of older housing in the Upper Peninsula may place children at risk of lead exposure. In 2021, the median house age was 51 in the City of Marquette, 54 years in Marquette County, 38 years in Michigan, and 41 years across the United States. [24]

Table 5-18: Testing for Lead in Children by County, 2016, 2021				
	Total Population of Children < 6 Years of Age	Number of Children Tested < 6 Years of Age	Percentage of Children Tested < 6 Years of Age	
			2021	2016
UP	16460	1577	9.6%	14.1%
Alger	402	19	4.7%	16.5%
Baraga	394	88	22.3%	15.1%
Chippewa	2036	164	8.1%	12.7%
Delta	2114	241	11.4%	13.3%
Dickinson	1542	67	4.3%	12.7%
Gogebic	725	93	12.8%	21.2%
Houghton	2206	393	17.8%	18.9%
Iron	569	32	5.6%	13.8%
Keweenaw	108	16	14.8%	2.7%
Luce	334	25	7.5%	15.9%
Mackinac	566	46	8.1%	17.2%
Marquette	3636	210	5.8%	11.0%
Menominee	1214	104	8.6%	14.2%
Ontonagon	185	36	19.5%	20.5%
Schoolcraft	429	43	10.0%	12.6%

To help provide education and prevention when it can be most effective, all children in Michigan are required to have routine lead testing done performed at 12 and 24 months of age, or between 36 and 72 months of age if not previously tested. [25] Currently a child's blood-lead level of 3.5 micrograms per deciliter (µg/dL) or higher is considered in need of action. This lowering of the threshold from 5 µg/dL has already resulted in an increase in the number of children with possible lead poisoning.

In the latest county-level data available from the Centers for Disease Control and Prevention, in 2021 of children under 6 years of age, 9.6% had their blood lead level tested (see **Table 5-18**). [26] These percentages are well below the 14.1% screening in 2016. This may reflect the pause in face-to-face well-child visits during the COVID-19 pandemic. In 2021, the last year that data is available and when the threshold was 5 µg/dL, only 7 cases of elevated lead were detected in the Upper Peninsula, all in

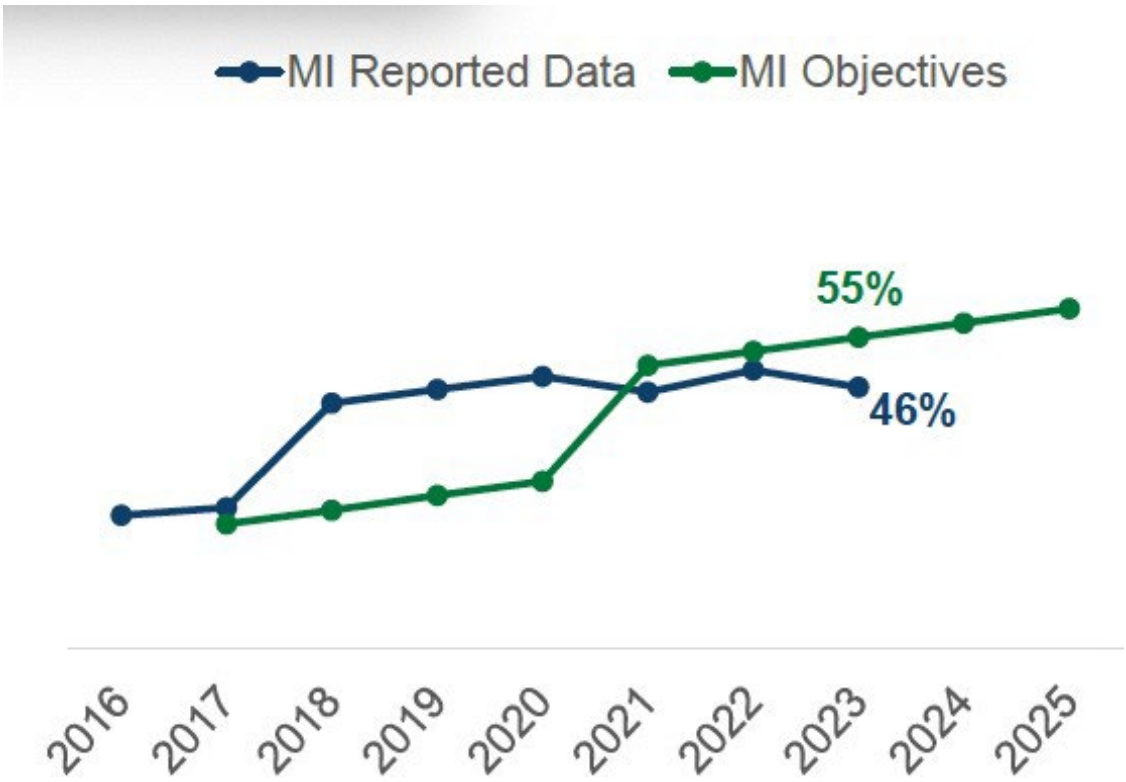


Figure 5-13: Follow-up lead testing rates — Michigan, 2016-2025

Houghton County. [27] The rate of follow-up lead testing in Michigan from 2016 through 2025 is shown in **Figure 5-13**.

5.7 Induced Abortions

Nearly all induced abortions in the U.S. are related to unintended pregnancy. Unintended pregnancies may be a result of incorrect contraceptive use, lack of access to contraceptives, or lack of use of contraceptives. The number of abortions in each county from 2013 through 2023 can be seen in **Table 5-18**. [28] The trend is depicted in **Figure 5-14**.

5.8 Potential Future Implications

Maternal-child health needs to remain a priority. While programs directed at improving the health of pregnant women, infants, and children are making a positive impact, efforts in the Upper Peninsula need to be focused on:

- Access and availability of early prenatal care,
- Decreasing maternal smoking rates, and
- The social determinants of health that impact pregnancy outcomes, including poverty, obesity, and access to care.

Table 5-19: Abortion Trends by County, 2013 through 2023											
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Alger	2	4	5	4	3	4	3	3	8	7	9
Baraga	0	1	0	5	5	4	5	1	6	6	2
Chippewa	40	29	50	26	39	40	33	29	37	42	43
Delta	2	8	10	13	30	27	31	29	25	23	27
Dickinson	1	8	1	10	11	10	16	12	13	9	14
Gogebic	0	1	1	2	1	4	4	7	3	3	13
Houghton	4	13	5	12	17	22	17	23	20	12	28
Iron	0	3	0	3	7	8	5	8	4	8	4
Keweenaw	0	0	0	1	2	0	2	1	1	2	1
Luce	2	3	0	2	6	10	4	1	6	5	5
Mackinac	21	14	12	14	12	11	14	11	11	6	22
Marquette	23	46	44	73	64	88	71	68	76	76	67
Menominee	0	1	1	6	7	9	12	12	5	9	13
Ontonagon	0	1	2	1	3	1	2	1	4	1	3
Schoolcraft	5	4	3	5	7	6	6	9	7	7	10
Upper Peninsula	100	136	134	177	214	244	225	215	226	216	261

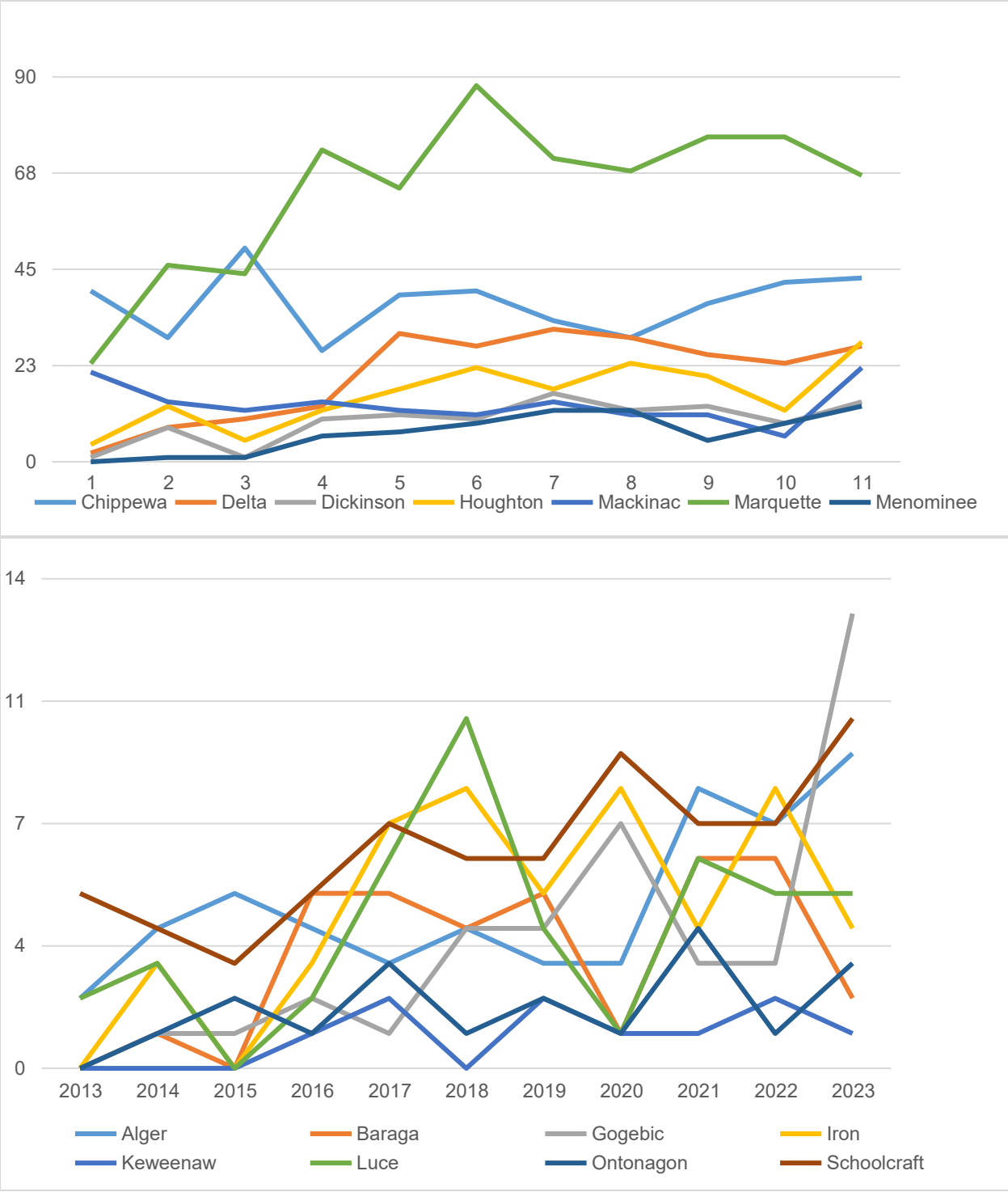


Figure 5-14: Trend in Number of Abortions, 2013-2023

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6 ADOLESCENT HEALTH

Children are not small adults and adolescents are neither children nor adults. Adolescents are freer to act on their own, but do not have the maturity of most adults. They are exposed to the same temptations as adults but do not always have the wisdom to deal with them. Adolescents are presented with a number of health challenges that differ from those confronted by children and adults. Many of our lifetime health patterns are established during adolescence. Some, like eating nutritiously and engaging in regular physical activity, have positive lifetime effects. Other patterns of risky behavior, whether unsafe sex, smoking cigarettes or vaping, substance use, or alcohol use, can lead to poorer health and shorter longevity. Environmental influences, such as family, peer groups, schools, and community characteristics, also contribute to adolescents' current and future health and risk behaviors. Adolescence is a time of rapid change and development that needs to be monitored with well exams provided by a medical professional and screening for mental health and high-risk behaviors. The adolescent also needs to receive recommended vaccinations for meningococcus and human papillomavirus (HPV), boosters for pertussis, and have access to reproductive health services to prevent unplanned pregnancies and sexually transmitted infections.

This chapter will discuss the challenges faced by adolescents, including their patterns of sexual activity, alcohol consumption, tobacco use, and illegal drug use. Communities that Care versus statewide data collected as part of the Michigan Youth Risk Behavior Surveillance System (YRBS) from 2023 are provided. [1] Local data are included when available.

6.1 Adolescent Mortality

The mortality rate in children aged 10 through 19 year of age is shown in **Figure 6-1**. [2] Rates in non- Hispanic Black adolescents are markedly higher (70.9 per 100,000) than the state average (32.4 per 100,000).

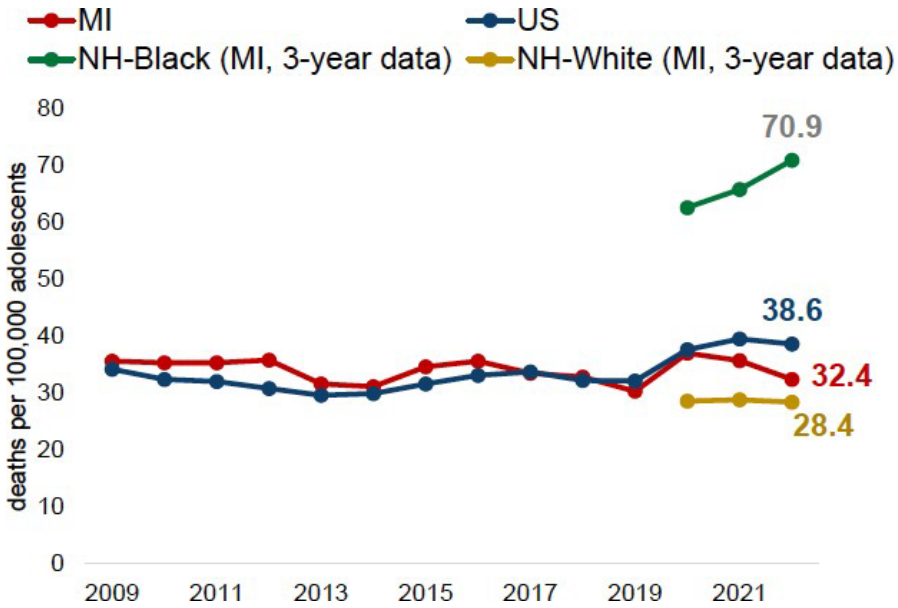


Figure 6-1: Mortality per 100,000 children aged 10-19, 2009-2022

Table 6-1: YRBS — Sexual Activity, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Ever had sexual intercourse	24.4%	26.8%	22.0%	30.0%
Had sexual intercourse for the first time before age 13 years	2.6%	2.5%	2.5%	3.2%
Had sexual intercourse with four or more persons (during their life)	3.8%	3.4%	4.2%	6.0%
Were currently sexually active (had sexual intercourse with at least one person, in past 3 months)	17.2%	19.7%	14.5%	20.7%
Did not use a condom during last sexual intercourse (among students who were currently sexually active)	44.1%	48.2%	38.5%	48.2%
Did not use birth control pills before last sexual intercourse (prevention contraceptive only - among students who were currently sexually active)	75.2%	71.8%	79.8%	79.1%
Did not use an IUD or implant before last sexual intercourse (among students who were currently sexually active)	92.3%	91.4%	93.5%	91.3%
Did not use birth control pills; an IUD or implant; or a shot, patch, or birth control ring before last sexual intercourse (among students who were currently sexually active)	65.4%	60.8%	72.3%	67.3%
Did not use both a condom during last sexual intercourse and birth control pills; an IUD or implant; or a shot, patch, or birth control ring before last sexual intercourse (among students who were currently sexually active) (p=.06)	86.9%	85.1%	89.1%	89.8%
Did not use any method to prevent pregnancy during last sexual intercourse (among students who were currently sexually active)	13.6%	14.0%	13.2%	13.7%
Drank alcohol or used drugs before last sexual intercourse (among students who were currently sexually active)	16.1%	16.6%	15.3%	20.6%
Were never tested for human immunodeficiency virus (HIV) (p<.01)	92.9%	93.1%	93.1%	94.2%
Were not tested for a sexually transmitted disease (STD) other than HIV (p<.01)	93.9%	93.2%	94.7%	94.8%

6.2 Adolescent Behaviors

Adolescent behaviors differ from adults' behaviors, so surveys of behaviors have isolated data collected from adolescents for separate analysis. Three major surveys [1,3-5] provide useful information in understanding changes in behaviors in this age group.

6.2.1 Sexual Behaviors

The adolescent years are a time of early sexual experimentation. The 2021 data for Michigan and the nation is seen in **Table 6-1**. [3] The numbers reflect the failings of some public health initiatives. Despite a large push to have sexually active adolescent females use long-acting reversible contraceptives (LARCs), such as intrauterine devices (IUDs), as their primary method of birth control, uptake of this method remains low. While the United States Preventive Services Taskforce (USPSTF) recommends routinely testing all sexually active females in this age group for chlamydia, [6] 93.2% of females reported having not been tested for a sexually transmitted infection other than HIV.

Table 6-2: Monitoring the Future — Percentage of Alcohol Use, 2020-2023

	Lifetime	Past Year	Past Month	Daily	5+ Drinks/Row
Eighth Grade					
2020	25.6	20.5	9.9	0.4	4.5
2021	21.7	17.2	7.3	0.3	2.8
2022	23.1	15.2	6.0	0.1	2.2
2023	20.1	15.1	5.9	0.2	2.0
Tenth Grade					
2020	46.4	40.7	20.3	1.0	9.6
2021	34.7	28.5	13.1	0.4	5.9
2022	41.1	31.3	13.6	0.4	5.9
2023	35.8	30.6	13.7	0.4	5.4
Twelfth Grade					
2020	61.5	55.3	33.6	2.7	16.8
2021	54.1	46.5	25.8	0.9	11.8
2022	61.6	51.9	28.4	1.5	12.6
2023	52.8	45.7	24.3	0.9	10.2

Table 6-3: YRBS — Alcohol Use, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Had their first drink of alcohol before age 13 years (other than a few sips)	12.3%	12.7%	11.1%	15.0%
Currently drank alcohol (at least one drink in past 30 days)	16.7%	19.2%	14.3%	22.7%
Currently were binge drinking in past 30 days	6.8%	8.2%	5.4%	10.5%
Usually obtained the alcohol they drank by someone giving it to them	43.0%	41.1%	45.9%	40.1%
Reported that the largest number of drinks they had in a row was 10 or more within a couple of hours in the past 30 days	1.5%	1.1%	2.0%	2.7%

6.2.2 Alcohol Consumption

Even though the national drinking age in the United States is 21, adolescents between the ages of 12 and 20 years are known to imbibe. Youth who drink are more likely to have school, social, legal, and physical problems related to their alcohol use. In 2023, according to the National Survey on Drug Use and Health (NSDUH), of those 12 to 20 years of age, 33.1% had at least one drink in their lives (31.1% male, 35.3% female), with 14.6% reporting having a drink in the past month (13.7% male, 15.6% female), with 8.6% reporting binge drinking in the past month (8.1% male, 9.2% female). Heavy alcohol use in the past month was reported by, 1.7% (1.6% male, 1.9% female). [5]

The University of Michigan's Monitoring the Future Study of those in the eighth, tenth, and twelfth grades reported self-reported alcohol intake from 2020 through 2023 is documented in **Table 6-2**. Alcohol use may be trending up, especially in eighth and tenth graders. [4] The results of 2021 YRBS survey of Michigan and US youth regarding alcohol use are show in **Table 6-3**. [3] While the drinking rates among youth were lower in Michigan than the United States as a whole, female youth in Michigan showed a tendency toward higher rates of current and binge drinking than Michigan males.

The 2024 local data collected by Communities that Care in Alger, Chippewa, and Gogebic/Ontonagon counties are shown in **Table 6-4**. [7-9]

6.2.3 Tobacco Use

Tobacco use primarily begins and becomes a sustained or lifelong habit during adolescence. In response

Table 6-4: CTC Youth Survey Alcohol Use (%)

	Lifetime			
	Lifetime	Past 30 days	Binge	Rode with Drinker
Alger County				
6th grade	9.8 (2.5,17.1)	1.6 (0,4.7)	1.6 (0,7.5)	14.5 (5.8,23.2)
8th grade	27.9 (17.2,38.5)	9.8 (2.7,16.9)	*	19.0 (9.7,28.3)
10th grade	21.2 (12.1,30.3)	12.1 (4.8,19.4)	6.0 (0.7,11.3)	11.1 (4.1,18.1)
12th grade	40.0 (25.0,55.0)	22.5 (9.7,35.3)	9.8 (0.7,18.9)	17.1 (5.6,28.6)
Chippewa County				
6th grade	7.2 (3.3,11.1)	2.6 (0.2,5.0)	*	14.6 (9.3,19.9)
8th grade	23.9 (17.0,30.8)	9.9 (5.1,14.7)	5.7 (1.9,9.5)	24.1 (17.2,31.0)
10th grade	34.4 (27.7,41.1)	15.1 (10.1,20.1)	17.3 (12.0, 22.6)	16.6 (11.4,21.8)
12th grade	47.5 (39.6,55.4)	26.8 (19.8,33.8)	19.6 (13.4,25.8)	20.0 (13.7,26.3)
Gogebic/Ontonagon Counties				
6th grade	13.3 (7.0,19.6)	4.9 (0.9,8.9)	0.9 (0,2.6)	7.5 (2.6,12.4)
8th grade	25.5 (17.2,33.8)	14.7 (7.9,21.5)	5.8 (1.3,10.3)	26.0 (17.6,34.4)
10th grade	39.0 (28.6,49.4)	19.8 (11.3,28.3)	9.8 (3.4,16.2)	24.4 (15.2,33.6)
12th grade	54.3 (45.2,63.4)	32.4 (23.8,41.0)	15.0 (10.0,20.0)	22.2 (14.6,29.8)
Monitoring The Future				
8th grade	20.1	5.9	2	17.8
10th grade	35.8	13.7	5.4	17.8
12th grade	52.8	24.3	10.2	16.9

to the 2024 UPCHIPS, for those who had ever smoked, the average for starting smoking was 17.19 years (SD=4.59, median=16). In this survey, women started smoking 0.11 years later than males (17.24 versus 17.12, difference 0.11, 95%CI: -0.34, 0.57, t=0.48, p=.6296). Level of education was positively correlated with the age at which smoking was initiated (t=4.84, p<.0001). In those with less than high school the average age was 15.22 (SD=4.96) years. For those with high school or GED, those with some college, and those with a bachelor's degree or more the averages were 17.00 (SD=4.09), 17.07 (SD=4.78), and 18.07 (SD=4.81), respectively. Using multivariate analysis, income level (p=.4965), sex (p=.1182), and county of residence (p=.8526) were not significant, while age (t=5.05, p<.0001) and education level (p<.0001) were

Table 6-5: Monitoring the Future — Cigarettes, 2020-2023				
	Lifetime	Past Month	Daily	1/2+ ppd
Eighth grade:				
2020	11.5	2.2	0.8	0.1
2021	7.0	1.1	0.4	0.2
2022	6.1	0.8	0.3	0.1
2023	5.8	1.1	0.4	0.3
Tenth grade:				
2020	13.9	3.2	1.2	0.6
2021	10.0	1.8	0.8	0.3
2022	10.2	1.7	0.7	0.3
2023	9.4	2.3	1.0	0.6
Twelfth grade:				
2020	24.0	7.5	3.1	1.4
2021	17.8	4.1	2.0	0.8
2022	16.8	4.0	1.6	0.9
2023	15.0	2.9	0.7	0.5

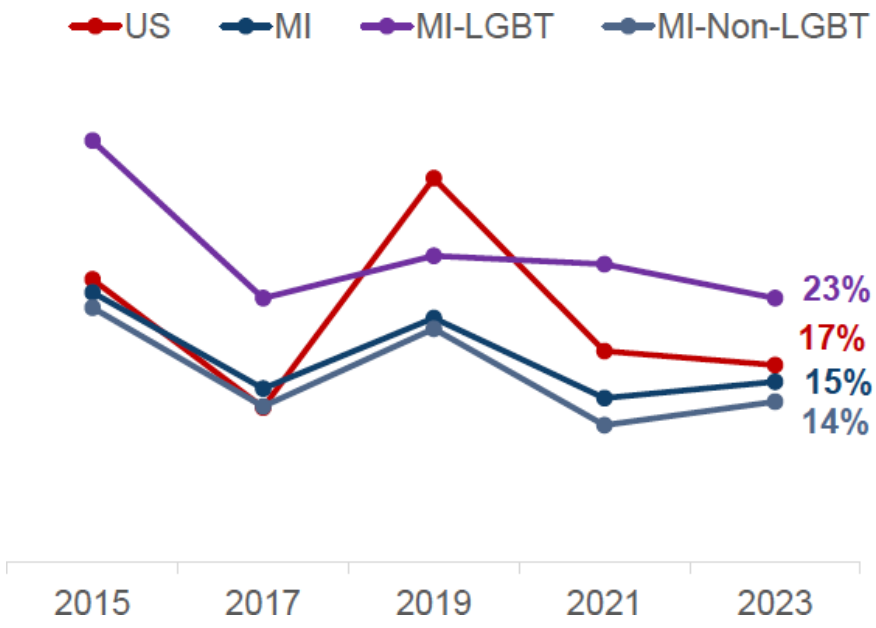


Figure 6-2: Percentage of adolescents reporting vape use in past 30 days, 2015-2023

Table 6-6: YRBS — Tobacco Use, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Ever tried cigarette smoking (even one or two puffs)	13.3%	13.9%	12.4%	17.8%
First tried cigarette smoking before age 13 years (even one or two puffs)	5.3%	5.1%	4.9%	6.3%
Currently smoked cigarettes (on at least 1 day during the past 30 days)	1.7%	1.9%	1.4%	3.8%
Currently smoked cigarettes frequently (on 20 or more days during the past 30 days)	0.1%	0.1%	0.2%	0.7%
Currently smoked cigarettes daily	0.1%	0.1%	0.1%	0.6%
Smoked more than 10 cigarettes per day	8.0%	N/A	N/A	9.8%
Ever used electronic vapor products	33.1%	37.5%	28.4%	36.2%
Currently used electronic vapor products in past 30 days	14.0%	16.9%	10.9%	18.0%
Currently used electronic vapor products frequently (on 20 or more days during the past 30 days)	5.2%	6.1%	4.2%	7.3%
Currently used electronic vapor products daily	3.2%	3.9%	2.4%	5.0%
Usually got their own electronic vapor products by buying them in a store	10.1%	9.0%	12.3%	6.8%
Currently used smokeless tobacco in the past 30 days	1.2%	0.5%	1.7%	2.5%
Currently smoked cigars in the past 30 days	2.1%	1.5%	2.3%	3.1%
Currently smoked cigars frequently (on 20 or more days during the past 30 days)	0.3%	0.0%	0.6%	0.6%
Currently smoked cigars daily	0.3%	0.0%	0.5%	0.5%
Currently smoked cigarettes or cigars in the past 30 days	2.7%	2.8%	2.3%	5.2%
Currently smoked cigarettes or cigars or used smokeless tobacco in past 30 days	2.9%	3.0%	2.5%	6.0%
Currently smoked cigarettes or cigars or used smokeless tobacco or electronic vapor products in past 30 days	14.1%	17.1%	11.0%	18.7%
Currently smoked cigarettes or used electronic vapor products in past 30 days	14.0%	17.1%	10.7%	18.2%
Did not try to quit using all tobacco products in past 12 months	51.1%	49.2%	52.5%	45.8%

statistically significant factors.

According to the 2023 NSDUH, nationally lifetime cigarette tobacco use of nicotine vaping in those 12 to 20 years of age was 29.1% (male 27.5%, female 30.8%). Similar percentages were seen for use in the past year: 21.3% (male 20.1%, female 22.6%). Use in the past month dropped to 13.2% (male 12.1%, female 14.2%). [5]

Table 6-7: CTC Youth Survey Cigarette, e-Cigarette, and Marijuana Use (%)

	Lifetime			Past 30 days		
	Smoking	E-cigarettes	Marijuana	Smoking	E-cigarettes	Marijuana
Alger County						
6th grade	5.0 (0,10.4)	4.9 (0,10.2)	3.3 (0,7.7)	*	*	*
8th grade	10.5 (3.2,17.8)	13.3 (5.2,21.4)	15.0 (0.65,23.5)	0	6.8 (0.8,12.8	3.3 (0,12.8)
10th grade	5.6 (0.5,10.7)	10.6 (3.7,17.5)	10.6 (3.7, 17.5)	0	7.6 (1.7,13.5)	9.1 (1.7, 13.5)
12th grade	24.4 (11.3,37.5)	35.9 (21.2,50.6)	35.9 (21.2, 50.6)	2.4 (0,7.1)	26.3 (12.8,39.8)	23.1 (10.2,36.0)
Chippewa County						
6th grade	4.0 (1.1,6.9)	4.1 (1.1,7.1)	1.3 (0,3.0)	0.7 (0,2.0)	2.0 (0,4.1)	*
8th grade	10.1 (5.2,15.0)	12.7 (7.3,18.1)	11.3 (6.2,16.4)	1.4 (0, 3.3)	7.1 (2.9,11.3)	6.3 (2.3,10.2)
10th grade	14.2 (9.3,19.1)	27.5 (21.2, 33.8)	24.2 (18.2,30.2	3.4 (0.8,6.0)	15.7 (10.6,20.8)	17.3 (12.0,22.6)
12th grade	21.1 (14.7,27.5)	32.6 (25.2,40.0)	36.0 (28.4,43.6)	4.3 (1.1,7.5)	20.3 (14.0,26.6)	20.3 (14.0,25.8)
Gogebic/Ontonagon Counties						
6th grade	0.9 (0,2.6)	3.8 (2.6,7.3)	1.9 (0,4.4)	0	2.0 (0,4.6)	1.0 (0,2.8)
8th grade	5.0 (08,9.2)	12.6 (6.3,18.9)	10.8 (4.9,16.7)	0	7.9 (2.7,13.1)	5.9 (1.4, 10.4)
10th grade	7.5 (1.9,13.1)	17.1 (9.0,25.2)	8.5 (2.5,14.5)	2.5 (0,5.8)	11.3 (4.5,18.1)	2.5 (0,0.6)
12th grade	25.7 (17.7,33.7)	30.8 (22.3,39.3)	24.8 (16.9,32.7	5.6 (1.4,9.8)	21.2 (13.7,28.7)	18.3 (11.2, 25.4)
Monitoring The Future						
8th grade	5.8	16.5	11.5	1.1	7	2
10th grade	9.4	25.1	22.5	2.3	11.9	5.4
12th grade	12	33.5	36.5	2.9	16.9	10.2

In the Monitoring the Future survey, from 2020 through 2023, smoking rates appear to be decreasing (**Table 6-5**). [4] This reduced rate of smoking may also be compensated by an increase in the use of e-

Table 6-8: Monitoring the Future — Vaping Nicotine, 2020-2023				
	Lifetime	Past Year	Past Month	Daily
Eighth grade:				
2020	22.7	16.6	10.5	0.8
2021	16.6	12.1	7.6	1.1
2022	17.0	12.0	7.1	1.2
2023	16.5	11.4	7.0	1.4
Tenth grade:				
2020	38.7	30.7	19.3	3.0
2021	28.4	19.5	13.1	2.5
2022	28.2	20.5	14.2	3.3
2023	25.1	17.6	11.9	2.4
Twelfth grade:				
2020	44.3	34.5	24.7	5.2
2021	38.7	26.6	19.6	5.4
2022	38.8	27.3	20.7	6.2
2023	33.5	23.2	16.9	5.8

cigarettes for both nicotine and THC. The percentage of adolescents reporting vaping use in the past 30 days is shown in **Figure 6-2**. [3]

The results of 2021 YRBS survey of Michigan and US youth regarding tobacco use are shown in **Table 6-6**. [3] Michigan youth had significantly lower rates of use of a number of tobacco products when compared to the nation as a whole. Michigan males were more likely to smoke cigarettes than Michigan females, but the females were more likely to have tried vaping products.

The 2024 local data collected by Communities that Care from Alger, Chippewa, and Gogebic/Ontonagon counties are shown in **Table 6-7**. [7-9]

6.2.3.1 E-cigarettes / Vaping

Since the release of e-cigarettes in 2006 and the marketing campaigns directed at young people, there has been an increase in vaping in young people. In the 2024 National Youth Tobacco Survey, high school students, 18.1% (95%CI: 16.3, 20.0) had tried e-cigarettes (male 17.4%, female 18.8%) Current use (within the last month was reported in 7.8% (95%CI: 6.9, 8.8) with 7.8% in males and 7.7% in

Table 6-9: Monitoring the Future — Marijuana Use, 2020-2023				
	Lifetime	Past Year	Past Month	Daily
Eighth grade:				
2020	14.8	11.4	6.5	1.1
2021	10.2	7.1	4.1	0.6
2022	11.0	8.3	5.0	0.7
2023	11.5	8.3	4.7	0.9
Tenth grade:				
2020	33.3	28.0	16.6	4.4
2021	22.0	17.3	10.1	3.2
2022	24.2	19.5	12.1	2.1
2023	22.5	17.3	10.3	2.7
Twelfth grade:				
2020	43.7	35.2	21.1	6.9
2021	38.6	30.5	19.5	5.8
2022	38.3	30.7	20.2	6.3
2023	36.5	29.0	18.4	6.5

females. [10]

The University of Michigan's Monitoring the Future Study from 2020 to 2023 found that ever having tried vaping a nicotine product doubled in each of the grades sampled (**Table 6-8**). [4] The 2024 local data collected by Communities that Care from Alger, Chippewa, and Gogebic/Ontonagon counties are shown in **Table 6-7**. [7-9]

6.2.4 Marijuana Use

Teen brains are still developing and can be permanently damaged by marijuana use. Marijuana can negatively impact school performance through difficulty in thinking and problem solving, impaired coordination, and difficulty maintaining attention. Teens who use marijuana regularly are also at increased risk for mental health issues, impaired driving, and addiction.

The University of Michigan's Monitoring the Future Study found marijuana use increased from 2020 through 2023, with use steadily decreasing since 2020 in all three grades (see **Table 6-9**). [4] By contrast there has been a plateau in vaping THC products daily or in the last month in all three grades. Lifetime use or use in the past year have decreased in all three grades (see **Table 6-10**). [4]

Table 6-10: Monitoring the Future — Vaping THC, 2020-2023				
	Lifetime	Past Year	Past Month	Daily
Eighth grade				
2020	10.2	8.1	4.2	0.2
2021	6.5	4.7	2.9	0.4
2022	7.7	6	4.2	0.6
2023	8.4	6.5	4.2	0.8
Tenth grade				
2020	22.7	19.1	11.3	0.9
2021	16.5	12.4	8.4	1.2
2022	18.6	15	10.3	1.3
2023	16.8	13.1	8.5	0.9
Twelfth grade				
2020	27.9	22.1	12.2	1.6
2021	25.7	18.3	12.4	1.7
2022	27.5	20.6	14.8	2.1
2023	25.5	19.6	13.7	2.2

The results of the 2021 YRBS survey of Michigan and US youth regarding marijuana use are shown in **Table 6-11**. [3] Young women in Michigan tried and continue to smoke marijuana at a rate greater than young men.

The 2024 local data collected by Communities that Care from Alger, Chippewa, and Gogebic/Ontonagon counties are shown in **Table 6-7**. [7-9]

6.2.5 Opioid Use

The national opioid epidemic (see Section §11.5) has also included adolescents in Michigan. To assess drug use in students in the eighth, tenth, and twelfth grades, both in Michigan and nationally, the University of Michigan' Monitoring the Future Study has sampled this population yearly from 2020 through 2023. The survey has documented decreases from 2020 to 2023 in twelfth graders of having ever used a narcotic (other than heroin) from 6.8% to 5.3%, use in the past year (4.2% to 2.1%), and use in the past month (1.6% to 0.7%). [4]

Table 6-11: YRBS — Drug Use, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Ever used marijuana	24.6%	26.7%	22.3%	27.8%
Tried marijuana for the first time before age 13 years	4.4%	4.7%	3.9%	4.9%
Currently used marijuana in past 30 days	14.4%	16.4%	12.4%	15.8%
Ever used synthetic marijuana	5.2%	5.2%	4.9%	6.5%
Ever took prescription pain medicine without a doctor's prescription or differently than how a doctor told them to use it	12.0%	15.0%	8.9%	12.2%
Currently took prescription pain medicine without a doctor's prescription in past 30 days	*	*	*	6.0%
Ever used cocaine	2.1%	1.8%	1.8%	2.5%
Ever used inhalants	5.6%	6.3%	4.7%	8.1%
Ever used heroin	1.2%	1.0%	1.2%	1.3%
Ever used methamphetamines	1.2%	1.1%	0.9%	1.8%
Ever used ecstasy	*	*	*	2.9%
Ever used hallucinogenic drugs	*	*	*	6.5%
Ever injected any illegal drug	1.5%	1.5%	1.4%	1.4%
Were offered, sold, or given an illegal drug on school property in past 12 months	20.5%	21.5%	19.5%	13.9%
* data not available				

The results of the 2021 YRBS survey of youth from Michigan and across the nation regarding opioid use are shown in **Table 6-11**. [3] The 2024 local data collected by Communities that Care from Alger, Chippewa, and Gogebic/Ontonagon counties are shown in **Table 6-12**. [7-9]

6.2.6 Drug Use Perceptions and Prevention Participation

The 2023 SAMHSA National Survey on Drug Use and Health (NSDUH) asked participants regarding their perception of substance use and availability. The results, broken down by age group are shown in **Table 6-13**. In those aged 12 to 17 years the perception of substance use by demographic groups is shown in **Table 6-14**. In those aged 12 to 17 years of age the perception of substance use in their grade level is shown in **Table 6-15**. The perception of great risk associated with substance use is shown in **Table 6-16**.

Table 6-12: CTC Youth Survey Lifetime Drug Use (%)

	Heroin	Cocaine	Inhalants	Meth	Ecstasy	Synthetic THC	Hallucinogens
Alger County							
6th grade	0	0	3.3 (0,7.7)	0	0	0	0
8th grade	0	0	11.5 (3.9,19.1)	0	0	0	0
10th grade	1.5 (0, 4.2)	0	3.0 (0,6.8)	0	0	3.0 (0,8.2)	0
12th grade	0	2.6 (0,7.5)	10.3 (1.0,19.6)	0	0	7.7 (0,15.9)	12.8 (2.3,15.9)
Chippewa County							
6th grade	0	0	2.6 (0.2,5.0)	0	0	0	0
8th grade	0	1.4 (0,3.3)	6.3 (2.4,10.2)	0	0	0	2.8 (0.1,5.5)
10th grade	0	0	3.8 (1.1,6.5)	0	0.5 (0,1.5)	1.7 (0,3.5)	2.2 (0.1,4.3)
12th grade	0.7 (0,2.0)	3.6 (0.7,6.5)	3.6 (0.7,6.5)	0.7 (0,2.0)	0.7 (0,2.0)	1.4 (0,3.2)	4.3 (7.5)
Gogebic/Ontonagon Counties							
6th grade	0	0	0.9 (0,2.6)	0	0	0	0
8th grade	0	0	2.9 (0,6.1)	0	0	2.0 (0,4.7	1.9 (0,4.5)
10th grade	1.2 (0,3.5)	0	2.4 (0,5.7)	0	0	1.2 (0,3.5)	1.2 (0,3.5)
12th grade	0	2.9 (0,5.9)	3.8 (0.3,7.3)	0	1.9 (0,4.4)	2.9 (0,6.0)	6.7 (2.1,11.3)
Monitoring The Future							
8th grade	0.8	1	9	0.3	0.9	*	2.1
10th grade	0.5	1	6.5	0.5	1.4	*	3.6
12th grade	0.2	1.3	6.3	0.6	1.6	*	6.6

Table 6-13: SAMHSA: Perception of Substance Use and Availability by Age, 2023					
	Aged 12-17	Aged 18-25	Aged 12+	Aged 18+	Aged 26+
Perceived Great Risk of Harm Associated with Substance Use					
Smoking 1+ Packs of Cigarettes a Day	61.5%	60.5%	68.3%	69.0%	70.3%
Smoking Marijuana Once a Month	21.6%	11.3%	20.5%	20.4%	21.8%
Smoking Marijuana Once or Twice a Week	33.3%	14.5%	25.3%	24.5%	26.1%
Have 5+ Alcoholic Drinks Once or Twice a Week	42.1%	39.1%	45.6%	45.9%	46.9%
Have 4-5 Alcoholic Drinks Nearly Every Day	67.3%	64.3%	68.9%	69.1%	69.8%
Perceived Availability of Substances (Fairly or Very Easy to Obtain)					
Marijuana	39.1%	73.0%	66.2%	68.9%	68.3%
Cocaine	8.1%	21.2%	19.8%	21.0%	20.9%
Heroin	5.4%	10.5%	13.3%	14.1%	14.6%
Were Approached in the Past Month by Someone Selling Drugs	6.6%	7.1%	4.1%	3.8%	3.3%
Respondents were asked in the risk and availability section of the questionnaire to report how much they thought people risk harming themselves physically and in other ways when they use various illicit drugs, alcohol, and cigarettes with various levels of frequency. Response options were (1) no risk, (2) slight risk, (3) moderate risk, and (4) great risk.					

Table 6-14: SAMHSA: Perception of Substance Use Among People Aged 12-17 by Demographics, 2023

Demographic and Geographic Characteristic	Smoke 1+ Packs of Cigarettes a Day	Have 5+ Alcoholic Drinks Once or Twice a Week	Have 4-5 Alcoholic Drinks Nearly Every Day
Perceived Great Risk of Harm Associated with Substance Use			
Male	59.4%	39.7%	63.7%
Female	63.6%	44.6%	71.0%
American Indian/Alaskan Native	52.6%	42.5%	55.7%
Asian	67.4%	47.5%	80.0%
Black/African American	57.9%	54.6%	68.6%
White	62.2%	36.7%	65.9%
Hispanic/Latinx	61.3%	44.6%	66.4%
Large Metro	63.6%	43.6%	70.6%
Small Metro	59.5%	40.6%	65.3%
Urbanized Non-Metro	54.9%	38.7%	60.7%
Completely Rural	59.8%	34.8%	52.3%

Respondents were asked in the risk section of the questionnaire to report how much they thought people risk harming themselves physically and in other ways when they use various illicit drugs, alcohol, and cigarettes with various levels of frequency. Response options were (1) no risk, (2) slight risk, (3) moderate risk, and (4) great risk.

Table 6-15: SAMHSA: Perception of Substance Use in Their Grade Level: Aged 12-17 by Demographics, 2023

Demographic and Geographic Characteristic	Smoke Cigarettes	Use Marijuana	Drink Alcohol	Get Drunk at Least Once a Week
Perceived That All or Most Students in Their Grade Level Use Specific Substances				
Male	9.5%	20.5%	19.4%	6.6%
Female	15.9%	30.4%	34.2%	12.0%
American Indian/Alaskan Native	16.6%	25.3%	16.3%	9.6%
Asian	8.7%	11.2%	17.7%	4.2%
Black/African American	15.4%	35.8%	25.4%	13.3%
White	9.7%	21.1%	27.0%	8.1%
Hispanic/Latinx	17.6%	31.0%	29.3%	10.4%
Large Metro	11.4%	25.9%	27.3%	9.3%
Small Metro	14.7%	25.9%	26.3%	9.0%
Urbanized Non-Metro	12.8%	25.3%	26.5%	10.5%
Completely Rural	4.5%	*	22.4%	*

*low precision

Table 6-16: SAMHSA: Perceptions of Harm with Substance Use Among 12-17-Year-olds, 2023

Demographic and Geographic Characteristic	Smoke Marijuana Once a Month	Smoke Marijuana Once or Twice a Week	Use Cocaine Once a Month	Use Cocaine Once or Twice a Week
Perceived Great Risk of Harm Associated with Substance Use				
Male	21.0%	31.7%	49.7%	76.6%
Female	22.2%	34.8%	47.7%	75.4%
American Indian/Alaskan Native	22.3%	35.3%	43.0%	64.6%
Asian	25.5%	48.9%	39.7%	73.3%
Black/African American	24.8%	31.1%	57.9%	73.8%
White	19.6%	34.1%	47.0%	78.5%
Hispanic/Latinx	23.2%	29.4%	49.3%	73.2%
Large Metro	20.9%	32.6%	47.2%	75.6%
Small Metro	21.7%	33.9%	49.7%	76.1%
Urbanized Non-Metro	23.1%	31.9%	50.1%	77.3%
Completely Rural	x	x	45.7%	79.1%

(x) Low Precision, Respondents were asked in the risk section of the questionnaire to report how much they thought people risk harming themselves physically and in other ways when they use various illicit drugs, alcohol, and cigarettes with various levels of frequency. Response options were (1) no risk, (2) slight risk, (3) moderate risk, and (4) great risk.

Table 6-17: SAMHSA: Substance Use Prevention Participation/Exposure in the Past Year: 12-17 Years of Age, 2023

Demographic and Geographic Characteristic	Participated in Alcohol, Tobacco, or Drug Prevention Program Outside of School	Saw or Heard Alcohol or Drug Prevention Message from Sources Outside of School	Talked to Parents About Dangers of Tobacco, Alcohol, or Drug Use
Male	7.1%	62.9%	51.9%
Female	7.5%	65.5%	55.7%
American Indian/Alaskan Native	9.9%	48.7%	38.7%
Asian	7.2%	73.7%	47.9%
Black/African American	9.0%	58.5%	43.5%
White	6.8%	66.1%	57.7%
Hispanic/Latinx	7.5%	61.6%	53.8%
Large Metro	6.9%	66.3%	55.0%
Small Metro	6.9%	61.8%	53.2%
Urbanized Non-Metro	8.2%	60.6%	51.2%
Completely Rural	*	70.1%	50.0%

* low precision

Table 6-17 shows the levels of participation in substance use prevention programs or exposure to prevention messaging. The percentages of those participating in problem-solving/communication skills/self-esteem promoting sessions, violence prevention programs, and pregnancy/sexually transmitted disease prevention programs in the past year are shown in **Table 6-18**.

6.2.7 Vehicle Safety

Teens face the greatest risk of being in a motor vehicle accident in their first year of driving with one in every five licensed 16-year-olds being in a crash. Not surprisingly, motor vehicles are one of the leading causes of death for teenagers. Driving is a learned skill, and inexperience leads to more accidents. For these reasons, Michigan has adopted graduated driver licensing in which young drivers are taught to drive by gradually increasing driving privileges. [11] Data on vehicle safety in the 2021 YRBS for Michigan and the United States are shown in **Table 6-19**. [3] Driving while drinking or being a passenger with a driver who has been drinking were lower in Michigan than in the country as a whole.

Table 6-18: SAMHSA Survey - Participation in Prevention Programs in the Past Year: 12-17 Years of Age, 2023			
Demographic and Geographic Characteristic	Problem-Solving, Communication Skills, or Self-esteem Group	Violence Prevention Program	Pregnancy or Sexually Transmitted Disease Prevention Program
Male	17.6%	6.9%	3.9%
Female	18.6%	7.7%	4.0%
American Indian/Alaskan Native	20.6%	8.6%	3.1%
Asian	23.3%	6.5%	4.5%
Black/African American	18.0%	11.0%	4.8%
White	17.9%	6.3%	3.6%
Hispanic/Latinx	17.3%	7.4%	4.3%
Large Metro	18.4%	7.5%	3.9%
Small Metro	18.3%	7.0%	3.8%
Urbanized Non-Metro	16.7%	7.3%	4.9%
Completely Rural	18.4%	7.6%	1.5%

Table 6-19: YRBS — Vehicle Safety, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Rarely or never wore a seat belt	*	*	*	39.9%
Rode with a driver who had been drinking alcohol	12.8%	14.1%	11.3%	14.1%
Drove when they had been drinking alcohol one or more times in last 30 days	1.9%	2.3%	1.6%	4.6%
Texted or e-mailed while driving a car or other vehicle in last 30 days	30.3%	31.9%	28.5%	36.1%
* data not available				

6.3 Health Issues

Some health issues are more likely to impact adolescents more than adults. For example, a certain percentage of children and adolescents with asthma "outgrow" the condition in adulthood. Perhaps more importantly, one's lifetime nutritional and exercise habits, which combined may contribute more than any other factor to the onset of diseases that result in early mortality, are established during one's teens. Establishing good eating and exercise habits in this age group has been identified prime target for education.

6.3.1 Asthma

Asthma is chronic, recurrent reversible bronchospasm (tightening of airways often with wheezing). Triggers for chronic asthma and asthma attacks include respiratory infections, smoking in the household, air pollution, dry air (wood burning stoves), toxic chemicals/perfumes, allergies (pollen, mold, dust mites, pet dander), and stress. Active management of asthma directed at the severity of the individual patient's illness is the hallmark of therapy. In addition to improving access to primary health care, public health measures are directed at the factors that trigger bronchospasm. These efforts include education, reduction of exposure to secondhand smoke, reduction in air pollution, and filtered ventilation systems in public places such as schools. The YRBS collected asthma prevalence data in 2019, but did no collect this data in 2021. [3]

6.3.2 Physical Activity

The lack of physical activity has been linked to the development of obesity, heart disease, and diabetes. While exercise habits in adults are, in part, linked to an individual's level of education, socio-economic status, and easy access to green spaces, these habits are often established during adolescence. The 2021 YRBS results from Michigan and the United States regarding physical activity-related questions are presented in **Table 6-20**. [3] Young females in Michigan were consistently less likely to be physically active than young males in Michigan.

6.3.3 Adequate Sleep

According to the 2021 YRBS in Michigan 81.2% (95%CI: 78.7, 83.4) of youth (84.3% (95%CI: 82.7, 85.8) of females and 77.8% (95%CI: 73.9, 81.3) of males) reported they did not get 8 or more hours of sleep on an average school night. Males were significantly more likely not to get 8 or more hours of sleep than females (OR=1.53, 95%CI: 1.29, 1.82). This percentage was significantly higher ($p<.01$) than the 77.3% (95%CI: 76.0, 78.4) of youth across the United States (females: 79.8, 95%CI: 78.1, 81.4; males: 74.9, 95%CI: 72.9, 76.9). [3] This calls attention to the need for High Schools to look at their hours of operation, keeping in mind that high school students are not able to learn much before 10 a.m. The adolescent brain tells the body to stay up later than when they were younger. With early start times, the adolescent is sleep deprived during the week. They attempt to catch up on their sleep by sleeping in on the weekends. As a result, the student is living in one time-zone during the week and a different time-zone on the weekend. As one pediatric sleep specialist noted, these students are persistently jet-lagged.

Table 6-20: YRBS — Physical Activity, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Did not participate in at least 60 minutes of physical activity on at least 1 day in past 7 days	18.1%	20.7%	15.3%	15.8%
Were not physically active at least 60 minutes per day on 5 or more days in past 7 days	55.8%	62.0%	49.1%	54.7%
Were not physically active at least 60 minutes per day on all 7 days in past 7 days	77.7%	83.9%	71.3%	76.1%
Played video or computer games or used a computer 3 or more hours per day	74.7%	78.4%	71.2%	75.9%
Did not attend physical education (PE) classes on 1 or more days (in an average week)	72.8%	78.6%	67.1%	53.2%
Did not attend physical education (PE) classes on all 5 days (in an average week when in school)	78.8%	84.4%	73.0%	81.0%
Had a concussion from playing a sport or being physically active in past 12 months	13.5%	12.6%	14.3%	11.9%

6.3.4 Nutrition

Despite being the wealthiest country in the world, the United States has a high percentage of people that are poorly nourished. A lack of food is not the problem, but rather the types of foods that are eaten. Much of the American diet consists of highly processed foods, either purchased at fast food establishments or the supermarket, that are high in simple carbohydrates and salt. Meals made from scratch using fresh ingredients, including fruits and vegetables, are both more nutritious and more economical than processed foods. Lifetime eating habits are established in adolescence. Learning how to eat only when hungry and only enough to fuel the body's needs is an important life-skill. Ignoring the cues to eat based on time of day, mood (whether happy or sad), or social occasions can often be difficult. For high school students in Michigan surveyed in 2021, responses to nutritional questions posed in the YRBS are shown in **Table 6-21**. [3] Young females in Michigan were less likely to drink milk, which is essential for preventing osteoporosis later in life, and soda than males. It is not clear if these practices are related to body image differences and attention to sources of calories between males and females.

6.3.5 Weight

The United States is in the middle of an obesity epidemic (see Section §9.2.9). The epidemic also impacts adolescents. The obesity rates in high school students in Michigan in 2021 are shown in **Table 6-22**. [3] In reviewing the results on perception of weight and actual estimates of body mass index (BMI), high school females have a large gap between whether they consider themselves to be more overweight

Table 6-21: YRBS — Nutrition, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Did not eat fruit or drink 100% fruit juices in past 7 days	8.6%	6.4%	10.8%	7.7%
Did not eat vegetables (not counting French fries, fried potatoes, or potato chips) in past 7 days	8.7%	7.1%	10.0%	9.3%
Did not drink milk in past 7 days	35.4%	46.2%	24.6%	35.7%
Drank soda or pop in past 7 days	67.6%	65.8%	69.3%	69.0%
Drank a can, bottle, or glass of soda or pop (not counting diet soda or diet pop) two or more times per day in the past 7 days	6.8%	5.5%	8.0%	8.5%
Drank a sports drink in past 7 days	*	*	*	51.8%
Drank a can, bottle, or glass of a sports drink two or more times per day in past 7 days	*	*	*	6.4%
Did not drink a bottle or glass of plain water in past 7 days	*	*	*	3.8%
Did not eat breakfast at all in past 7 days	23.9%	25.6%	22.0%	22.0%
Did not eat breakfast every day in past 7 days	78.2%	82.6%	73.8%	75.0%
* data not available				

Table 6-22: YRBS— Obesity, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Had obesity (students who were >= 95th percentile for body mass index, based on sex and age-specific reference data from the 2000 CDC growth charts)	15.6%	12.4%	18.6%	16.3%
Were overweight (students who were >= 85th percentile but <95th percentile for body mass index, based on sex- and age-specific reference data from the 2000 CDC growth charts)	14.3%	15.8%	12.9%	16.0%
Described themselves as slightly or very overweight	29.1%	30.7%	27.3%	32.3%
Were not trying to lose weight	57.4%	46.7%	68.0%	54.3%

than their calculated BMI would indicate. Body image appears to be more important for females than males. This may explain why girls have higher rates of having tried nicotine containing products, which

are believed to help keep weight under control, and lower consumptions of milk and soda, which are considered to be calorically dense.

6.3.6 Adolescent Well-Child Examinations

An important method of monitoring health habits, screening for health conditions, and providing health education is through regular visits with a primary healthcare professional. These visits are often missed as long as the child is up-to-date on vaccinations, but these visits are more than about being inoculated. While medical clearance is required for participation in sports or enrollment in summer camp programs, these clearances often do not include the overall evaluation of the adolescent's health. More importantly, the adolescents at greater risk for developing chronic physical and mental illnesses often are not involved in sports or attend summer camp.

The 2021 YRBS in Michigan did not ask about encounters with the medical systems except noting 0.9% (95%CI: 0.5, 1.6) of youth, (0.9% (95%CI: 0.5, 1.4) of females and 0.9% (95%CI: 0.4, 2.2) of males) reported having never seen a dentist. This percentage was significantly lower ($p<.05$) than 1.4% (95%CI: 1.1, 1.8) of youth across the United States who reported never having seen a dentist. [3]

6.4 Mental Health Issues

6.4.1 Violence

Exposure to stressful situations can have a negative impact on both physical and mental health. For adolescents bullying and exposure to violence are frequent causes of stress. The 2021 YRBS survey results for Michigan high school students regarding exposure to violence are shown in **Table 6-23**. [3] Females were more likely to be bullied online and the recipients of physical and sexual violence.

6.4.2 Adverse Childhood Events

Public Health has made the shift from concentrating on communicable diseases to identifying the underlying causes of chronic illnesses. Under the broader heading of social determinants of health, the impact of adverse childhood experiences is emerging as an important factor in determining the physical and mental health of both adults and adolescents.

Adverse childhood experiences (ACEs) are potentially traumatic experiences that occur before the age of 18. They can include violence, abuse, and growing up in a family with mental health or substance abuse problems. The 1998 ACE study of 9,500 adults found that as the number of categories of childhood exposure increased, there were significant increases in ischemic heart disease, cancer, chronic lung disease, skeletal fractures, liver disease, depression, smoking, suicide attempts, alcoholism, drug use, having 50 or more sexual intercourse partners, and sexually transmitted diseases. [12]

6.4.3 Depression

Depression is common during adolescence. The data regarding depression from the 2021 YRBS for Michigan youth and US youth are seen in **Table 6-24**. [3] The percentage of Michigan youth reporting feeling "sad or hopeless almost every day for 2 or more weeks in a row in the past 12 months" was

Table 6-23: YRBS — Exposure to Violence, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Carried a weapon on school property in last 30 days	3.0%	1.7%	3.9%	3.1%
Carried a gun in last 12 month, not including hunting or target shooting	2.9%	1.5%	4.0%	3.5%
Were threatened or injured with a weapon on school property in last 12 months	6.1%	6.5%	5.5%	6.6%
Were in a physical fight in last 12 months	16.2%	11.1%	21.2%	18.3%
Were in a physical fight on school property in last 12 months	3.9%	2.0%	5.7%	5.8%
Ever saw someone get physically attacked, beaten, stabbed, or shot in their neighborhood	19.7%	20.5%	18.7%	19.9%
Were electronically bullied in the last 12 months	16.9%	22.3%	11.5%	15.9%
Were bullied on school property in last 12 months	16.2%	19.6%	12.7%	15.0%
Did not go to school because they felt unsafe at school or on their way to or from school in last 30 days	15.4%	19.3%	11.3%	8.6%
Were ever physically forced to have sexual intercourse	9.6%	14.2%	4.9%	8.5%
Experienced sexual violence by anyone in last 12 months	13.3%	20.0%	6.8%	11.0%
Experienced sexual dating violence in last 12 months	7.1%	11.9%	2.1%	9.7%
Experienced physical dating violence in past 12 months	7.3%	8.8%	5.3%	8.5%

Table 6-24: YRBS — Suicide, Michigan & United States, 2021				
Question	Michigan Total	Michigan Female	Michigan Male	US Total
Felt sad or hopeless almost every day for 2 or more weeks in a row in past 12 months	40.3%	52.3%	28.3%	42.3%
Seriously considered attempting suicide in past 12 months	19.0%	26.1%	11.8%	22.2%
Made a plan about how they would attempt suicide in past 12 months	16.9%	22.4%	11.3%	17.6%
Actually attempted suicide in past 12 months	9.0%	11.7%	6.0%	10.2%
Suicide attempt resulted in an injury, poisoning, or overdose that had to be treated by a doctor or nurse in past 12 months	2.7%	3.6%	1.8%	2.9%

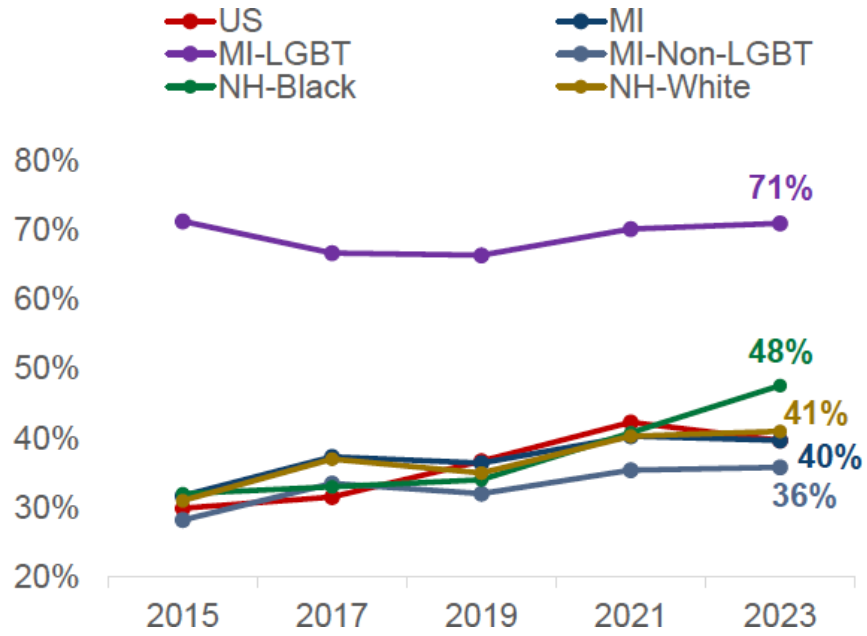


Figure 6-3: Percentage of adolescents reporting sad/hopeless for two or more weeks in past year, 2015-2023.

similar to the percentage of your reporting this across the nation. The percentage of females in Michigan providing a positive response to this question was nearly double that of males providing a positive response. The percentage of adolescents reporting feeling sad and/or hopeless from two or more weeks in the past years are shown in **Figure 6-3**. [3]

The most recent local data was collected by Upper Peninsula Communities that Care from 2017 to 2022 are shown in **Table 6-25**. [13]

6.4.4. Suicide

The data regarding suicide from the 2021 YRBS for Michigan youth and US youth are seen in **Table 6-19**. [2] Given that females are more likely to report being sad or hopeless, females are more likely than males to contemplate and attempt suicide. These statistics may be skewed by survivor bias as males 2.5 times more likely to succeed when attempting suicide. [14] The impact of the COVID-19 on adolescent suicide rates has yet to be fully studied.

6.5 Potential Future Implications

- Experimentation with alcohol, tobacco and other drugs as well as sex begins in early adolescence for many local children and increases through the high school years. Without successful prevention efforts, this can lead to a variety of poor outcomes including teen pregnancy, motor vehicle accidents, sexually transmitted infections, low educational attainment, and chronic diseases associated with ongoing tobacco or alcohol use.

Table 6-25: CTC Youth Survey Depression Rates (%)				
	Depressed or Sade Most Days			
	Sixth Grade	Eighth Grade	Tenth Grade	Twelfth Grade
Alger (2022)	65.2	63.0	47.1	50.0
Baraga (2018)‡	54.7	44.1	64.3	62.2
Chippewa (2020)	42.9	53.8	66.4	67.2
Delta (2020)	48.9	57.7	57.1	61.4
Dickinson/Iron (2022)	50.8	57.4	55.9	53.6
Gogebic (2019)‡	45.2	52.1	63.0	57.2
Houghton/Keweenaw (2019)†	*	44.9	33.9	35.4
Luce (2023)‡	59.3	52.3	44.1	68.8
Mackinac (2021)	63.2	60.0	73.0	57.4
Marquette (2023)	48.3	48.4	57.8	53.2
Menominee	*	*	*	*
Ontonagon (2019)‡	46.7	54.1	63.6	64.9
Schoolcraft (2023)	50.8	61.4	59.0	52.4
* data not available				
† coalition currently defunct/not in operation				
‡ coalition now active after a period of being defunct				

- Routine annual well-child care is an opportunity to identify and remediate health and developmental concerns, and to focus on prevention through immunization review and anticipatory guidance in the areas of nutrition, exercise, reproductive health, tobacco and other substance use and general safety concerns.

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7 VACCINATION

7.1 Introduction

The steady increase in life expectancy during the Twentieth Century resulted largely from reductions in infant and child mortality, in the form of fewer childhood deaths from infectious diseases — primarily through improvements in sanitation and hygiene, the discovery of antibiotics, and the implementation of universal childhood vaccination programs.

Vaccines are one of the most important public health triumphs in history and are responsible for eradicating smallpox and nearly eliminating polio from the world stage. Vaccines are irrefutably among the most cost-effective clinical preventive services we can provide and are a core component of preventive health care.

A robust vaccination program is one of the most important tools available to protect the health of children in our communities, but we must maintain high levels of vaccination within our communities to limit the spread of vaccine-preventable infectious diseases. When enough members of the community are vaccinated (usually 80% or 90% or more), an unvaccinated individual may be protected by "herd immunity." [1] Unfortunately, with the most contagious illnesses, if only 5% of the population fails to vaccinate, outbreaks among those not vaccinated can occur.

In recent years, some discredited "scientific research" has created unwarranted fears regarding vaccination safety. Coupled with distrust of the COVID-19 vaccines, this has led to an increase in the number of children incompletely vaccinated or vaccinated on a delayed time schedule. Not surprisingly, pertussis cases are on the rise and a number of measles outbreaks have occurred recently in Michigan.

Currently, the major barrier to the success of vaccination programs is that the Internet provides a platform for discredited, untrue, misleading, and frightening anecdotal information, intended to discourage vaccination. The ongoing public health challenge is to understand how misinformation spreads and to counter it with credible, research-based evidence that confirms the safety and efficacy of vaccinations. It is also important to understand what motivates parents, who want what is best for their children, to put their children at increased risk of contracting a vaccine-preventable illness.

International travel carries the potential to bring both new and nearly-eradicated pathogens back to the United States from places where they remain endemic. The introduction of a vaccine-preventable disease into a susceptible population can result in significant increases in serious illnesses and death. As long as there are communities with pockets of incompletely vaccinated people at increased risk for outbreaks of these diseases and these people are allowed to travel, we will continue to see outbreaks of vaccine-preventable illnesses.

The cost of an outbreak of a vaccine-preventable illness can be considerable. Based on measles outbreaks within the United States, the costs of an outbreak — including medical costs, contact tracing and testing, and time lost from work for those quarantined — ranged from $7,396 to $76,154 with a median of $32,805 per case of measles. [2]

7.2 New Vaccines of Interest

7.2.1 Respiratory Syncytial Virus (RSV)

The respiratory syncytial virus (RSV) is a common cause of seasonal cold-like symptoms, but in infants under six months of age and older adults an infection with RSV can result in hospitalization and death. RSV is highly contagious. It is a common cause of inflammation of the small airways in the lungs (bronchiolitis) in those under a year of age and presents with rapid, deep breathing, wheezing, and low oxygen levels in the blood. Patients often require supplemental oxygen, with some requiring intubation and mechanical ventilation. Infants born prematurely, especially those with chronic lung disease, are at greater risk for a severe RSV infection.

The two new RSV vaccines are recommended in the elderly (75 years and older) and those with chronic heart disease, chronic lung disease, complicated diabetes mellitus, end-stage kidney disease, conditions causing impaired airway clearance, chronic liver disease, chronic hematologic disorders, severe obesity, immunocompromised, or living in a nursing home.

One of the new RSV vaccines (Abrysvo) can be given to pregnant persons from 32 through 36 weeks of gestation to reduce morbidity and mortality from severe respiratory tract disease from RSV for the first six months of life in their baby. The vaccine can be given between September 1st and January 31st.

For infants, two injectable monoclonal antibodies against RSV (nirsevimab and clesrovimab) are available for newborns through eight months of age and administered from October 1st through March 31st. Use of the antibody has demonstrated a reduction in morbidity and mortality from RSV.

7.2.2 COVID-19

Vaccination for COVID-19 will, to some degree, reduce the *transmission* of the virus responsible for COVID-19, but the major impact of the vaccine is the reduction in the *risk of severe disease* that can result in hospitalization and death. Currently, the recommendations for COVID-19 vaccination and boosters vary between government agencies and medical specialty organizations. All agree those 65 years of age and older and at risk for more severe illness if infected should receive COVID-19 booster doses.

7.3 Local Vaccination Rates

Vaccination rates dipped during the lockdown associated with the COVID-19 pandemic, but have failed to return to pre-pandemic levels. Consequently, the region remains at risk for outbreaks of vaccine-preventable illnesses.

The vaccination rates of counties with more than 10 individuals reported in the quarter ending September 30, 2024 are shown in **Table 7-1**. The trends in vaccination rates from the fourth quarter of 2013 through September 2024 are shown in the graphs that follow. Data are not available for the first quarter of 2021, so there is a gap in the lines. Each measure of interest is broken down into two graphs: one with the data from the larger counties and one with the smaller counties. The smaller counties often have fewer than 10 individuals per quarter consistently reported, so the estimates can be erratic with wild fluctuations. The counties with large populations (Chippewa, Delta, Dickinson, Houghton, Marquette, and Menominee) demonstrate smoother trends with less variability.

Table 7-1: Up-to-date Vaccination Rates 1-24 Months of Age, September 2024[a]

	One Month	Three Months	Five Months	Seven Months	16 months	First MMR	19 Months	24 Months	Without HAV
Chippewa	73.3% (57.5%-89.2%)	5.38% (34.7%-73.0%)	40.0% (22.5%-57.5%)	25.7% (11.2%-40.2%)	57.1% (36.0%-78.3%)	61.9% (41.1%-82.7%)	34.8% (15.3%-54.3%)	31.8% (12.4%-51.3%)	36.4% (16.3%-56.5%)
Delta	56.3% (31.9%-80.6%)	56.5% (36.3%-78.8%)	71.4% (51.1-90.8%)	65.5% (48.2%-82.8%)	71.4% (56.5%-86.4%)	80.0% (66.8%-93.3%)	61.9% (41.1%-82.7%)	50.0% (31.5%-68.5%)	75.0% (59.0%-91.0%)
Dickinson	76.5% (56.3%-96.6%)	61.1% (38.6%-83.6%)	64.7% (42.0%-87.4%)	45.5% (24.7%-66.3%)	52.4% (31.0%-73.7%)	66.7% (46.5%-86.8%	50.0% (25.5%-74.5%)	75.0% (57.7%-92.3%)	79.2% (62.9%-95.4%)
Houghton	44.4% (28.2%-60.7%)	50.0% (34.5%-65.5%)	56.7% (38.9%-74.4%)	46.4% (28.0%-64.9%)	65.7% (50.0%-81.4%)	74.3% (59.8%-88.8%)	53.1% (35.8%-70.4%)	47.6% (32.5%-62.7%)	57.1% (42.2%-72.1%)
Marquette	72.0% (59.6%-84.4%)	62.7% (49.5%-76.0%)	67.4% (53.4%-81.5%)	61.1% (45.2%-77.0%)	63.2% (47.8%-78.5%)	81.6% (69.3%-93.9%)	68.2% (54.4%-81.9%)	53.6% (40.5%-66.6%)	71.4% (59.6%-83.3%)
Menominee	80.0% (59.8%-100%)	*	76.9% (54.0%-99.8%)	78.6% (57.1%-100%)	57.9% (35.7%-80.1%)	78.9% (60.6%-97.3%)	*	43.5% (23.2%-63.7%)	56.5% (36.3%-76.8%)
Upper Peninsula	66.7% (60.2%-73.1%)	57.8% (51.2%-64.4%)	58.3% (51.5%-65.0%)	48.4% (41.7%-55.1%)	57.1% (50.3%-64.0%)	71.9% (65.7%-78.1%)	55.3% (48.4%-62.3%)	46.2% (40.1%-52.4%)	61.0% (54.9%-67.0%)
LMAS[b]	53.3% (28.1%-78.6%)	45.0% (23.2%-66.8%)	40.0% (20.8%-59.2%)	34.8% (16.3%-54.3%0	46.2% (19.1%-73.3%)	61.5% (35.1%-88.0%)	56.0% (36.5%-75.5%)	31.8% (12.4%-51.3%)	54.5% (33.7%-75.4%)
WUPHD[c]	52.8% (39.4%-66.3%)	59.0% (46.7%-71.4%)	56.6% (43.3%-70.0%)	50.0% (35.2%-64.8%)	52.1% (38.0%-66.2%)	68.8% (55.6%-81.9%)	50.0% (36.7%-63.3%)	42.6% (30.9%-54.4%)	54.4% (42.8%-66.2%)
Small Counties [d]	70.0% (55.8%-84.2%)	54.7% (41.3%-68.1%)	50.0% (36.4%-63.6%)	38.8% (25.1%-52.4%)	29.4% (14.1%-44.7%)	55.9% (39.2%-72.6%)	49.1% (35.6%-62.5%)	30.4% (18.3%-42.4%)	50.0% (36.0%-63.1%)
Lower Peninsula	73.4% (72.4%-74.3%)	67.9% (67.0%-68.9%)	65.1% (64.1%-66.1%)	57.7% (56.7-58.8%)	55.3% (54.2%-56.3%)	73.4% (72.5%-74.4%)	59.5% (58.5%-60.5%)	52.4% (51.3%-53.4%)	66.0% (65.1%-67.0%)
Michigan	73.2% (72.3%-74.1%)	67.7% (66.7%-68.7%)	64.9% (63.9%-65.9%)	57.5% (56.5%-58.6%)	55.3% (54.3%-56.4%)	73.4% (72.5%-74.3%)	59.4% (58.4%-60.4%)	52.2% (51.2%-53.2%)	65.9% (64.9%-66.9%)

[a] Reported as percentages with 95% confidence intervals in parentheses.

[b] LMAS Health Department serves Alger, Luce, Mackinac, and Schoolcraft counties.

[c] Western Upper Peninsula Health Department (WUPHD) serves Baraga, Gogebic, Houghton, Keweenaw, and Ontonagon counties.

[d] Combination of counties with number too small to report, including Alger, Baraga, Gogebic, Iron, Keweenaw, Luce, Mackinac, Ontonagon, and Schoolcraft counties,

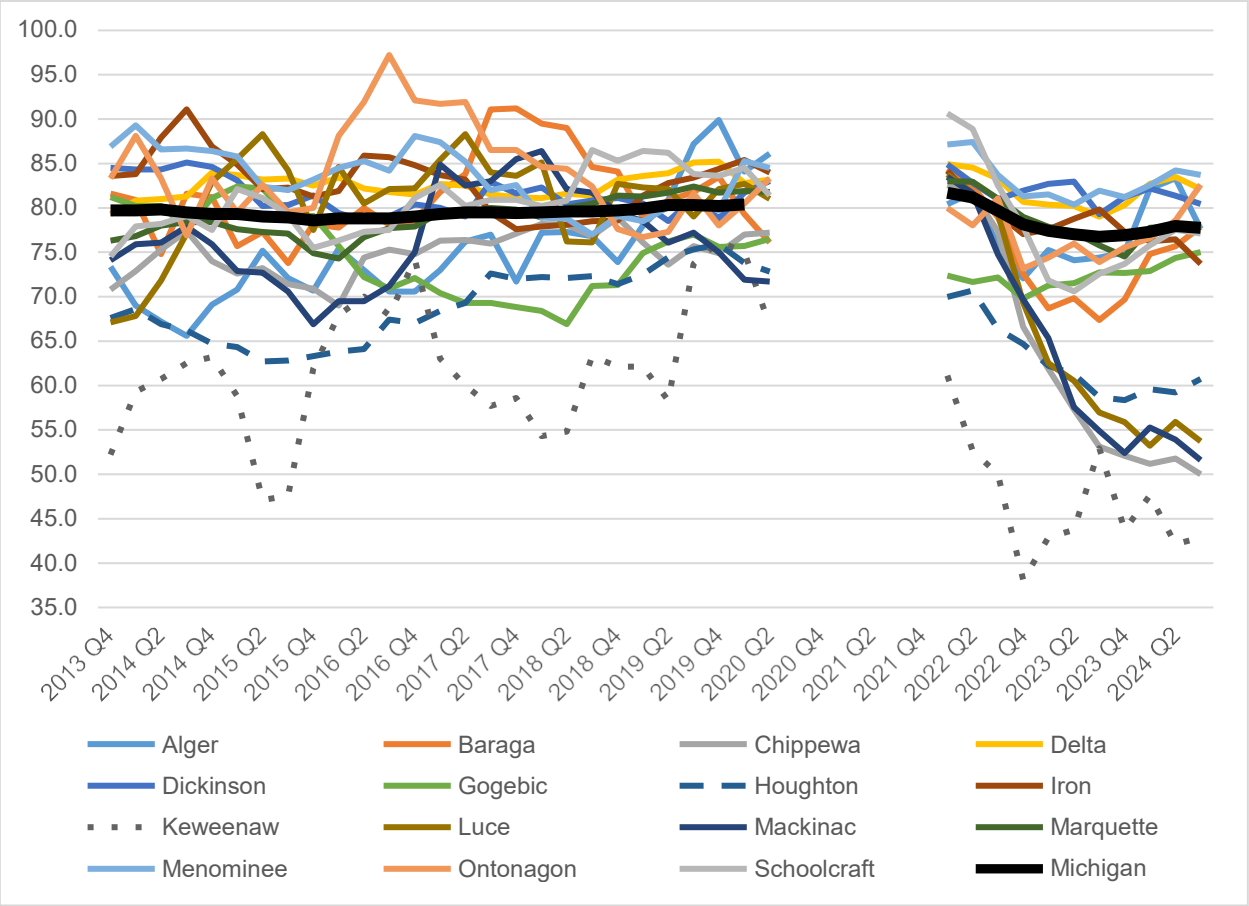


Figure 7-1: Hepatitis B vaccine administered to newborns, 2013 Quarter 4 through September 2024

7.3.1 Newborn Vaccinations

Newborns are routinely vaccinated for hepatitis B. **Figure 7-1** shows the trends in newborns receiving this vaccination by county. Data for the second quarter of 2020 was not collected. Data for RSV immunization rates are not currently available.

7.3.2 3-36 Months of Age

At three months of age, an infant is considered to be up-to-date if they have received 2 hepatitis B vaccines (HBV), one rotavirus vaccine, one DTaP (diphtheria, tetanus, acellular pertussis) vaccine, one Hemophilus influenza type b vaccine (HIB), one pneumococcal vaccine (PCV), and one polio vaccine. The percentages of those up-to-date at three months in the more populated counties from January 2016 through September 2024 are shown in **Figure 7-2**. At five months of age, having received two HBVs, two rotavirus vaccinations, two DTaPs, two HIB vaccines, two PCVs, and two polio vaccines is considered up-to-date. The percentages from January 2016 through September 2024 are shown in **Figure 7-3**. A seven-month-old would need to have received three HBVs, completed the rotavirus series, [3] three DTaPs, completed the HIB vaccine series, [3] three PCVs, and two polio vaccines to be up-to-date. The percentages from January 2016 through September 2024 are shown in **Figure 7-4**. At 16 months of age, the toddler is up-to-date after receiving two HBVs, three DTaPs, a complete HIB vaccine series, [3] four

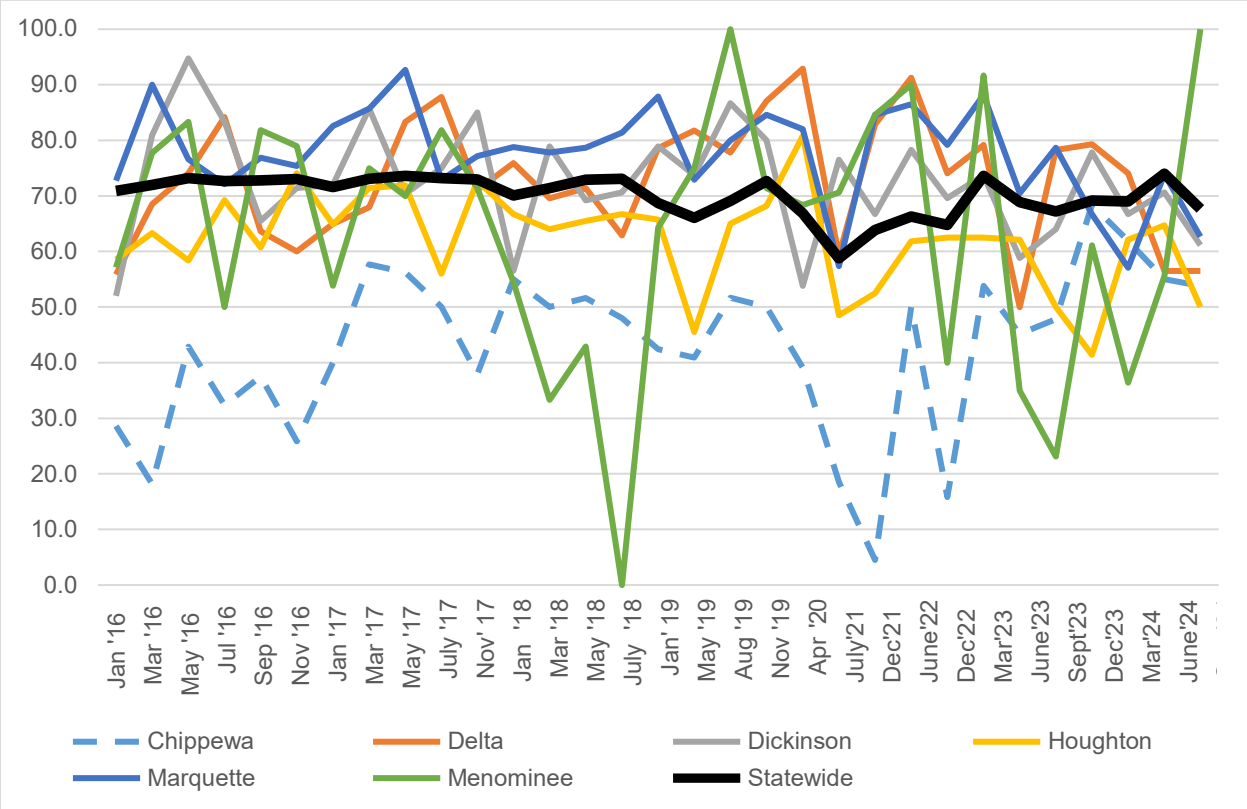


Figure 7-2: Vaccinations up-to-date at three months of age, January 2016 through September 2024

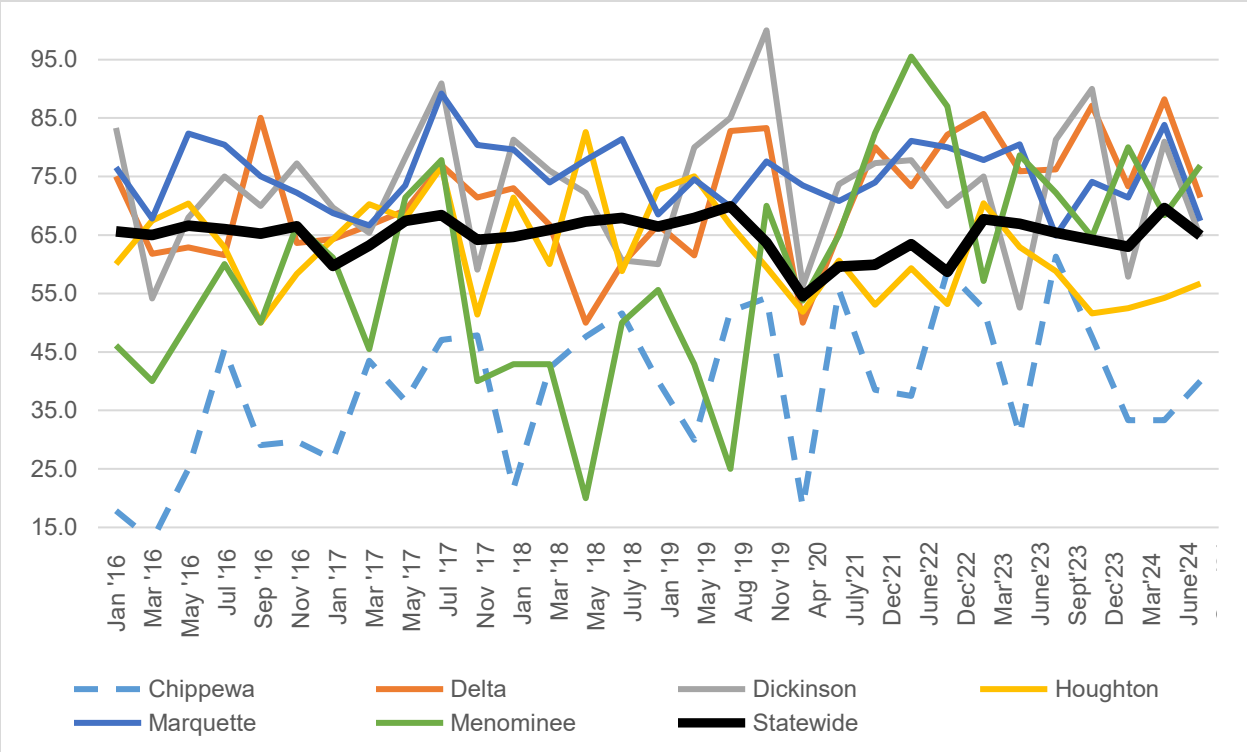


Figure 7-3: Vaccinations up-to-date at five months of age, January 2016 through September 2024

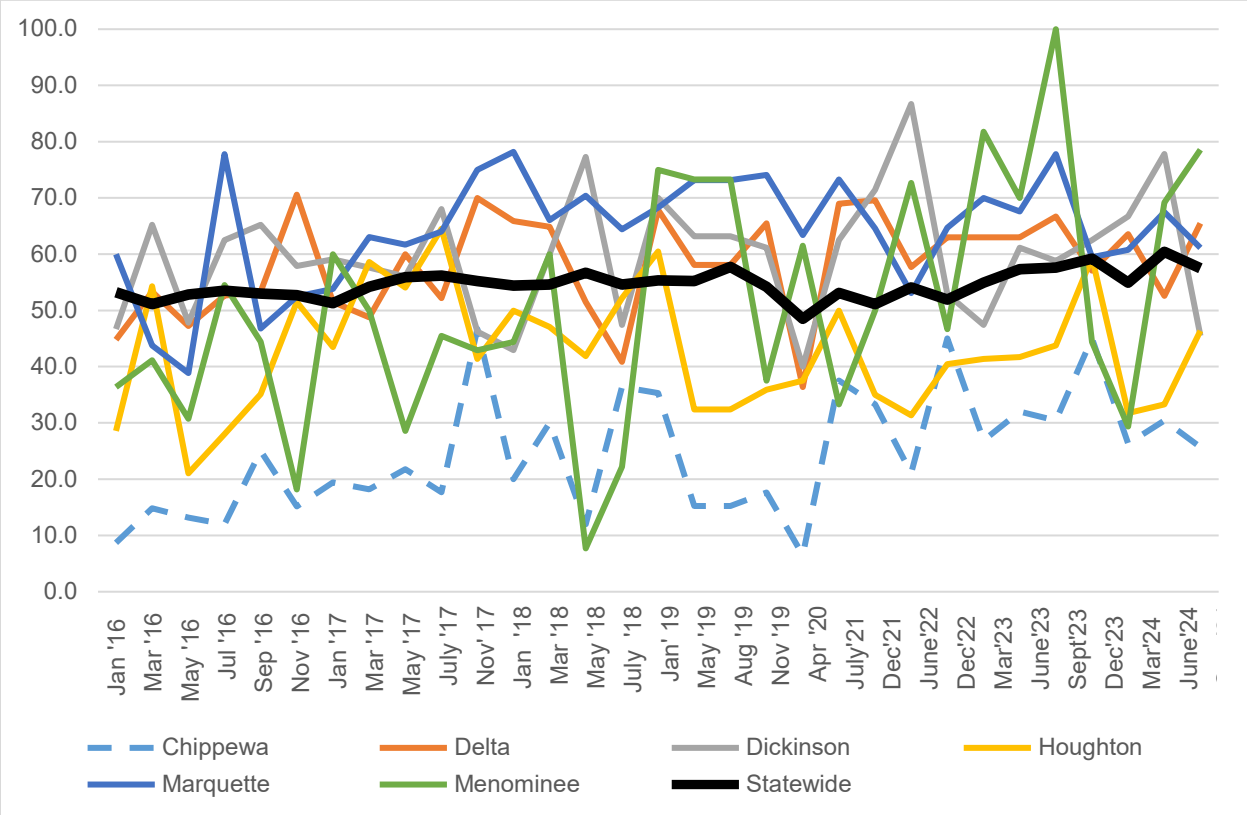


Figure 7-4: Vaccinations up-to-date at seven months of age, January 2016 through September 2024

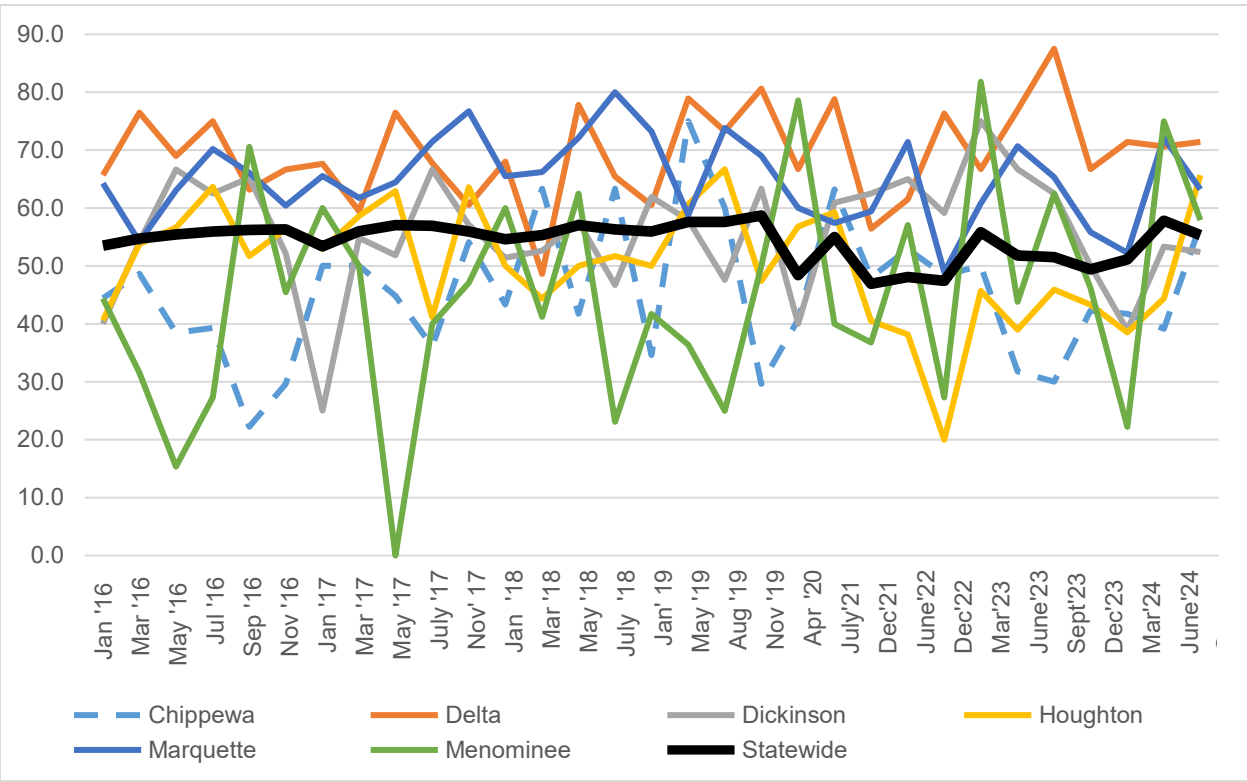


Figure 7-5: Vaccinations up-to-date at 16 months of age, January 2016 through September 2024

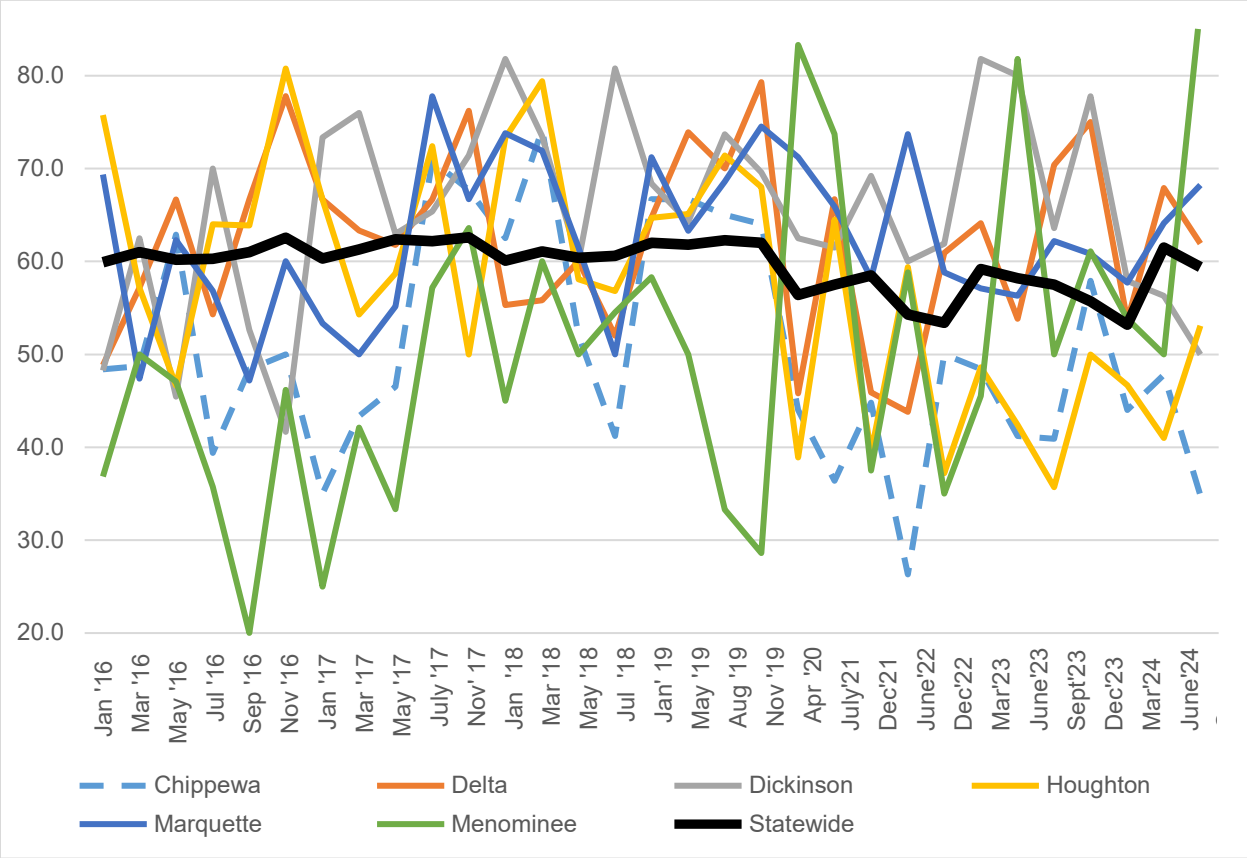


Figure 7-6: Vaccinations up-to-date at 19 months of age, January 2016 through September 2024

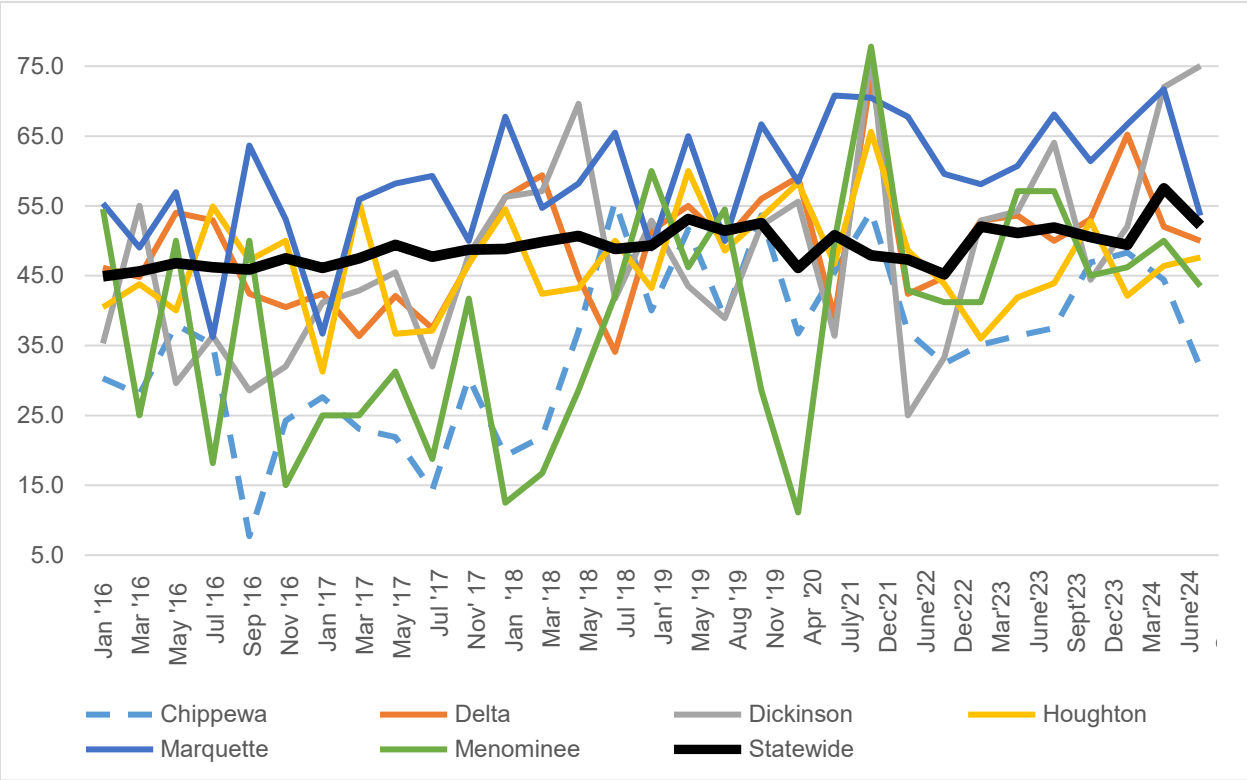


Figure 7-7: Vaccinations up-to-date at 24 months of age, January 2016 through September 2024

PCVs, two polio vaccines, one MMR (measles, mumps, and rubella) vaccine, and one varicella (chickenpox) vaccine. The percentages of those up-to-date from January 2016 through September 2024 are shown in **Figure 7-5**. At 19 months, up-to-date would include those with three HBVs, four DTaPs, a completed HIV vaccination series, [3] four PCVs, three polio vaccines, one MMR vaccine, and one varicella vaccine. The percentages of those at 19 months of age who are up-to-date from January 2016 through September 2024 are shown in **Figure 7-6**. Finally, the up-to-date criteria for 24 months of age is the same as 19 months of age, but with the addition of two hepatitis A vaccinations (HAV). The percentages of those at 24 months of age who are up-to-date from January 2016 through September 2024 are shown in **Figure 7-7**.

In the graphs that follow, quarterly data are presented from the fourth quarter of 2013 through the third quarter of 2024. The primary series of vaccination through three years of age consists of receiving 4 DTaP (diphtheria, tetanus, acellular pertussis) vaccines, 3 polio vaccines, 1 MMR (measles, mumps, rubella (German measles)) vaccine, 3 HIB vaccines, 3 hepatitis B vaccines, 1 varicella (chicken pox) vaccine, and 4 pneumococcal vaccines and is abbreviated as 4313314. The percentages of children completing this series by 36 months of age are shown in **Figures 7-8 and 7-9**. In data from the third quarter of 2024, Ontonagon (78.4% #4) and Delta (76.7% #7) and Ontonagon counties ranked in the top 10 counties, while Mackinac (56.3% #79) Houghton (56.2% #80) counties were among the lowest ranking counties.

The percentages of children completing the primary series (4313314) plus two doses of the hepatitis A vaccine by 36 months of age are shown in **Figures 7-10 and 7-11**. In data from the third quarter of 2024, Ontonagon (69.9% #1) and Marquette (65.3% #7) counties ranked in the top 10 counties, while Luce (40.7% #80), Mackinac (39.7% #81), and Chippewa 37.1% #82) counties were among the lowest ranking counties.

Figures 7-12 and 7-13 show the percentage of children under 36 months of age who received two or more injections of the hepatitis A vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Ontonagon (71.7% #1) and Marquette (67.0% #4) counties ranked in the top 10 counties, while Mackinac (42.1% #80), Luce (40.7% #81), and Chippewa (37.8% #82) counties were among the lowest ranking counties.

Figures 7-14 and 7-15 show the percentage of children under 36 months of age who received 4 or more injections of the DTaP vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Ontonagon (80.4% #4) and Delta (79.3 #7%) counties ranked in the top 10 counties, while Chippewa (63.4% #75) and Mackinac (60.3% #80) counties were among the lowest ranking counties.

Figures 7-16 and 7-17 show the percentage of children under 36 months of age who received the recommended number of doses of the pneumococcal vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Ontonagon (84.8% #5) and Delta (84.2% #6) counties ranked in the top 10 counties, while Houghton (67.7% #76) and Mackinac (63.5% #81) were among the lowest ranking counties.

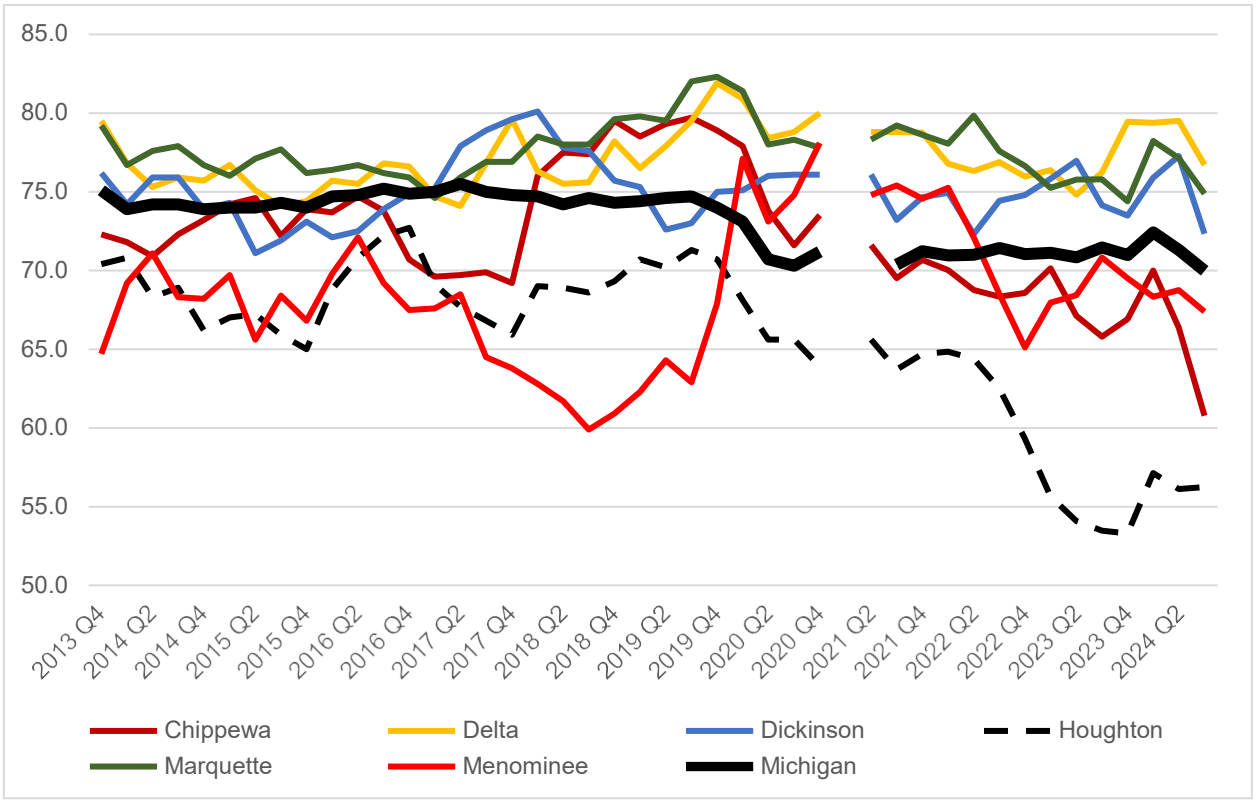


Figure 7-8: Primary childhood vaccines (4313314), 2013 Q4 through 2024 Q3, large counties

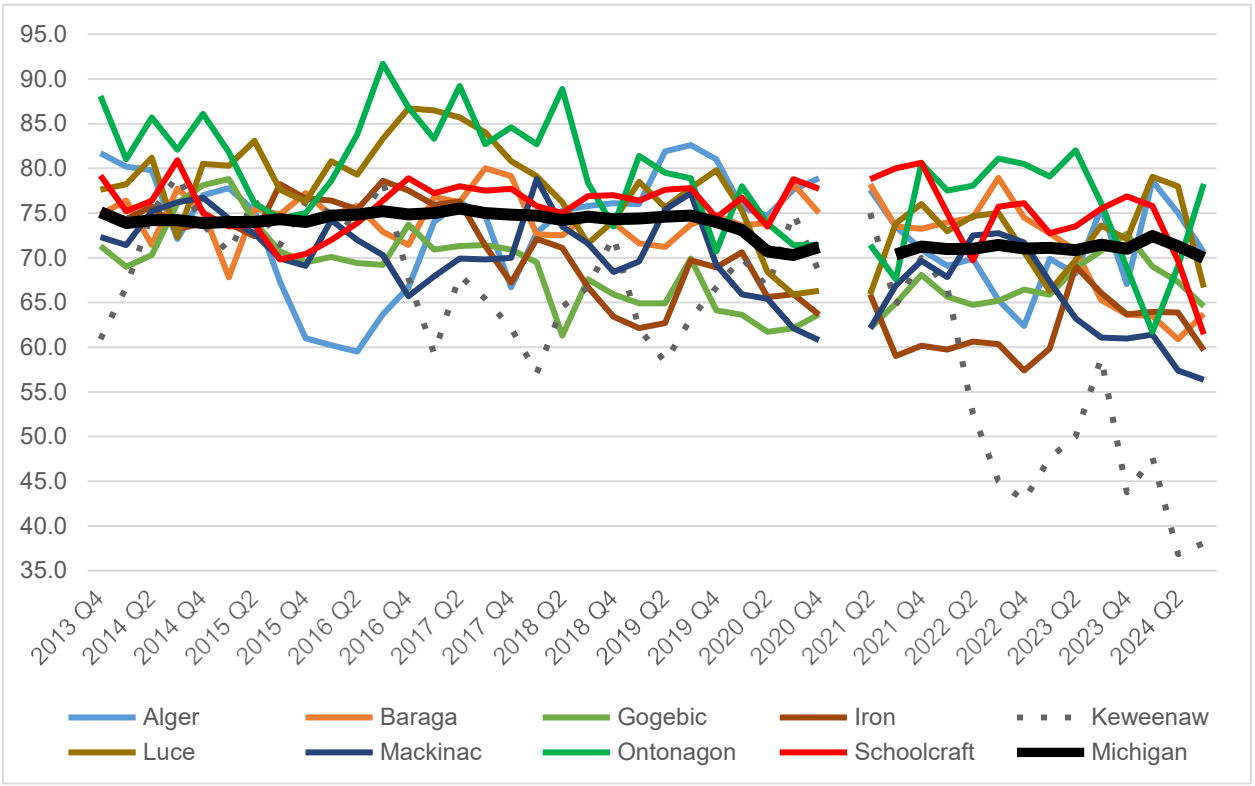


Figure 7-9: Primary childhood vaccines (4313314), 2013 Q4 through 2024 Q3, small counties

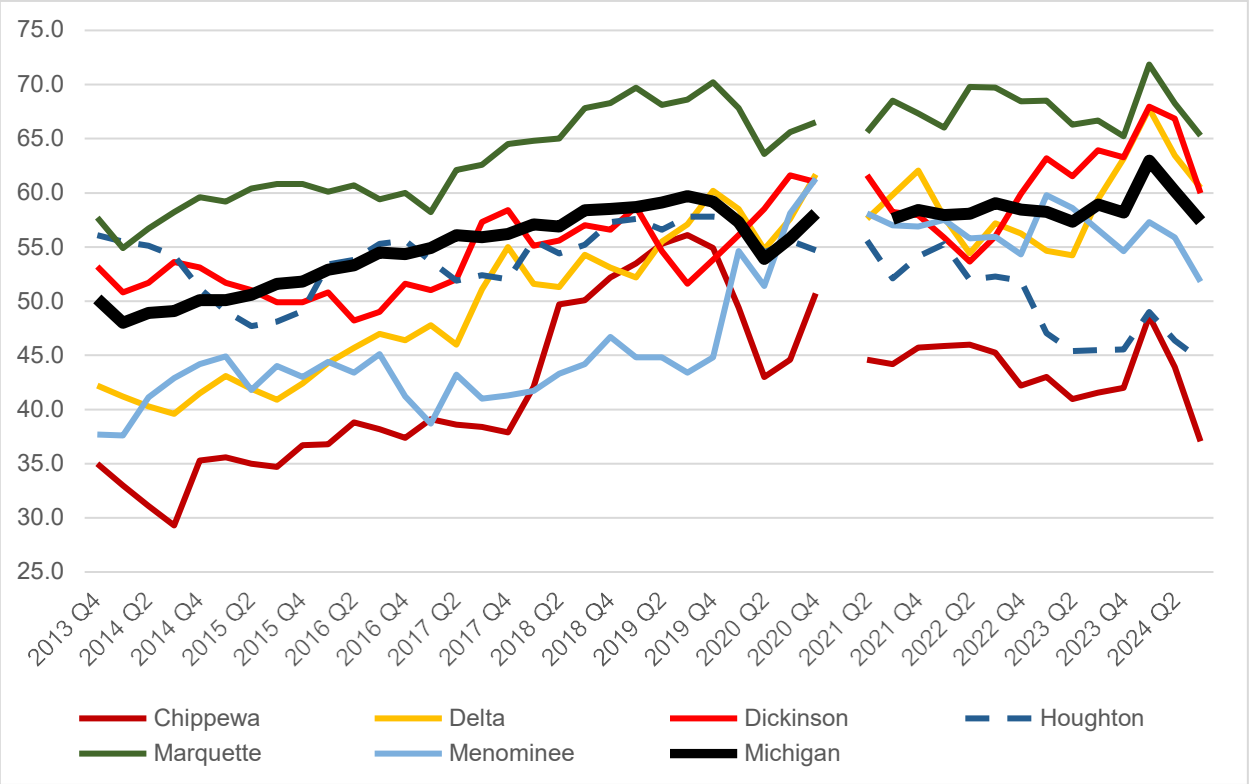


Figure 7-10: Primary childhood series plus hepatitis A vaccine (43133142), 2013 Q4 through 2024 Q3, large counties

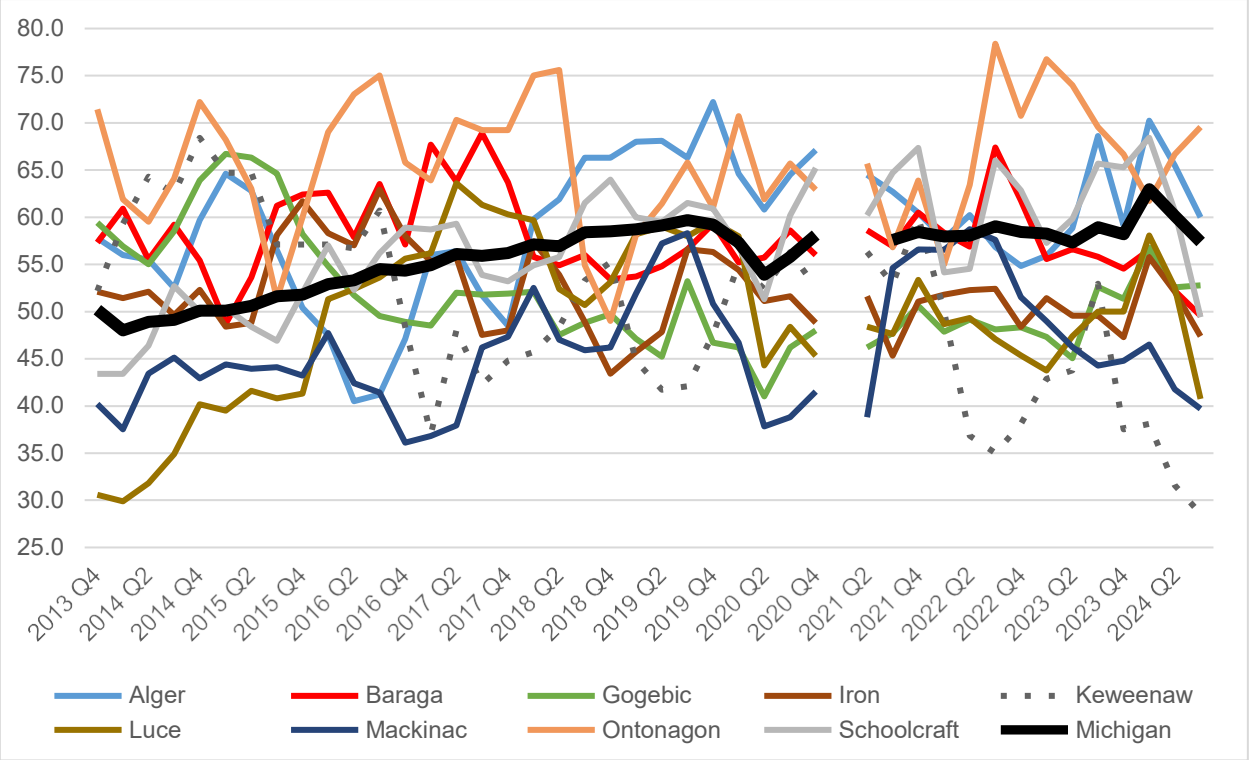


Figure 7-11: Primary Childhood Series plus Hepatitis A vaccine (43133142), 2013 Q4 through 2024 Q3, small counties

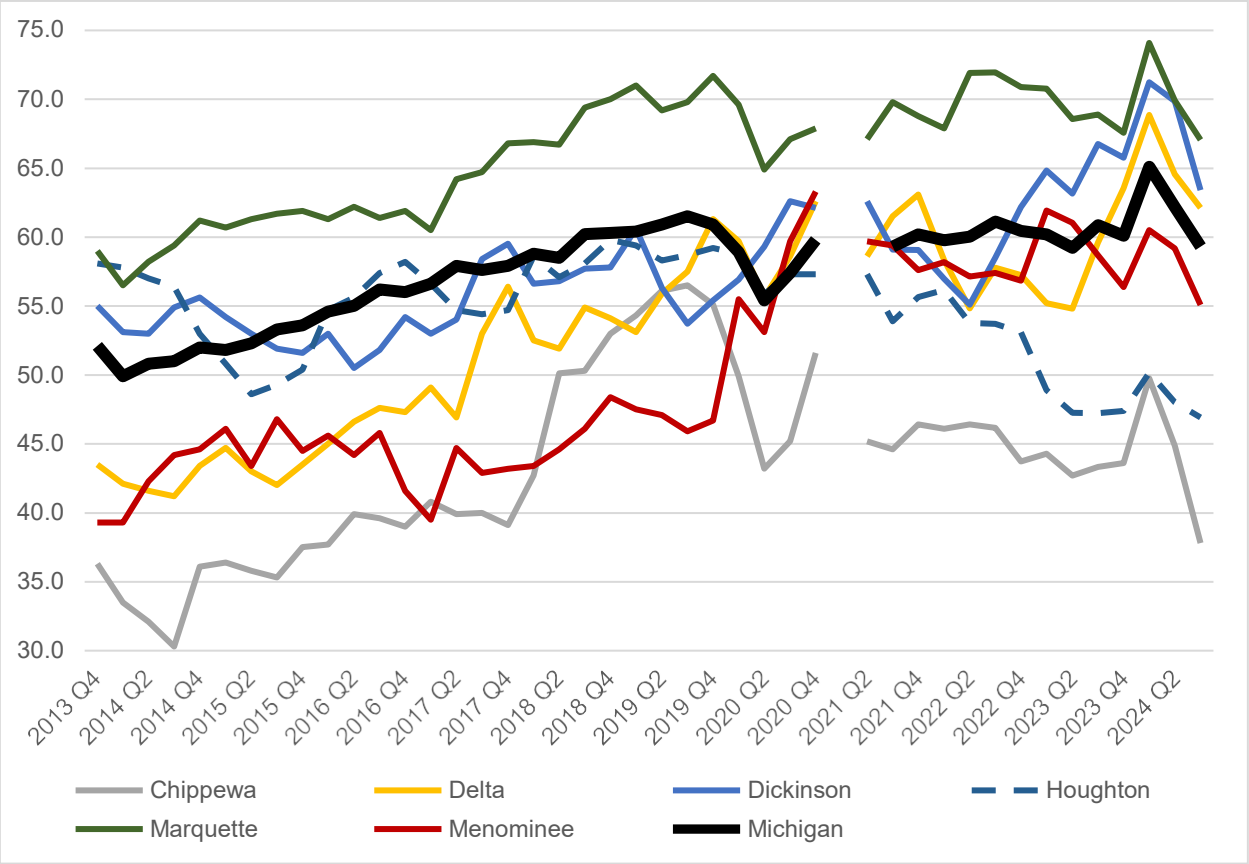


Figure 7-12: Hepatitis A vaccination in children, 2013 Q4 through 2024 Q3, large counties

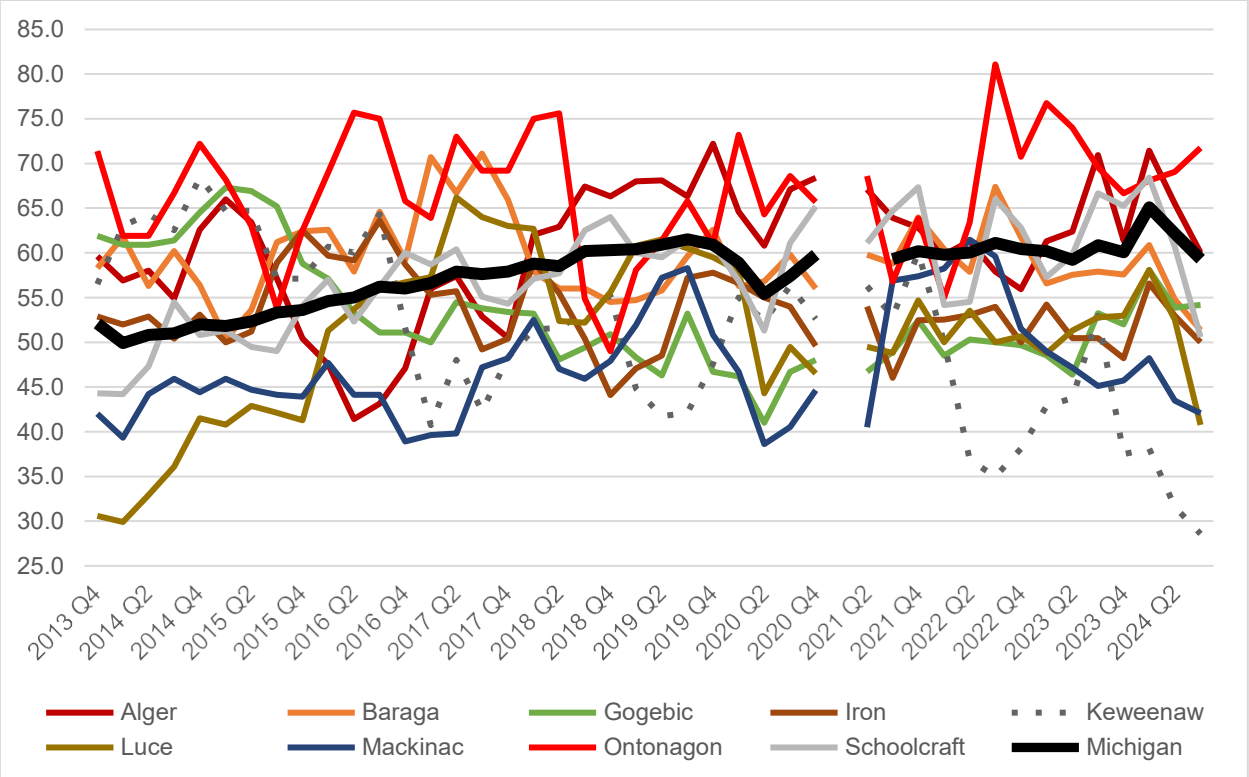


Figure 7-13: Hepatitis A vaccination in children, 2013 Q4 through 2024 Q3, small counties

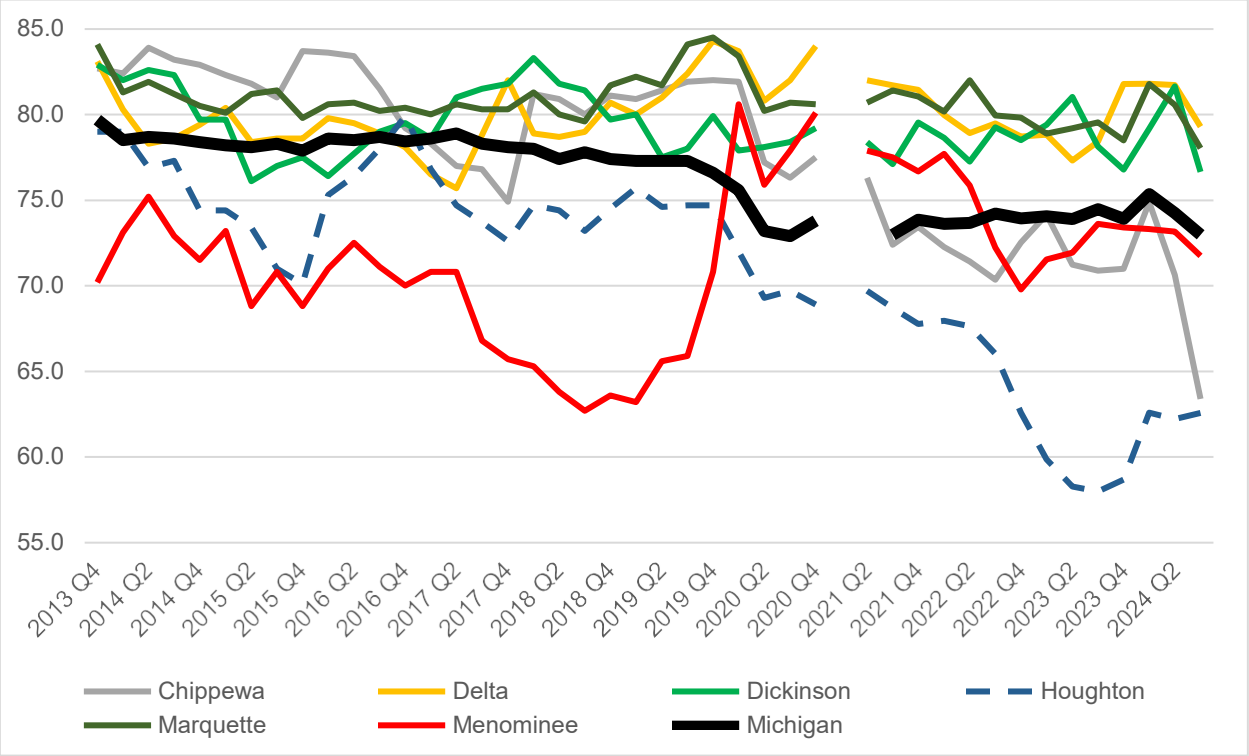


Figure 7-14: Children receiving 4 or more DTaP vaccinations, 2013 Q4 through 2024 Q3, large counties

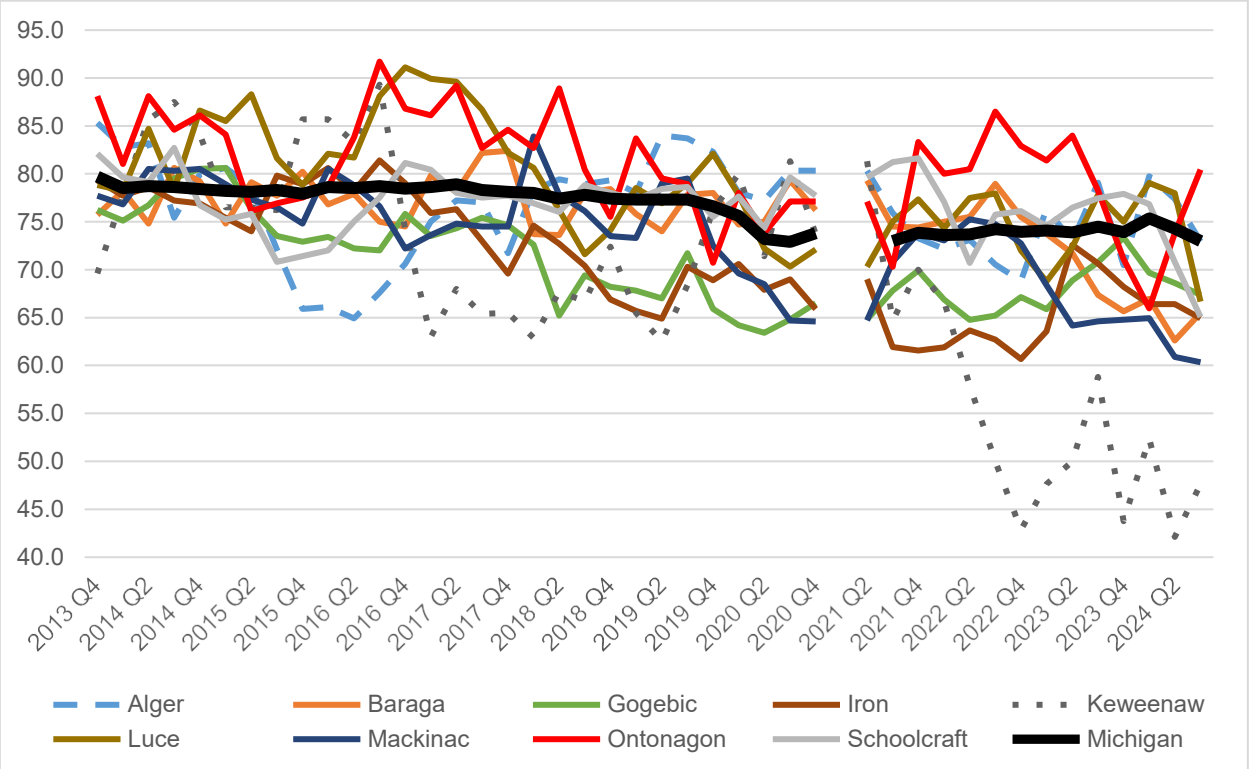


Figure 7-15: Children receiving 4 or more DTaP vaccinations, 2013 Q4 through 2024 Q3, small counties

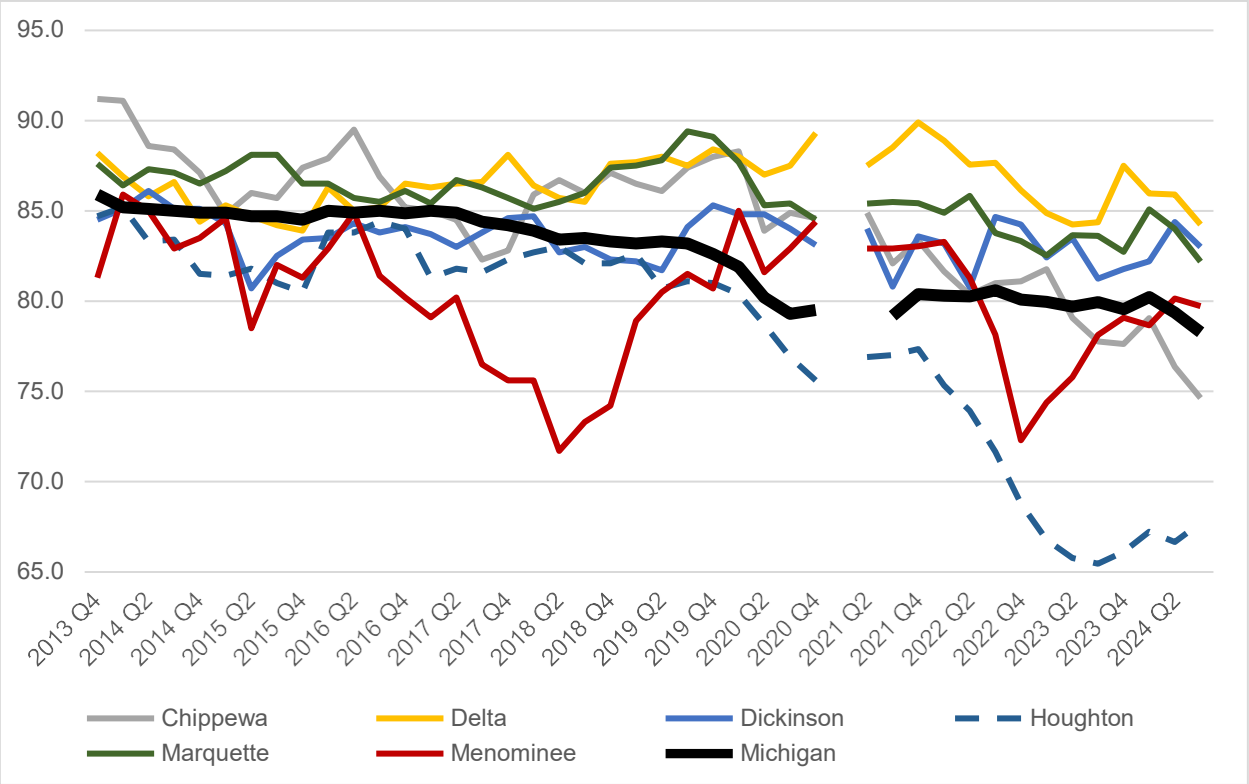


Figure 7-16: Children receiving full pneumococcal vaccine series, 2013 Q4 through 2024 Q3, large Counties

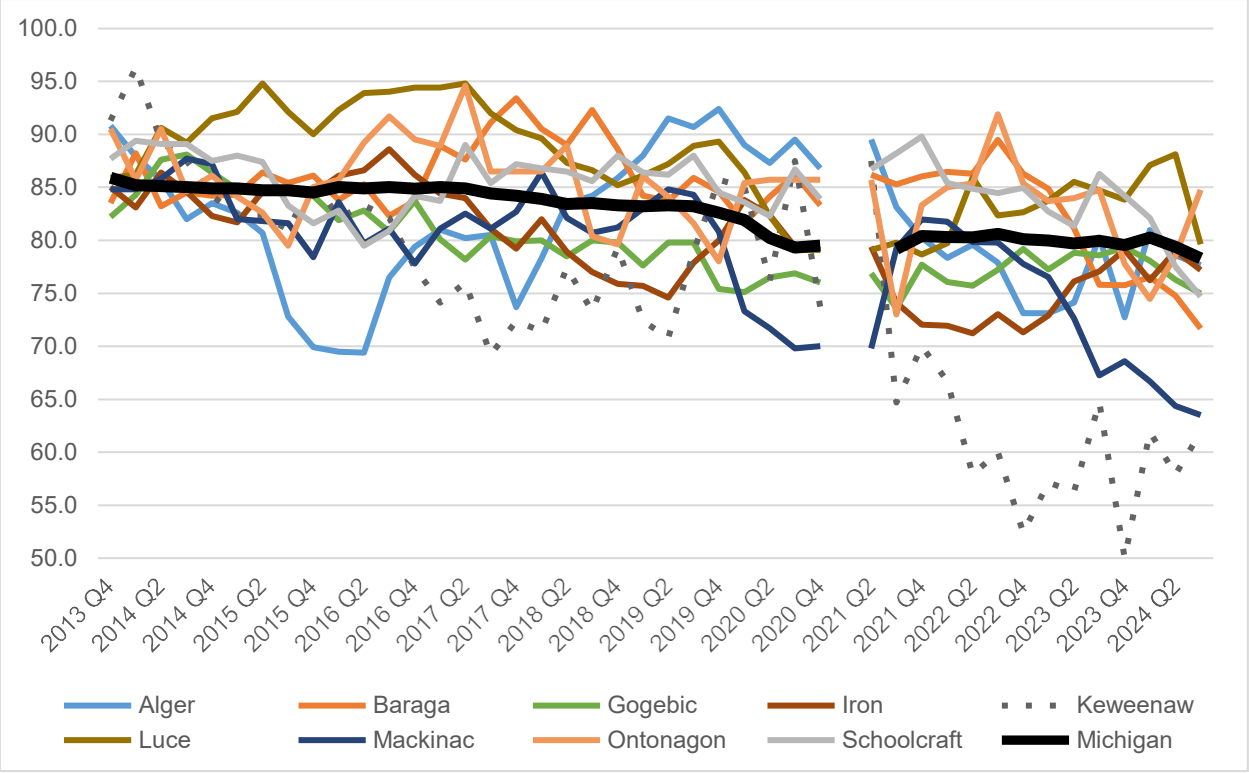


Figure 7-17: Children receiving full pneumococcal vaccine series, 2013 Q4 through 2024 Q3, small counties

For children between 8 and 24 months of age who completed the recommended series of doses of the rotavirus vaccine, independent of whether other vaccines were given the rates and rankings for their third quarter of 2024 were Alger (47.1% #81) Baraga (63.3% #48), Chippewa (45.1% #82), Delta (68.9% #21), Dickinson (71.2% #13), Gogebic (68.1% #28), Houghton (51.6% #77), Iron (47.1% #80), Keweenaw (30.8% #84), Luce (53.2% #72), Mackinac (52.1% #75), Marquette (69.2% #20), Menominee (62.1% #50), Ontonagon (65.9% #36), Schoolcraft (64.0%, #41), and the State of Michigan (66.3%).

7.3.3 School-aged Children

Figures 7-18 through 7-21 show the percentage of children in school who have obtained a waiver to allow them to attend school without being completely vaccinated. The data for all students, kindergarten students, seventh grade students, and other students (primarily students who are new to a school district) is shown in separate figures. The numbers for Luce, Alger, Mackinac, and Schoolcraft (LMAS) counties are combined. The rates for the Upper Peninsula are included both with and without the data from Houghton County. Data from Baraga, Gogebic, Keweenaw, and Ontonagon counties are also combined. The waiver rate in Houghton County is appreciably the highest in the region.

7.3.4 13-17 Years

For adolescents the first completed series is considered one Tdap (booster for tetanus, diphtheria and pertussis) vaccine, three polio vaccines, two MMR vaccines, 3 hepatitis B vaccines, 2 varicella vaccines, and one MenACWY (meningococcal) vaccine. This has been abbreviated as 132321. **Figures 7-22 and 7-23** show the percentage of adolescents having completed this series. In data from the third quarter of 2024, none of the Upper Peninsula counties ranked in the top 10 counties, while Houghton (64.9% #78), Gogebic (64.5% #79), and Menominee [4] (63.7% #81) were among the lowest ranking counties.

Data have also been collected for those who have completed the 132321 series as well as three doses of the HPV (human papillomavirus) vaccine, abbreviated 1323213. **Figure 7-24 and 7-25** show the percentage of adolescents having completed this augmented series. In data from the third quarter of 2024, Marquette (54.2% #1), and Schoolcraft (51.8% #4) counties ranked in the top 10 counties, while Houghton (31.9% #78) and Mackinac (27.6% #82) were among the lowest ranking counties.

Figures 7-26 and 7-27 show the percentage of adolescents 13 to 17 years of age who received the Tdap booster vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, none of the counties ranked in the top 10 counties, while Menominee [4] (67.6% #80) and Gogebic (67.6% #81) were among the lowest ranking counties.

Figures 7-28 and 7-29 show the percentage of adolescents 13 to 17 years of age who received a dose of the meningococcal (MenACWY) vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, none of the counties ranked in the top 10 counties, while Houghton (68.3% #77), Gogebic (67.1% #79), and Menominee [4] (67.0% #81) were among the lowest ranking counties.

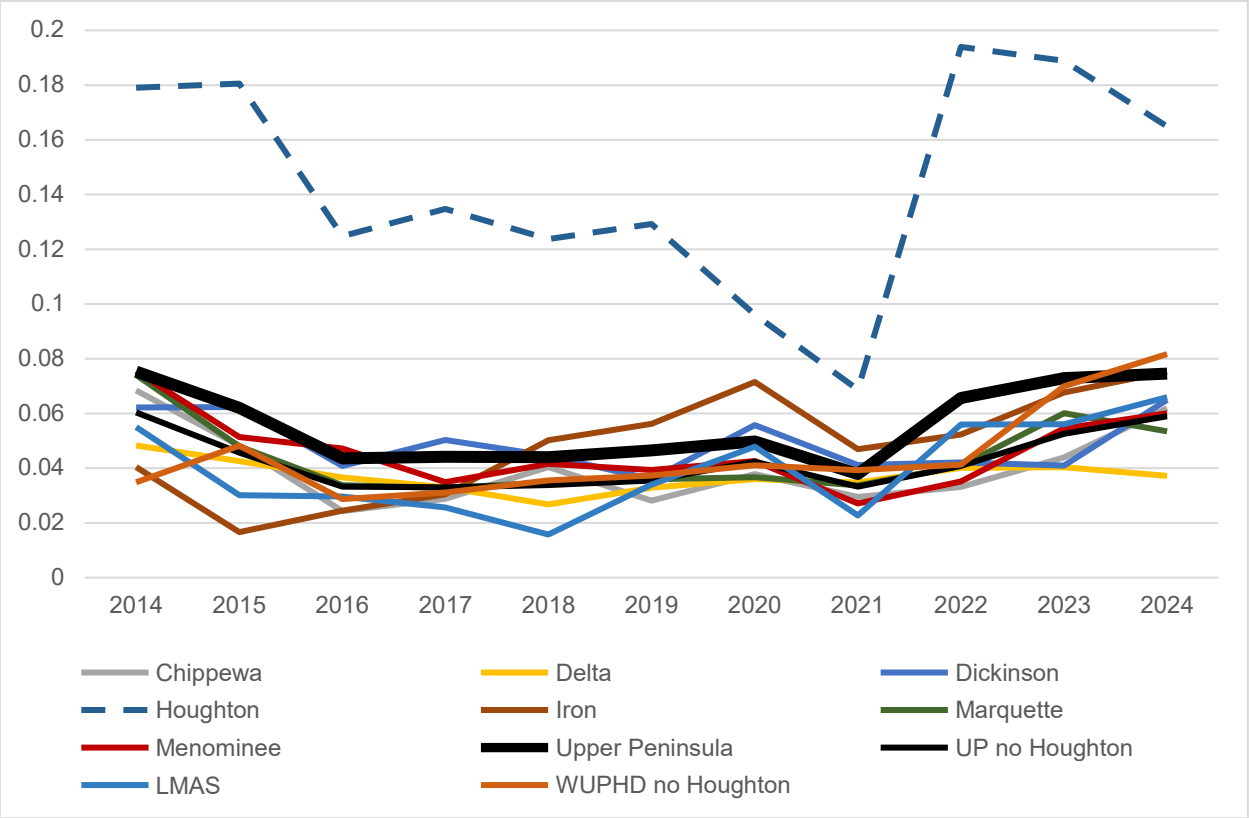


Figure 7-18: Percent schoolchildren waving vaccine requirement, 2014 through 2024, all students

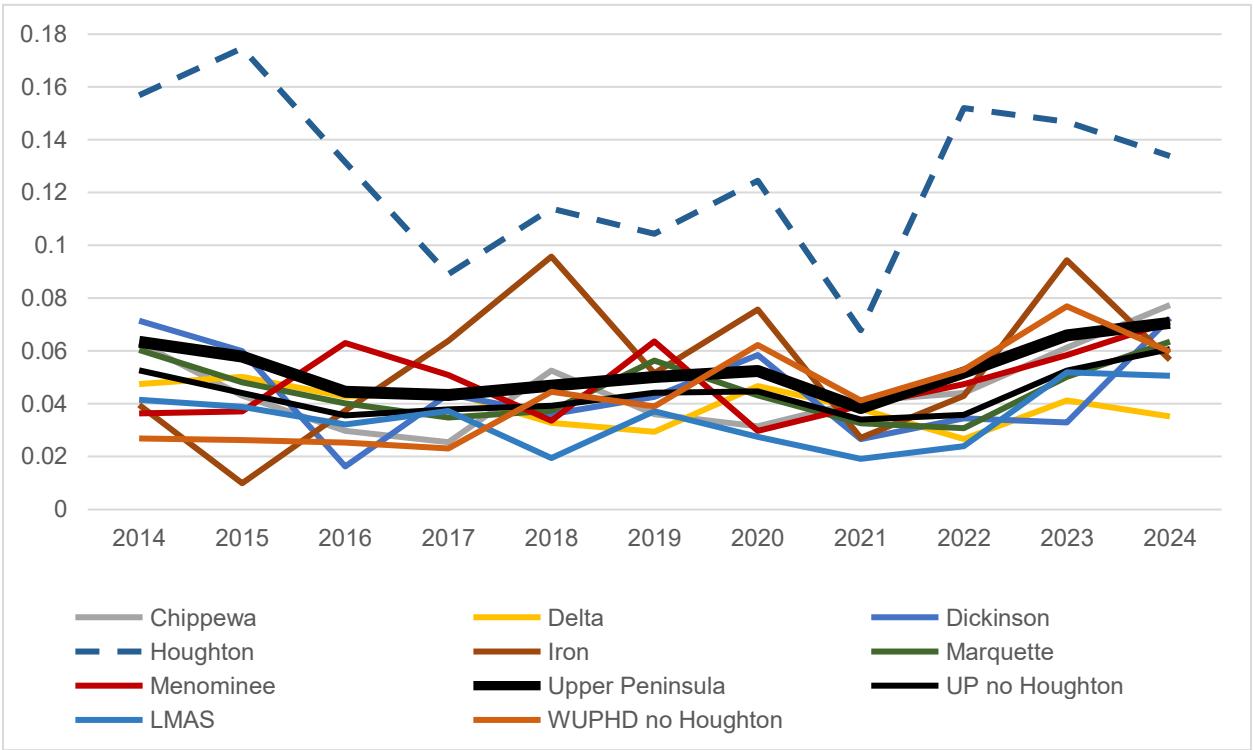


Figure 7-19: Percent schoolchildren waving vaccine requirement, 2014 through 2024, kindergarten students

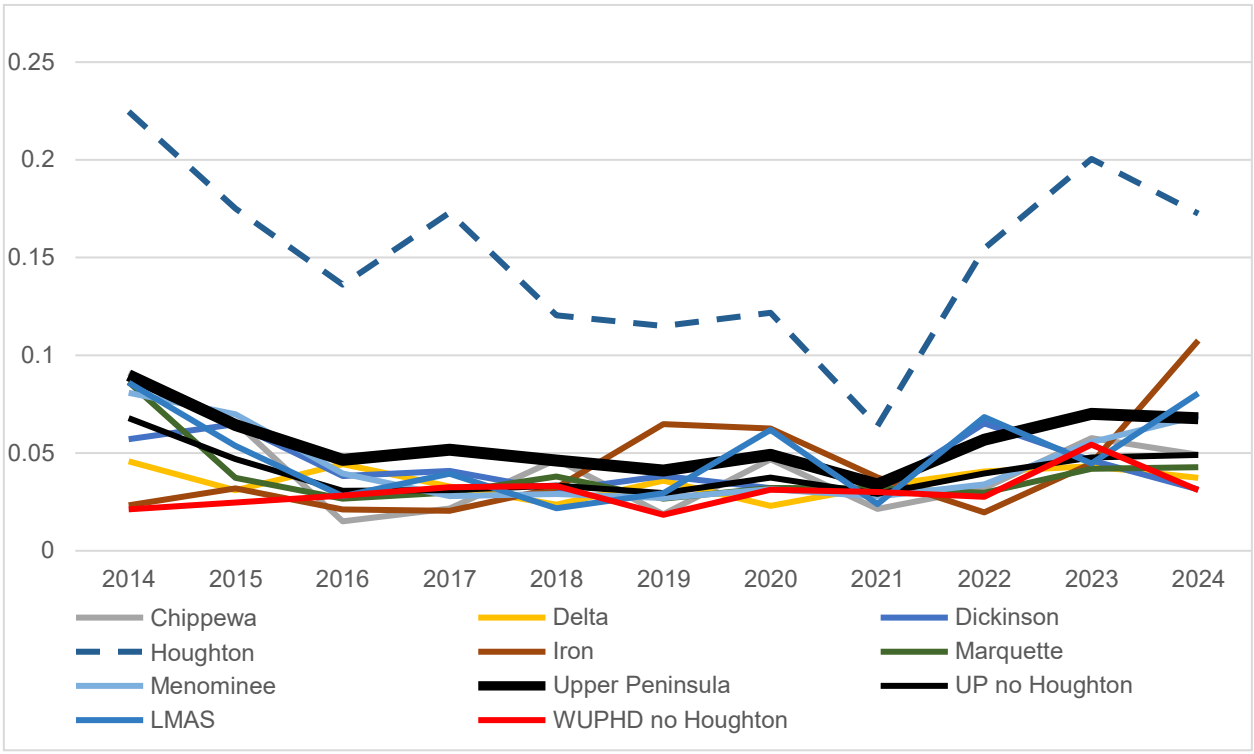


Figure 7-20: Percent schoolchildren waving vaccine requirement, 2014 through 2024, seventh grade students

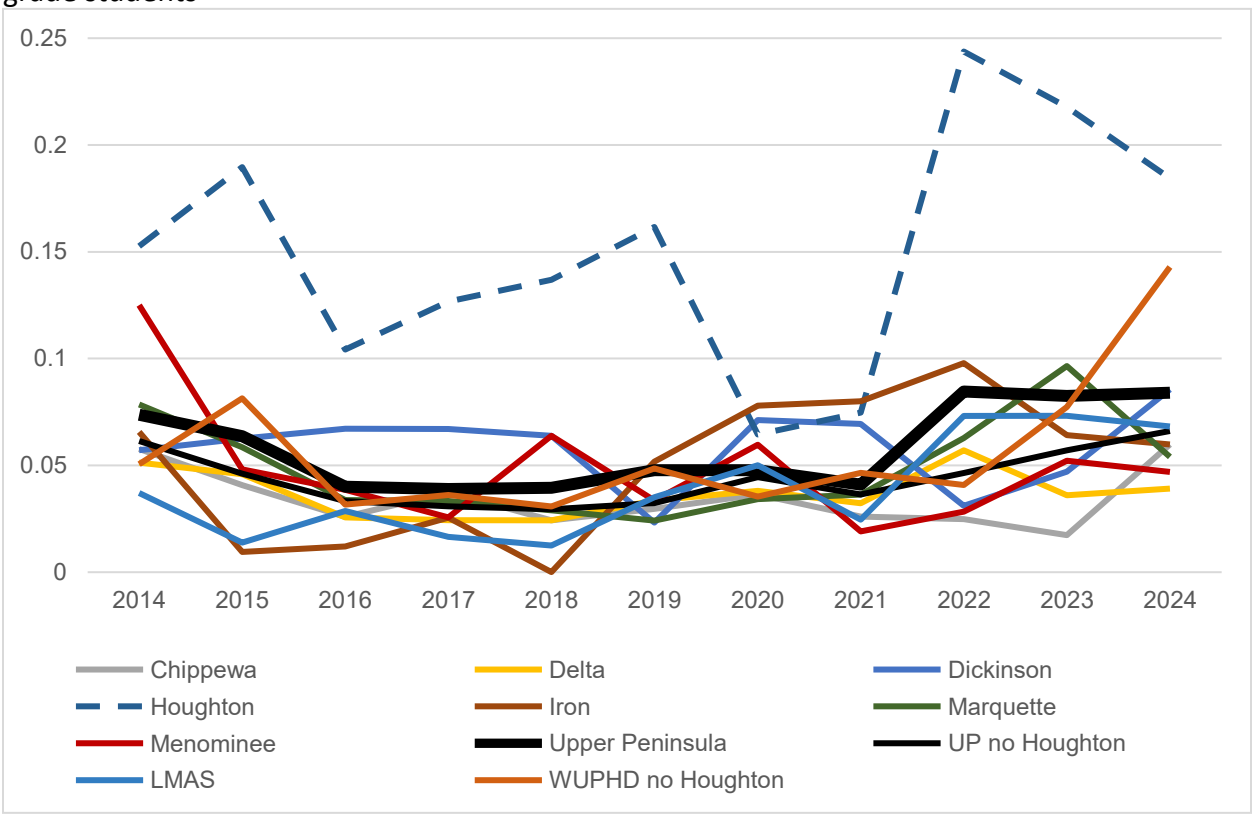


Figure 7-21: Percent schoolchildren waving vaccine requirement, 2014 through 2024, other (transfer and new) students

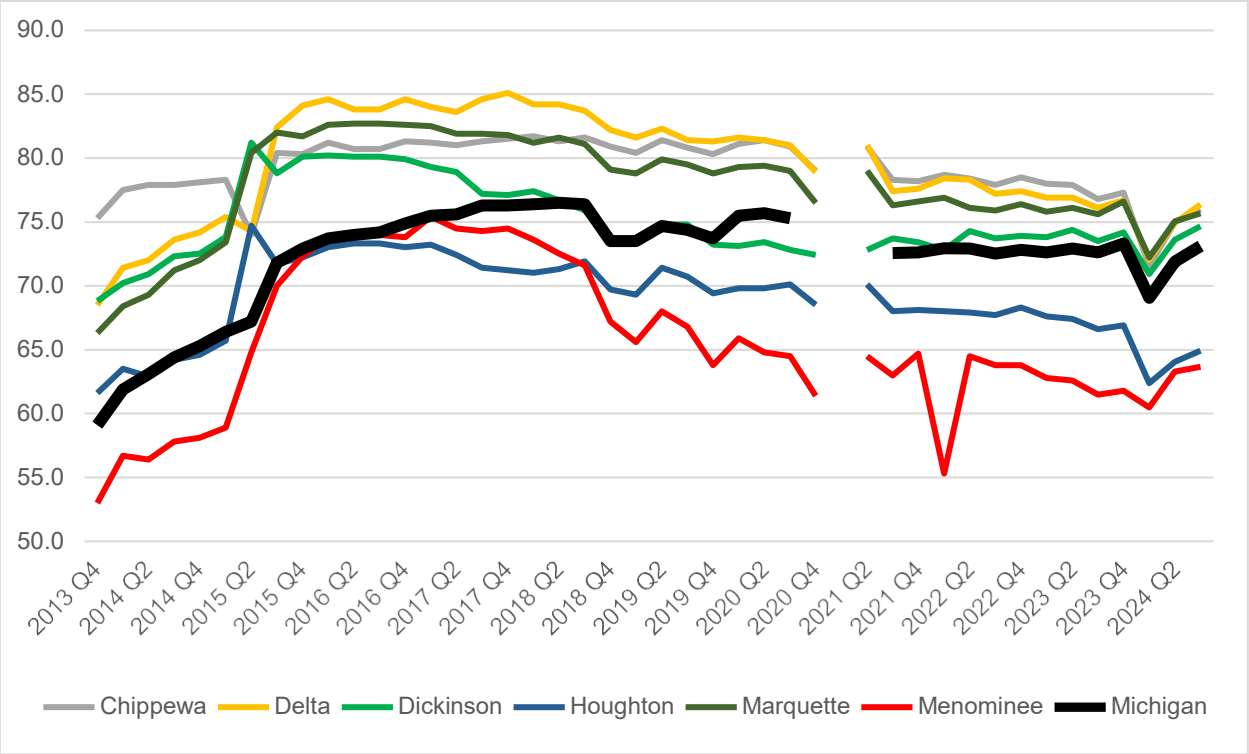


Figure 7-22: Adolescents vaccines up to date (132321), 2013 Q4 through 2024 Q3, large counties

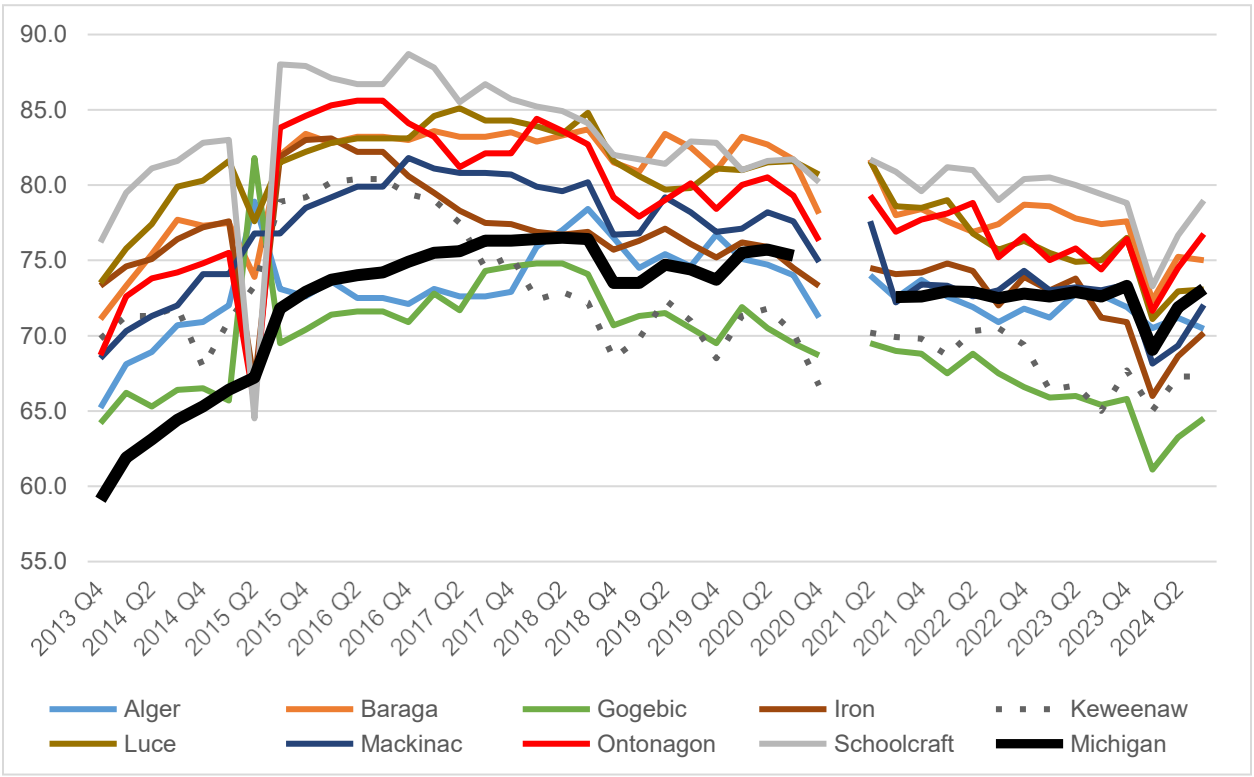


Figure 7-23: Adolescents vaccines up to date (132321), 2013 Q4 through 2024 Q3, small counties

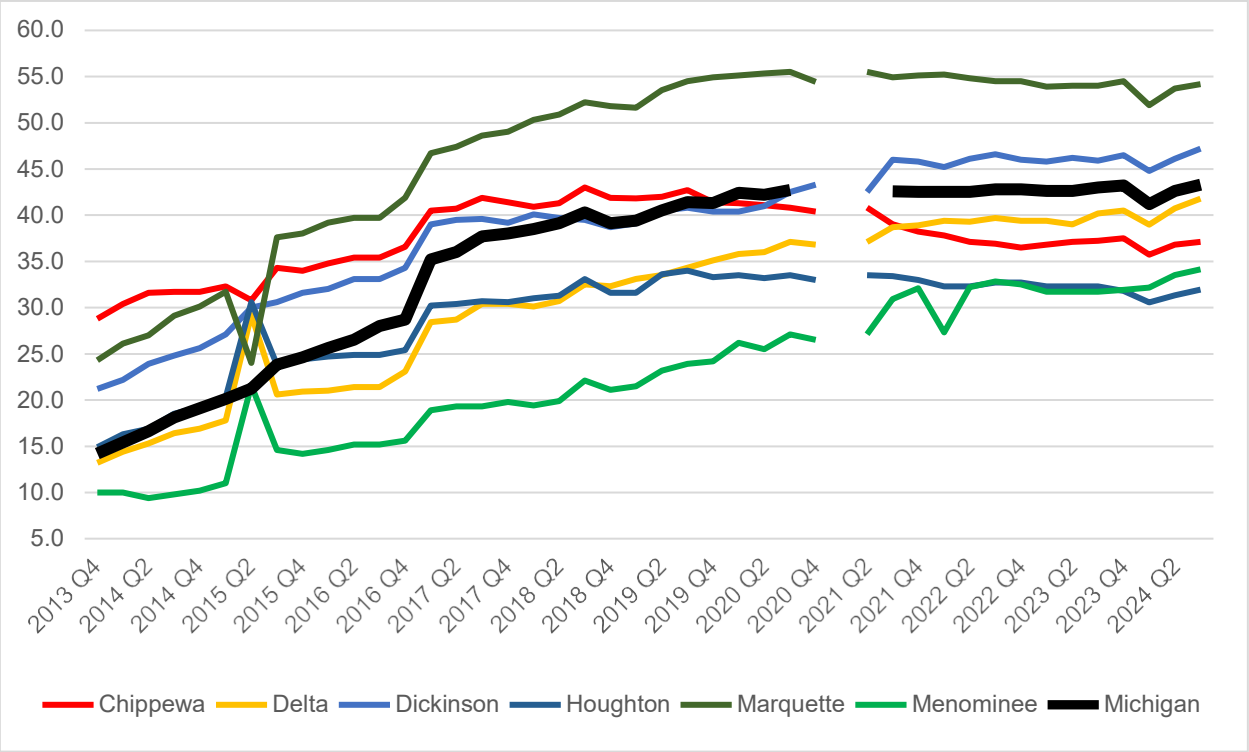


Figure 7-24: Adolescent series plus HPV vaccine, 2013 Q4 through 2024 Q3, large counties

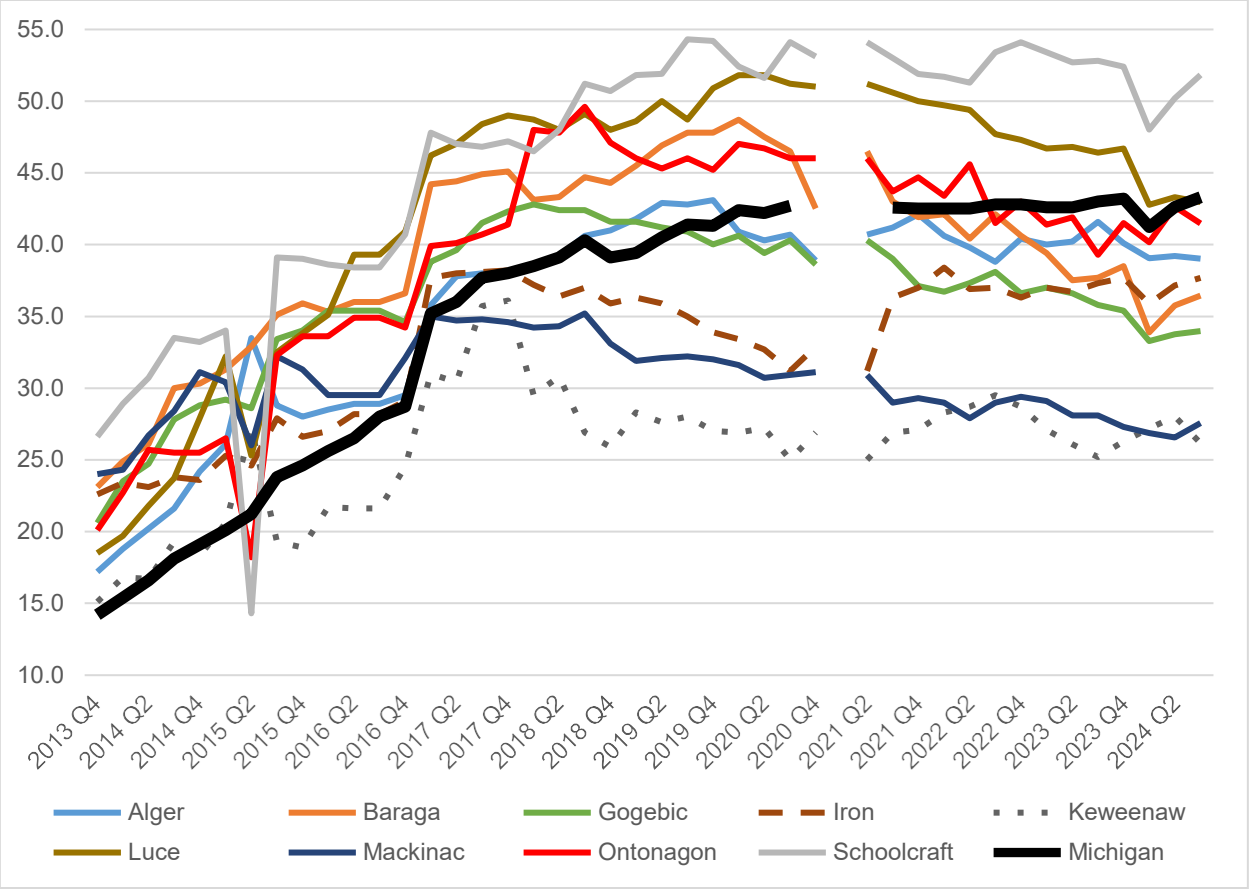


Figure 7-25: Adolescent series plus HPV vaccine, 2013 Q4 through 2024 Q3, small counties

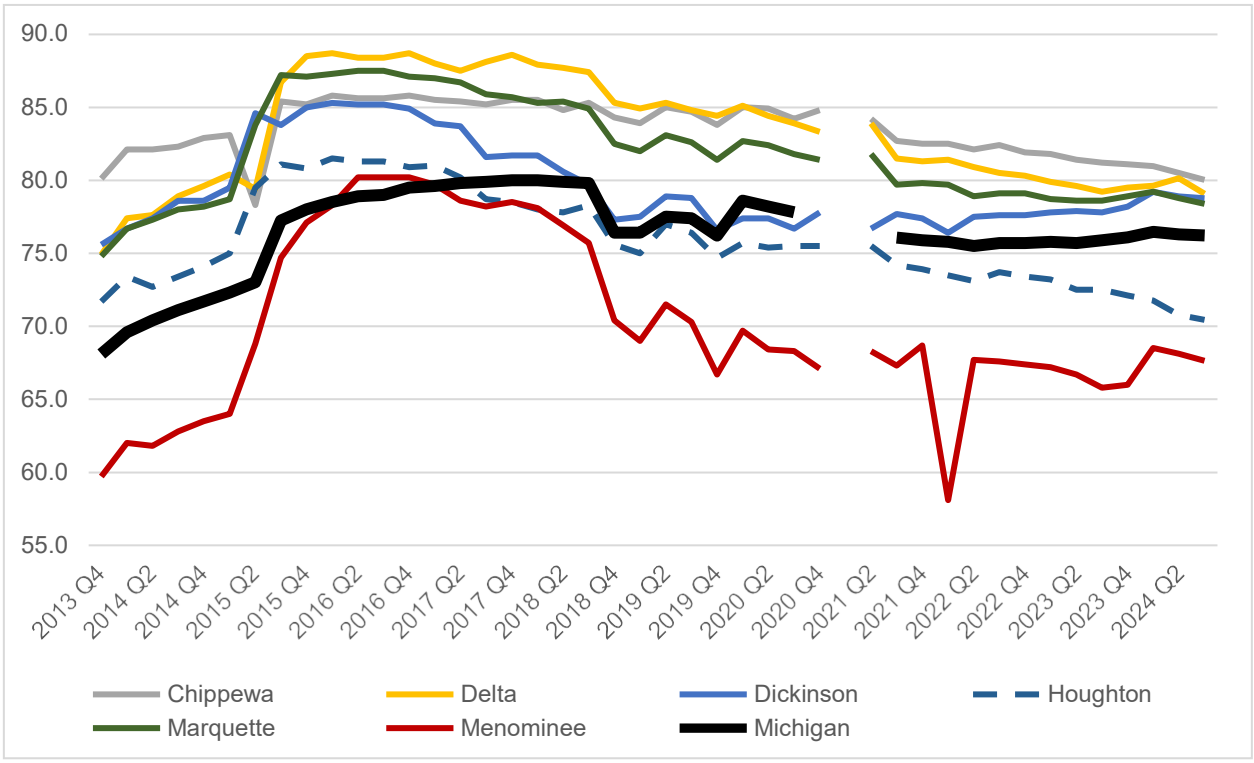


Figure 7-26: Adolescents vaccinated with Tdap booster, 2013 Q4 through 2024 Q3, large counties

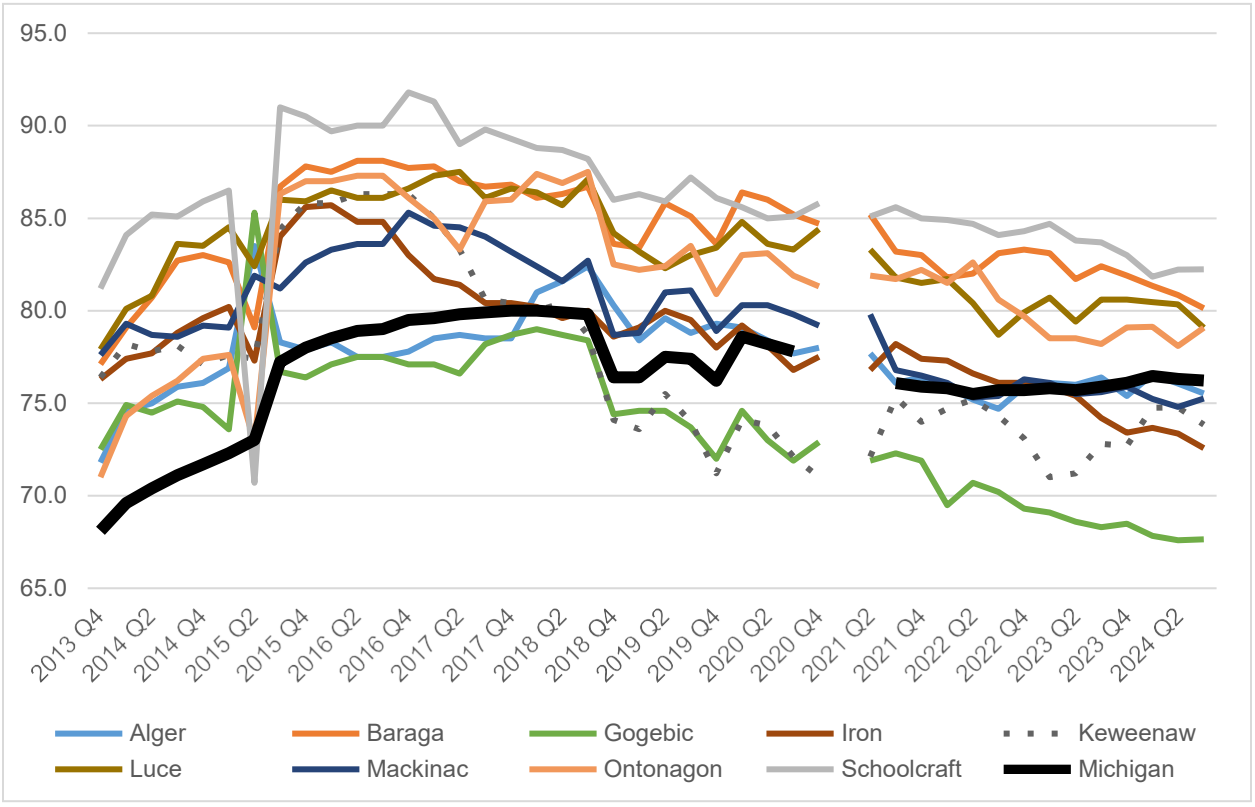


Figure 7-27: Adolescents vaccinated with Tdap booster, 2013 Q4 through 2024 Q3, small counties

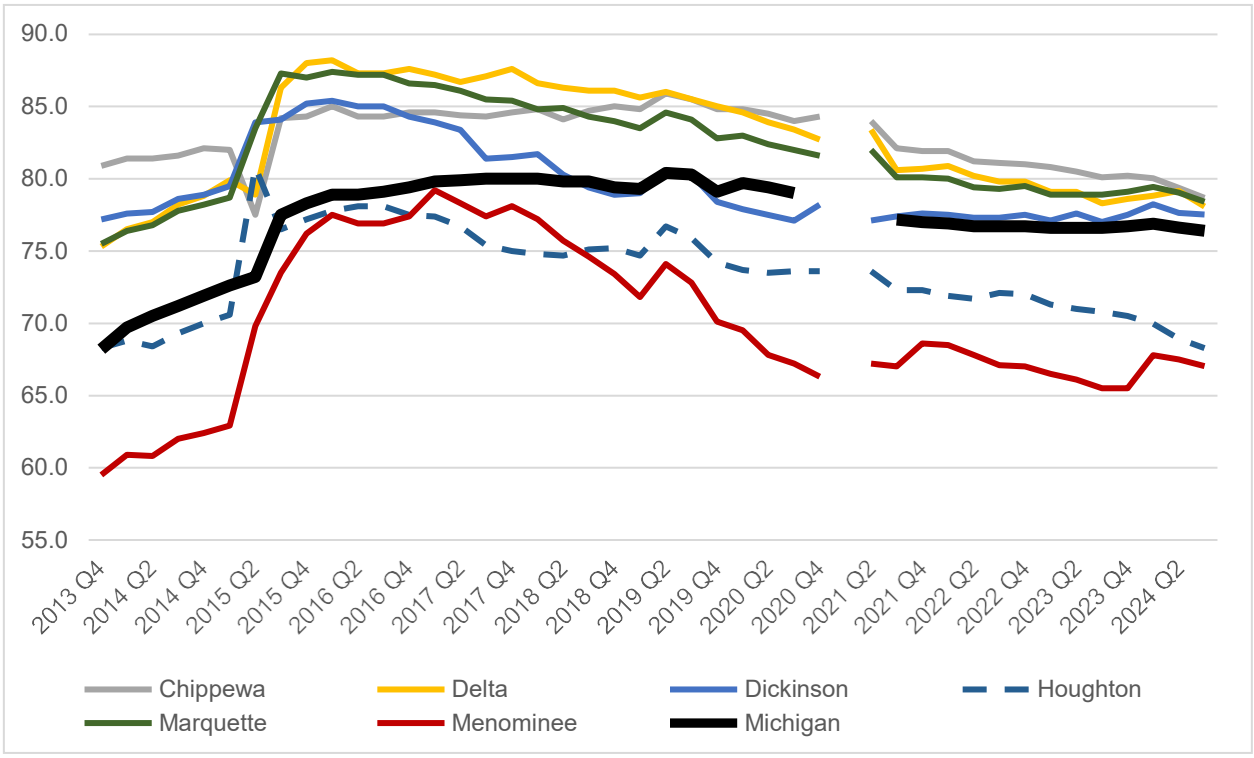


Figure 7-28: Adolescents with any meningococcal vaccine, 2013 Q4 through 2024 Q3, large counties

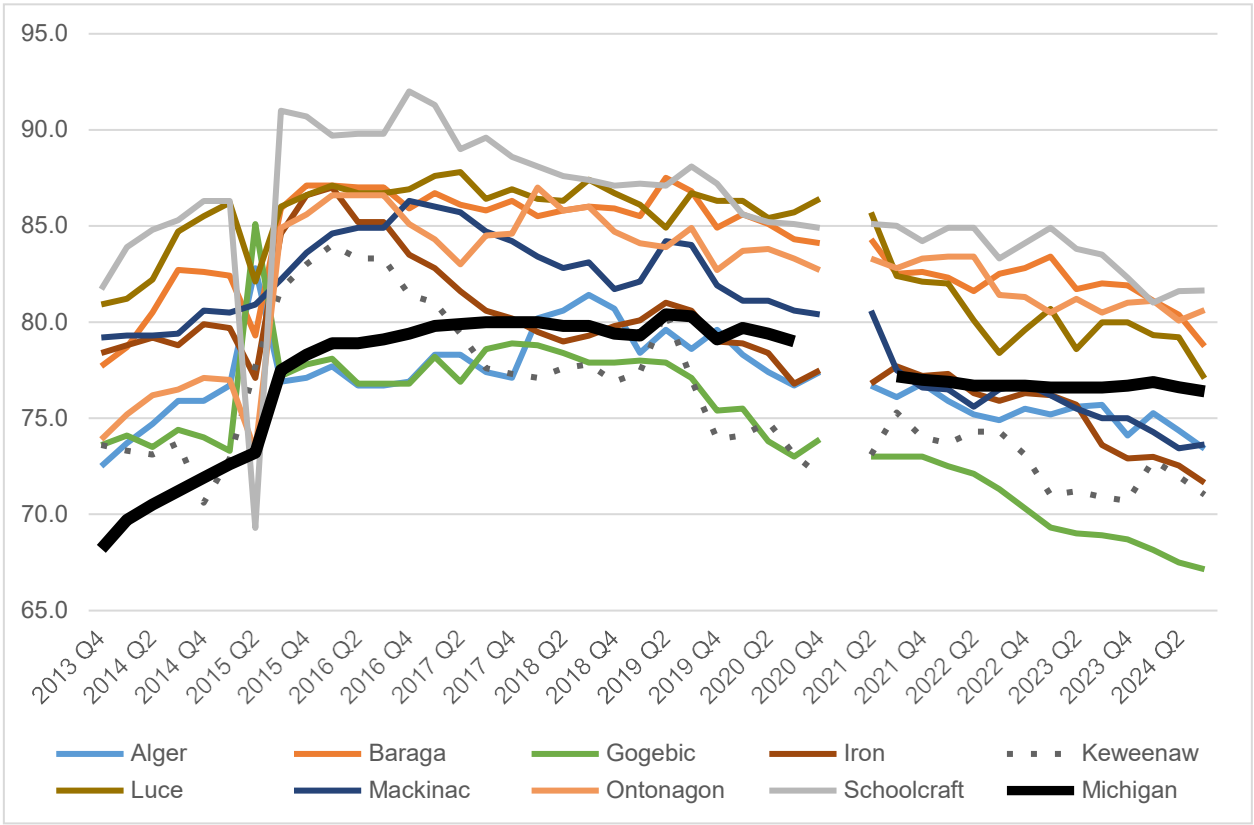


Figure 7-29: Adolescents with any meningococcal vaccine, 2013 Q4 through 2024 Q3, small counties

Figure 7-30 and 7-31 show the percentage of female adolescents 13 to 17 years of age who completed the recommended number of doses of the HPV vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Marquette (55.7% #2) and Ontonagon (55.5% #5) counties ranked in the top 10 counties, while Houghton (33.4% #78) and Mackinac (28.7% #83) were among the lowest ranking counties.

Figures 7-32 and 7-33 show the percentage of male adolescents 13 to 17 years of age who completed the recommended number of doses of the HPV vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Marquette (55.1% #1), Schoolcraft (50.6% #4), and Dickinson (48.8% #9%) counties ranked in top 10 counties, while Houghton (32.2% 76) Menominee [4] (32.1% #78), and Mackinac (29.2% #82) were among the lowest ranking counties.

7.3.5 18 Years and Older

Figure 7-34 and 7-35 show the percentage of adults aged 18 to 64 years who have received at least one dose of the Tdap booster vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Ontonagon (62.9% #9) ranked in top 10 counties, while Alger (42.2% #75) was among the lowest ranking counties.

Figure 7-36 and 7-37 show the percentage of adults 65 years and older who have received at least one dose of pneumococcal polysaccharide vaccine, independent of whether other vaccines were given. Beginning in the fourth quarter of 2021, these data were no longer collected as the complexity of vaccinating to protect against pneumococcal diseases increased.

Figures 7-38 and 7-39 show the percentage of adults 50/60+ years of age who have received the zoster (shingles) vaccine, independent of whether other vaccines were given. In data from the third quarter of 2024, Marquette (50.6% #7) ranked in the top 10 counties, while Menominee [4] (31.2% #79) and Iron (30.4% #80) were among the lowest ranking counties.

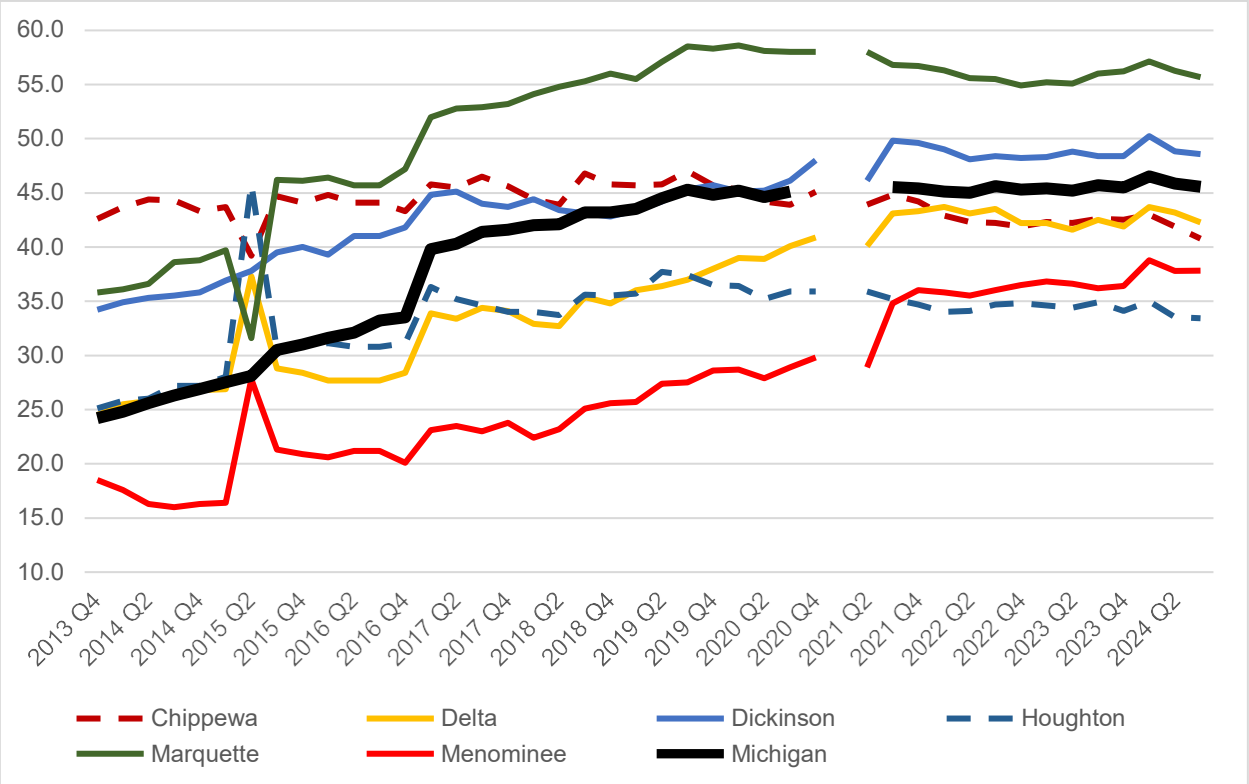


Figure 7-30: Adolescent females completing HPV vaccinations, 2013 Q4 through 2024 Q3, large counties

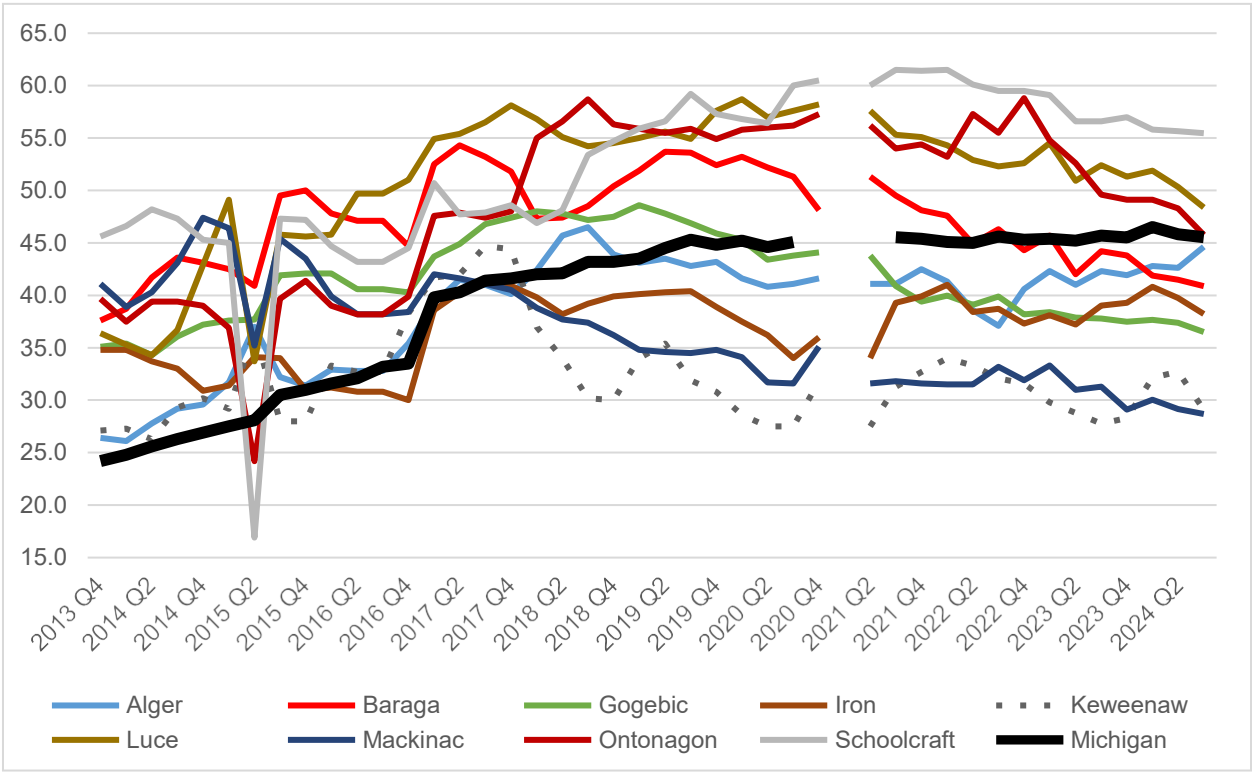


Figure 7-31: Adolescent females completing HPV vaccinations, 2013 Q4 through 2024 Q3, small counties

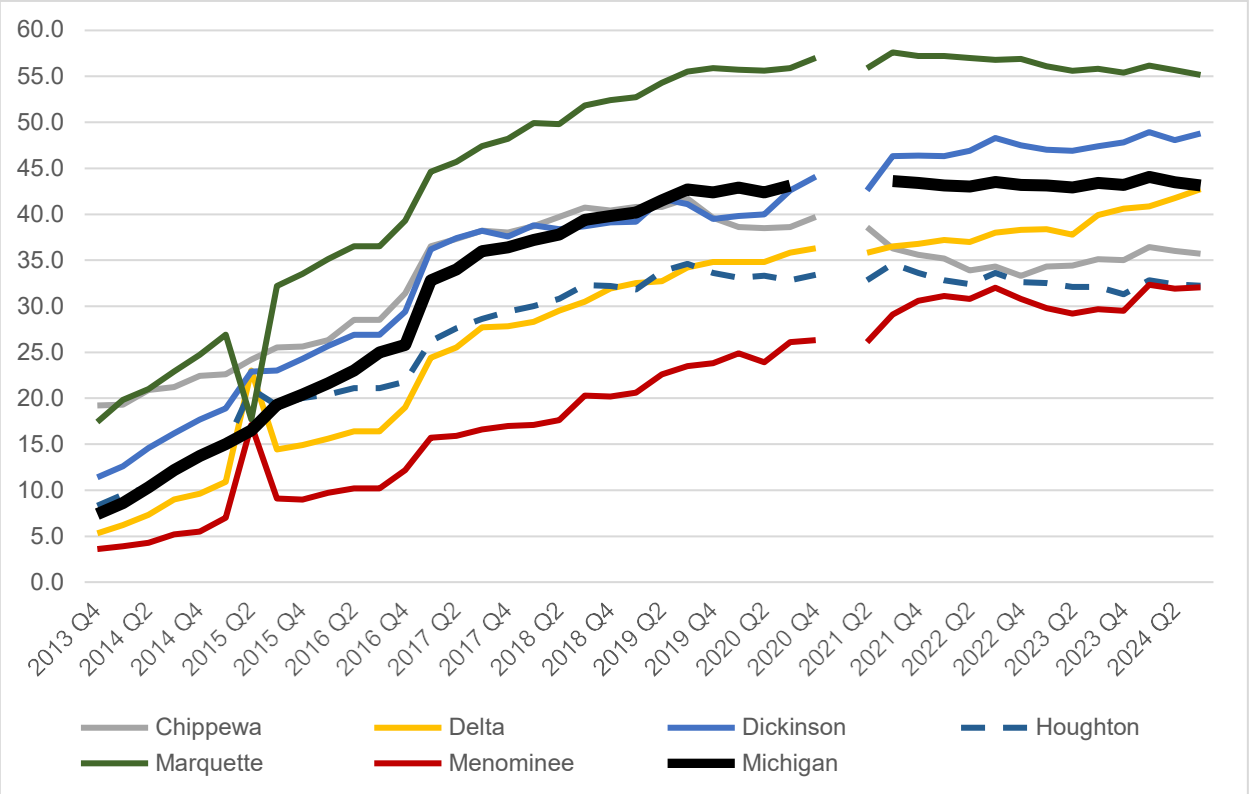


Figure 7-32: Adolescent males completing HPV vaccination, 2013 Q4 through 2024 Q3, large counties

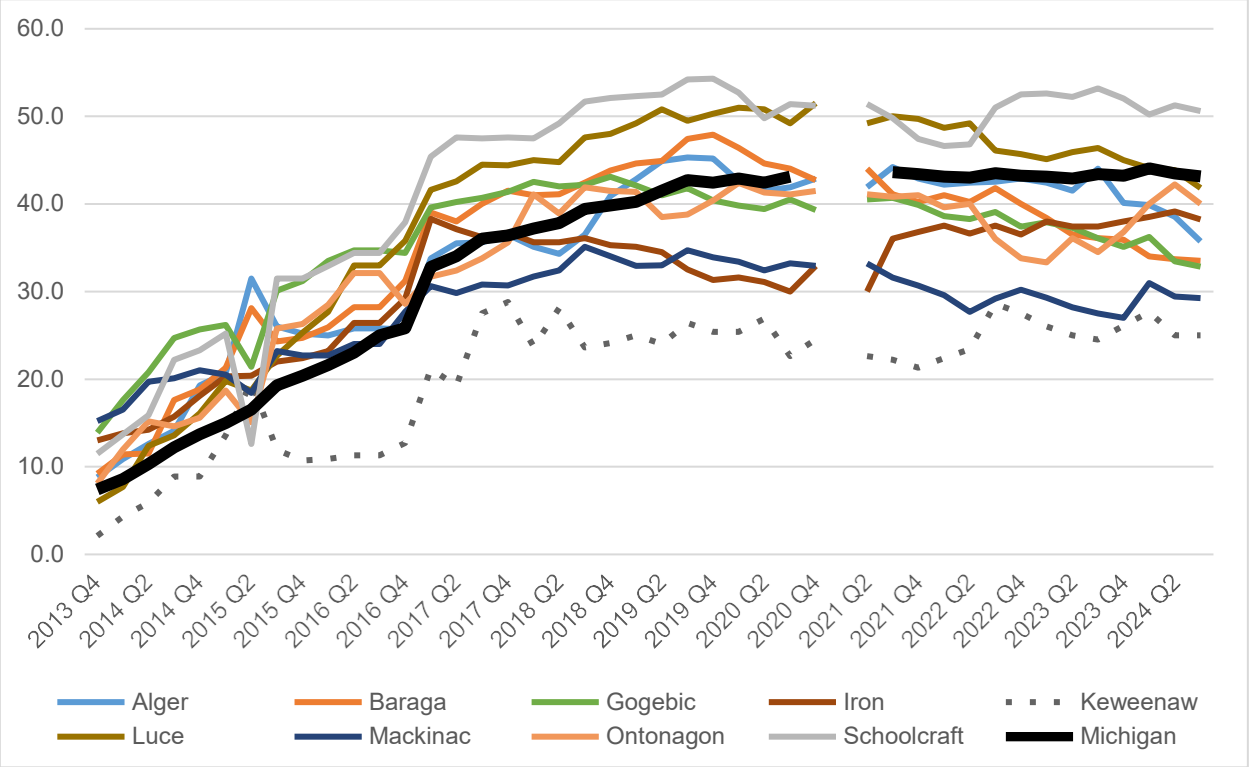


Figure 7-33: Adolescent males completing HPV vaccination, 2013 Q4 through 2024 Q3, small counties

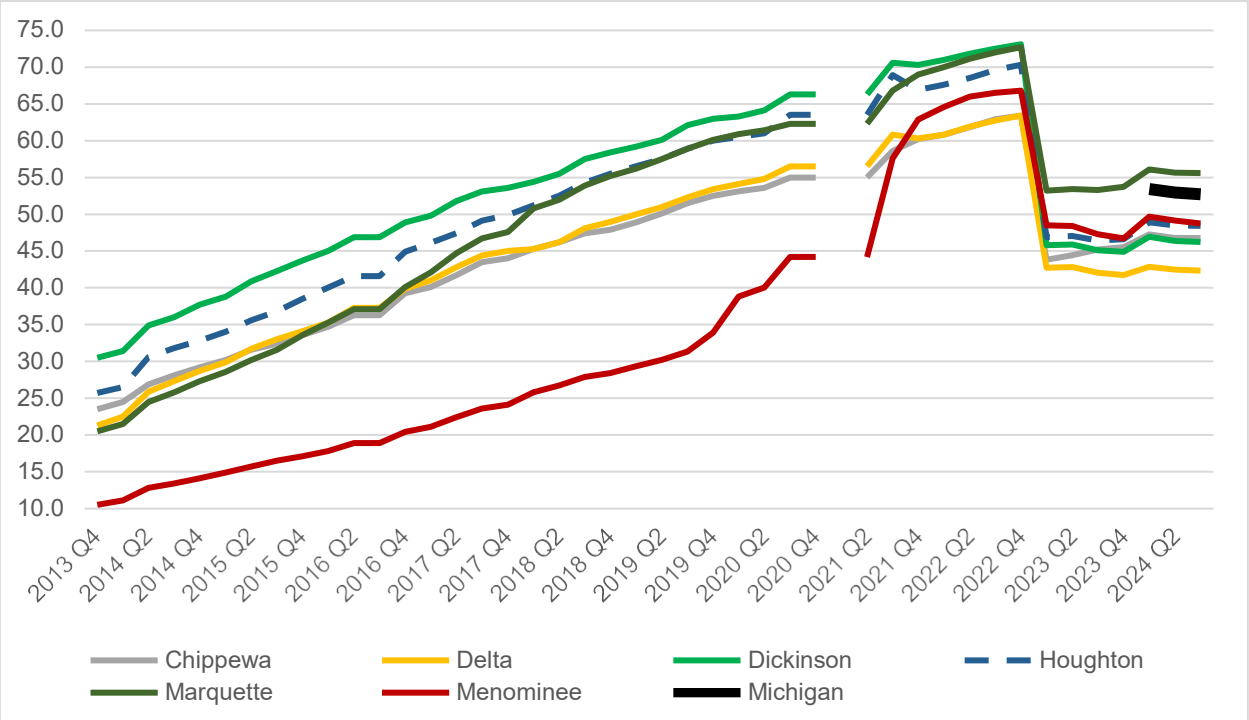


Figure 7-34: Adults (19-64 years) with Tdap booster, 2013 Q4 through 2024 Q3, large counties

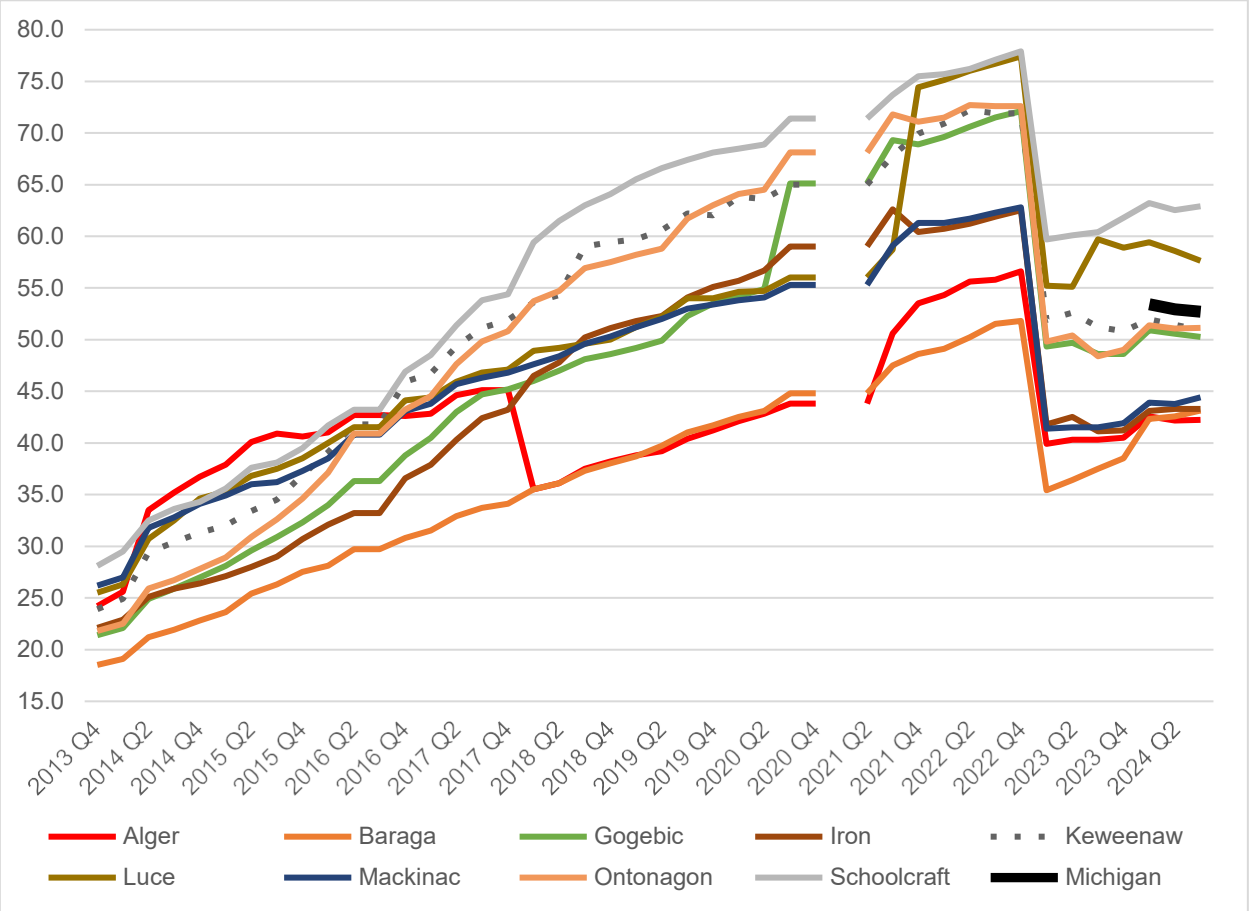


Figure 7-35: Adults (19-64 years) with Tdap booster, 2013 Q4 through 2024 Q3, small counties

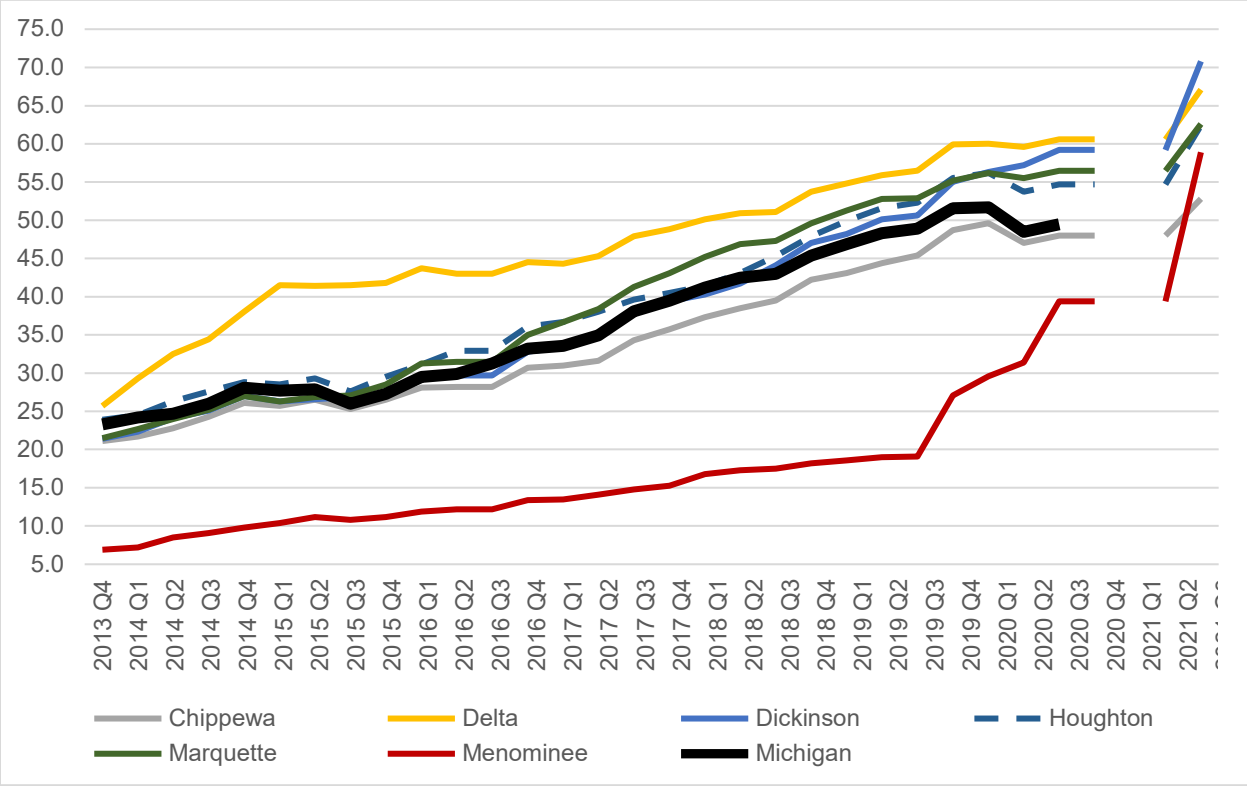


Figure 7-36: Adults 65 years and older received pneumococcal vaccine, 2013 Q4 through 2021 Q3, large counties

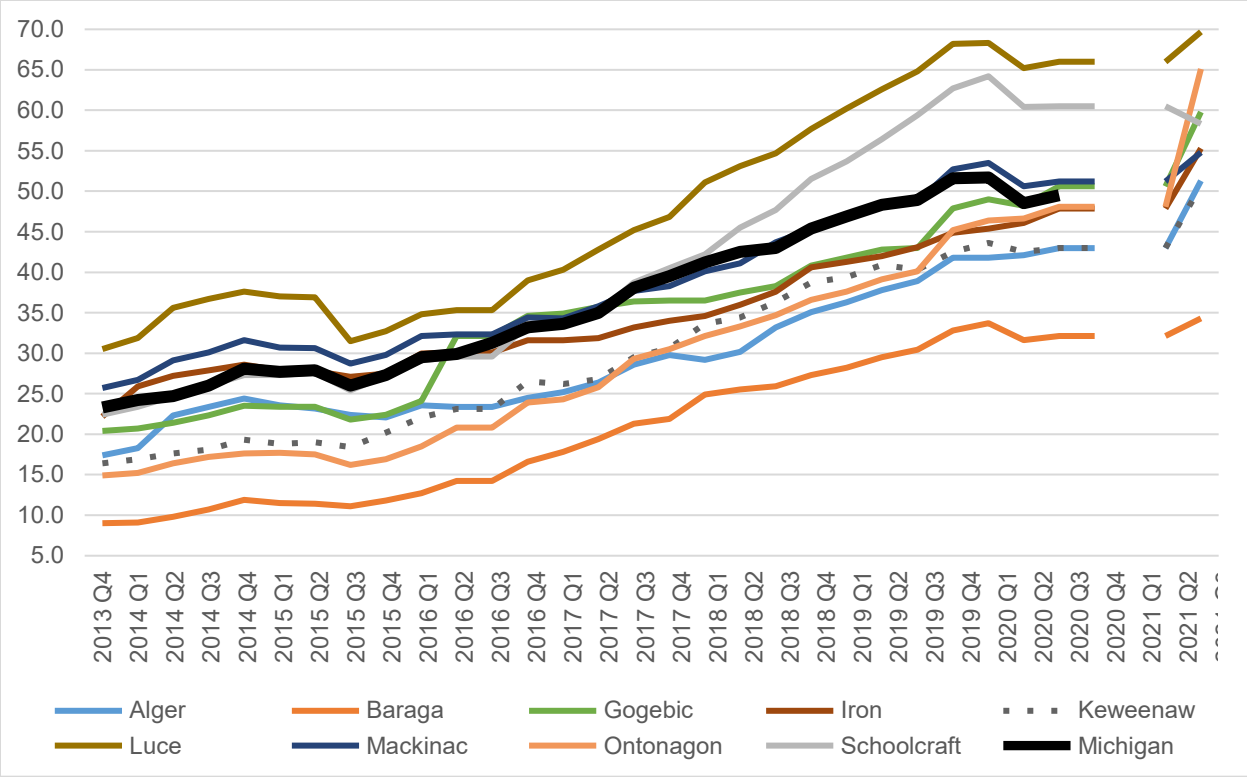


Figure 7-37: Adults 65 Years and older received pneumococcal vaccine, 2013 Q4 through 2021 Q3, small counties

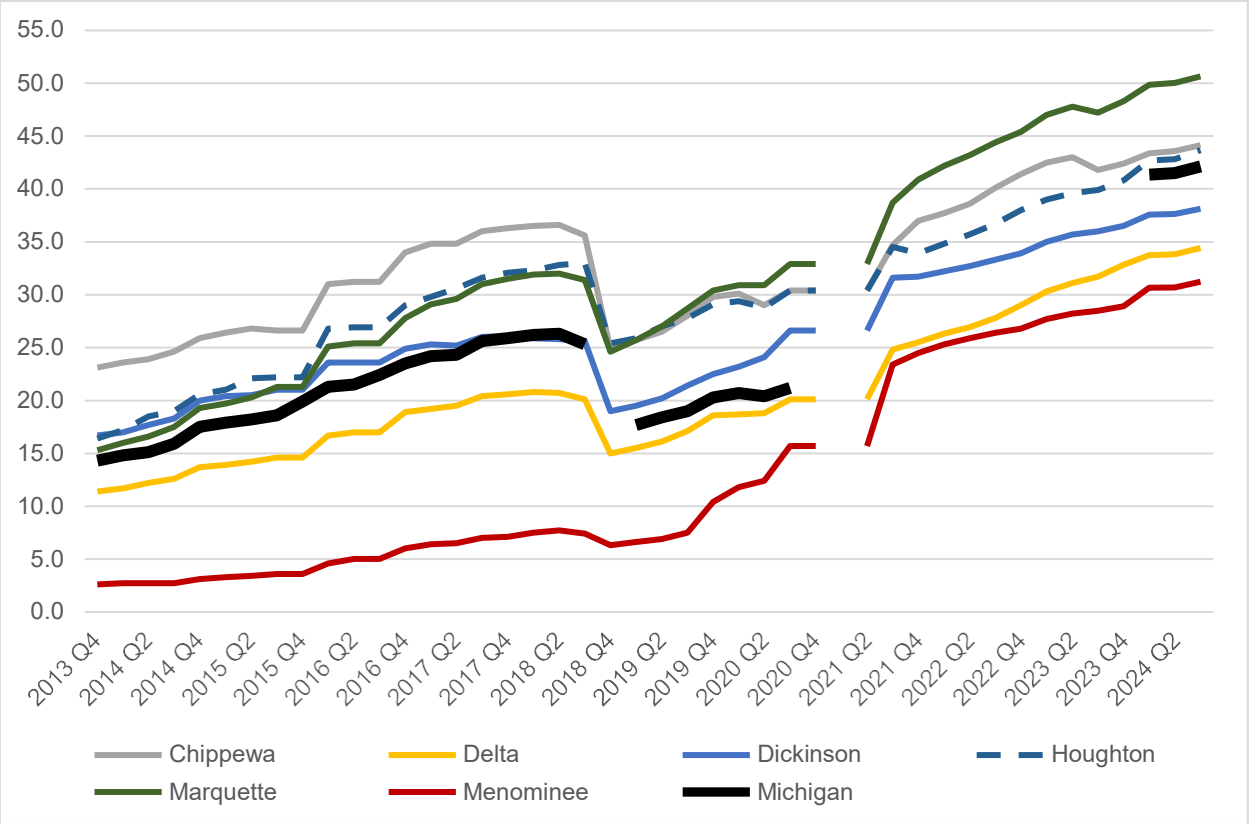


Figure 7-38: Elderly receiving the zoster vaccine, 2013 Q4 through 2024 Q3, large counties

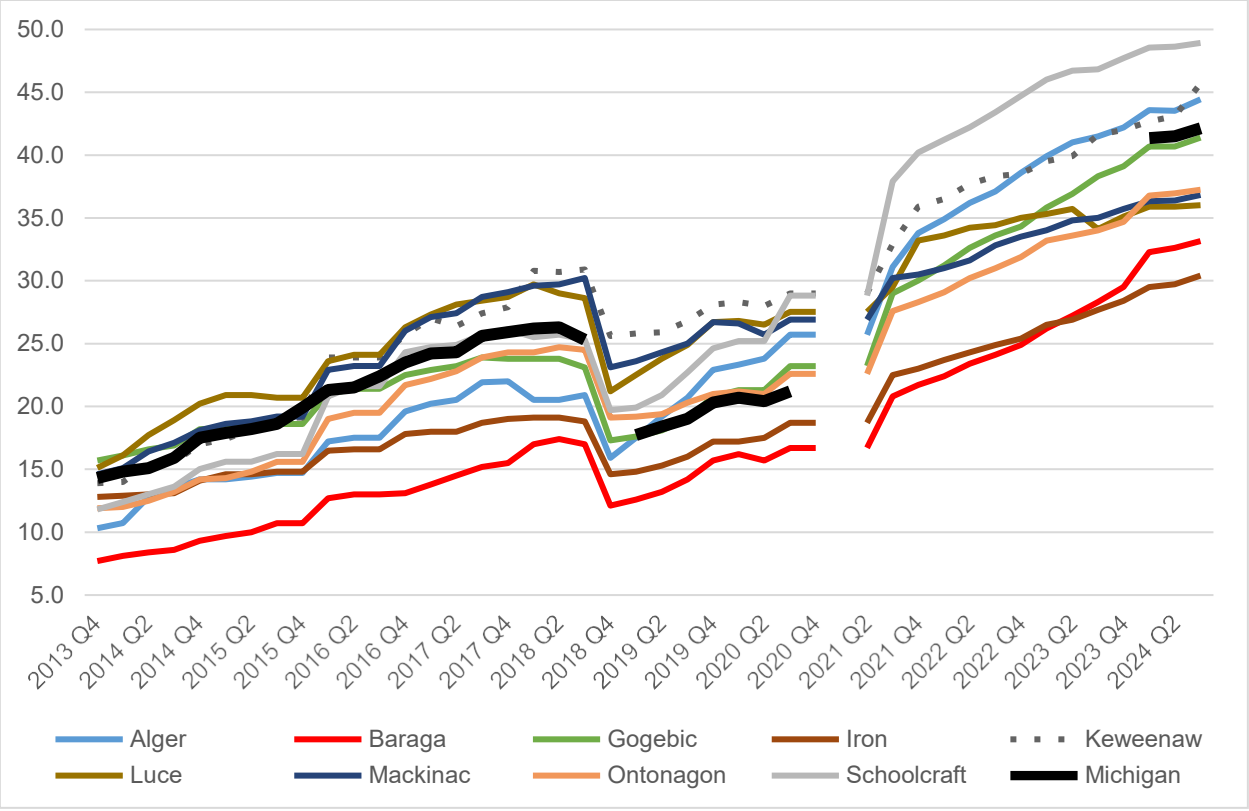


Figure 7-39: Elderly receiving the zoster vaccine, 2013 Q4 through 2024 Q3, small counties

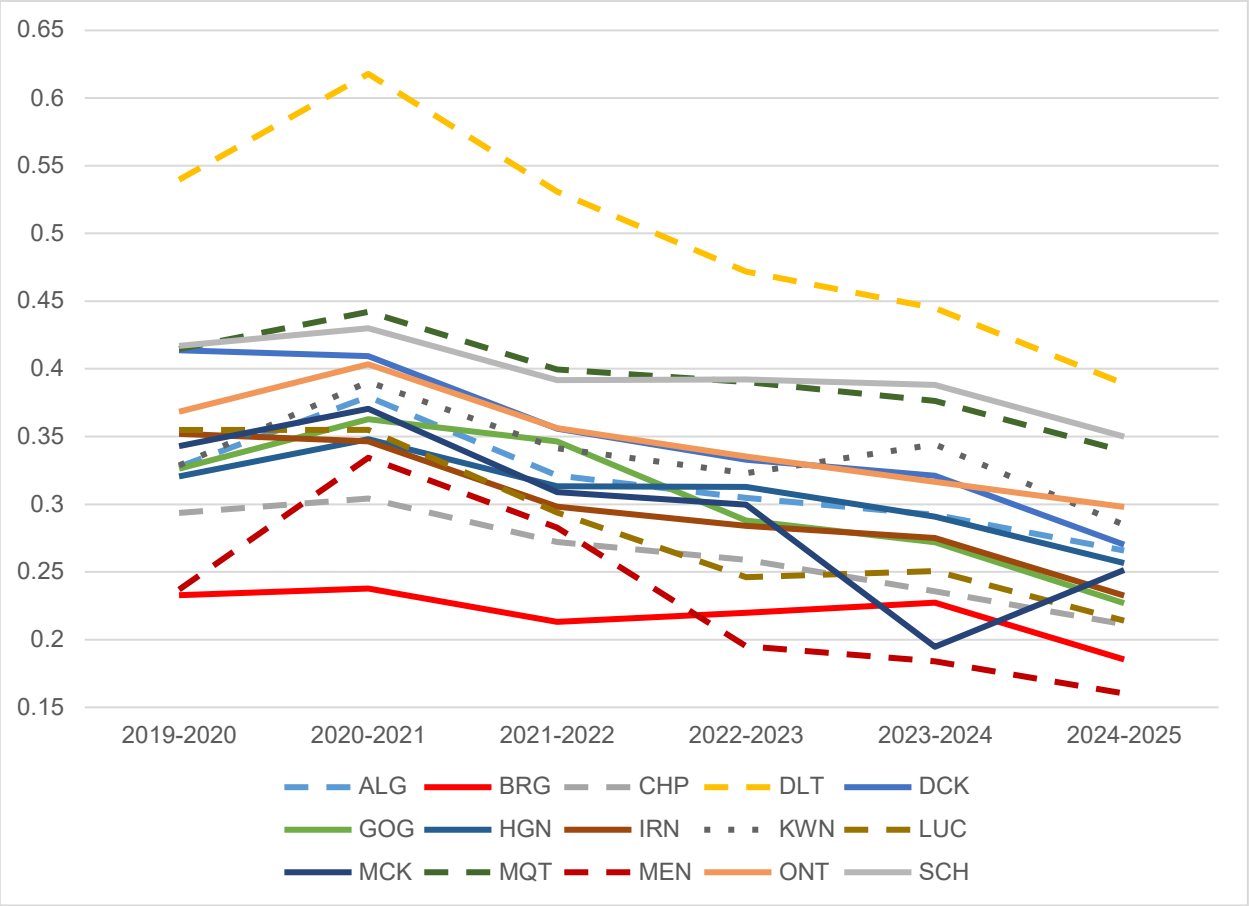


Figure 7-40: Percentage of population vaccinated for influenza, 2019-2020 through 2024-2025

7.3.6 Influenza Vaccine

Each year influenza vaccines are offered to reduce the number of influenza infections. Because the strains of influenza change from year to year, new vaccines are provided each year aimed at the strain most likely to go through the community. **Figure 7-40** shows the percentage of the population vaccinated for influenza during influenza seasons from the 2019-2020 season through the 2024-2025 season.

Data were collected in the 2017, 2021, and 2024 UPCHIPS surveys regarding whether the person completing the survey had been vaccinated for influenza and pneumococcus. These results are shown in **Table 13-47A, 13-47B**, **13-48A** and **13-48B**.

7.3.7 COVID-19 Vaccine

Using data collected through November 2024, [5] **Table 7-2** shows the number individuals who have receive a COVID-19 vaccine broken down by race/ethnicity. A high percentage did not indicate a racial or an ethnic identity. **Table 7-3** are the same individuals broken down by age groups. **Table 7-4** provides the number of those who have received one or more COVID-19 vaccinations versus those who received the booster recommended for 2024-2025.

Table 7-2: COVID-19 Vaccinations through November 2024 by Race and Ethnicity

County	White	Native American	Hispanic	Black	Asian+[a]	Unknown	Total
Alger	4,130	21	0	236	0	2,192	6,579
Baraga	2,463	927	0	0	0	115	3,505
Chippewa	13,081	2,778	175	299	0	7,620	23,953
Delta	19,169	390	119	0	0	596	20,274
Dickinson	9,227	0	47	0	0	6,231	15,505
Gogebic	7,423	123	0	0	0	2,185	9,731
Houghton	16,808	0	260	37	476	5,048	22,629
Iron	5,446	0	0	0	0	287	5,733
Keweenaw	1,170	0	0	0	0	339	1,509
Luce	1,879	28	0	0	0	1,209	3,116
Mackinac	4,518	549	0	0	0	3,168	8,235
Marquette	47,079	662	479	317	187	1,275	49,999
Menominee	8,223	435	90	0	0	4,621	13,369
Ontonagon	3,489	0	0	0	0	98	3,587
Schoolcraft	4,384	180	0	0	0	109	4,673
Upper Peninsula	148,489	6,093	1,170	889	663	35,093	192,397
Percentage	77.18	3.17	0.61	0.46	0.34	18.24	100
[a] Asian+ includes those who identify as Asian and Hawaiian / Pacific Islander							

Looking at COVID-19 vaccines administered after November 10, 2022 through December 10, 2024, 26,905 vaccines were given in the Upper Peninsula. [6] **Table 7-5** shows the settings in which vaccination was provided. **Table 7-6** shows the brand of vaccine given. **Table 7-7** shows the brand of vaccination in each setting in which vaccine was provided. **Table 7-8** shows the number of vaccines individuals have received and the average for each county. There was a statistically significant difference between the counties in the average number of vaccines an individual had received.

Table 7-3: COVID-19 Vaccinations through November 2024 by Age Group

County	Under 5 years	5 to 11 years	12 to 15 years	16 to 19 years	20 to 29 years	30 to 39 years	40 to 49 years	50 to 64 years	65 to 74 years	75 years and older	Missing	Total
Alger	4	65	74	144	507	579	664	1,509	1,692	1,339	4	6,579
Baraga	12	41	43	98	263	247	313	865	835	788	12	3,505
Chippewa	31	472	513	791	2,300	2,553	2,827	5,768	4,817	3,879	31	23,953
Delta	41	272	331	482	1,481	1,535	1,888	4,429	5,322	4,493	41	20,274
Dickinson	19	222	246	466	1,354	1,376	1,621	3,617	3,540	3,044	19	15,505
Gogebic	26	142	121	215	635	808	916	2,190	2,446	2,232	26	9,731
Houghton	148	578	553	770	3,198	2,535	2,456	4,367	4,195	3,828	148	22,629
Iron	5	50	73	114	277	323	470	1,165	1,729	1,527	5	5,733
Keweenaw	5	19	18	18	72	79	116	316	435	431	5	1,509
Luce	0	30	41	73	190	241	322	785	792	642	0	3,116
Mackinac	2	69	76	147	630	845	830	1,995	1,976	1,664	2	8,235
Marquette	540	1,606	1,377	1,708	5,346	5,399	5,575	9,693	10,354	8,401	540	49,999
Menominee	0	164	170	279	952	1,015	1,247	3,044	3,487	3,010	0	13,369
Ontonagon	2	45	46	58	134	157	224	814	1,061	1,046	2	3,587
Schoolcraft	14	41	70	98	301	292	381	1,067	1,302	1,107	14	4,673
Upper Peninsula	849	3,816	3,752	5,461	17,640	17,984	19,850	41,624	43,983	37,431	849	192,397
Percentage	0.44	1.98	1.95	2.84	9.17	9.35	10.32	21.63	22.86	19.46	0.44	100

Table 7-4: Number Receiving COVID-19 Booster Recommended for 2024-2025 Season

County	One of more COVID-19 vaccinations	Updated with boost recommended for 2024-2025 season	Percentage	Total
Alger	5,736	843	12.81	6,579
Baraga	2,939	566	16.15	3,505
Chippewa	21,517	2,436	10.17	23,953
Delta	16,764	3,510	17.31	20,274
Dickinson	14,303	1,202	7.75	15,505
Gogebic	8,430	1,301	13.37	9,731
Houghton	20,009	2,620	11.58	22,629
Iron	4,557	1,176	20.51	5,733
Keweenaw	1,309	200	13.25	1,509
Luce	2,838	278	8.92	3,116
Mackinac	7,383	852	10.35	8,235
Marquette	39,244	10,755	21.51	49,999
Menominee	12,224	1,145	8.56	13,369
Ontonagon	2,870	717	19.99	3,587
Schoolcraft	3,858	615	17.44	4,673
Upper Peninsula	163,981	28,416	14.77	192,397
[a] In those vaccinated for COVID-19 between November 10, 2022 through November 2024				

Table 7-5: Settings for Administering COVID-19 Vaccines[a]

County	Pharmacies	Family Practice	Local Health Dept	Pediatric Practice	Tribal Health Clinic	Correctional Facility	Long Term Care Facility	Hospital	Health Center	Urgent Care	Other	Total
Alger	204	280	104	34	0	94	1	2	2	0	4	725
Baraga	64	285	25	11	73	22	7	0	1	0	6	494
Chippewa	1,041	54	663	1	395	338	8	75	15	0	21	2,611
Delta	1,120	971	372	98	36	8	58	1	1	0	37	2,702
Dickinson	737	1,004	213	3	1	5	38	18	2	0	21	2,042
Gogebic	511	427	141	2	56	6	2	3	11	0	10	1,169
Houghton	1,510	1,474	235	448	10	3	106	4	15	0	32	3,837
Iron	360	221	180	0	17	0	6	5	1	0	4	794
Keweenaw	123	126	17	5	0	0	7	0	2	0	3	283
Luce	198	67	27	0	32	27	1	56	0	0	1	409
Mackinac	280	68	159	0	46	0	0	90	2	0	9	654
Marquette	3,992	3,415	520	902	8	49	73	11	98	11	33	9,112
Menominee	397	213	162	4	44	4	3	2	0	0	22	851
Ontonagon	86	156	226	4	59	4	1	0	12	0	3	551
Schoolcraft	312	310	28	6	4	1	1	5	0	0	4	671
Upper Peninsula	10,935	9,071	3,072	1,518	781	561	312	272	162	11	210	26,905
	40.64	33.71	11.42	5.64	2.9	2.09	1.16	1.01	0.6	0.04	0.78	100
[a] In those vaccinated for COVID-19 between November 10, 2022 through November 2024												

Table 7-6: COVID-19 Vaccinations by Vaccine Brand[a]

County	Moderna	Novavax	Pfizer	Total
Alger	443	34	248	725
Baraga	253	13	228	494
Chippewa	1,118	193	1,300	2,611
Delta	1,595	47	1,060	2,702
Dickinson	1,330	8	704	2,042
Gogebic	651	3	515	1,169
Houghton	1,955	2	1,880	3,837
Iron	505	1	288	794
Keweenaw	151	0	132	283
Luce	237	15	157	409
Mackinac	355	22	277	654
Marquette	4,151	27	4,934	9,112
Menominee	704	2	145	851
Ontonagon	410	2	138	551
Schoolcraft	137	268	266	671
Upper Peninsula	13,995	638	12,272	26,905
Percentage	52.02	2.37	45.61	100

[a] In those vaccinated for COVID-19 between November 10, 2022 through November 2024

Table 7-7: Brand of Vaccine by Vaccine Delivery Setting[a]

Vaccine Delivery Setting	Moderna	Novavax	Pfizer	Total (Percentage)
Pharmacy	6,894	343	3,698	10,935 (40.64%)
Family Practice Clinic	3,998	1	5,072	9,071 (33.71%)
Local Health Department	1,899	16	1,157	3,072 (11.42%)
Pediatric Practice	2	0	1,516	1,518 (5.64%)
Tribal Health Clinic	398	16	367	781 (2.90%)
Correctional Facility	279	262	20	561 (2.09%)
Long Term Care Facility	253	0	59	312 (1.16%)
Hospital	56	0	216	272 (1.01%)
Health Clinic	2	0	160	162 (0.60%)
Urgent Care	6	0	5	11 (0.04%)
Other	208	0	2	210 (0.78%)
[a] In those vaccinated for COVID-19 between November 10, 2022 through November 2024				

Table 7-8: Number of COVID-19 Vaccine Doses per Individual[a]

County	One Dose	Two Doses	Three Doses	Four Doses	Five Doses	Six Doses	Seven Doses	Number of Patients	Average Number of Doses
Alger	35	25	96	307	218	42	2	725	4.08
Baraga	26	28	38	204	161	36	1	494	4.13
Chippewa	105	126	378	931	774	271	26	2,611	4.17
Delta	124	136	436	1,166	645	176	19	2,702	3.99
Dickinson	82	115	311	805	638	90	1	2,042	4.02
Gogebic	51	62	135	447	361	112	1	1,169	4.15
Houghton	221	247	630	1,449	870	412	8	3,837	3.98
Iron	50	33	83	346	233	47	2	794	4.04
Keweenaw	15	16	24	100	88	40	0	283	4.24
Luce	11	19	47	164	146	14	8	409	4.20
Mackinac	30	33	65	264	194	50	18	654	4.19
Marquette	481	553	1,516	3,426	2,185	890	50	9,101	4.01
Menominee	50	38	100	358	270	34	1	851	4.02
Ontonagon	23	21	61	216	184	45	1	551	4.19
Schoolcraft	21	22	51	182	165	123	107	671	4.86
Upper Peninsula	1,325	1,474	3,971	10,365	7,132	2,382	245	26,894	4.06

[a] In those vaccinated for COVID-19 between November 10, 2022 through November 2024

References and Notes

[1] The percentage of vaccine coverage needed to prevent an outbreak of a vaccine-preventable disease depends on the infectivity of the virus or bacteria targeted. The more infectious the infectious agent, the higher level of vaccination coverage needed to avoid outbreaks. For example, measles, perhaps the most contagious virus, requires vaccination coverage of 93-94% of the population to be most effective. By contrast, mumps, which is less contagious, needs approximately 80% coverage to prevent outbreaks from spreading.
[2] Pike J, Leidner AJ, Gastanaduy PA. A review of measles outbreak cost estimates from the United States in the post elimination era (2004—2017): estimates by perspective and cost type. Clin Infect Dis 2020; 71: 1568-76.
[3] The number of vaccinations needed to complete the series varies with the manufacturer of the vaccine.
[4] Most of the health care for people living in Menominee County is provided in Wisconsin, so the recording of vaccines delivered to this population is less likely to be captured when collecting this data. [5] Michigan Department of Health and Humans Services. Coronavirus. COVID-19 Vaccine Dashboard. Ethnic-race coverage by

county. https://www.michigan.gov/coronavirus/resources/covid-19-vaccine/covid-19-dashboard. Accessed December 16, 2024.
[6] Michigan Department of Health and Humans Services. Coronavirus. COVID-19 Vaccine Dashboard. COVID vaccine doses administered since 11102022. https://www.michigan.gov/coronavirus/resources/covid-19-vaccine/covid-19-dashboard. Accessed December 16, 2024.

8 CONTAGIOUS DISEASES

8.1 Introduction

Infectious diseases are caused by microscopic germs such as bacteria and viruses. When these infections can be transmitted from person to person, they are called communicable or contagious diseases. Examples of communicable diseases are influenza, chickenpox, chlamydia and hepatitis. Infectious diseases that are not transmitted person to person include Lyme disease (from deer/bear tick bites) and West Nile Virus (from mosquito bites).

The increase in life expectancy and reduction in death rates from infectious diseases was one of the great public health achievements of the last 100 years, owing to improved sanitation and hygiene, the development of vaccines for deadly communicable diseases like smallpox and polio, and the advent of antibiotics and other antimicrobial agents. Unfortunately, infectious diseases are still a leading cause of illness and death across the globe because of inadequate vaccine coverage, poverty, poor sanitation, and the endless ability of microbes to adapt and survive when faced with environmental and technological changes.

The method of prevention of infectious diseases depends on the type of microbe and the mode of transmission. Common strategies include hygiene (i.e., hand-washing), social distancing (i.e., restricting hospital visitation or cancelling public events during infection outbreaks), avoidance of risky behaviors (i.e., refraining from sharing needles or having unprotected sex), proper food handling, vector abatement (i.e., spraying of insecticides), and, of course, vaccination.

In Michigan, a wide range of infectious diseases are tracked through a web-based computer system called the Michigan Disease Surveillance System (MDSS). This system is overseen by the Michigan Department of Health and Human Services (MDHHS) and requires a collaborative effort of healthcare providers, laboratories, and public health departments to input data on individual cases of disease into the system. Once a laboratory, for example, enters patient demographics and a test result into MDSS, that information is available for local public health department nurses to evaluate the data and collect additional information from the healthcare provider and the patient. Contact investigations are undertaken, as indicated, and final reports are submitted to the state. Information is also shared with the Centers for Disease Control and Prevention (CDC), which is then able to identify disease trends and outbreaks across the country. This system is critically important as a surveillance tool for well-established and emerging diseases. The list of diseases tracked is available at the Michigan.gov website and includes vaccine-preventable illnesses as well as foodborne, waterborne, insect-related, and sexually transmitted infections.

This chapter includes local data from MDSS on some of the more common communicable, blood-borne, tick-borne, sexually transmitted, and food/water borne diseases. While some infectious diseases on the reportable list are quite rare, others are being seen with increasing frequency in Upper Peninsula counties and the state as a whole.

8.2 COVID-19

The number of confirmed and probable cases of COVID-19 and COVID-19 deaths [1] for the Upper Peninsula and each of its counties, taken from the MDSS, are listed in **Table 8-1.**

Table 8-1: Reported COVID-19 Cases (Confirmed & Probable) and Deaths

	Cases[a]	Percentage of Population[b]	COVID-19 Deaths [c]	Crude Case Fatality Rate
Upper Peninsula	100,082	33.49	1,141	1.14%
Alger	2,323	25.5	16	0.69%
Baraga	2,869	34.95	43	1.50%
Chippewa	11,243	30.1	111	0.99%
Delta	14,169	39.6	156	1.10%
Dickinson	10,296	40.79	146	1.42%
Gogebic	5,176	37.04	61	1.18%
Houghton	10,791	30.24	113	1.05%
Iron	4,091	36.97	88	2.15%
Keweenaw	787	37.19	2	0.25%
Luce	1,842	29.57	23	1.25%
Mackinac	3,130	28.34	17	0.54%
Marquette	21,454	32.17	278	1.30%
Menominee	7,918	34.76	47	0.59%
Ontonagon	1,560	34.59	20	1.28%
Schoolcraft	2,433	30.59	20	0.82%
[a] Through December 31, 2024. Does not include cases in which testing was not performed or testing was performed and the results not reported to the local health department.				
[b] May be an overestimate as some individuals may have been infected on more than one occasion.				
[c] Deaths through November 21, 2024				

Between vaccination and natural infection (or the combination of the two) it is estimated that by the third quarter of 2025 98% of people in the United States have some antibodies against the virus responsible for COVID-19. [2] This may explain why the severity of infection in current cases has decreased.

Figure 8-1 shows the cumulative incidence of COVID-19 infections per 1,000 population by county from September 1, 2020 through December 31, 2024. Of note, steep portions of the curves occur during times of increased numbers of cases and flat portions when few infections are being reported. **Figures 8-2** through **8-5** show the 14-day average of confirmed and probable COVID-19 case per million per day from the beginning of the pandemic through the end of 2024.

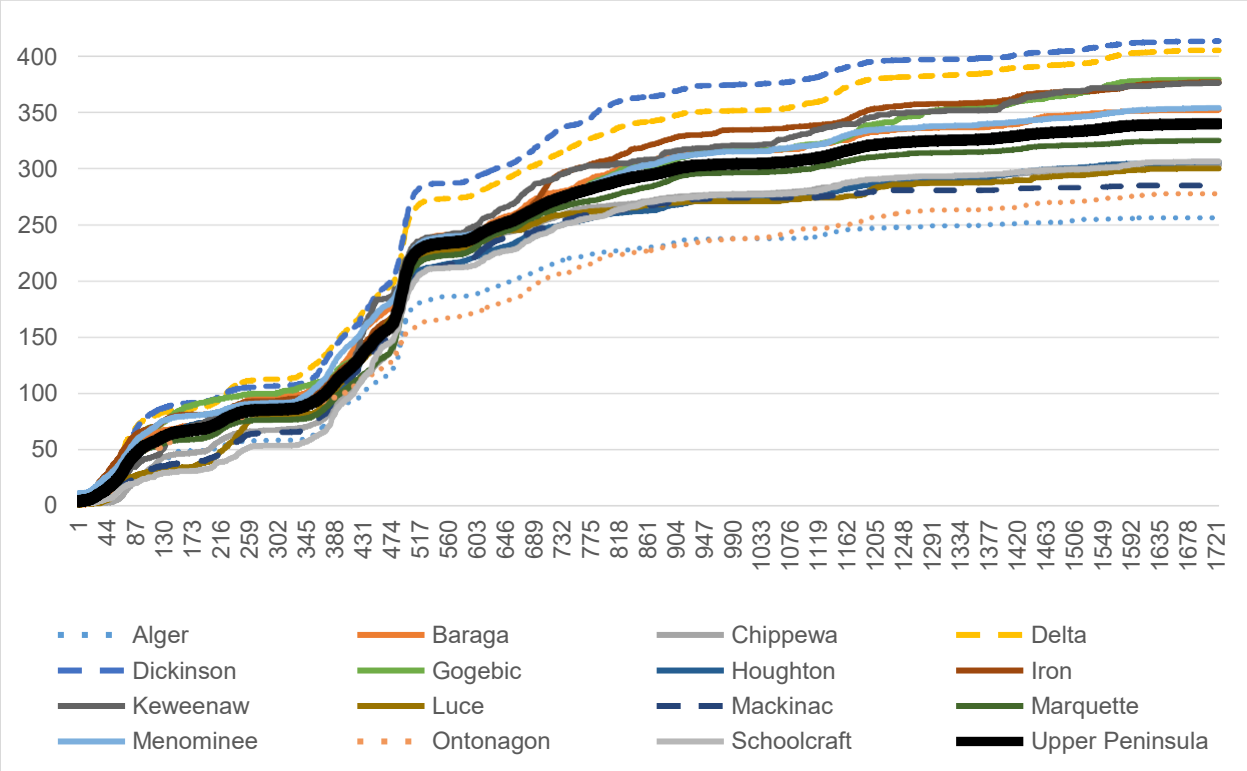


Figure 8-1: Cumulative incidence of COVID-19 infections per 1,000 population by county, September 1, 2020 through July 6, 2025

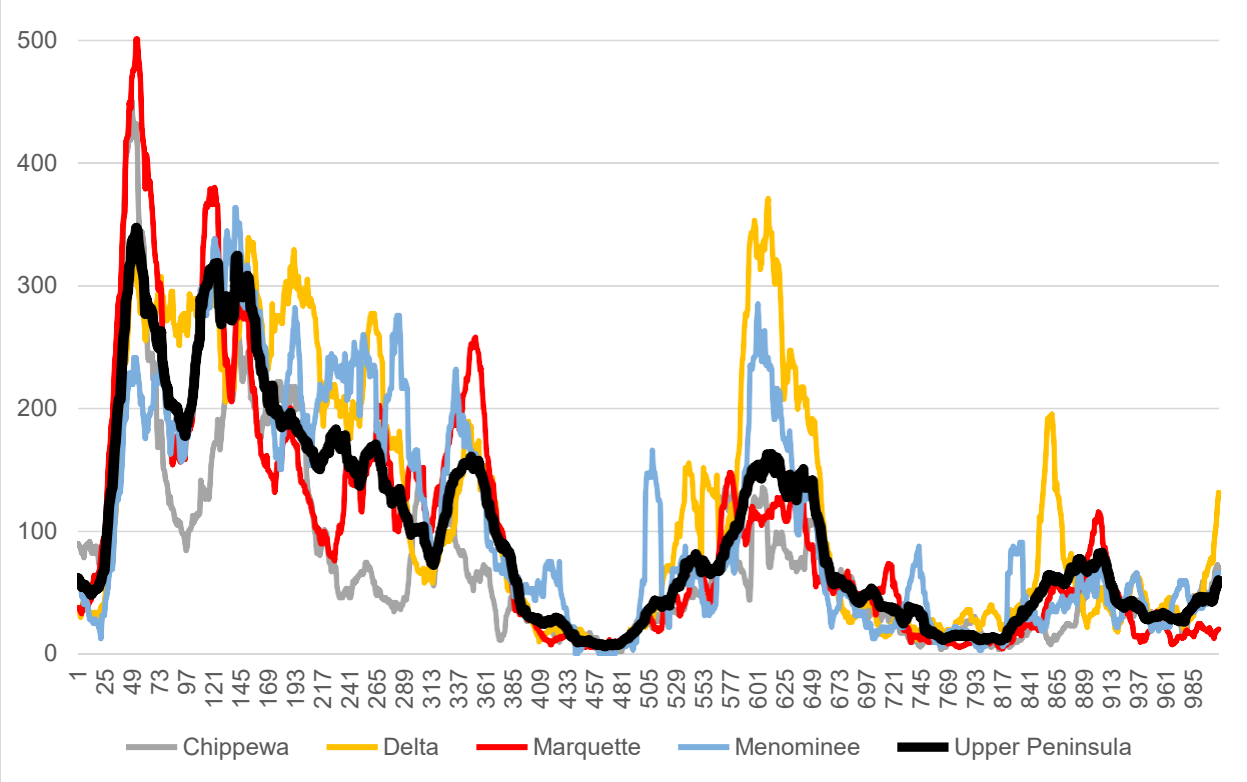


Figure 8-2: 14-day average confirmed & probable COVID-19 cases per million per day, April 1, 2022 through December 31, 2024 — Chippewa, Delta, Marquette, & Menominee Counties

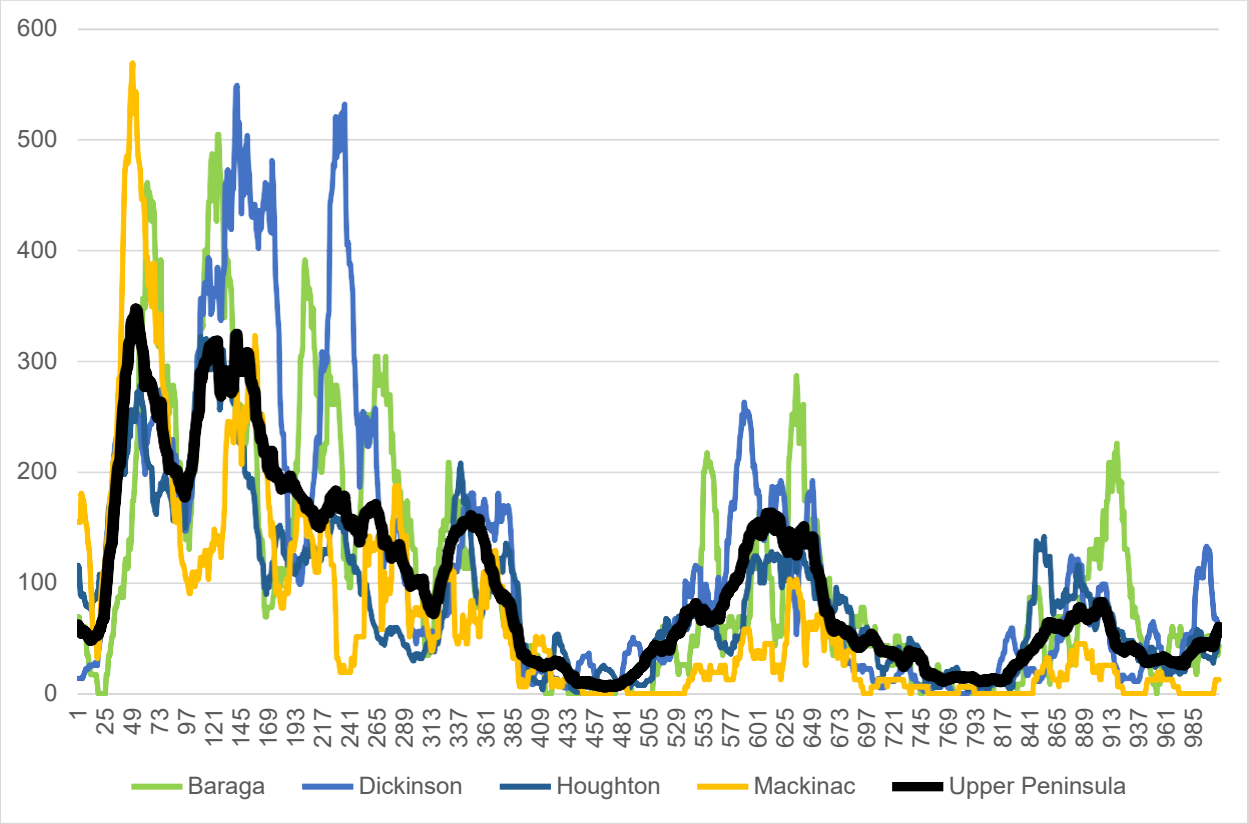


Figure 8-3: 14-day average confirmed & probable COVID-19 cases per million per day, April 1, 2022 through December 31, 2024— Baraga, Dickinson, Houghton, and Mackinac Counties

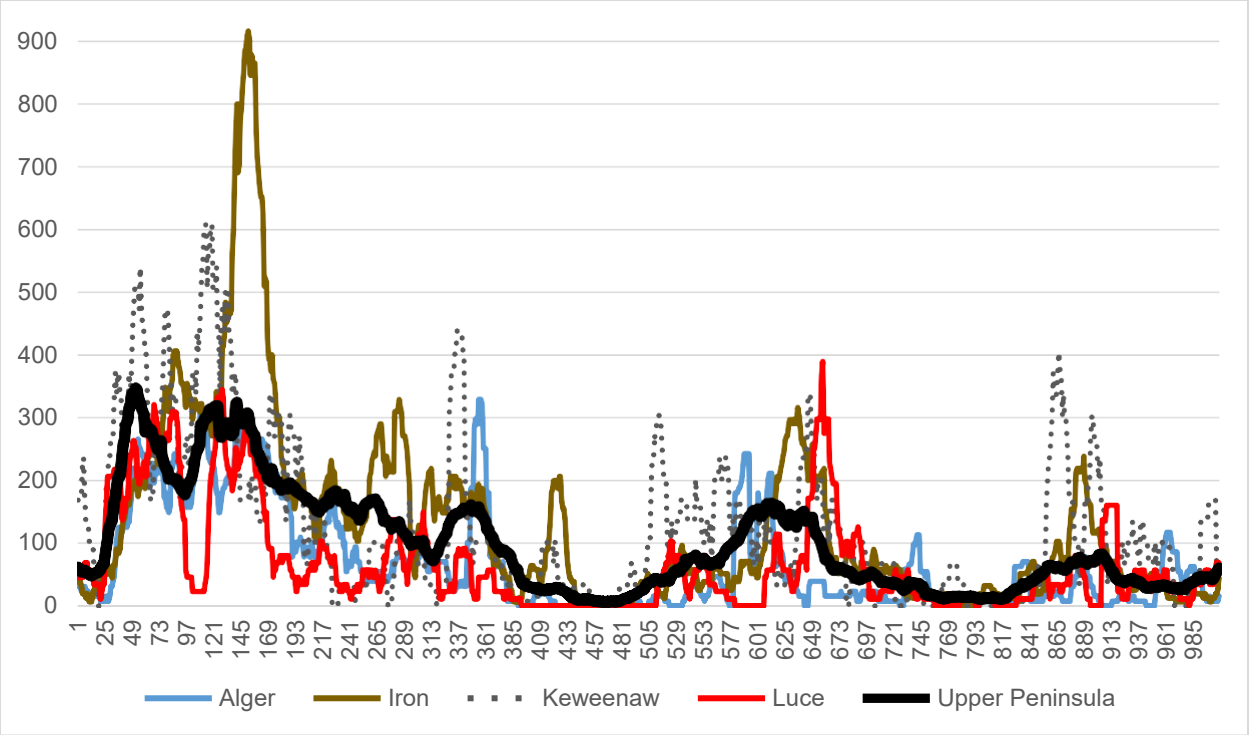


Figure 8-4: 14-day average confirmed & probable COVID-19 cases per million per day, April 1, 2022 through December 31, 2024 — Alger, Iron, Keweenaw, and Luce Counties

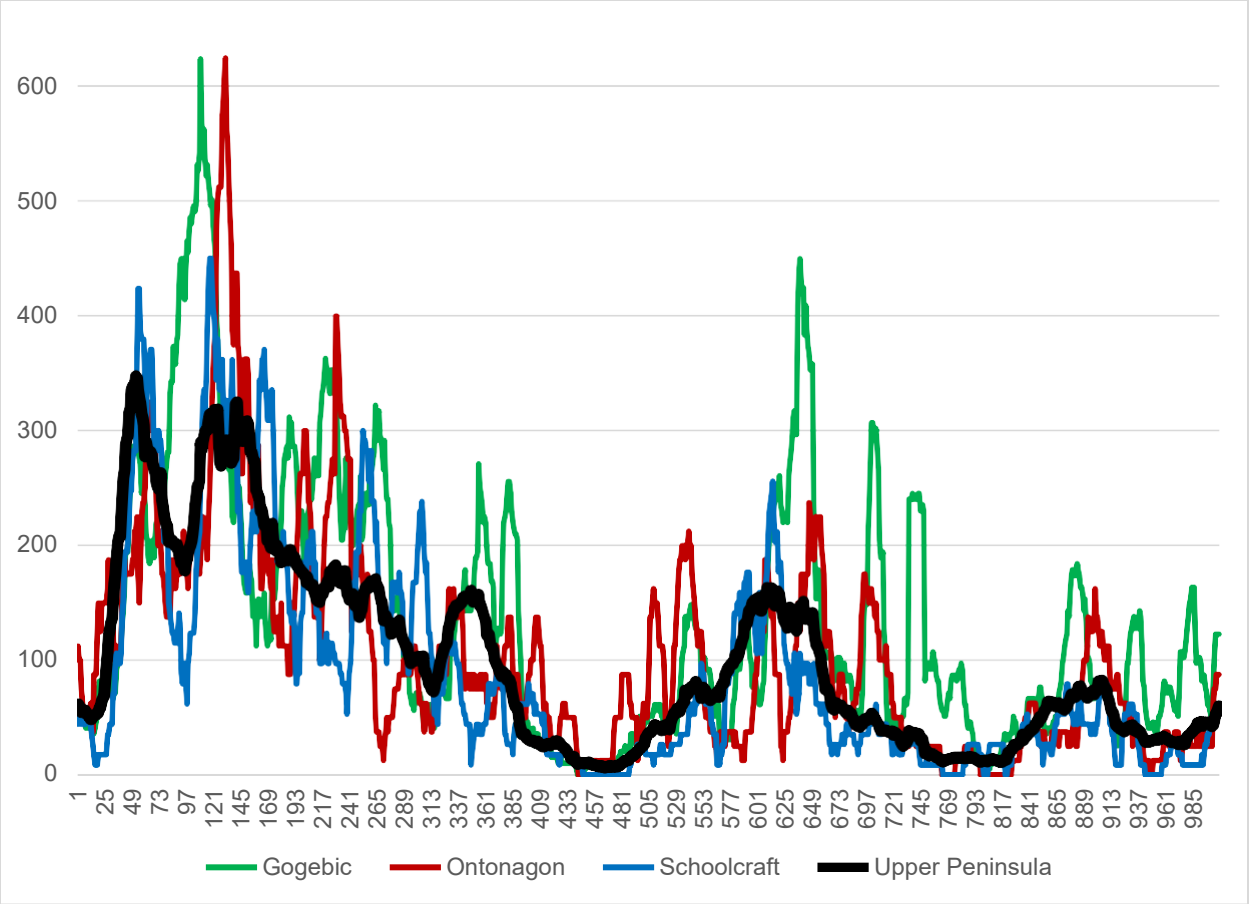


Figure 8-5: 14-day average confirmed & probable COVID-19 cases per million per day, April 1, 2022 through December 31, 2024 — Gogebic, Ontonagon, and Schoolcraft Counties

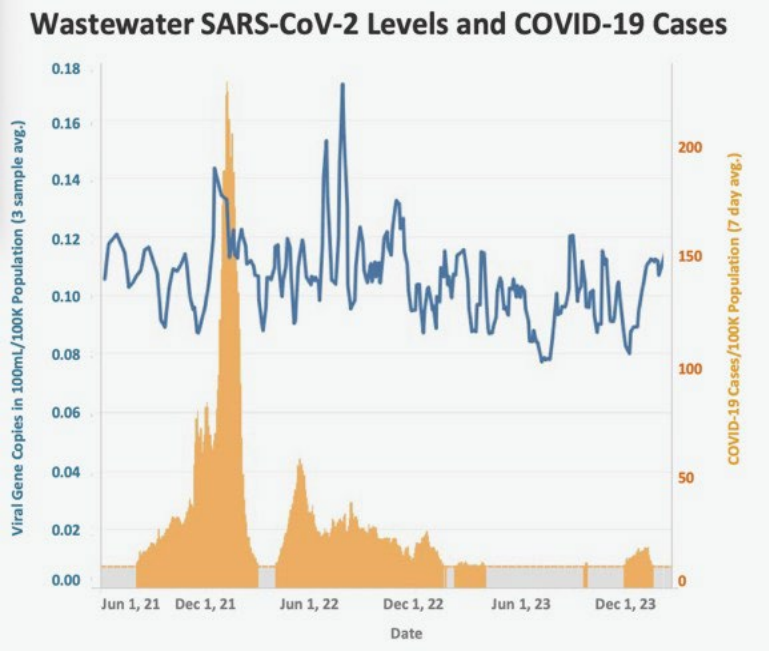


Figure 8-6: Wastewater SARS-CoV-2 levels and COVID-19 cases, 2021-2023

Statewide efforts are being made to measure the amount of virus responsible for COVID-19 found in wastewater and correlating this to number of COVID-19 cases reported. This is demonstrated in **Figure 8-6**.

8.3 Selected Infectious Diseases by County

The tables below represent case counts for selected reportable diseases entered in MDSS, Michigan's electronic disease registry, for residents of the Upper Peninsula, for the calendar years 2012 through 2024. Case counts reflect incidence — not prevalence — data; they tell how many cases were newly diagnosed or lab-confirmed in a year, not how many people overall may be currently living with the disease. Because reports in MDSS are generated when a person presents with symptoms and/or is tested by a health professional, the counts may reflect differences in medical practice and reporting. In general, these data indicate trends and relative risks of acquiring various common infectious diseases. All incidences reported are cases per 100,000 person-years.

8.3.1 Foodborne Infections

8.3.1.1 Campylobacter (**Table 8-2**)

Campylobacter jejuni is a foodborne microbe that typically results from eating raw or undercooked poultry. Some infections are transmitted through contaminated water, contact with animals, or drinking raw (unpasteurized) milk. Although people with Campylobacter infection usually recover on their own, some require medical treatment. The most effective way to avoid a Campylobacter infection is to cook poultry completely and to keep food preparation work surfaces clean. Delta and Menominee counties have higher rates of Campylobacter infections than other counties. The 1.9% yearly decrease in incidence is statistically significant (RR=0.98; 95%CI: 0.9, 0.99; p=.0339). Incidence was 19.4% lower during the COVID years, COVID years, which is statistically significant (RR=0.81; 95%: 0.69, 0.95; p=.0083).

8.3.1.2 Salmonellosis (**Table 8-3**)

Salmonellosis results from an intestinal infection with Salmonella species. Those infected typically have fever, diarrhea, and stomach cramps. Symptoms usually begin six hours to six days after exposure and last four to seven days. Salmonella infections can result from eating contaminated food, such as uncooked poultry, drinking contaminated water, or touching infected animals, such as turtles, their feces, or their environment. Other than providing adequate hydration, most cases do not need specific treatment. Chippewa and Luce counties report a higher rate of salmonellosis than the other counties. The 1.7% yearly decrease in incidence from 2012 through 2024 is not statistically significant (RR=0.98; 95%CI: 0.96, 1.01; p=.1440). Incidence was 15% lower during the COVID years, but not statistically significant (RR=0.85; 95%: 0.68, 1.05; p=.1264).

8.3.2 Sexually Transmitted Infections

8.3.2.1 Chlamydia (**Table 8-4**)

Chlamydia is the most common lab-confirmed sexually transmitted infection (STI) in the United States and locally, yet true prevalence is even higher as many infected persons are asymptomatic. Although

both women and men become infected with chlamydia, women, especially young women 15-24 years of age, experience the most significant health impact.

Prevention strategies, for sexually active individuals, include limiting the number of sexual partners and using condoms with every sexual encounter.

The table includes data from 2005 through 2024. The counties with the highest rates of infection were Chippewa, Marquette, and Keweenaw. The higher rates in Chippewa and Marquette counties may reflect that they have a younger population attending the local universities.

The increase in Chlamydia incidence beginning in 2009 may reflect the 2008 requirement for Title X family planning clients 15 years and older to be screened for Chlamydia. Incidence time trend: This 2.75% yearly decrease seen over 2012 through 2024 through is statistically significant (RR=0.97 (95%CI: 0.97, 0.98; p<.0001). Incidence was 12.7% lower during the COVID years, which is statistically significant (RR=0.87 (95%: 0.83, 0.92; p<.0001). The mitigation efforts implemented in response to the COVID-19 pandemic, or the limitations in access to health care services, may be responsible for the drop. Since there was both a significant time trend and COVID drop in incidence, it is difficult to parse out which factor is responsible.

8.3.2.2 Gonorrhea (**Table 8-5**)

Gonorrhea is a sexually transmitted infection caused by *Neisseria gonorrhoeae*. Men with gonorrhea are typically symptomatic, complaining of painful urination and urethral discharge. Women with gonorrhea are often asymptomatic.

The table includes data from 2012 through 2024. Gonorrhea is less common than Chlamydia. Mackinac County has the highest rate of gonorrhea among the counties. Over the time span of 2012 through 2024, there has been a 4.92% yearly increase in the incidence of gonorrhea. This is statistically significant. RR=1.05 (95%CI: 1.03, 1.07; p<.0001). The 12.9% increase in incidence during the COVID years was not statistically significant (RR=1.13; 95%: 0.93, 1.38; p=.2336).

8.3.2.3 Syphilis

Syphilis is a sexually transmitted infection caused by the bacterium *Treponema pallidum*. Syphilis is divided into stages (primary, secondary, latent, and tertiary), with different signs and symptoms associated with each stage. A person with primary syphilis, following initial exposure, typically presents with a firm, round, painless sore (chancre) or sores at the original site of infection. With time, those not treated can develop symptoms of secondary syphilis — skin rash, swollen lymph nodes, and fever. Because the signs and symptoms of primary and secondary syphilis can be mild and go untreated, those who remain untreated can enter a latent stage, during which there are no signs or symptoms. Tertiary syphilis can be associated with severe medical and neurological problems affecting the heart, brain, and other organs of the body. Syphilis is diagnosed using a combination of blood tests and can be treated with penicillin.

Reported syphilis comes in a number of flavors. Since primary syphilis is uncommon, all types of reported syphilis are included (data from 2012 through 2023).

- Primary 13

- Secondary 21
- Early latent 35
- Late latent 10
- Latent unknown 8
- Unknown duration 37
- Congenital 3
- To be determined 1

Categorization
- Confirmed 21
- Probable 103
- Suspect 5

Incidence time trend: The 20.0% average yearly increase over 2012 through 2024 is statistically significant (RR=1.20; 95%CI: 1.14, 1.26; p<.0001). The incidence was 70.0% higher during the COVID years (RR=1.70; 95%: 1.21, 2.39; p=.0022).

8.3.3 Hepatitis

"Hepatitis" means inflammation of the liver. Toxins, certain drugs, some metabolic diseases, heavy alcohol use, and bacterial and viral infections can all cause hepatitis. Hepatitis is also the name of a family of viral infections that affect the liver; the most common types are hepatitis A, hepatitis B, and hepatitis C.

8.3.3.1 Hepatitis A (**Table 8-6**)

Hepatitis A, which is primarily a foodborne illness but can be contracted from an infected individual, appears only as an acute or newly occurring infection and does not become chronic. People with Hepatitis A usually improve without treatment and only supportive treatment is needed. An effective vaccine for Hepatitis A is currently available and routinely recommended (see Section §7.2.1).

Fortunately, cases of Hepatitis A in the Upper Peninsula have been rare and sporadic. The average yearly decrease of 12.1% from 2012 through 2024 is statistically significant (RR=0.88; 95%CI: 0.79, 0.98; p=.0212). The incidence dropped 20.6% during the COVID years, but this was not statistically significant. (RR=0.79; 95%: 0.30, 2.10; p=.5650).

8.3.3.2 Hepatitis B (**Table 8-7**)

Hepatitis B is spread when blood, semen, or other body fluids from a person infected with the virus enters the body of someone who is not infected. This can happen through sexual contact; sharing needles, syringes, or other drug-injection equipment; or from mother to baby at birth. Hepatitis B begins as an acute infection, but in some people, the virus remains in the body, resulting in chronic disease and long-term liver problems. There are effective vaccines to prevent hepatitis B. There was statistically significant decrease in the average yearly incidence from 2012 through 2024 of 11.0% (RR=0.89; 95%CI: 0.81, 0.98; p=.0147). The 31.0% drop in incidence during the COVID years was not statistically significant (RR=0.69; 95%: 0.29, 1.66; p=.4074).

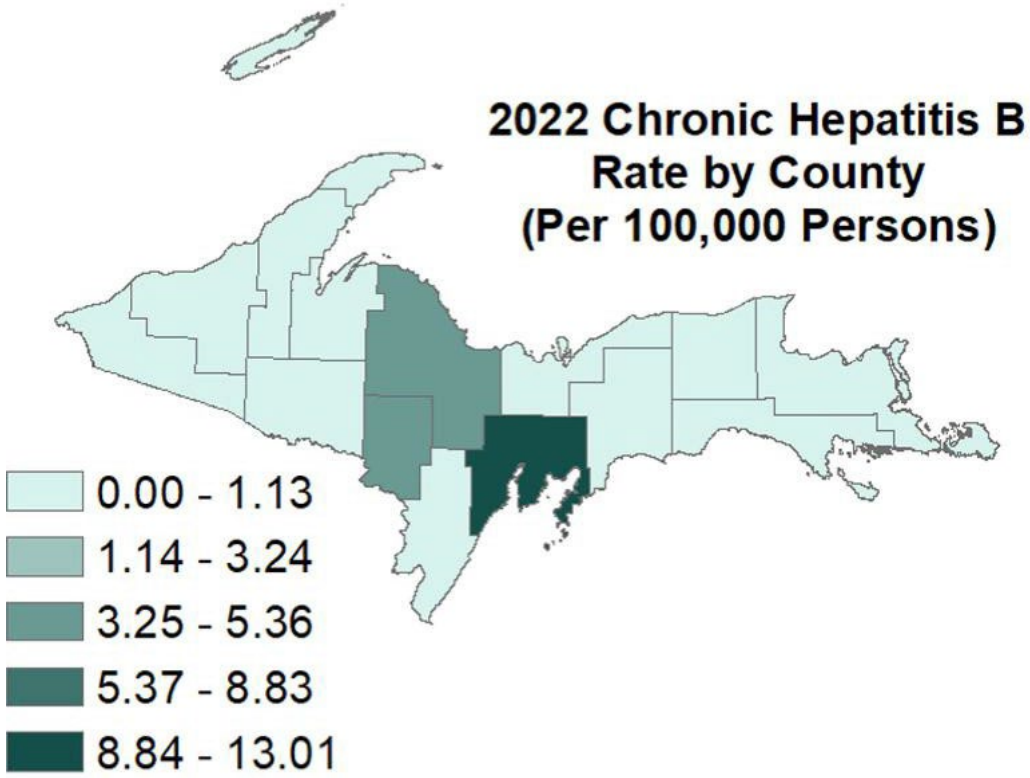


Figure 8-7: Chronic hepatitis B rate by county, 2022

The distribution in the Upper Peninsula of chronic hepatitis B in 2022 is shown in **Figure 8-7**.

8.3.3.3 Hepatitis C (**Table 8-8**)

Hepatitis C is an infectious liver disease that results from infection with the hepatitis C virus (HCV). The majority of individuals infected with HCV have no symptoms or symptoms so mild as to go unnoticed, yet most of those infected will develop chronic infection, the signs of which may take decades to show up. Others may develop liver cancer, which is one of the fastest growing causes of cancer mortality nationally.

There is no current vaccine to prevent hepatitis C infection, but there is treatment available. Prevention of the majority of new hepatitis C infections will require the development of long-range strategies addressing the root causes of the opioid epidemic. An immediate impact on the transmission of hepatitis C can be made through the implementation of syringe service programs (SSPs), otherwise known as needle exchange programs. Through SSPs, individuals with injection drug addiction are offered sterile needles, syringes and other equipment; given options for safe disposal of used needles; offered naloxone (an injection used to treat overdoses) kits; offered human immunodeficiency virus (HIV) and hepatitis testing; provided education about safer practices and overdose prevention; offered test strips to test for potent synthetic opioids; referred to treatment programs; and linked with needed medical care and social services.

The CDC, in its most recent statement dated April 10, 2020, recommends hepatitis C screening at least once in a lifetime for all adults aged 18 years or older and for all pregnant women. Screening is not

needed where the prevalence of HCV is less than 0.1%. In addition, all persons with risk factors should be tested for hepatitis C, with periodic testing while risk factors persist. Any person who requests hepatitis C testing should receive it. [3]

As screening programs for acute and chronic cases of hepatitis C were ramped up, there was an increase in identified cases that peaked in 2016 and 2017. Since then the numbers have decreased as the backlog of undetected cases is being cleared. Further study is needed to determine if the SSPs have impacted the regional incidence of hepatitis C infections. Acute cases of hepatitis C were used to incidence. No statistically significant change in incidence occurred between 2012 and 2024 or during the COVID years (Incidence time trend: RR=0.96; 95%CI: 0.91, 1.01; p=.5641; COVID years: RR=1. 27, 95%CI: 0.86, 1.89; p=.4647).

The distribution in the Upper Peninsula of chronic hepatitis C in 2022 is shown in **Figure 8-8**.

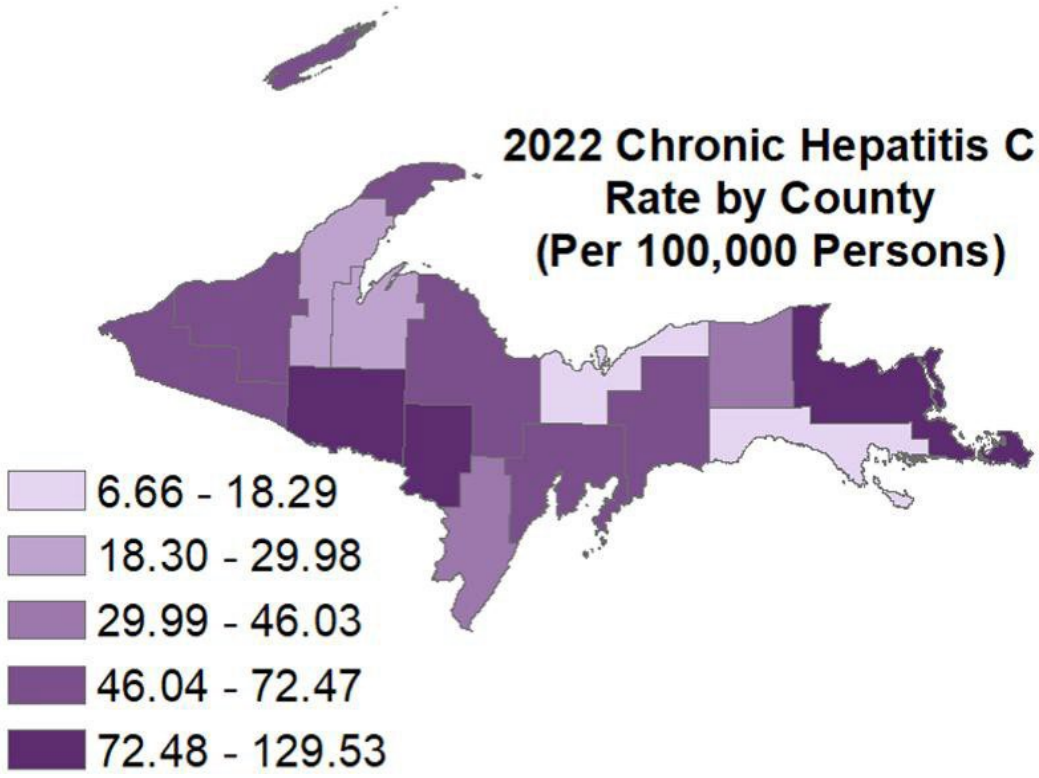


Figure 8-8: Chronic hepatitis C rate by county, 2022

8.3.4 Tick-borne Illnesses

Increasingly, especially in the counties the border Wisconsin, we are seeing an increase in diseases spread by the bite of the black-legged tick (or deer/bear tick, *Ixodes scapularis*). The black-legged tick is the second most commonly encountered tick in Michigan. The tick is small, with adult females measuring up to 5 millimeters, and is active when the outdoor temperatures are above 40°F. People who spend time outdoors in wooded areas are most likely to be bitten by these ticks. The tick is indigenous to the western portion of the Upper Peninsula, while the diseases the tick carries and transmits have spread recently from northern Wisconsin. [4] The tick is responsible for spreading Lyme

disease, anaplasmosis, babesiosis (also known as Nantucket Fever), and Powassan virus. Fortunately, babesiosis and Powassan virus are rarely seen in Michigan.

8.4.1 Lyme Disease (**Table 8-9**)

Borrelia burgdorferi is the spirochete responsible for Lyme disease. Lyme disease can produce a wide range of symptoms from rash, to arthritis, to permanent neurologic impairment. It is the most commonly reported vector-borne disease in the United States and is a more significant health concern in Upper Peninsula counties compared to many other areas in Michigan.

There are no currently available vaccines in the U.S. to prevent Lyme Disease, so prevention strategies are focused on avoidance of exposure. Lyme disease can be treated with antibiotics.

Lyme disease, which was endemic[7] in northern Wisconsin, has spread to the western and central Upper Peninsula as disease-carrying deer ticks expand their range (perhaps due to milder winters and changes in land use patterns). [5]

While recognizing that both variation in county population and provider awareness may affect the number of reported cases, a clear pattern emerges from the data, with Lyme disease, which has been widespread for decades in Wisconsin and Minnesota, spreading into the western and central Upper Peninsula.

Not surprisingly, the highest rates of Lyme disease are seen in Dickinson, Menominee, and Ontonagon counties and the number of yearly cases in the Upper Peninsula continues to rise with the most cases reported in 2020. The number of cases each year may reflect the mildness of the previous winter.

For the period from 2016, the incidence per 100,000 residents per year for Lyme disease was 145 in Dickinson County, 52 in Ontonagon County, 52 in Menominee County, 27 in Keweenaw County, and 25 in Iron County. [5] The numbers presented may under-represent the total number of cases as not all cases are reported and many cases may be treated on the suspicion of infection without confirmatory testing being performed. If one assumes that practice patterns remain constant, the year-to-year numbers may provide a reasonable estimate of the trend over time. Incidence estimates are based on confirmed, probable, and suspect cases. Patients who present with the classic rash associated with Lyme disease are considered suspect cases. The geographical distribution of Lyme disease is distinct, so additional calculations were performed. The following are for the years 2012 through 2024. The incidence of Lyme disease in the counties that border Wisconsin was 118.54 cases per 100,000 person-years (95%CI: 111.81, 125.67) while the incidence in the Upper Peninsula counties not bordering on Wisconsin was 25.22 cases per 100,000 person-years (95%CI: 23.46, 27.12). In 2023 the incidence in border counties rose to 255.91 cases per 100,000 person-years (95%CI: 221.74, 295.37). When comparing the incidence rates of border counties versus non-border counties, the incidence was nearly five times higher in border counties (RR=4.70; 95%: 4.28, 5.16.; p<.0001). When only the 2023 cases are considered border, counties had an incidence nearly four times higher (RR=3.87; 95%: 3.12, 4.80; p<.0001). This ratio dropped further in 2024 (RR=2.63; 95%CI: 2.13, 3.25; p<.0001), indicating that, with time, more cases are detected in the non-border counties. Over the span of 2012 through 2024 the average yearly increase in the incidence of Lyme disease was 21.2%, which is statistically significant

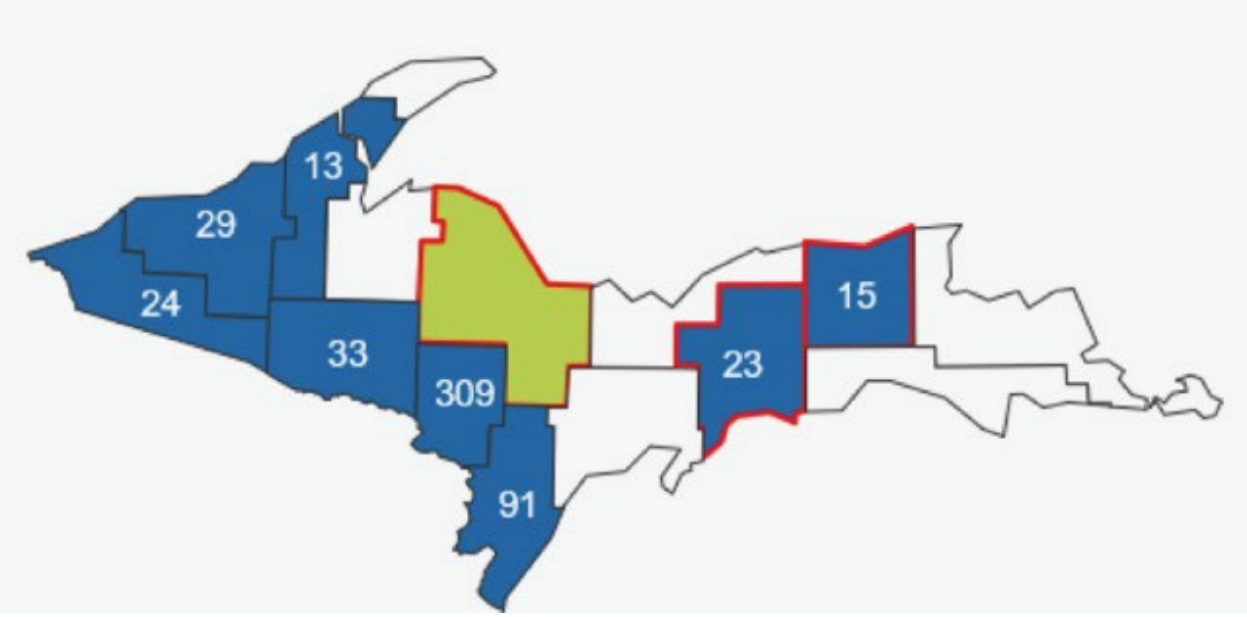
[7] Endemic means that infected tick populations have been confirmed and/or two or more cases with local exposure have been confirmed.

(RR=1.21; 95%CI: 1.19, 1.23; p<.0001).

8.3.4.2 Anaplasmosis (**Table 8-10**)

Human granulocytic anaplasmosis, the second most common tick-borne disease in Michigan following Lyme disease, is caused by the rickettsia *Anaplasma phagocytophilum*. Cases have been increasing in Michigan, with the most cases in the Michigan counties that share a border with Wisconsin (see **Figure 8-9)**. [5] The treatment is oral doxycycline. The number of cases reported from year to year can vary given variations in winter severity and the populations of white-footed mice, white-tailed deer, and black-footed ticks. The geographical distribution of anaplasmosis, like Lyme disease, is distinct, so additional calculations were performed.

In the span of 2012 through 2024 there has been a statistically significant average yearly increase of anaplasmosis of 36.5% (RR=1.36; 95%CI: 1.30, 1.43; p<.0001). From 2012 through 2024 the incidence of anaplasmosis in the counties bordering on Wisconsin was 23.48 cases per 100,000 person-years (95%CI: 20.59, 26.77), while it was 1.07 cases per 100,000 person-years (95%CI: 0.75, 1.52) in the non-border counties in the Upper Peninsula. In 2024 the incidence in the border counties was 46.53 cases per 100,000 person-years (95%CI: 33.25, 65.12). The incidence was 22 times greater in the border counties compared to the non-border counties (RR=22.00; 95%: 15.11, 32.03; p<.0001).



8.3.4.3 *Babesiosis* **(Table 8-11)**

Figure 8-9: Incidence of human cases of anaplasmosis by county, 2019-2023

Similar to Lyme disease and anaplasmosis, babesiosis is spreading to the north and east from Wisconsin. Over the span of 2012 through 2024, the incidence of babesiosis showed an average annual increase of 45.4%, which is statistically significant (RR=1.45; 95%CI: 1.28, 1.66; p<.0001). During this same time period the incidence in counties bordering on Wisconsin is 3.47 cases per 100,000 person-years (95%CI: 2.47, 4.89), while the incidence in the Upper Peninsula counties that do not border on Wisconsin is 0.21

cases per 100,000 person-years (95%CI: 0.09, 0.46). The incidence is almost 17 times higher in the border counties (RR=16.83; 95%: 7.05, 40.16; p<.0001).

8.3.5 Mosquito-borne Infections

With climate change, there has been a shift in some of the mosquito-borne illnesses. While in 2020 the West Nile virus, Lacrosse Encephalitis virus, and the Jamestown Canyon virus, have only been reported in the Lower Peninsula of Michigan, the arboviruses responsible for Eastern Equine Encephalopathy and West Nile Virus have been reported in the Upper Peninsula (see **Figures 8-10** and **8-11**). [5] While the numbers are small, the emergence of this infection in this region is concerning.

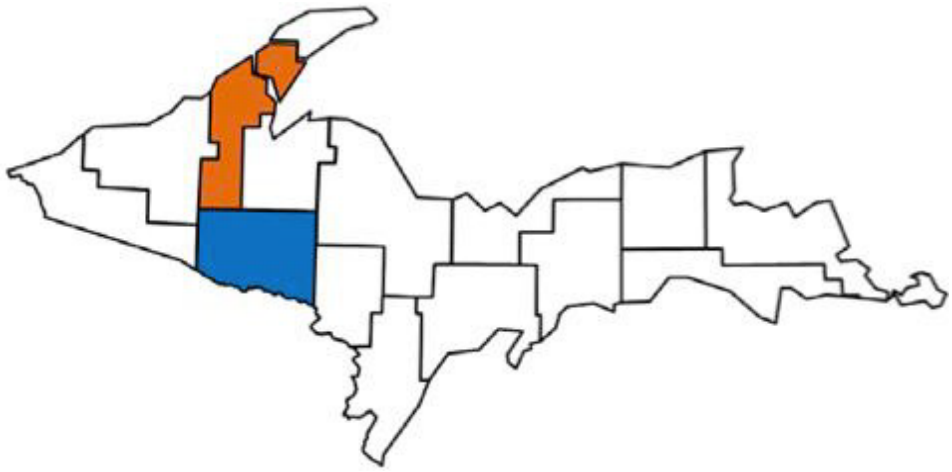


Figure 8-10: Distribution of Eastern Equine Encephalitis (red) and West Nile Virus (blue), 2022

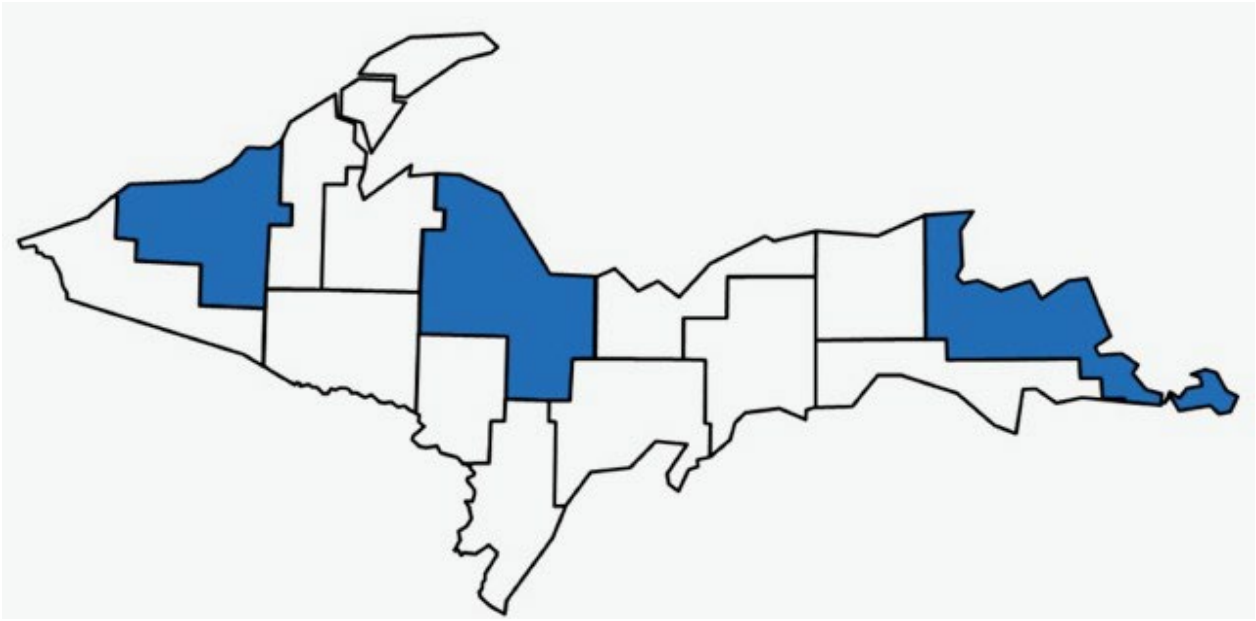


Figure 8-11: Distribution of West Nile Virus (blue), 2023

8.3.6 Other Infectious Diseases

8.3.6.1 Chickenpox (Varicella) (**Table 8-12**)

Chickenpox is vaccine-preventable disease caused by the varicella virus and is identified by the classic vesicles/pox on the skin. The cases reported in the Upper Peninsula represent small, localized outbreaks in unvaccinated children. For example, in 2012 there were 32 cases in Houghton County, 9 cases in Marquette County, and 8 cases in Chippewa County. Since then no county has seen more than 5 cases in a year. The higher rates seen in some counties reflects the small population of these counties.

Over the span of 2012 through 2024 the incidence of chickenpox has seen an average yearly decrease of 14.9% (RR=0.85; 95%CI: 0.82, 0.89; p<.0001). The incidence was also 55.4% lower during the COVID years (RR=0.45; 95%: 0.29, 0.69; p=.0003). Both differences are statistically significant. These numbers are driven by the large number of cases in 2012.

8.3.6.2 Human Immunodeficiency Virus (HIV) (**Table 8-13**)

HIV infections have rarely been reported in the Upper Peninsula, so no clear pattern has emerged. With the development of effective antiviral therapy HIV is now considered a chronic illness. [6] From 2012 through 2024 there were only 21 reported cases of HIV in the Upper Peninsula (incidence 0.54 per 100,000 person-years (95%CI: 0.36, 0.84) with 5 cases reported in 2024. As a consequence, there is a significant change in incidence rates from 2012 through 2024 (RR=1.17; 95%CI: 1.03, 1.33; p=.0152). There was no significant difference in incidence during the COVID years (COVID years: RR=1.33; 95%CI: 0.52, 3.44; p=.5515).

8.3.6.3 Meningitis (all types) (**Table 8-14**)

Meningitis is an infection of the membrane that coats the brain and spinal cord that can result in permanent neurologic damage and has a high fatality rate. Past meningitis outbreaks within college campuses have prompted vaccination of matriculating students for meningococcus serotypes A, B, C, and Y. Extremely effective vaccinations are also available for pneumococcus and *Hemophilus influenza* type B, which were once the most common cause of meningitis in young children. Meningitis can be caused by other infectious agents for which there is no vaccine.

From 2012 through 2023 there were only 20 reported cases of bacterial meningitis in the Upper Peninsula (incidence 0.54 per 100,000 person-years (95%CI:0.35, 0.84). Given the small numbers, it is difficult develop any useful inferences. The no statistically significant differences were seen in the incidence from 2012 through 2024or during the COVID years (incidence time trend: RR=1.05; 95%CI: 0.94, 1.18; p=.3732; COVID years: RR=1.32; 95%CI: 0.52, 3.43, p=.5557).

8.3.6.4 Pertussis (Whooping Cough) (**Table 8-15**)

Pertussis (whooping cough) is a vaccine-preventable respiratory illness caused by *Bordetella pertussis* that is easily spread by coughing and sneezing. Infants and children with the disease may cough violently and rapidly, over and over, until the air is gone from their lungs and they are forced to inhale with a loud "whooping" sound. The cough from pertussis often lasts for three months. Pertussis is most severe for

infants: more than half of infants less than 1 year of age who become infected require hospitalization. Primary prevention is through vaccination. Before an infant can be vaccinated (at 2, 4, and 6 months of age), it is critically important that parents and other individuals having close contact with newborns and infants, receive a one-time pertussis booster.

Pertussis has seen a resurgence since the lifting of COVID-19 containment efforts. Both Michigan and Wisconsin have seen a surge of cases in 2024, with Michigan having 1,683 cases and Wisconsin having 2,647 cases. [7] There is clear step off in cases beginning in 2016, so the numbers before and after are calculated. The incidence from 2012 through 2015 was 15.76 per 100,000 person-years (95%CI: 13.66, 18.19), while the incidence from 2016 through 2024 was 7.19 per 100,000 person-years (95%CI: 6.24, 8.28). The incidence of pertussis across the Upper Peninsula in 2024 was 39.44 per 100,000-person years (95%CI: 32.91, 47.28). The average yearly decrease of 4.6% in the incidence from 2012 through 2024 was statistically significant (RR=0.95; 95%CI: 0.93, 0.98; p<.0001); however, the outbreaks in 2024, if they continue, may disrupt that trend. Not surprisingly, the containment efforts during the COVID years reduced the incidence of pertussis 22-fold during that time period (Inverse RR=22.43, 95%CI=9.29, 54.23).

8.3.6.5 Tuberculosis (TB) (**Table 8-16**)

Tuberculosis (TB) is caused by a bacterium called *Mycobacterium tuberculosis*, which usually attacks the lungs but can attack any part of the body. Not everyone infected with TB bacteria becomes sick. As a result, two TB-related conditions exist: latent TB infection and active TB disease.

TB disease in the lungs or throat can be contagious. The bacteria are spread through the air if a person with the disease in the lungs or throat coughs, speaks, or sings and someone nearby breathes in the bacteria. The bacteria can settle in the lungs and begin to grow. From there, they can move through the blood to other parts of the body, such as the kidney, spine, and brain. People with active TB disease are most likely to spread it to people they spend time with every day — family members, friends, coworkers, and schoolmates. Sunlight kills the Mycobacterium.

Fortunately, cases of tuberculosis in the Upper Peninsula are infrequent with no clear patterns noted over the past nine years. From 2012 through 2024 there were only eleven reported cases of active tuberculosis in the Upper Peninsula (incidence 0.29 per 100,000 person-years (95%CI:0.16, 0.52). No statistically significant changes in incidence were seen from 2012 through 2024 or during the COVID years (incidence time trend: RR=0.92; 95%CI: 0.78, 1008; p=.2998; COVID years: RR=0.33; 95%CI: 0.04, 2.60; p=.2949).

***8.3.6.6** Rabies Post-Exposure Prophylaxis* **(Table 8-17)**

From 2012 through 2024 the incidence of patients needing post exposure rabies prophylaxis following potential rabies exposure has increased annually by 18% (RR=1.18; 95%CI:1.17. 1.20; p<.0001). During the COVID years the incidence increased by 74% (RR=1.74; 95%CI: 1.60, 1.90; p<.0001). Perhaps this is correlated with the increase in the number of rescue dogs place in homes.

To decrease the risk of rabies everyone is encouraged to:
- vaccinate your pets against rabies and keep them up to date
- avoid contact with wild or unfamiliar animals
- if you find a bat in your home talk to your local health department before you let it go

- keep a list of important phone numbers that includes animal control and your local health department.
- seek prompt medical care if you are bitten by an animal.

Physicians need to:
- Report animal bites to your local health department, and consult with state or local public health concerning cases that are uncertain
- Treat potential exposures using best practices
- Report Rabies Post-Exposure Prophylaxis administrations to the local health department.

8.4 Potential Future Implications

- Mitigation efforts, such as staying home when ill, hand hygiene, facial coverings, and physician distancing, are effective against the spread of respiratory viruses and will be an important tool in limiting the spread of influenza, coronaviruses, and the virus responsible for the next pandemic.
- A well-vaccinated public will continue to be critically important in controlling the spread of many communicable diseases and even cancer.
- The COVID-19 pandemic underlines the importance of global travel in spreading infections. Other illnesses, such as measles, that have declined substantially in this country following successful vaccination programs can re-emerge through infections contracted and brought home from residents of the United States who visit other countries where vaccine preventable illnesses are still common.
- The territory of Lyme-, anaplasmosis-, and babesiosis-infected ticks continues to expand within the Upper Peninsula. Prevention efforts include increasing awareness, decreasing tick habitat and limiting exposure through the use of environmental measures (long clothing, tick repellent).
- The core functions of public health, including disease surveillance and protection of food and water supplies, will continue to be critically important in maintaining the health of the local population.

References:

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[4] Michigan Department of Health & Human Services. Emerging & Zoonotic Infectious Disease: Michigan Trends in Tickborne Disease 2016-2020.
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Table 8-2: Campylobacter in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	4	1	1	0	1	1	2	0	0	3	0	7	0	20	17.06	11.01,26.45
Baraga	1	0	0	0	0	2	3	1	0	0	0	1	3	11	10.36	5.74,18.72
Chippewa	4	5	3	15	6	10	1	1	6	6	6	10	8	81	16.65	13.38,20.73
Delta	18	28	14	31	27	28	7	14	19	9	14	22	20	251	54.22	47.90,61.36
Dickinson	2	3	3	14	10	20	16	9	15	19	15	1	3	130	39.82	33.41,47.29
Gogebic	1	1	0	2	0	2	1	3	1	0	3	0	1	15	8.34	5.03,14.15
Houghton	7	6	3	3	6	4	10	4	3	1	3	1	4	55	12.04	9.25,15.69
Iron	1	1	0	3	2	1	0	2	1	3	1	2	3	20	13.37	8.63,20.72
Keweenaw	2	1	1	1	0	0	0	0	1	0	1	0	0	7	25.41	12.11,53.30
Luce	1	2	2	0	1	5	2	2	1	2	0	2	1	21	26.37	17.19,40.44
Mackinac	5	2	2	4	3	7	3	4	2	2	0	2	1	37	26.26	17.19,40.44
Marquette	13	11	13	10	19	19	12	5	6	9	6	11	11	145	16.94	14.40,19.94
Menominee	12	10	7	11	17	18	13	5	5	10	4	7	8	127	43.21	36.82,51.42
Ontonagon	1	1	0	1	1	0	2	0	2	1	2	1	1	13	17.68	10.27,30.45
Schoolcraft	2	1	0	0	5	3	3	3	2	3	0	4	2	28	26.58	18.35,38.49
Total	74	73	49	95	98	120	75	53	64	68	55	71	66	961	24.90	23.67,26.52
Incidence	24.95	24.61	16.18	32.03	33.04	40.46	25.29	17.87	21.58	22.92	18.54	23.94	22.25			
95% CI	19.86 31.33	19.56 30.95	12.19 21.47	26.19 39.16	27.11 40.27	33.83 48.38	20.16 31.71	13.65 23.39	16.89 27.57	18.07 29.08	14.24 24.15	18.97 30.21	17.48 28.32			

Table 8-3: Salmonellosis in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	1	4	1	1	1	3	0	1	0	0	1	2	1	16	13.65	8.36,22.29
Baraga	0	0	2	0	1	2	3	1	0	0	1	0	2	12	11.31	6.42,19.91
Chippewa	4	7	3	7	8	5	10	9	5	9	5	6	4	82	17.07	13.75,21.19
Delta	5	5	5	5	4	3	6	3	7	0	3	3	4	53	11.45	8.75,14.98
Dickinson	6	3	2	4	3	1	3	5	2	2	4	1	2	38	11.64	8.47,16.00
Gogebic	0	1	1	0	0	2	1	5	3	0	1	2	2	18	10.00	6.30,15.88
Houghton	5	9	4	4	6	4	2	6	5	3	8	4	7	67	14.67	11.55,18.64
Iron	2	1	4	0	0	0	2	2	1	1	0	0	1	14	9.36	5.54,15.80
Keweenaw	0	1	1	0	0	0	0	1	0	0	0	0	0	3	10.89	3.51,33.77
Luce	3	0	2	1	0	0	2	0	3	1	0	4	2	18	13.81	7.65,29.94
Mackinac	2	0	4	3	4	0	2	0	3	0	0	4	1	23	16.32	10.85,24.56
Marquette	4	9	17	8	9	17	5	10	12	9	4	5	13	122	14.26	9.94,17.02
Menominee	3	2	4	8	1	3	1	1	1	3	1	0	3	31	10.55	7.42,15.00
Ontonagon	0	0	1	1	2	0	2	2	2	0	1	0	1	12	16.32	9.27,28.74
Schoolcraft	0	0	0	1	1	1	0	1	5	0	1	0	2	12	11.39	6.47,20.06
Total	35	42	51	43	40	41	39	47	49	28	30	31	45	521	13.33	12.23,14.53
Incidence	11.80	14.16	17.19	14.50	13.49	13.82	12.47	16.52	15.51	9.44	10.11	9.10	15.17			
95%CI	8.47, 16.43	10.46, 19.16	13.07, 22.62	10.75, 19.55	9.89, 18.38	10.18, 18.77	9.04, 17.22	12.48, 21.86	11.62, 20.70	6.52, 13.67	7.07, 14.46	6.24, 13.27	11.33, 20.32			

Table 8-4: Chlamydia in the Upper Peninsula, 2012-2024																
County	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Total**	**Incidence**	**95%CI**
Alger	5	7	4	12	17	16	8	9	12	13	8	10	2	123	104.95	87.96,125.24
Baraga	11	13	13	16	16	10	14	30	24	23	21	12	5	208	195.98	171.08,224.51
Chippewa	107	135	91	103	113	103	82	63	70	84	81	114	79	1225	254.96	241.08,269.65
Delta	68	63	84	73	88	80	117	116	51	46	54	46	48	934	201.75	189.22,215.10
Dickinson	67	48	52	52	47	49	63	71	50	61	43	35	25	663	203.09	188.20,219.14
Gogebic	36	17	34	29	37	41	25	30	28	34	21	29	15	376	208.96	188.86,231.19
Houghton	31	44	43	47	49	53	62	62	72	61	46	29	22	621	136.00	125.70,147.12
Iron	15	6	13	39	39	28	32	27	19	26	16	12	11	283	189.19	168.38,212.56
Keweenaw	8	9	3	7	3	5	3	2	4	2	4	3	1	54	196.02	150.13,255.96
Luce	2	10	7	9	8	16	21	11	7	4	8	3	5	111	139.37	115.71,167.88
Mackinac	17	26	16	11	22	17	25	22	17	28	22	30	22	275	195.16	173.40,219.65
Marquette	179	225	223	224	289	268	316	239	208	193	145	147	110	2766	323.19	311.35,335.47
Menominee	60	32	43	59	74	53	51	57	29	35	38	19	29	579	197.00	181.59,213.71
Ontonagon	2	3	2	5	9	9	4	8	4	8	2	6	6	68	92.48	72.92,117.30
Schoolcraft	15	8	10	6	24	26	11	15	10	12	8	7	4	156	148.08	126.57,173.23
Total	623	646	638	692	835	774	834	762	605	630	517	502	384	8442	218.92	214.31,223.64
Incidence	210.02	217.79	215.08	233.30	281.50	260.95	281.16	256.88	203.96	212.39	174.29	169.24	129.47			
95%CI	194.17227.20	201.63 235.24	199.02 232.44	216.55 251.34	263.05 301.24	243.19 279.98	262.73 300.91	239.28 275.79	188.34 220.64	159.90 189.98	155.06 184.72	155.06, 184.72	117.13, 143.07			

Table 8-5: Gonorrhea in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	2	0	1	0	1	0	0	0	4	3.41	1.28,9.09
Baraga	0	1	0	2	2	1	0	2	0	0	1	0	0	9	8.48	4.41,16.30
Chippewa	1	4	0	1	2	3	5	5	8	12	9	4	3	57	11.86	9.15,15.38
Delta	1	1	3	5	7	6	3	6	2	2	2	9	6	53	11.49	8.75,14.98
Dickinson	4	4	0	0	7	7	2	4	2	4	4	2	2	42	12.87	9.51,17.41
Gogebic	3	1	2	2	1	4	2	1	1	3	2	4	4	30	16.67	11.66,23.84
Houghton	0	2	3	5	7	4	7	4	5	7	5	5	2	56	12.26	9.44,15.94
Iron	1	0	0	1	3	1	1	2	2	2	0	1	0	14	9.36	5.54,15.80
Keweenaw	0	0	0	1	0	0	1	0	0	1	0	0	1	4	14.52	5.45,38.69
Luce	0	1	0	0	0	3	1	1	1	0	0	0	0	7	8.79	4.19,18.44
Mackinac	2	5	0	0	2	5	6	5	1	3	3	6	0	38	26.97	19.62,37.06
Marquette	1	8	18	8	11	8	6	8	12	17	7	28	17	149	17.41	14.83,20.44
Menominee	6	3	3	2	4	3	3	4	3	2	2	1	1	37	12.59	9.12,17.37
Ontonagon	0	1	0	0	0	1	1	0	0	0	1	1	0	5	6.80	2.83,16.34
Schoolcraft	0	1	1	0	1	0	1	1	0	1	2	1	0	9	8.54	4.44,16.42
Total	19	32	30	27	47	48	39	44	37	55	38	62	36	514	13.33	12.23,14.53
Incidence	6.41	10.79	10.11	9.10	15.84	16.18	13.15	14.83	12.47	18.54	12.81	20.90	12.14			
95% CI	4.09, 10.04	7.63, 15.26	7.07, 14.46	6.24, 13.27	11.90, 21.09	12.19, 21.47	9.61, 18.00	11.04, 19.93	9.04, 17.22	14.24, 24.15	9.32, 17.61	16.30, 26.81	8.75, 16.83			

Table 8-6: Hepatitis A in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	1	0	0	0	0	0	1	*	*
Baraga	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.94	0.13,6.69
Chippewa	0	2	2	0	0	0	0	0	0	0	1	1	0	6	1.24	0.56,2.78
Delta	1	0	0	0	1	1	0	0	0	0	1	0	0	4	0.86	0.32,2.30
Dickinson	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.31	0.04,2.17
Gogebic	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.56	0.08,3.95
Houghton	2	1	0	0	0	0	0	0	0	1	0	0	0	4	0.88	0.33,2.33
Iron	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.67	0.09,7.08
Keweenaw	1	0	0	0	0	0	0	0	0	0	0	0	0	1	6.63	0.51,25.77
Luce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Mackinac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Marquette	0	0	0	1	1	0	0	0	0	2	0	0	0	4	0.47	0.18,1.25
Menominee	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0.68	0.17,2.72
Ontonagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Schoolcraft	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.71	0.13,6.73.
Total	6	3	2	2	3	2	0	2	0	3	2	1	1	27	0.67	0.46,0.99
Incidence	2.02	1.01	0.67	0.67	1.01	0.67	*	0.67	*	1.01	0.67	0.34	0.34			
95%CI	0.91, 4.50	0.33, 3.14	0.17, 2.70	0.17, 2.70	0.33, 3.14	0.17, 2.70		0.17, 2.70		0.33, 3.14	0.17, 2.70	0.05, 2.39	0.05, 2.39			

Table 8-7: Acute Hepatitis B in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.85	0.12,6.06
Baraga	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.94	0.13,6.69
Chippewa	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.42	0.10,1.66
Delta	4	4	3	1	2	0	2	0	0	1	0	0	2	19	4.10	2.62,6.43
Dickinson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Gogebic	0	0	0	0	0	0	0	0	1	0	0	1	0	2	1.11	0.28,4.44
Houghton	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.22	0.03,1.55
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Luce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Mackinac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Marquette	0	0	0	1	1	0	1	0	2	0	0	0	0	5	0.58	0.24,1.40
Menominee	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0.68	0.17,2.72
Ontonagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Schoolcraft	0	0	0	0	0	1	0	0	0	0	1	0	0	2	1.90	0.47,7.59
Total	5	5	4	2	4	1	4	0	4	1	1	1	2	34	0.91	0.65,1.26
Incidence	1.69	1.69	1.35	0.67	1.35	0.67	1.35	*	1.35	0.34	0.34	0.34	0.67			
95%CI	0.70, 4.05	0.70, 4.05	0.51, 3.59	0.17, 2.70	0.51, 3.59	0.17, 2.70	0.51, 3.59	*	0.51, 3.59	0.05, 2.39	0.05, 2.39	0.05, 2.39	0.17, 2.70			

Table 8-8: Acute Hepatitis C in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	4	0	2	0	0	0	1	0	0	1	0	8	2.56	0.83,7.94
Baraga	0	1	0	0	0	0	1	0	0	0	0	1	1	4	3.77	1.41,10.04
Chippewa	3	1	1	1	1	1	3	1	0	1	2	0	0	15	3.26	2.04,5.44
Delta	4	4	1	1	2	5	3	0	6	3	1	0	0	30	6.48	4.53,9.27
Dickinson	1	2	0	1	0	5	1	1	3	2	1	0	0	17	5.21	3.24,8.38
Gogebic	0	1	0	1	3	1	0	0	0	0	0	0	0	6	3.33	1.50,7.42
Houghton	0	0	0	0	1	1	2	1	1	0	1	0	0	7	1.53	0.73,3.22
Iron	0	0	0	0	0	0	2	0	1	1	0	0	0	4	2.67	1.00,7.12
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Luce	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1.25	0.18,8.91
Mackinac	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.71	0.10,5.04
Marquette	2	0	1	1	0	5	1	2	1	4	0	0	0	17	1.99	1.23,3.20
Menominee	1	0	0	2	0	1	2	1	0	1	2	0	0	10	3.40	1.83,6.32
Ontonagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Schoolcraft	0	0	0	0	3	1	2	0	0	0	1	0	0	7	6.64	3.17,13.94
Total	11	9	7	7	12	21	17	6	14	12	8	2	1	127	3.19	2.67,3.81
Incidence	3.71	3.03	1.01	2.36	4.05	7.42	5.73	2.02	4.72	4.05	2.70	0.34	0.34			
95%CI	2.05, 6.70	1.58, 5.83	0.33, 3.14	1.13, 4.95	2.30, 7.12	4.88, 11.26	3.56, 9.22	0.91, 4.50	2.80, 7.97	2.30, 7.12	1.35, 5.39	0.05, 2.39	0.05, 2.39			

Table 8-9: Lyme Disease in the Upper Peninsula, 2012-2023

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	1	0	1	1	0	2	0	3	5	13	11.09	6.44,19.10
Baraga	0	0	0	1	1	0	0	5	5	12	12	27	24	87	81.98	66.44,101.14
Chippewa	2	0	0	1	0	4	1	1	1	1	0	5	10	26	5.41	3.68,7.95
Delta	6	10	5	1	4	3	5	7	7	19	10	20	19	116	25.06	20.89,30.06
Dickinson	6	19	14	7	27	59	36	46	57	96	86	109	93	655	200.64	185.85,216.62
Gogebic	3	5	1	6	5	2	2	2	4	8	4	9	5	56	31.12	23.95,40.44
Houghton	2	1	4	5	5	12	10	3	9	32	20	40	58	201	44.02	38.33,40.54
Iron	2	1	1	0	3	2	1	3	8	8	13	29	28	99	66.18	54.35,80.59
Keweenaw	0	0	1	1	1	1	0	0	0	1	2	4	2	13	47.19	27.40,81.23
Luce	0	0	0	0	0	2	0	0	1	1	2	6	2	14	13.81	7.65,24.89
Mackinac	0	0	0	0	0	0	1	3	0	3	3	2	4	16	11.35	6.96,18.53
Marquette	1	3	2	0	4	7	9	6	9	13	24	29	51	158	18.46	15.80,21.58
Menominee	18	40	17	7	6	23	14	20	25	35	35	40	36	316	107.51	96.30,120.05
Ontonagon	5	6	1	2	4	3	4	2	6	10	2	8	5	58	80.24	62.17,103.57
Schoolcraft	0	1	0	0	0	1	0	1	0	9	6	7	8	33	31.32	22.27,44.06
Total	45	86	46	31	61	119	84	100	132	250	219	338	350	1861	48.21	46.07,50.45
Incidence	15.17	28.99	15.51	10.45	20.90	**40.12**	28.32	**33.71**	**44.50**	**84.28**	**73.83**	**112.94**	**117.99**			
95%CI	11.33, 20.32	23.47, 35.82	11.62, 20.70	7.35, 14.86	16.30, 26.81	33.52, 48.02	22.87, 41.01	27.71, 41.01	37.52, 52.78	74.46, 95.40	64.67, 84.29	101.47, 125.70	106.25, 131.03			

Table 8-10: Human Granulocytic Anaplasmosis 2012-2024

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Baraga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Chippewa	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.25	0.03,1.75
Delta	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0.40	0.10,1.60
Dickinson	1	0	0	0	1	4	6	4	9	23	27	57	25	157	48.09	41.13,56.23
Gogebic	2	0	0	0	3	0	0	0	0	1	3	1	1	11	6.11	3.38,10.99
Houghton	1	0	1	0	0	0	0	1	0	2	3	1	4	13	2.13	1.11,4.10
Iron	0	0	0	0	0	1	1	0	0	0	4	3	7	16	10.70	6.55,17.46
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3.63	0.51,25.77
Luce	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1.26	0.18,8.91
Mackinac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Marquette	0	0	0	0	0	0	0	0	0	0	0	1	4	5	0.58	0.24,1.40
Menominee	2	0	0	2	0	7	2	4	2	4	7	8	1	39	13.27	9.70,18.16
Ontonagon	0	0	0	1	0	0	0	0	2	0	1	0	0	4	5.44	2.04,14.50
Schoolcraft	0	0	0	0	0	0	0	0	0	1	1	2	0	4	3.80	1.43,10.12
Total	6	0	1	3	4	12	9	9	13	31	46	76	44	254	6.59	5.83,7.45
Incidence	2.02	*	0.34	1.01	1.35	4.05	3.03	3.03	4.38	10.45	15.84	25.4	15.83			
95%CI	0.91, 4.50	*	0.05, 2.39	0.33, 3.14	0.51, 3.59	2.30, 7.12	1.58, 5.83	1.58, 5.83	2.54, 7.55	7.35, 14.86	11.90, 14.14	20.26, 31.85	11.57, 21.67			

Table 8-11: Babesiosis in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Baraga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Chippewa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Delta	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0.43	0.11,1.73
Dickinson	0	0	0	0	0	0	0	0	0	3	5	8	5	21	6.43	4.19,9.87
Gogebic	0	0	1	0	2	0	0	0	0	0	0	0	0	3	1.67	0.54,5.17
Houghton	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0.44	0.11,1.75
Iron	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1.34	0.33,5.35
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Luce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Mackinac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Marquette	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Menominee	0	0	0	0	0	1	0	0	0	3	2	2	1	9	2.38	1.14,5.00
Ontonagon	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1.36	0.19,9.65
Schoolcraft	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.95	0.13,6.74
Total	0	0	1	0	2	1	1	0	0	7	9	10	10	41	1.01	0.74,1.38
Incidence	*	*	0.34	*	0.67	0.34	0.34	*	*	1.69	3.03	3.37	3.37			
95%CI	*	*	0.05, 2.39	*	0.17, 2.70	0.05, 2.39	0.05, 2.39	*		0.05, 2.39	1.58, 5.83	1.81, 6.27	1.81, 6.27			

8-12: Chickenpox in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	0	0	0	0	0		0	*	*
Baraga	0	0	0	0	0	0	0	0	0	0	0	0		0	*	*
Chippewa	9	0	4	1	3	2	1	0	7	0	0	4	2	33	6.87	4.88,9.66
Delta	2	0	7	0	1	0	4	2	1	1	1	0		19	4.10	2.61,6.43
Dickinson	5	0	0	0	0	0	0	0	0	1	0	3		9	2.76	1.43,5.30
Gogebic	2	2	1	0	5	2	2	0	0	0	0	2		16	8.89	5.45,14.51
Houghton	32	3	2	0	1	0	1	0	2	1	1	4	1	48	10.51	7.92,13.95
Iron	1	2	0	1	0	0	1	1	0	0	0	0	0	6	4.01	1.80,8.93
Keweenaw	4	0	0	0	0	0	0	0	0	0	0	0	0	4	14.52	5.45,38.69
Luce	0	3	1	5	0	0	1	0	1	0	0	0	0	11	13.81	7.65,24.94
Mackinac	1	0	0	3	3	0	1	0	0	0	0	1	0	9	6.39	3.32,12.28
Marquette	8	1	0	0	2	1	0	5	0	1	1	1	4	24	2.80	1.87,4.18
Menominee	1	1	1	2	0	2	0	1	2	0	0	0	0	10	3.40	1.83,6.32
Ontonagon	0	0	1	0	0	0	0	0	0	1	0	0	0	2	2.72	0.68,10.88
Schoolcraft	0	1	0	0	1	0	0	0	0	1	1	0	0	4	3.80	1.43,10.12
Total	65	13	17	12	16	7	11	9	13	6	4	15	7	195	5.06	4.39,5.82
Incidence	21.91	4.38	5.73	4.05	5.39	2.36	3.71	3.03	4.38	2.02	1.35	5.06	2.36			
95%CI	17.18, 27.94	2.54, 7.55	3.56, 9.21	2.30, 7.12	3.30, 8.81	1.13, 4.95	2.05, 6.70	1.58, 5.83	2.54, 7.55	0.91, 4.50	0.51, 3.56	3.05, 8.39	1.13, 4.95			

Table 8-13: HIV in the Upper Peninsula, 2012-2023

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Baraga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Chippewa	0	0	0	0	1	0	0	0	0	1	2	1	2	7	1.46	0.69,3.06
Delta	0	0	1	1	0	1	0	0	1	0	0	0	0	4	0.86	0.32,2.30
Dickinson	0	1	0	0	0	0	0	0	0	0	0	0	1	2	0.61	0.15,2.45
Gogebic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Houghton	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.22	0.03,1.55
Iron	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1.34	0.33,5.35
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Luce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Mackinac	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.71	0.10,5.04
Marquette	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.23	0.06,0.93
Menominee	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0.34	0.05,2.42
Ontonagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Schoolcraft	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.95	0.13,6.73
Total	0	1	1	3	1	1	0	0	2	1	3	3	5	21	0.54	0.36,0.84
Incidence		0.34	0.34	1.01	0.34	0.34	*	*	0.67	0.34	1.01	1.01	1.69			
95%CI	*	0.05, 2.39	0.05, 2.39	0.33, 3.14	0.05, 2.39	0.05, 2.39	*	*	0.17, 2.70	0.05, 2.39	0.33, 3.14	0.33, 3.14	0.70, 4.05			

Table 8-14: Meningitis in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Baraga	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.94	0.13,6.69
Chippewa	0	0	0	3	0	0	0	0	0	0	1	0	0	4	0.83	0.31,2.22
Delta	0	0	0	0	0	0	1	1	0	1	1	0	0	4	0.86	0.32,2.30
Dickinson	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.31	0.04,2.17
Gogebic	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.56	0.08,3.95
Houghton	0	0	0	0	0	0	1	0	0	0	0	0	1	2	0.44	0.11,1.75
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Luce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Mackinac	0	0	0	0	1	2	0	0	0	0	0	1	0	4	2.84	1.07,7.56
Marquette	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.12	0.02,0.83
Menominee	0	0	1	0	0	0	0	0	1	0	1	0	0	3	1.02	0.33,3.16
Ontonagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Schoolcraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	0	0	1	3	1	3	2	3	2	1	3	1	1	21	0.53	0.35,0.81
Incidence	*	*	0.34	0.98	0.34	0.98	0.65	0.98	0.65	0.34	0.98	0.34	0.34			
95%CI	*	*	0.05, 2.39	0.32, 3.04	0.05, 2.39	0.32, 3.04	0.16, 2.61	0.32, 3.04	0.16, 2.61	0.05, 2.39	0.32, 3.04	0.05, 2.39	0.05, 2.39			

Table 8-15: Pertussis in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	3	1	0	0	1	0	0	1	0	0	0	1	0	7	5.97	2.85,12.53
Baraga	4	0	0	0	0	0	0	0	0	0	0	1	2	7	6.60	3.14,13.84
Chippewa	0	0	0	0	0	0	1	2	0	0	0	0	0	3	0.62	0.20,1.94
Delta	26	1	0	4	1	0	0	5	3	0	0	0	47	87	18.79	15.23,23.19
Dickinson	5	0	9	2	0	0	3	5	0	0	0	0	1	25	7.96	5.42,11.70
Gogebic	19	0	0	4	0	1	0	0	0	0	0	0	1	25	13.89	9.39,20.56
Houghton	1	0	1	8	0	0	0	3	0	0	0	0	12	25	5.47	3.70,8.10
Iron	25	0	0	1	0	0	1	7	1	0	0	0	0	35	23.40	16.80,32.59
Keweenaw	0	0	0	1	0	0	0	0	0	0	0	0	1	2	7.26	1.82,29.03
Luce	0	0	1	0	0	0	0	0	0	0	0	0	2	3	3.77	1.21,11.67
Mackinac	1	1	0	0	0	2	0	0	0	0	0	0	1	5	3.55	1.48,8.53
Marquette	28	11	6	3	5	10	0	10	0	0	0	2	31	106	12.39	10.24,14.98
Menominee	16	0	1	1	0	0	0	6	1	0	0	0	19	44	14.97	11.14,20.12
Ontonagon	1	0	0	2	0	0	0	0	0	0	0	0	0	3	4.08	1.32,12.65
Schoolcraft	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.95	0.13,6.73
Total	129	14	18	26	7	13	6	39	5	0	0	4	117	378	9.83	8.89,10.87
Incidence	43.49	4.72	6.07	8.77	2.36	4.05	2.02	13.82	1.69	*	*	1.35	39.44			
95%CI	36.60, 51.68	2.80, 7.97	3.82, 9.63	5.97, 12.87	1.13, 4.86	2.30, 7.12	0.91, 4.50	10.18, 18.77	0.70, 4.05	*	*	0.51, 3.59	32.91, 47.28			

Table 8-16: Active Tuberculosis in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Baraga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Chippewa	0	0	0	1	0	0	0	0	0	0	0	0	1	2	0.42	0.10,1.66
Delta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Dickinson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Gogebic	1	0	0	0	0	1	0	0	0	0	0	0	0	2	1.11	0.28,4.44
Houghton	0	1	0	0	0	0	1	1	0	1	0	0	0	4	0.88	0.34,2.33
Iron	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Keweenaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Luce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Mackinac	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.71	0.10,5.04
Marquette	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.12	0.02,0.83
Menominee	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.34	0.05,2.42
Ontonagon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Schoolcraft	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	1	1	1	2	0	2	1	1	0	1	0	0	1	11	0.29	0.16,0.52
Incidence	0.34	0.34	0.34	0.67	*	0.67	0.34	0.34	*	0.34	*	*	0.34			
95%CI	0.05, 2.39	0.05, 2.39	0.05, 2.39	0.17, 2.70		0.17, 2.70	0.05, 2.39	0.05, 2.39		0.05, 2.39			0.05, 2.39			

Table 8-17: Rabies Prophylaxis in the Upper Peninsula, 2012-2024

County	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total	Incidence	95%CI
Alger	3	2	0	0	1	0	0	1	0	4	3	3	1	18	15.36	9.68,24.38
Baraga	20	19	16	11	21	24	13	5	6	8	8	14	11	176	165.82	143.05,192.24
Chippewa	0	2	0	1	8	2	10	36	28	9	7	3	4	110	22.90	18.99,27.60
Delta	0	1	1	2	1	2	4	7	3	26	54	44	47	192	41.47	36.00,47.78
Dickinson	0	0	0	0	0	0	14	45	14	10	16	18	4	121	37.06	31.02,44.29
Gogebic	7	8	7	4	43	24	27	26	19	28	32	42	40	307	170.60	152.56,190.80
Houghton	5	6	5	6	9	19	11	18	11	14	14	11	11	140	30.65	25.98,36.18
Iron	0	0	0	0	0	0	13	21	11	7	9	11	1	73	48.80	38.80,61.38
Keweenaw	0	2	2	1	2	2	2	1	0	0	0	0	0	12	43.56	24.74,76.71
Luce	0	0	0	0	0	0	0	2	0	3	4	2	1	12	15.07	8.56,26.53
Mackinac	0	1	0	1	0	1	1	1	1	1	1	3	0	11	7.81	4.32,14.10
Marquette	2	0	1	0	0	51	102	87	118	128	104	128	146	867	101.30	124.15,108.28
Menominee	0	0	0	0	0	0	0	4	1	25	21	20	29	100	34.03	27.97,41.39
Ontonagon	9	7	14	6	6	8	9	4	8	14	5	6	13	109	148.24	122.87,178.86
Schoolcraft	0	0	5	0	4	0	0	1	0	1	0	2	0	13	12.34	7.17,21.25
Total	46	48	51	32	95	133	206	259	220	278	278	307	308	2261	58.63	56.27,61.10
Incidence	15.51	16.18	17.19	10.79	32.03	44.84	69.45	87.32	74.17	93.72	93.72	103.49	103.84			
95%CI	11.62, 20.70	12.19, 21.47	13.07, 22.62	7.63, 15.26	26.19, 39.16	37.83, 53.15	60.58, 79.61	77.30, 98.63	64.99, 84.65	83.33, 105.42	83.33, 105.42	92.55. 115.75	92.86, 116.11			

9 CHRONIC DISEASE AND MORTALITY

9.1 Introduction

According to the U.S. National Center for Health Statistics, a chronic disease is "one lasting 3 months or more." Chronic diseases can generally be controlled but not cured and do not simply disappear on their own. Chronic diseases — such as heart disease, stroke, cancer, diabetes, and arthritis — are among the most common, costly, and preventable of all health problems in the United States, and the leading causes of death and disability. From a public health perspective, the positive aspect of chronic disease is that it is, in large part, very preventable.

Four modifiable health risk behaviors — lack of physical activity, poor nutrition, tobacco use, and excessive alcohol consumption — are responsible for much of the illness, suffering, and early deaths related to chronic diseases. [1]

9.1.1 Health Risks in Rural America

Approximately 1 in 5 of Americans live in rural areas, who, according to the Centers for Disease Control and Prevention (CDC), are more likely than their urban counterparts to die of all five leading causes of death: heart disease, cancer, unintentional injury, chronic lower respiratory disease, and stroke.

Rural health disparities can be liked to several causes, including limited access to healthy foods and fewer opportunities to be physically active, both of which can lead to obesity and high blood pressure. Rural residents also smoke more and wear seat belts less. Residents of rural areas tend to be older, with lower incomes, and less education — factors all linked to poorer health. In addition to individual risk factors, residents of rural counties have structural obstacles to overcome, such as fewer health care workers (both in number and per capita), medical specialists, hospital critical care units, emergency facilities, and transportation options. Residents are also more likely to be uninsured and live farther away from health services. [2]

One overall measure of health in a region is the premature age-adjusted mortality of persons aged 75 years of age and younger per 100,000 population shown in **Table 9-1**. [3]

9.2 Chronic Illnesses

9.2.1 Heart Disease

The term "heart disease" refers to several types of heart conditions. The most common type in the United States is coronary artery disease, which can cause heart attack, angina, heart failure, and arrhythmias.

The hospitalization rates for 2022 per 10,000 residents for heart disease by county are shown in **Table 9-2**. [3]

The incidence and prevalence of heart attack, heart disease, and stroke increase with age, with men more likely than women to report these events/illnesses. The results of the 2024 Upper Peninsula

Table 9-1: Life Years Lost below Age 75 per 100,000 Population, 2022

Location	Age-adjusted Life Years Lost below Age 75 years		
	Total	Males	Females
Michigan	8,644.3	10,667.5	6,597.4
Alger	9,011.9	10,339.4	7,261.4
Baraga	11,973.9	13,388.4	10,143.6
Chippewa	8,719.0	10,631.8	6,305.1
Delta	7,028.8	9,263.7	4,695.8
Dickinson	7,429.5	11,347.8	3,243.9
Gogebic	9,407.1	10,596.1	8,108.6
Houghton	6,646.6	8,031.2	4,913.7
Iron	7,400.8	10,182.3	4,519.9
Keweenaw	4,950.5	*	*
Luce	9,164.5	10,307.2	7,890.0
Mackinac	9,069.1	11,281.4	6,771.4
Marquette	5,644.4	7,294.3	3,928.9
Menominee	5,914.5	7,386.6	4,291.2
Ontonagon	12,140.8	17,221.4	6,573.4
Schoolcraft	8,989.7	10,068.0	7,888.9

Community Health Issues and Priorities Survey (UPCHIPS) for the prevalence of heart disease are shown in **Tables 13-42A** and **13-42B**.

Looking at the UPCHIPS datasets more closely, and adjusting for age, sex, income level, education level, and county of residence, any associations with a number of factors, including intake of fruits and vegetables, elevated cholesterol levels, high blood pressure, history of smoking, diabetes mellitus, chronic obstructive pulmonary disease, lack of leisure time activities/exercise, body mass index (BMI), and heavy drinking, with heart attack and heart disease were explored. The association with heart attack and heart disease and reporting depression and anxiety were also measured. These individual factors were incorporated into a multivariate model (not including anxiety and depression) using backward selection[1] to identify only the factors that remain statistically significant ($p<.05$), was developed. The results of these analyses are shown in **Table 9-3** and **Table 9-4**.

[1] In backward selection, all factors are placed in a multivariate analysis. The factor with highest p-value is removed and the analysis is repeated. The factor with highest p-value is removed. This cycle is repeated until only factors with a p-value below .05 remain.

Table 9-2: Hospital Admissions per 10,000[a], 2022

Region	All Hospitalizations	Heart Disease	Injuries and Poisonings	Septicemia	COVID-19
Michigan	1059.2 ± 2.0	118.5 ± 0.7	93.9 ± 9	69.5 ± 0.5	29.7 ±.0.3
Alger	888.1 ± 62.4	118.7 ±22.8	84.5 ±19.3	37.7 ± 12.9	28.5 ± 11.2
Baraga	1105.1 ± 71.7	115.0 ± 23.1	104.1 ± 22.0	42.4 ± 14.1	47.2 ± 14.8
Chippewa	989.8 ± 32.4	130.3 ±11.7	78.2 ± 9.1	71.1 ± 8.7	30.8 ± 5.7
Delta	937.6 ± 31.3	123.0 ± 11.3	85.5 ± 9.5	66.1 ± 8.3	24.5 ± 5.1
Dickinson	867.7 ± 35.9	106.3 ± 12.6	80.8 ± 11.0	85.0 ± 11.2	17.8 ± 5.1
Gogebic	1000.7 ± 51.8	140.5 ± 19.4	99.9 ± 16.4	64.3 ± 13.1	30.7 ± 9.1
Houghton	848.0 ± 29.7	95.3 ± 9.9	79.7 ± 9.1	68.9 ± 8.5	25.7 ± 5.2
Iron	1020.9 ± 58.1	127.4 ± 20.5	99.0 ± 18.1	101.6 ± 18.3	25.0 ± 9.1
Keweenaw	1015.3 ± 134.5	125.2 ± 47.2	106.6 ± 43.6	55.6 ± 31.5	*
Luce	950.6 ± 83.0	116.9 ± 29.1	64.1 ± 21.6	58.5 ± 20.6	49.0 ± 18.8
Mackinac	1064.7 ± 61.2	140.1 ± 22.2	107.1 ± 19.4	78.7 ± 16.6	35.7 ± 11.2
Marquette	880.4 ± 22.5	108.6 ± 7.9	80.7 ± 6.8	59.0 ± 5.8	21.9 ± 3.6
Menominee	1340.3 ± 47.1	155.7 ± 16.0	82.1 ± 11.6	190.5 ±17.7	47.3 ± 8.8
Ontonagon	960.2 ± 79.6	156.3 ± 32.1	80.7 ± 23.1	53.2 ± 18.7	37.8 ±15.8
Schoolcraft	863.7 ± 63.8	123.9 ± 24.2	74.8 ± 18.8	35.6 ± 13.0	12.3 ± 7.6
* numbers too small to report					
[a] Value ± 95% confidence interval.					

9.2.2 Cancer

Despite tremendous financial investments in cancer research, mortality rates in recent decades have shown only modest declines. Improvements in therapies and survival rates have been largely offset by increases in the incidence of new cases. Increasing life expectancy has allowed more people to live to an age at which cancer incidence is higher. Environmental factors may also be contributing to increased cancer incidence.

Cancer risk can be reduced by avoiding tobacco (in all its forms), maintaining a healthy weight, a healthy diet replete with fruits and vegetables, regular exercise, limited alcohol intake, safe sexual practices,

Table 9-3: UPCHIPS Heart Attack Associated Factors[a]			
Factor	2017	2021	2024
	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)
Diabetes	2.48 (1.93, 3.20)	2.93 (2.18, 3.93)	2.99 (2.25, 3.99)
COPD	2.94 (2.23, 3.88)	3.57 (2.61, 4.88)	3.05 (2.24, 4.16)
Fruits & vegetables[b]	0.99 (0.68, 1.45)	0.49 (0.27, 0.89)	0.38 (0.12, 1.21)
Elevated cholesterol	2.84 (2.14, 3.80)	2.66 (1.90, 3.73)	2.10 (1.55, 2.86)
Ever smoked ≥ 100 cigarettes	2.05 (1.59, 2.64)	1.54 (1.15, 2.05)	1.94 (1.48, 2.54)
High blood pressure	2.45 (1.84, 3.27)	3.21 (2.26, 4.54)	3.30 (2.43, 4.50)
Lack of leisure exercise[c]	1.66 (1.27, 2.17)	1.24 (0.90, 1.71)	1.60 (1.18, 2.18)
Heavy drinker	0.67 (0.45, 1.01)	0.85 (0.55, 1.31)	0.36 (0.20, 0.67)
Depression	1.46 (1.09, 1.95)	1.80 (1.30, 2.50)	0.81 (0.59, 1.10)
Anxiety	1.32 (0.95, 1.85)	1.31 (0.90, 1.89)	0.76 (0.55, 1.06)
Body mass index (BMI)	1.038 (1.019, 1.058)	1.024 (1.003, 1.046)	1.013 (0.995, 1.031)
Backward Selection	Combined 2017 & 2021[d]	Combined 217, 2021, 2024[d]	
COPD	2.51 (2.00, 3.15)	2.35 (1.94, 2.85)	
Elevated cholesterol	2.05 (1.62, 2.58)	1.77 (1.46, 2.15)	
Diabetes	1.97 (1.60, 3.15)	1.92 (1.61, 2.29)	
High blood pressure	1.87 (1.47, 2.39)	1.81 (1.48, 2.22)	
Ever smoked ≥ 100 cigarettes	1.40 (1.13, 1.73)	1.49 (1.25, 1.78)	
Heavy drinker		0.59 (0.44, 0.79)	
[a] Models control for level of education, income level, sex, and county of residence.			
[b] Averaged five or more servings of fruits (including juice) and vegetables per day for the past seven days.			
[c] Did not participate in any leisure-time physical activities or exercises.			
[d] Models control for level of education, income level, sex, county of residence, and year of data collection.			

Table 9-4: UPCHIPS Heart Disease Associated Factors[a]			
Factor	2017	2021	2024
	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)
Diabetes	2.69 (2.19, 3.31)	2.37 (1.86, 2.99)	2.86 (2.30, 3.55)
COPD	3.16 (2.51, 3.97)	3.84 (2.97, 4.97)	3.28 (2.59, 4.15)
Fruits & vegetables[b]	0.93 (0.70, 1.25)	0.89 (0.63, 1.25)	0.65 (0.35, 1.23)
Told elevated cholesterol	2.39 (1.94, 2.94)	2.43 (1.91, 3.08)	2.27 (1.82, 2.82)
Ever smoked ≥ 100 cigarettes	1.85 (1.53, 2.23)	1.25 (1.02, 1.55)	1.60 (1.32, 1.93)
High blood pressure	2.72 (2.19, 3.38)	3.53 (2.74, 4.55)	4.67 (3.71, 5.89)
Lack of leisure exercise[c]	1.39 (1.12, 1.73)	1.96 (1.55, 2.49)	1.95 (1.57, 2.43)
Heavy drinker	0.69 (0.51, 0.94)	0.90 (0.66, 1.24)	0.73 (0.53, 1.01)
Depression	1.74 (1.40, 2.18)	1.89 (1.48, 2.42)	0.87 (0.70, 1.08)
Anxiety	1.72 (1.34, 2.21)	1.50 (1.14, 1.97)	0.89 (0.71, 1.11)
Body mass index (BMI)	1.043 (1.028, 1.058)	1.052 (1.036, 1.069)	1.016 (1.003, 1.029
Backward Selection	Combined 2017 & 2021[d]	Combine 2017, 2021, & 2024[d]	
COPD	3.11 (2.56, 3.78)	2.75 (2.34, 3.24)	
High blood pressure	2.28 (1.89, 2.76)	2.35 (2.01, 2.75)	
Elevated cholesterol	1.80 (1.52, 2.14)	1.70 (1.47, 1.96)	
Diabetes	1.69 (1.41, 2.03)	1.71 (1.47, 1.98)	
Lack leisure exercise[c]	1.30 (1.08, 1.56)	1.28 (1.10, 1.49)	
Ever smoked ≥ 100 cigarettes	1.19 (1.01, 1.40)	1.22 (1.07, 1.40)	
BMI	1.014 (1.001, 1.026)	1.012 (1.002, 1.022)	
Heavy drinker	0.70)0.55, 0.90)	0.74 (0.60, 0.91)	
[a] Models control for level of education, income level, sex, and county of residence.			
[b] Averaged five or more servings of fruits (including juice) and vegetables per day for the past seven days.			
[c] Did not participate in any leisure-time physical activities or exercises.			
[d] Models control for level of education, income level, sex, county of residence, and year of data collection.			

vaccination against hepatitis B and human papillomavirus (HPV), reducing exposure to ultraviolet and ionizing radiation, and avoiding air pollution and indoor smoke.

Early detection of cancer greatly increases the chances of successful treatment. Increased awareness of possible warning signs of cancer, among physicians, nurses and other health care providers as well as among the general public, can have a great impact on disease progression. Aggressive screening across a healthy population with simple tests can lead to early detection in asymptomatic individuals with disease and earlier, more effective treatment. Cancer screening procedures include mammography, Pap smears, colonoscopy, and prostate-specific antigen (PSA) tests.

The results of the 2024 UPCHIPS for cancer prevalence are shown in **Tables 13-44A** and **13-44B**, while the rates of women having a mammogram are shown in **Tables 13-60A** and **13-60B**, a PAP smear in **Tables 13-61A** and **13-61B**, men having PSA testing in **Tables 13-62A** and **13-62B**, and those over fifty years of age and older having had colonoscopy in **Tables 13-63A** and **13-63B**.

Looking at the UPCHIPS datasets more closely, and adjusting for age, sex, income level, education level, and county of residence, any associations with a number of factors, including intake of fruits and vegetables, elevated cholesterol levels, high blood pressure, history of smoking, diabetes mellitus, chronic obstructive pulmonary disease, lack of leisure-time activities/exercise, body mass index (BMI), and heavy drinking, with having had cancer were explored. The with having had cancer and reporting depression and anxiety were also measured. These individual factors were incorporated into a multivariate model (not including anxiety and depression) using backward selection to identify only the factors that remain statistically significant ($p<.05$), was developed. The results of these analyses are shown in **Table 9-5**.

9.2.3 Chronic Obstructive Pulmonary Disease (COPD)

Chronic obstructive pulmonary disease (COPD), which includes chronic bronchitis and emphysema, makes breathing difficult for 16 million Americans. The symptoms of COPD included frequent coughing or wheezing; excessive phlegm, mucus, or sputum production; shortness of breath; and difficulty taking a deep breath. COPD is more common in women; people 65 years and older; Native Americans; those with less than a high school education; those who were unemployed, retired, or unable to work; those who were divorced, widowed, or separate; those with a history of asthma; and current or former smokers. The key factor in the development of COPD is exposure to tobacco smoke and indoor pollutants.

The health impacts of COPD are limited activity (walking, climbing stairs), inability to work, need for supplemental oxygen, inability to engage in social activities, increased confusion, increased emergency room visits/hospitalizations, and increased rates of depression.

Since the damage to the lungs from COPD is not reversible, treatment aims at alleviating symptoms, decreasing the frequency and severity of exacerbations, and increasing exercise tolerance. Interventions include smoking cessation, avoiding tobacco smoke, pulmonary rehabilitation, medications to reduce wheezing, avoiding lung infections, and supplemental oxygen. [4]

Table 9-5: UPCHIPS Cancer Associated Factors[a]			
Factor	2017	2021	2024
	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)
Diabetes	1.28 (1.02, 1.61)	1.33 (1.03, 1.71)	1.43 (1.13, 1.82)
COPD	1.41 (1.10, 1.82)	1.85 (1.42, 2.41)	1.84 (1.42, 2.39)
Fruits & vegetables[b]	0.84 (0.64, 1.11)	0.83 (0.60, 1.14)	1.02 (0.60, 1.75)
Elevated cholesterol	1.20 (0.99, 1.44)	1.24 (1.01, 1.54)	1.38 (1.12, 1.70)
Ever smoked ≥ 100 cigarettes	1.31 (1.10, 1.57)	1.17 (0.96, 1.43)	1.25 (1.03, 1.51)
High blood pressure	1.22 (1.01, 1.47)	1.16 (0.95, 1.43)	1.67 (1.38, 20.3)
Lack of leisure exercise[c]	1.12 (0.90, 1.41)	0.96 (0.74, 1.23)	1.17 (0.92, 1.48)
Heavy drinker	1.08, (0.80, 1.45)	1.34 (1.04, 1.73)	1.12 (0.84, 1.50)
Depression	1.30 (1.03, 1.65)	1.17 (0.94, 1.45)	0.89 (0.71, 1.10)
Anxiety	1.23 (0.94, 1.60)	1.08 (0.84, 1.40)	0.83 (0.66, 1.05)
Body of mass index (BMI)	1.003 (0.989, 1.017)	1.008 (0.992, 1.023)	1.000 (0.986, 1.014)
Backward Selection	Combined 2017 & 2021[d]	Combined 2017, 2021, & 2024[d]	
COPD	1.64 (1.30, 2.05)	1.40 (1.81, 1.65)	
Diabetes	1.46 (1.19, 1.79)	1.24 (1.06, 1.44)	
Ever smoked ≥ 100 cigarettes		1.15 (1.01, 1.30)	
Heavy drinker		1.23 (1.03, 1.47)	
Model 2			
Diabetes	1.50 (1.23, 1.84)		
Ever smoked ≥ 100 cigarettes	1.22 (1.05, 1.42)		
[a] Models control for level of education, income level, sex, and county of residence.			
[b] Averaged five or more servings of fruits (including juice) and vegetables per day for the past seven days.			
[c] Did not participate in any leisure-time physical activities or exercises.			
[d] Models control for level of education, income level, sex, county of residence, and year of data collection.			

Table 9-6: UPCHIPS COPD Associated Factors[a]			
Factor	2017	2021	2024
	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)
Diabetes	1.62 (1.29, 2.04)	1.39 (1.06, 1.82)	2.33 (1.82, 2.97)
Fruits & vegetables[b]	0.74 (0.53, 1.03)	0.52 (0.33, 0.82)	0.30 (0.11, 0.83)
Elevated cholesterol	1.44 (1.17, 1.78)	1.45 (1.14, 1.85)	1.89 (1.48, 2.41)
Ever smoked ≥ 100 cigarettes	5.52 (4.30, 7.07)	5.22 (3.94, 6.90)	5.16 (3.98, 6.69)
High blood pressure	1.44 (1.17, 1.78)	1.28 (1.01, 1.62)	2.07 (1.65, 2.58)
Lack of leisure exercise[c]	2.22 (1.79, 2.76)	1.90 (1.48, 2.43)	2.79 (2.19, 3.49)
Heavy drinker	1.36 (0.99, 1.85)	1.31 (0.99, 1.73)	0.80 (0.56, 1.14)
Depression	2.42 (1.95, 3.01)	2.60 (2.03, 3.34)	1.70 (1.36, 2.12)
Anxiety	2.07 (1.63, 2.62)	2.47 (1.90,3.22)	1.72 (1.37, 2.16)
Body mass index (BMI)	1.022 (1.008, 1.037)	1.010 (0.993, 1.027)	1.017 (1.002, 1.031)
Backward Selection	Combined 2017 & 2021[d]	Combined 2017, 2021, & 2024[d]	
Ever smoked ≥ 100 cigarettes	5.17 (4.29, 6.24)	4.79 (4.06, 5.65)	
Lack of leisure exercise[c]	1.81 (1.53, 2.15)	1.76 (1.51, 2.05)	
Diabetes	1.38 (1.15, 1.65)	1.33 (1.13, 1.56)	
Elevated cholesterol		1.27 (1.13, 1.46)	
Body mass index (BMI)		1.010 (1.000, 1.021)	
[a] Models control for level of education, income level, sex, and county of residence.			
[b] Averaged five or more servings of fruits (including juice) and vegetables per day for the past seven days.			
[c] Did not participate in any leisure-time physical activities or exercises.			
[d] Models control for level of education, income level, sex, county of residence, and year of data collection.			

The results of the 2024 UPCHIPS for COPD prevalence are shown in **Tables 13-45A** and **13-45B**.

Looking at the UPCHIPS datasets more closely, and adjusting for age, sex, income level, education level, and county of residence, any associations with a number of factors, including intake of fruits and vegetables, elevated cholesterol levels, high blood pressure, history of smoking, diabetes mellitus,

chronic obstructive pulmonary disease, lack of leisure-time activities/exercise, body mass index (BMI), and heavy drinking, with COPD were explored. The association with COPD and reporting depression and anxiety were also measured. These individual factors were incorporated into a multivariate model (not including anxiety and depression) using backward selection to identify only the factors that remain statistically significant (p<.05), was developed. The results of these analyses are shown in **Table 9-6**.

9.2.4 Diabetes Mellitus

Diabetes mellitus is a chronic disease that affects how your body turns food into energy. Because of a lack of insulin or a resistance to allowing insulin to function properly, sugar levels build up in the blood instead of going into the body's cells where it is needed. Diabetes has three main types: type 1 (primarily in children, 5-10% of all diabetes), type 2 (primarily in adults, 90-95% of all diabetes), and gestational (diabetes during pregnancy). More than 38 million Americans have diabetes. Pre-diabetes is estimated to affect 1 in 3 adult Americans. Diabetes is the eighth leading cause of death in the United States.

Diabetes tends to run in families, with the risk for type 2 and gestational diabetes being associated with obesity and decreased physical activity. African Americans, Native Americas, and Hispanic Americans are at greater risk for developing type 2 diabetes.

Symptoms of diabetes include increased urination (often at night), increased thirst, unintended weight loss, increased hunger, fatigue, increase in the number of infections, blurry vision, and tingling/numbness in the hands or feet.

Treatment includes diet, exercise, insulin injections (primarily for type 1 and gestational diabetes), and medications that decrease blood sugar levels. Management of diabetes involves close management of blood sugar levels. [5]

Having diabetes increases one's risk of kidney failure, lower-limb amputations, blindness, heart disease, stroke, and early death.

The results of the 2024 UPCHIPS for the prevalence of diabetes are shown in **Tables 13-41A** and **13-41B**.

Looking at the UPCHIPS datasets more closely, and adjusting for age, sex, income level, education level, and county of residence, any associations with a number of factors, including intake of fruits and vegetables, elevated cholesterol levels, high blood pressure, history of smoking, diabetes mellitus, chronic obstructive pulmonary disease, lack of leisure-time activities/exercise, body mass index (BMI), and heavy drinking, with diabetes were explored. The association with diabetes and reporting depression and anxiety were also measured. These individual factors were incorporated into a multivariate model (not including anxiety and depression) using backward selection to identify only the factors that remain statistically significant (p<.05), was developed. The results of these analyses are shown in **Table 9-7**.

9.2.5 Stroke

Stroke is a leading cause of long-term, severe disability, and death in the United States and Michigan. There are 795,000 strokes each year in the United States. Between 2019 and 2020 the cost associated with strokes was $56.2 billion. High blood pressure is a major risk factor. Controlling high blood

Table 9-7: UPCHIPS Diabetes Associated Factors[a]			
Factor	2017	2021	2024
	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)
COPD	1.62 (1.29, 2.04)	1.38 (1.05, 1.80)	2.33 (1.82, 2.98)
Fruits & vegetables[b]	1.00 (0.77, 1.32)	0.77 (0.54, 1.08)	1.32 (0.80, 2.17)
Elevated cholesterol	2.60 (2.13, 3.17)	2.63 (2.09, 3.31)	2.33 (1.88, 2.91)
Ever smoked ≥ 100 cigarettes	1.32 (1.11, 1.58)	1.15 (0.95, 1.41)	1.49 (1.24, 1.80)
High blood pressure	3.81 (3.07, 4.73)	3.85 (3.03, 4.91)	4.36 (3.48, 5.46)
Lack of leisure exercise[c]	1.78 (1.45. 2.18)	1.85 (1.47, 2.32)	2.36 (1.91, 2.92)
Heavy drinker	0.47 (0.34, 0.64)	0.38 (0.42, 0.81)	0.39 (0.29, 0.58)
Depression	1.49 (1.22, 1.83)	1.55 (1.24, 1.95)	1.28 (1.05, 1.57)
Anxiety	1.45 (1.16, 1.82)	1.22 (0.95, 1.57)	0.94 (0.75, 1.17)
Body mass index (BMI)	1.101 (1.087, 1.115)	1.090 (1.075, 1.106)	1.070 (1.056, 1.084)
Backward Selection	Combined 2017 & 2021[e]	Combined 2017, 2021, & 2024[d]	
High blood pressure	2.49 (2.07, 2.98)	2.66 (2.29, 3.09)	
Elevated cholesterol	2.02 (1.71, 2.38)	1.92 (1.68, 2.21)	
Lack of leisure exercise[c]	1.40 (1.17, 1.66)	1.45 (1.26, 1.68)	
COPD	1.23 (1.01, 1.51)	1.28 (1.08, 1.51)	
Ever smoked ≥ 100 cigarettes	1.20 (1.03, 1.40)	1.23 (1.08, 1.40)	
BMI	1.072 (1.060, 1.084)	1.067 (1.058, 1.077)	
Heavy drinker	0.49 (0.38, 0.63)	0.47 (0.37, 0.58)	
[a] Models control for level of education, income level, sex, and county of residence.			
[b] Averaged five or more servings of fruits (including juice) and vegetables per day for the past seven days.			
[c] Did not participate in any leisure-time physical activities or exercises.			
[d] Models control for level of education, income level, sex, county of residence, and year of data collection.			

Table 9-8: UPCHIPS Stroke Associated Factors[a]			
Factor	2017	2021	2024
	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)
Diabetes mellitus	1.76 (1.25, 2.46)	2.03 (1.42, 2.89)	2.64 (1.87, 3.74)
COPD	1.57 (1.07, 2.28)	2.99 (2.08, 4.31)	3.35 (2.32, 4.83)
Fruits & vegetables[b]	0.58 (0.33, 1.04)	0.63 (0.34, 1.15)	0.58 (0.19, 1.88)
Elevated cholesterol	1.59 (1.14, 2.22)	1.25 (0.88, 1.77)	1.91 (1.31, 2.77)
Ever smoked ≥ 100 cigarettes	1.47 (1.07, 2.00)	1.64 (1.18, 2.29)	1.66 (1.20, 2.30)
High blood pressure	2.23 (1.55, 3.21)	2.24 (1.54, 3.28)	1.90 (1.36, 2.57)
Lack leisure exercise[c]	2.21 (1.60, 3.06)	1.93 (1.36, 2.74)	2.41 (1.71, 3.41)
Heavy drinker	0.99 (0.61, 1.60)	0.79 (0.46, 1.34)	0.75 (0.43, 1.31)
Depression	2.20 (1.57, 3.07)	1.57 (1.07, 2.28)	1.71 (1.23, 2.38)
Anxiety	1.67 (1.14, 2.45)	2.01 (1.36, 2.95)	1.35 (0.95, 1.92)
Body mass index (BMI)	1.026 (1.003, 1.049)	1.026 (1.002, 1.051)	0.987 (0.963, 1.012)
Backward Selection	Combined 2017 & 2021[d]	Combine 2017, 2021, & 2024[d]	
High blood pressure	1.98 (1.50, 2.60)	1.60 (1.28, 2.00)	
Lack leisure exercise[c]	1.77 (1.38, 2.27)	1.71 (1.39, 2.11)	
COPD	1.75 (1.33, 2.31)	1.68 (133, 2.11)	
Diabetes	1.46 (1.13, 1.90)	1.62 (1.30, 2.01)	
Ever smoked ≥ 100 cigarettes	1.33 (1.04, 1.70)	1.36 (1.11, 1.68)	
[a] Models control for level of education, income level, sex, and county of residence.			
[b] Averaged five or more servings of fruits (including juice) and vegetables per day for the past seven days.			
[c] Did not participate in any leisure-time physical activities or exercises.			
[d] Models control for level of education, income level, sex, county of residence, and year of data collection.			

pressure, cholesterol levels, and diabetes mellitus while treating heart disease can reduce the risk of stroke. Risk can also be reduced by maintaining a healthy weight, engaging in 150 minutes per week in

moderate-intensity physical activity (i.e., brisk walking), not smoking, and limiting alcohol consumption. [6]

The results of the 2024 UPCHIPS for the prevalence of stroke are shown in **Tables 13-43A** and **13-43B**.

Looking at the UPCHIPS datasets more closely, and adjusting for age, sex, income level, education level, and county of residence, any associations with a number of factors, including intake of fruits and vegetables, elevated cholesterol levels, high blood pressure, history of smoking, diabetes mellitus, chronic obstructive pulmonary disease, lack of leisure-time activities/exercise, body mass index (BMI), and heavy drinking, with having had a stroke were explored. The association with having had a stroke and reporting depression and anxiety were also measured. These individual factors were incorporated into a multivariate model (not including anxiety and depression) using backward selection to identify only the factors that remain statistically significant ($p<.05$), was developed. The results of these analyses are shown in **Table 9-8**.

9.2.6 Alzheimer's Disease

Alzheimer's disease is the most common type of dementia. It is a progressive disease that begins with mild memory loss that can lead to the loss of the ability to carry on a conversation or respond to the environment. It can also seriously affect the ability to carry out the activities of daily living.

In 2022, approximately 6.9 million Americans were living with Alzheimer's disease. This expected to increase to 14 million by 2060. It the seventh leading cause of death, and the sixth most common cause of death in those 65 years of age and older. The symptoms usually begin after age 60, with the risk increasing with age.

Alzheimer's disease may run in families, with high blood pressure and elevated cholesterol levels increasing the risk of developing the disease. Physical, mental, and social activities may reduce the risk.

Interventions include helping people maintain mental function, managing behavioral symptoms, and slowing/delaying the symptoms of the disease. [7]

The results of the 2024 UPCHIPS for the prevalence of Alzheimer's disease or dementia are discussed in section §13.3.13.7.

9.2.7 Chronic Kidney Disease

Chronic kidney disease (CKD) is a condition in which the kidneys are damaged and cannot filter the blood as well as they should. As a consequence, excess fluid and waste products build up in the body leading to other health problems such as heart disease and stroke. About 35.5 million Americans live with CKD. It is more common in those 65 years old and older (33.7%), and non-Hispanic Blacks (19.5%). The leading causes of CKD are diabetes mellitus and uncontrolled high blood pressure. Other risk factors include a family history of CKD, heart disease, and obesity.

Early CKD does not show any signs or symptoms, but gets worse with time and can progress to kidney failure. It can be treated, with early treatment having a greater impact.

Health consequences of CKD include anemia, increased occurrence of infections, electrolyte disturbances, loss of appetite, and depression. [8]

9.2.8 Hypertension

Hypertension is defined as a repeated blood pressure reading of one 130/80. Using this definition 48.1% adults in the United States have high blood pressure. These individuals do not have symptoms. Hypertension was a contributing cause in 685,875 deaths in 2022. The yearly costs of hypertension (based on data from 2002 through 2014) are estimated as $131 billion. Of those with hypertension 22.5% have their blood pressure under control. Those at greater risk for developing hypertension include those diagnosed with diabetes mellitus, who eat an unhealthy diet, who are physically inactive, who are obese, who use tobacco, and who drink too much alcohol. High blood pressure can also run in families, increases with age, and is more common in African Americans.

Uncontrolled high blood pressure increases the risk of heart attack, heart disease, stroke, reduced cognitive function/dementia later in life, and kidney disease. Prevention measures include 150 minutes of exercise per week, not smoking, eating a healthy diet to obtain/maintain a healthy weight, and managing stress. In addition to lifestyle choices, hypertension can be controlled, under the supervision of a physician, with an array of medications. [9]

The results of the 2024 UPCHIPS for the prevalence of hypertension are shown in **Tables 13-38A** and **13-38B**.

The association between hypertension and other chronic diseases is shown in **Tables 9-3** through **9-8**.

9.2.9 Obesity

Obesity is defined by Body Mass Index (BMI): a person's weight in kilograms (2.2 kilograms per pound) divided by the square of the height in meters (one meter is approximately a yard or three feet). If the BMI is 30.0 or higher, the person is considered obese. The prevalence of obesity in the United States from 2017 through 2022 was 41.9% (9.2% with severe obesity), which slightly down from 42.4% in 2017 through 2018 but an increase from 30.5% in 1999-2000. The yearly costs (in 2019 USD) associated with obesity are $1,861, $3,097 for severe obesity, and $173 billion for the country as a whole. Obesity related conditions include heart disease, stroke, type 2 diabetes, and certain cancers. Prevalence of obesity is lower in those with college degrees, while higher in the middle-income group. [10]

Obesity is a major predictor of subsequent illness, such as diabetes, hypertension, and heart disease. These relationships are confirmed in the 2017, 2021, and 2024 UPCHIPS data (**Tables 9-3** through **9-8**). The obesity rates in the UPCHIPS are shown in **Tables 13-30A and 13-30B**.

The raw BMI data from the 2017, 2021, and 2024 UPCHIPS surveys are broken down by demographic categories in **Table 9-9** and by county in **Table 9-10**. In the raw 2017 UPCHIPS data the average body mass index (BMI) was 28.91 (SD=6.40) and increased to 29.06 (SD=6.92) in the 2024 survey. This difference (0.15 (95%CI: -0.14, +0.45)) was not statistically significant (t=1.02, p=.3061). Multivariate analyses of BMI for both the 2017 UPCHIPS, the 2021 UPCHIPS, and the 2024 UPCHIPS are shown in **Table 13-17**.

Table 9-9: Body Mass Index from UPCHIPS by Demographics, 2021, 2017			
	2024	2021	2017
	(standard deviation)	(standard deviation)	(standard deviation)
All respondents	29.06 (6.92)	28.73 (6.56)	28.91 (6.40)
Sex			
Female	29.05 (7.42)	28.64 (7.02)	28.74 (6.74)
Male	29.08 (5.77)	28.87 (5.71)	29.20 (5.74)
Difference[a]	0.029	0.223	0.453
Age[b]			
18 to 49 years	29.68 (8.72)	28.51 (6.99)	27.89 (7.06)
50 to 64 years	29.66 (7.21)	29.38 (7.21)	29.44 (6.80)
65 years and older	28.68 (6.39)	28.40 (6.09)	28.70 (5.94)
Household Income[c]			
Less than $25,000	29.56 (7.89)	29.23 (7.47)	29.44 (7.14)
$25,000 to $49,999	29.59 (7.14)	28.66 (6.42)	29.08 (6.27)
$50,000 or higher	28.43 (6.11)	28.54 (6.06)	28.38 (5.83)
Educational Attainment[d]			
Less than 12th grade	30.25 (7.45)	29.16 (7.27)	29.48 (6.94)
High School graduate	29.52 (6.87)	28.85 (6.76)	29.01 (6.39)
1 to 3 years college	29.35 (7.05)	29.18 (6.81)	29.58 (6.73)
4-year degree or higher	28.17 (6.56)	28.13 (5.98)	27.95 (5.81)
[a] 2024: 95%CI: -0.4287, 0.4857, t=0.12, p=.9026; 2021: 95%CI: -0.207, 0.653, t=1.02, p=.3095; 2017: 95%CI: 0.089, 0.816, t=2.44, p=.0146.			
[b] 2024: t=3.73, p=.0002.			
[c] 2024: t=4.16, p<.0001; 2021: t-2.28, p=.0228; 2017: t-19.81, p<.0001.			
[d] 2024: t=4.91, p<.0001; 2021: t=-2.69, p=.0072; 2017: -4.30, p<.0001.			

Table 9-10: Average Body Mass Index from UPCHIPS by Demographics, 2024, 2021, 2017			
County[a]	2024	2021	2017
	(standard deviation)	(standard deviation)	(standard deviation)
Alger	28.27 (7.19)	28.31 (6.33)	29.25 (7.07)
Baraga	29.25 (6.71)	29.34 (6.93)	29.43 (6.23)
Chippewa	29.59 (6.90)	28.43 (6.16)	28.70 (6.46)
Delta	29.48 (6.66)	29.00 (6.63)	28.84 (6.13)
Dickinson	29.87 (7.21)	28.31 (6.30)	27.85 (5.71)
Gogebic	29.01 (6.50)	29.97 (7.14)	29.19 (6.32)
Houghton/Keweenaw	28.01 (6.68)	27.98 (6.37)	28.29 (5.95)
Iron	28.15 (5.68)	28.34 (6.68)	28.69 (6.83)
Luce	30.35 (6.95)	29.81 (7.45)	29.76 (6.92)
Mackinac	28.33 (6.32)	28.03 (6.18)	28.32 (6.28)
Marquette	28.46 (6.95)	28.44 (6.74)	28.55 (6.88)
Menominee	30.33 (9.69)	28.65 (6.40)	29.20 (6.15)
Ontonagon	28.86 (6.00)	28.33 (5.70)	28.99 (5.72)
Schoolcraft	29.61 (7.47)	29.42 (6.54)	29.38 (6.82)
[a] Differences between counties 2024: F=3.13, p <.0001; 2021: F=2.49, p=.0022; 2017: F=2.17, p=.0084.			

9.2.10 Comorbidities

The UPCHIPS collected data on six chronic conditions with sufficient numbers to provide meaningful analysis:[2] heart attack, stroke, heart disease, COPD, diabetes mellitus, and cancer. When the 2017, 2021, and 2024 UPCHIPS survey data are combined, 6736 (59.1%) reported not having these diseases, 2841 (25.0%) reported having only one disease, 1139 (10.0%) reported having two diseases, 465 (4.1%) reported having three diseases, 164 (1.4%) reported having four diseases, 39 (0.3%) reported having five diseases, and 5 (0.04%) reported having all six diseases. The proportions have been consistent over the three surveys (χ^2_{12}=14.48, p=.2714) As noted above, depression and anxiety were common in those reporting these six diseases. As the number of diseases an individual reported increased, their likelihood of reporting depression and anxiety also increased. With each additional disease reported the odds of reporting depression increased 36% (OR=1.36, 95%CI: 1.29, 1.43) and the odds reporting anxiety increased 30% (OR=1.23, 95%CI: 1.02, 1.37). It is unclear whether the depression and anxiety were a consequence of the chronic conditions or were present prior to the onset of the conditions.

[2] Kidney disease and Alzheimer's disease at too low of a rate to provide useful information.

9.3 Mortality Rates

Crude mortality rates are calculated by taking the number of deaths per year and dividing by the total population then multiplying this figure by 100,000. This per capita adjustment is needed to allow the experience in small jurisdictions to be compared with other jurisdictions, including the experience on the state and national levels. *Age-adjusted* rates weigh Michigan and county-level data to conform to the national age distribution tabulated in the United States Census. This allows the relative health of populations to be compared without the bias of an older or younger population distribution. **Table 9-11** lists the overall crude and age-adjusted mortalities for each Upper Peninsula county obtained from 2022 data reported by the Michigan Department of Health and Human Services. [3]

While age-adjusted rates generally are similar between the Upper Peninsula and the state as a whole, crude death rates show that many Upper Peninsula counties have more deaths per 100,000 per year than Michigan because the Upper Peninsula has a higher percentage of elderly individuals. The drop-in age-adjusted mortality rate from the crude mortality rate for Michigan indicates that Michigan has a higher percentage of elderly individuals than the nation as a whole. Note that in smaller counties, single-year death rates exhibit more fluctuation based on the differences of only a few events.

Age is not the only factor that impacts mortality rates. Fluctuation between counties may also reflect other possible factors that may have contributed to higher death rates, including various combinations of population characteristics; social determinants of health; ethnic and racial determinants of health; alcohol, tobacco and drug use; obesity; variable access to medical care; and variable income-levels.

Older populations experience higher crude rates of chronic disease and death because diseases progress over the course of a lifetime and most deaths occur in old age. Not surprisingly, the three counties with significant university populations and relatively fewer elderly — Chippewa, Houghton and Marquette — exhibit the lowest crude death rates in the region and approximate the state rate. Iron and Ontonagon counties have the highest crude death rates reflecting that populations in these counties are among the most elderly in the state. The low age-adjusted mortality rate in Keweenaw County, which has a high proportion of seniors, may reflect it having the smallest population of any county in Michigan (making any estimates more prone to variability) and the lack of long-term facilities within the county (leading to the frailest residents relocating to Houghton County prior to their demise).

In total, there were 3514 deaths among Upper Peninsula residents in 2022 (compared to 3374 in 2015 and 3620 in 2018). Of these deaths, 810 (23.1%) had heart disease as the cause of death (compared to 1072 (31.8%) in 2015 and 1064 (29.4%) in 2018). In 2022, 725 (20.6%) had cancer as a cause (compared to 784 (23.2%) in 2015 and 835 (23.1%) in 2018) (see **Table 9-12**). [11] The number of and percentages of deaths from heart disease and cancer are decreasing.

The mortality rates for deaths resulting from cardiovascular events are presented in **Table 9-13**. Only the crude mortality rates for deaths resulting from stroke are presented as most counties did not have enough such events to generate a reliable age-adjusted estimate. Deaths from heart disease, both crude and age-adjusted rates are provided. Ontonagon, Gogebic, and Luce counties had the highest crude rates of heart disease mortality, reflecting their high elderly populations, while Delta and Ontonagon counties had the highest crude mortality rate following stroke. Of interest, Gogebic and Iron counties had the highest age-adjusted heart disease mortality rates.

Table 9-11: 2022 Mortality Rates per 100,000						
	Crude Mortality	Crude Mortality, Males	Crude Mortality, Females	Ade-adjusted Mortality	Age-adjusted Mortality, Males	Age-adjusted Mortality, Females
Michigan	1097.8	1146.5	1049.7	852.8	1012.4	719.2
Alger	1232.9	1281.5	1170.7	757	873.8	641.5
Baraga	1440.3	1354.9	1546.4	973	1038.9	878.6
Chippewa	1220.0	1258.0	1173.8	900.5	1066.5	727.4
Delta	1200.3	1295.7	1104.1	699.7	900.6	535.9
Dickinson	1074.5	1183.4	961.4	663.1	842.3	492.1
Gogebic	1278.8	1293.9	1262.9	712.7	801.2	627.9
Houghton	985.8	954	1024.1	794.4	945.6	658.5
Iron	1566.7	1734.2	1398.2	776.4	969	601.2
Keweenaw	1205.4	1462.5	940.7	519.8	*	*
Luce	1942.7	1844.5	2049.7	1034.1	1093.5	958.1
Mackinac	1611.3	1756.9	1462.4	837	981.7	711.2
Marquette	1023.0	1040.6	1005.0	736.8	819.5	653.2
Menominee	799.8	739.6	864.3	454.3	469.8	423.2
Ontonagon	1837.9	2098.6	1560.3	886.5	1104.6	649.6
Schoolcraft	1410.9	1518.9	1302.5	810.2	940.5	689.9

Cancer mortality rates are presented in **Table 9-12**. Once again, crude rates are led by Luce, Mackinac, and Schoolcraft counties in large part because of the high percentage of elderly within their borders. The Baraga County rates stand out from the rest of the counties in both crude and age-adjusted forms. Baraga's age profile cannot explain the results.

Cancer and cardiovascular disease are the most common causes of mortality. Other common causes of death are listed in **Table 9-14**. At a county-level, these causes of death did not occur frequently enough to provide reliable age-adjusted rate estimates, so only crude rates are provided. Given that the data were collected in 2022, COVID-19 was the fourth most frequent cause of death that year. The higher rate of mortality associated with diabetes mellitus seen in several counties may, in part, be because of the region's older population, a higher rate of obesity, and the ethnic makeup of the population. Chronic lung disease, especially chronic obstructive pulmonary disease (COPD) are associated with smoking, so these deaths may reflect smoking rates.

Table 9-12: 2022 Cancer Mortality Rates per 100,000				
	Crude Cancer Mortality Rate	Age-adjusted Cancer Rate	Age-adjusted Cancer Rate — Male	Age-adjusted Cancer Rate — Female
Michigan	209	153.9	179.2	135.4
Alger	285.4	159.2	*	*
Baraga	278.4	371.5	*	*
Chippewa	300.2	221	255.9	187.3
Delta	264	152.7	180.7	135.8
Dickinson	177.8	103.4	141.4	*
Gogebic	202.7	108.8	*	*
Houghton	208	163.3	186.9	148
Iron	292.7	132	*	*
Keweenaw	*	*	*	*
Luce	452.7	233.6	*	*
Mackinac	366.2	195.7	293.3	*
Marquette	193.5	135.3	158.2	112.9
Menominee	232.2	116.3	99.8	126.9
Ontonagon	292	*	*	*
Schoolcraft	343.5	172.1	*	*

Table 9-13: 2022 Cardiovascular Mortality Rate per 100,000					
	Crude Mortality Rate, Stroke	Crude Mortality Rate, Heart Disease	Age-adjusted Mortality Rate, Heart Disease	Age-adjusted Mortality Rate, Heart Disease — Male	Age-adjusted Mortality Rate, Heart Disease — Female
Michigan	57.6	270.5	205.4	257.5	163.3
Alger	*	331.1	200.4	301.6	*
Baraga	*	242.1	*	*	*
Chippewa	38.6	250.6	184.4	272.6	103.6
Delta	35.4	296.7	168.5	236.2	115.5
Dickinson	58	239.6	139.8	183.9	101.3
Gogebic	34.9	419.3	211.5	260.1	155.3
Houghton	59.4	218.8	177.1	236.2	130
Iron	77.5	352.9	159.7	230.1	*
Keweenaw	*	*	*	*	*
Luce	113.2	414.9	217.4	*	*
Mackinac	137.3	366.2	195.7	293.3	*
Marquette	39	213	144.5	180.3	110
Menominee	*	279.5	147.7	182.3	110.5
Ontonagon	103.1	429.4	173.9	*	*
Schoolcraft	61.3	233.1	*	*	*

Table 9-14: Crude Mortality Rates, Other Leading Causes of Death, 2022							
	Accidents/ Injuries	COVID	Stroke	Chronic Lower Respiratory Diseases	Alzheimer's Disease	Diabetes	Kidney Disease
Michigan	64.1	59.3	57.6	52.6	41.8	34.0	20.8
Alger	68.5	*	*	1254.6	*	*	*
Baraga	84.7	*	*	*	*	60.5	72.6
Chippewa	35.8	82.6	38.6	99.1	33.0	55.1	33.0
Delta	62.6	73.5	35.4	54.4	19.1	38.1	29.9
Dickinson	85.0	69.9	58.0	50.2	23.2	23.2	23.2
Gogebic	48.9	62.9	34.9	83.9	*	*	*
Houghton	67.5	48.5	59.4	48.6	54.0	29.7	16.2
Iron	86.1	146.3	77.5	60.3	111.9	51.6	43.0
Keweenaw	231.8	*	*	*	*	*	*
Luce	*	132.0	113.2	150.9	*	*	*
Mackinac	45.8	64.1	137.3	128.2	*	45.8	54.9
Marquette	54.0	42.0	39.0	43.5	48.0	22.5	25.5
Menominee	38.7	30.1	*	38.7	21.5	*	*
Ontonagon	85.9	188.9	103.1	*	*	171.8	*
Schoolcraft	*	85.9	61.3	122.7	73.6	*	*

9.4 Possible Future Implications

- In the Upper Peninsula, as in the rest of the United States, obesity combined with physical inactivity is projected to overtake tobacco use as the leading root cause of preventable mortality, morbidity, disability, and years of potential life lost.
- The greater prevalence of high-risk health behaviors among low-income populations combined with lower utilization of recommended health screening and routine preventive health care, translates into a higher chronic disease burden and poorer health outcomes for many of our residents.
- Upper Peninsula rates for various behavioral risk factors including tobacco use, physical inactivity, and poor nutrition are troubling.

- Because much of chronic disease is preventable with behavior change, predictions of future health, outcomes are not set in stone. Addressing social determinants of health that impact our residents as well as implementing targeted and effective prevention efforts can have an enormous impact on the health of our communities in future decades.

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10 MENTAL HEALTH

10.1 Introduction

The mind-body connection and the importance of mental health to overall wellbeing has been recognized since the time of the ancient Greeks. Mental health refers to emotional, psychological, and social well-being. It impacts our ability to think clearly, our mood, and our behavior. It also informs our relationships, our ability to deal with challenges, and whether we are capable of making healthy choices. A person can experience poor mental health without being diagnosed with a mental illness and a person with mental illness can experience periods of physical and mental well-being.

Mental health issues can indirectly impact families and communities, but these impacts can be difficult to identify and quantify.

10.2 National Mental Health Data

10.2.1 Prevalence

According to the National Alliance on Mental Illness [1]:

In 2021, approximately 57.8 adults in the United States experienced mental illness, with 14.1 million having *serious* mental illness. Approximately 19.4 million adults experienced a co-occurring substance use disorder and mental illness. Among those aged 6 to 17 years, 16.5% experienced a mental health disorder in 2016. Among demographic groups, non-Hispanic Whites had a prevalence of 23.9%, Native Americans a prevalence of 26.6%, and those identifying as gay/lesbian/bisexual a prevalence 50.2%.

Annual prevalence among adult in the United States:

- Schizophrenia: <1%
- Bipolar disorder (BPD): 2.8%
- Major depressive episode: 8.3%
- Anxiety disorders: 19.1%
- Post-traumatic stress disorder (PTSD): 3.6%
- Obsessive compulsive disorder: 1.2%
- Borderline personality disorder: 1.4%

10.2.2 Treatment

In 2021, 47.2% of adults with mental illness in the United States received treatment while 65.4% of those with serious mental illness received treatment. Of those aged 6 to 17 years with a mental health disorder, 50.6% received treatment. Annual treatment rates are 52.4% for non-Hispanic Whites and 55.6% for those identifying as gay/lesbian/bisexual. In those under 18 years of age, depression is the number one cause of hospitalization. [1]

Barriers to treatment include a lack of health insurance coverage for 10.6% of those with mental illness and 11.9% for those with serious mental illness. Of those living in the United States, 160 million live in a designated Mental Health Professional Shortage Area.

The average delay from onset of symptoms to treatment is 11 years. [1]

10.2.3 Ripple Effect

The ramifications of mental illness extend well beyond the immediate impact of one person dealing only with their illness. For example:

- People with depression have a 40% higher risk of developing cardiovascular disease and metabolic diseases than the general population. Those with serious mental illness have double the risk.
- High school students with significant symptoms of depression are twice as likely to drop out of school.
- At least 8.4 million people in the United States provide care to an adult with a mental or an emotional health issue. These caregivers spend an average of 32 hours per week providing unpaid care.
- The unemployment rate for those with a mental health issue is 7.4% compared to 4.6% in the community.
- 21.1% of homeless in the United States have a serious mental health condition.
- 19.7% of Veteran's Health Administration (VA) patients have a diagnosed mental illness.
- Serious mental illness results in $193.2 billion in lost earnings each year across the U.S. economy.
- Depression and anxiety disorders cost the global economy $1 trillion in lost productivity each year. [1]

10.2.4 Mental Health and the Criminal Justice System

Given that mental health issues can have a negative impact on behaviors and the ability to interact appropriately with others, it is not surprising that those with mental health concerns are more likely to have interactions with the criminal justice system. For example:

- People with serious mental illness are booked into jails two million times a year.
- Among those incarcerated, 37% in state and federal prisons and 44% in local jails have a history of mental illness. Of women in prison, 66% report a history of mental illness.
- Nearly one in four people shot and killed by police officers between 2015 and 2020 had a mental health condition.
- Suicide is the leading cause of death for people held in local jails.
- An estimated 4,000 people with serious mental health illness are held in solitary confinement in prisons in the United States.
- Among incarcerated individuals with a mental health condition, non-whites are more likely to go to solitary confinement, be injured, and stay longer in jail.
- Of youth in the juvenile justice system, 70.4% have a diagnosed mental illness and youth in detention are 10 times more likely to suffer from psychosis than youth in the community.

- Of those incarcerated in state and federal prisons with a history of mental illness, 63% do not receive treatment. About 45% of those in local jails receive treatment.

Access to treatment is essential for people with mental illness who have interacted with the criminal justice system. Upon release from incarceration, having healthcare coverage increases the likelihood of engaging in services that reduce recidivism.

10.3 Common Mental Health Conditions

The *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) [2] provides the diagnostic criteria for hundreds of mental disorders. This section will address some of the more frequently encountered disorders.

10.3.1 Depression [3]

Depression, also referred to as a depressive disorder, is the leading cause of disability worldwide. [1] Depression, if left untreated, can have devastating consequences for individuals and their families. Fortunately, with early detection and an individualized treatment plan of medication, psychotherapy, and healthy lifestyle choices (diet and exercise), many with depression can and do get better. Without treatment, episodes can last a few months to several years. Unfortunately, depressive episodes are often recurrent, with nearly 8% (19 million) of adults in the United States having at least one major depressive episode in the past year.

The results of the 2024 UPCHIPS for reporting depression are shown in **Tables 13-49A** and **13-49B**.

10.3.1.1 Links to Obesity

As seen in Chapter Nine, depression was linked to chronic illnesses. This is unclear whether the depression led to the illness, or the individual's chronic illness impacted their mood. Depression is also linked to obesity. The UPCHIPS data from both all three surveys confirm this. In models controlling for age, sex, level of income, educational attainment, and county of residence, the average BMI was significantly higher in those reporting depression (2017: adjOR: 1.030, 95%CI: 1.019, 1.041; 2021: adjOR=1.043, 95%CI: 1.031, 1.056; 2024: adjOR=1.034, 95%CI: 1.022, 1.046; Combined: adjOR=1.036, 95%CI: 1.029, 1.043). Similar findings were seen for those meeting the criteria for obesity (2017: adjOR: 1.45, 95%CI: 1.25, 1.68, χ^2=24.7, p<.0001; 2021: adjOR=1.58, 95%CI: 1.34, 1.88, χ^2=28.4, p<.0001; 2024: adjOR=1.74, 95%CI: 1.48, 2.06; Combined: adjOR=1.60, 95%CI: 1.46, 1.76).

10.3.2 Bipolar Disease (Manic-Depressive) [4]

Those with bipolar disease experience both high and low moods (mania and depression) much more extreme than the typical ups-and-downs most people experience. Bipolar disorder causes dramatic shifts in a person's mood, energy, and ability to think clearly.

The average age-of-onset is about 25 years, but it can occur in the teens, or more uncommonly, in childhood. Bipolar disorder affects about 2.8% of the population in the United States, with men and women being impacted equally. At some point in their life 4.4% will have bipolar disease. Of those diagnosed with bipolar disease, nearly 83% are classified as severe. If left untreated, bipolar disorder

Table 10-1: Suicide Rates (per 100,000) in Michigan, 2005, 2014-2022

Year	Rate
2005	11
2014	13.3
2015	13.8
2016	13.3
2017	14.1
2018	15
2019	14.3
2020	14
2021	14
2022	14.7

typically worsens. However, with a good treatment plan including psychotherapy, medications, a healthy lifestyle, a regular schedule, and early identification of symptoms, many people live well with the condition.

10.3.3 Suicide

"Suicide is a complex problem requiring a full public health approach involving community prevention and clinical intervention." [5] While not a mental disorder or illness, suicide, often a byproduct of mental illness, is the second leading cause of death in the United States among people aged 10 to 14, the third leading cause in those aged 15 to 24 years, and the 12th leading cause overall. Of those who died from suicide, 46% had been diagnosed with a mental health condition and 90% had shown symptoms of a mental health condition. [1]

Lesbian, gay, and bisexual youth are four times more likely to attempt suicide than straight youth, while transgender adults are nearly nine times more likely to attempt suicide than the general population. Males account for 79% of suicide deaths, primarily because of the methods males employ.

The annual prevalence of thoughts of suicide in the United States is 4.8% in all adults, 22% of high school students, 8.5% in those identifying as Native American, and 45% in lesbian, gay, and bisexual high school students. [1]

The age-adjusted suicide rate per 100,000 population in 2022 was 15.0 in Michigan and 14.8 the United States. Rates in various states ranged from 8.3 in New Jersey to 29.3 in Montana. [6] The suicide rates per 100,000 population in Michigan from 2014 through 2022 are shown in **Table 10-1**. [7] The number and rates of suicide deaths in each county from 2018 through 2022 are presented in **Table 10-2**.

Table 10-2: Suicide Death by County, 2018-2022

	Deaths	Rate per 100,000
Alger	11	24.4
Baraga	14	34.2
Chippewa	39	21.2
Delta	45	25.3
Dickinson	22	17.5
Gogebic	11	15.9
Houghton	32	18.2
Iron	16	28.9
Keweenaw	*	*
Luce	*	*
Mackinac	14	25.8
Marquette	72	21.9
Menominee	26	23
Ontonagon	*	*
Schoolcraft	*	*
* Data suppress due to confidentiality constraints to protect personal privacy		

10.3.3.1 Suicides in Veterans [5]

The percentage of adults in each of the counties in the Upper Peninsula who are veterans is greater than the percentages seen in the entire State of Michigan (5.8%) or nationally (6.2%) (see **Table 10-3**). Those who identify as Native American are more likely than others be veterans. The unadjusted suicide rate for Veterans was 23.3 per 100,000 in 2001 and 33.9 per 100,000 in 2021. For non-Veteran U.S. adults, the suicide rate was 12.6 per 100,000 in 2001 and 16.7 per 100,000 in 2021. The risk of suicide in veterans is greater than for adults who did not serve (**Figure 10-1**). The unadjusted suicide rate for male veterans by age group from 2001 to 2021 is shown in **Figure 10-2**. The rates for female veterans are shown in **Figure 10-3**. In 2021, the unadjusted suicide rate of Veteran men was 35.9 per 100,000 (3.5% higher than in 2020) and it was 17.5 per 100,000 for Veteran women (23.7% higher than in 2020). **Figure 10-4** shows a comparison of suicide rates in male and female veterans. Going from 2020 to 2021 the age- and sex-adjusted suicide rate increased by 11.6% (unadjusted rate increased from 32.6 per 100,000 to 33.9). In 2021, Veterans between ages 18- and 34-years old had an unadjusted suicide rate of 49.6 per 100,000, while the rate was 35.5 per 100,000 for those between ages 35- and 54-years old; 29.9 per 100,000 for those between ages 55- and 74-years old; and 32.1 per 100,000 for those aged 75-years-old and older. Suicide is the second-leading cause of death among Veterans under 45 years of age. In 2021, the suicide

Table 10-3: Veteran and Native American Populations, 2018-2022

County		
	Civilian Veteran Population (2018-2022)	Native American Population (2018-2022)
Alger	8.5%	4.7%
Baraga	9.2%	13.9%
Chippewa	8.4%	16.6%
Delta	11.2%	2.9%
Dickinson	9.7%	1.1%
Gogebic	11.0%	3.3%
Houghton	7.1%	0.8%
Iron	10.7%	1.6%
Keweenaw	15.8%	0.4%
Luce	11.9%	5.8%
Mackinac	10.5%	15.9%
Marquette	9.0%	2.1%
Menominee	11.2%	3.2%
Ontonagon	15.0%	2.1%
Schoolcraft	9.2%	9.6%
Nationally	6.2%	2.9%
Michigan	5.8%	1.7%

rate was 36.3 per 100,000 for White Veterans; 31.6 per 100,000 for Asian, Native Hawaiian or Pacific Islander Veterans; 17.4 per 100,000 for Black or African American Veterans; and 6.7 per 100,000 for Veterans of multiple races. Those identifying as Native Americans had the highest unadjusted rate in 2021 at 46.3 per 100,000. The unadjusted suicide rates in veterans by race is shown in **Figure 10-5**. Among those who died from suicide in 2021, firearms were involved in 72.2% of veteran deaths and 52.2% of non-veteran deaths. For veteran men the firearm suicide rate was 62.4% higher than for non-veteran men. For veteran women the firearm suicide rate was 281% higher than for non-veteran women.

A compilation of the risk factors associated with suicide in veterans is shown in **Figure 10-6.** The trend in suicide method employed by veterans over time is shown in **Figure 10-7**.

The locations of Veterans Administration Centers in the Upper Peninsula and the northern portion of the Lower Peninsula are shown in **Figure 10-8**.

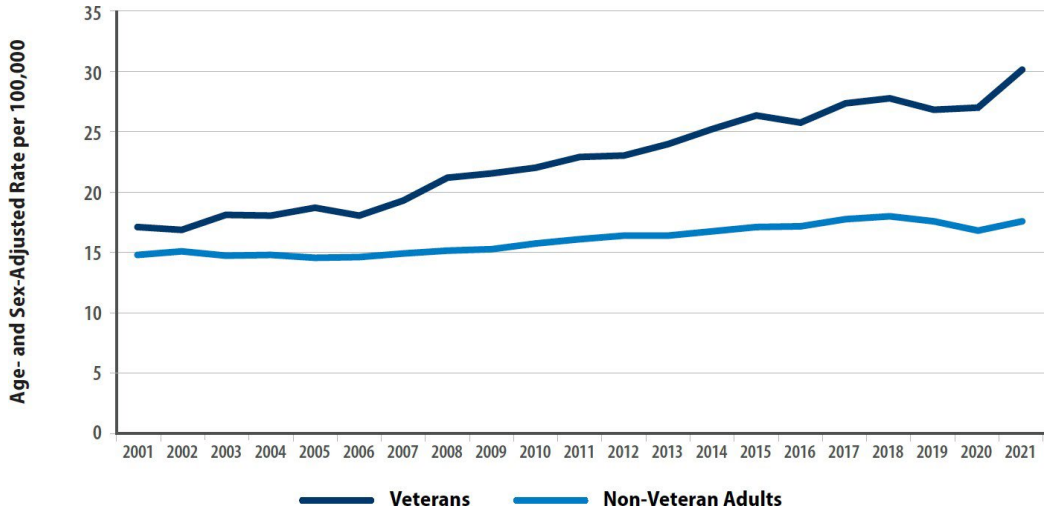


Figure 10-1: Age- and sex-adjusted suicide rate in veteran and non-veteran U.S. Adults, 2001-2021

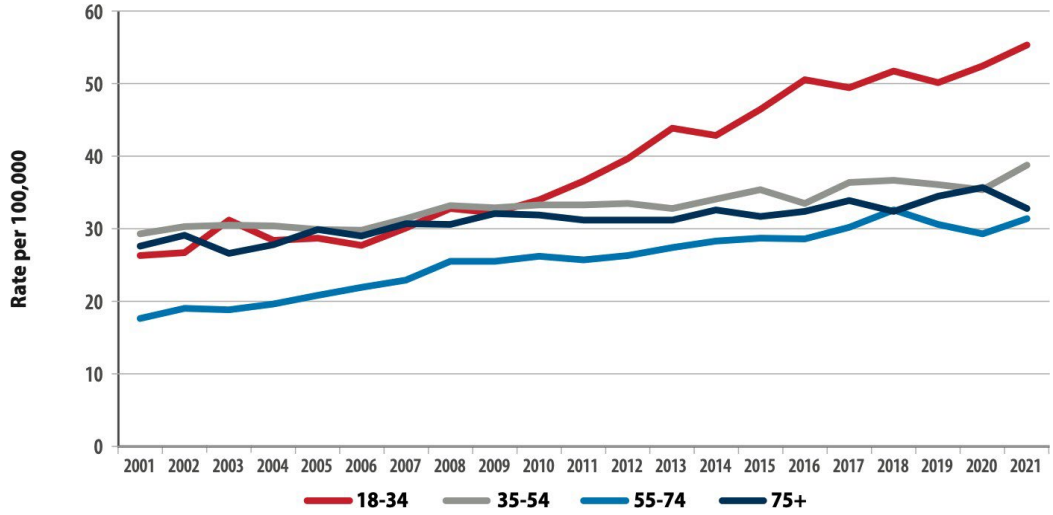


Figure 10-2: Unadjusted suicide rate in male veterans by age group, 2001-2021

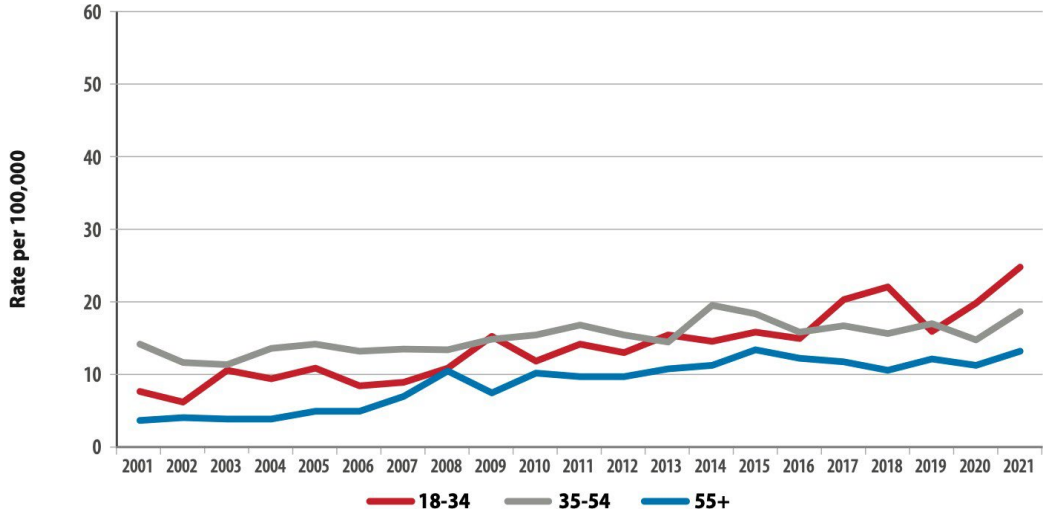


Figure 10-3: Unadjusted suicide rate in female veterans by age group, 2001-2021

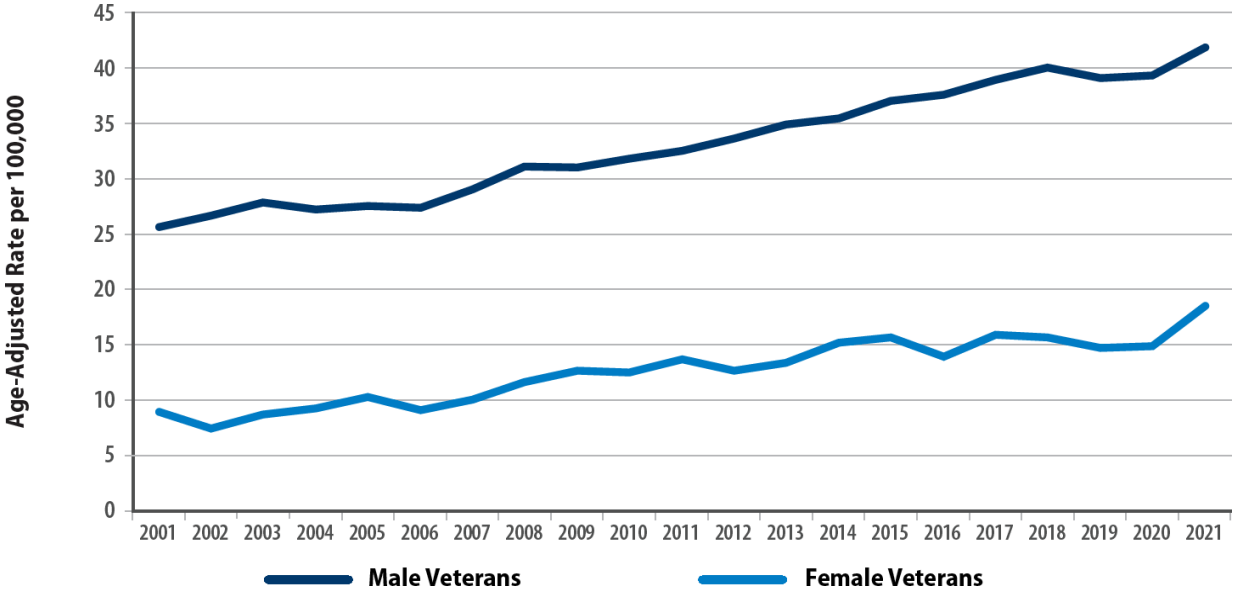


Figure 10-4: Age-adjusted suicide rate in male and female veterans, 2001-2021

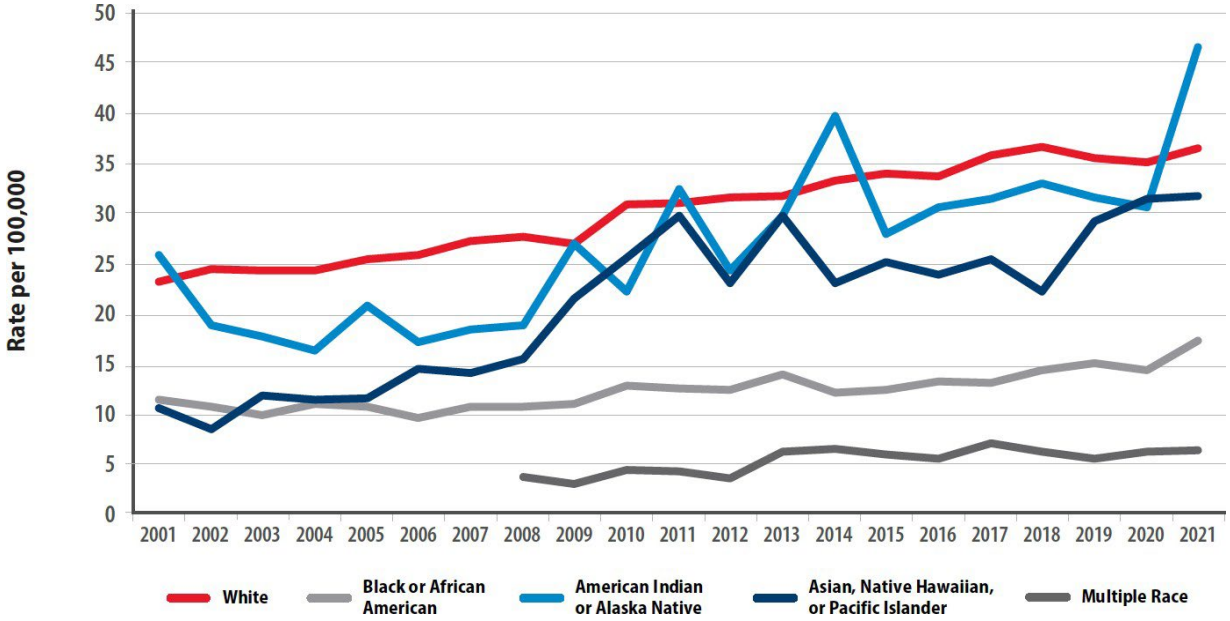


Figure 10-5: Unadjusted suicide rate in veterans by race, 2001-2021

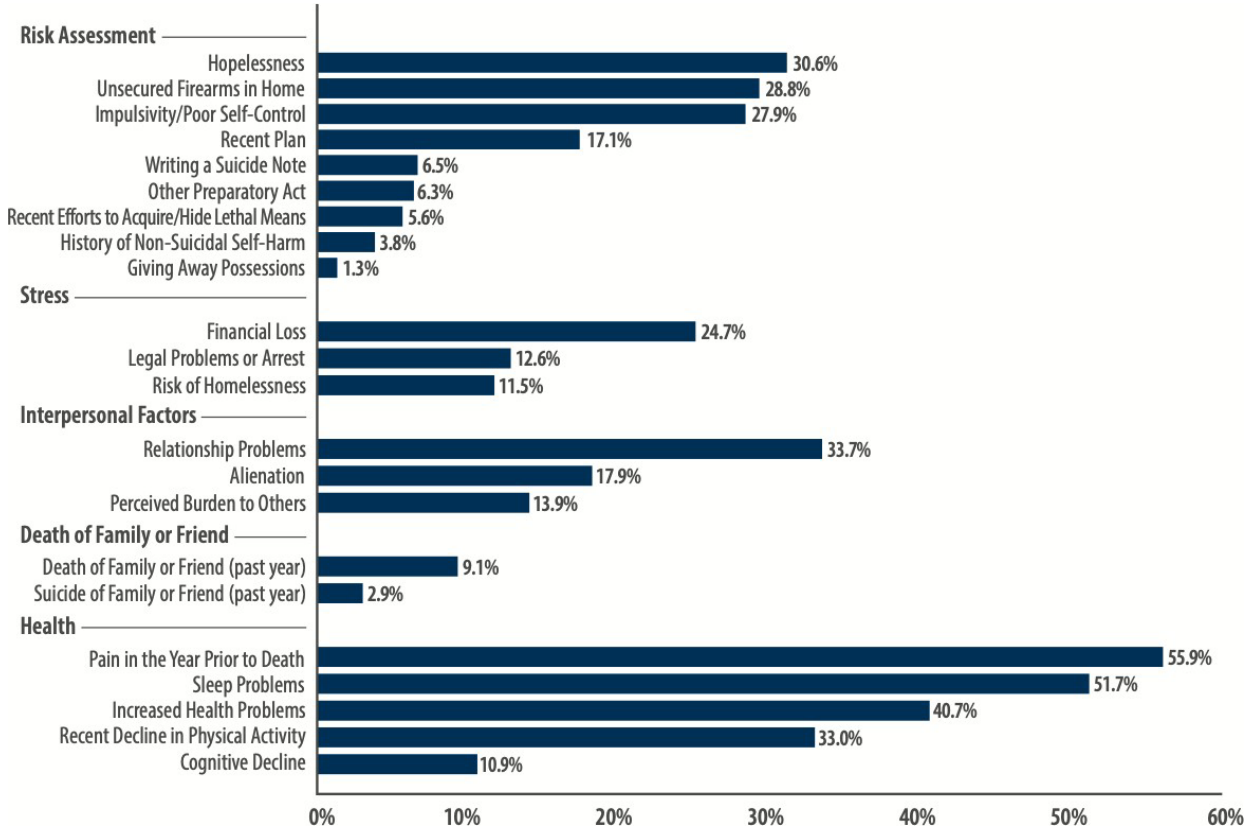


Figure 10-6: Documented suicide risk factors, percentage, recent veteran VHA users who died by suicide in 2019-2021 and received BHAP reviews

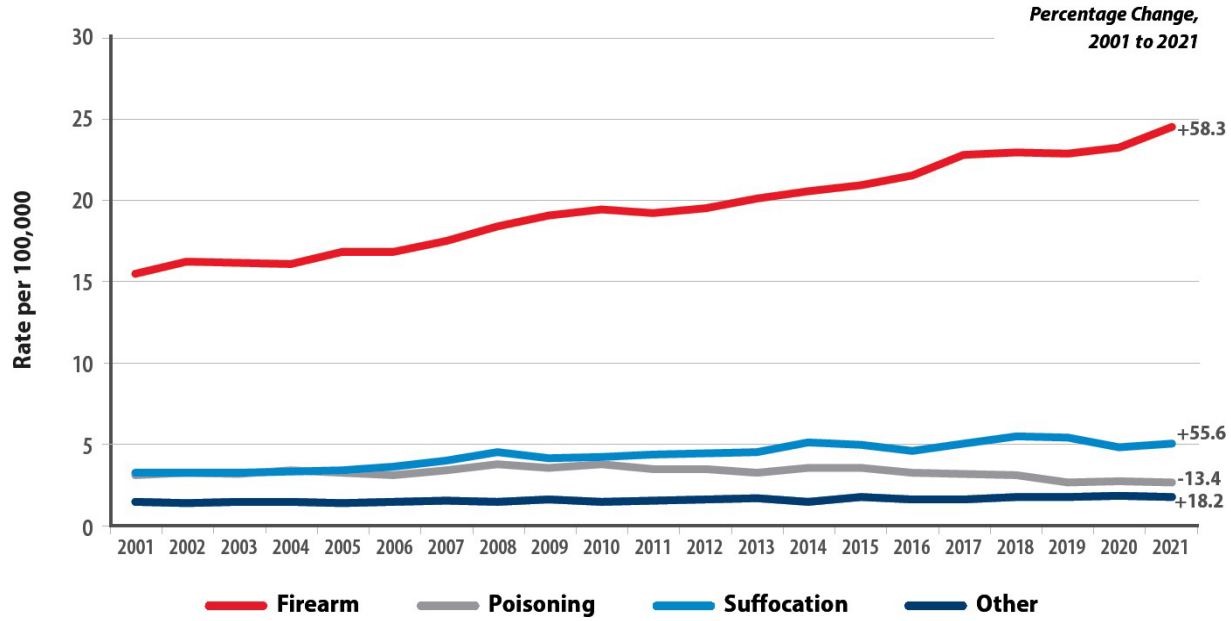


Figure 10-7: Unadjusted method-specific suicide rate in veterans, 2001-2021

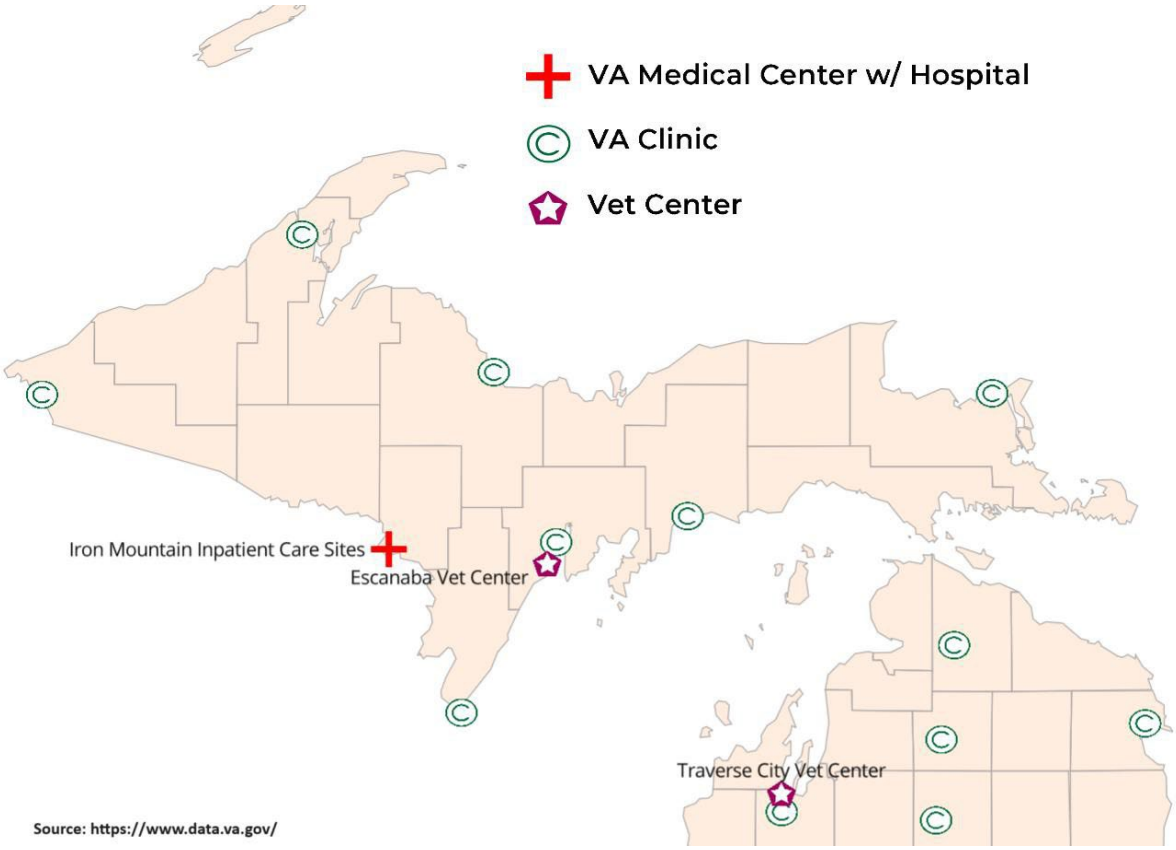


Figure 10-8: VA Medical Centers with hospitals, VA clinics, and Vet Centers in the Upper Peninsula

To combat the high rate of suicides in veterans, the Veterans Administration has made the following suggestions:

1) Promote secure firearm storage for veteran suicide prevention.
2) Implement and sustain community collaborations focused upon community-specific veteran suicide prevention plans.
3) Continue expansion of readily accessible crisis intervention services.
4) Improve tailoring of prevention and intervention services to the needs, issues, and resources unique to veteran subpopulations.
5) Advance suicide prevention meaningfully into non-clinical support and intervention services, including financial, occupational, legal, and social domains.
6) Increase access to and utilization of mental health services across a full continuum of care
7) Integrate suicide prevention within medical settings to reach all veterans.

10.3.4 Anxiety Disorders [8]

Anxiety disorders are the most common mental health concern in the United States. Over 40 million (19.1%) adults in the United States have an anxiety disorder. The rate is higher in women (23.4%) than in men (14.3%). At some time during their lifetime, 31.1% of adults will have an anxiety disorder. Most people develop symptoms before age 21, with approximately 7% of children aged 3 to 17 years experiencing issues with anxiety each year.

Anxiety disorders are a group of related conditions, each having unique symptoms. However, all anxiety disorders have one thing in common: persistent, excessive fear or worry in situations that are not threatening.

10.3.4.1 Links to Obesity

Similar to depression, anxiety is linked to chronic illnesses. This is unclear whether the anxiety and stress led to the illness, or the individual's chronic illness impacted their anxiety level. Like depression, anxiety is also to obesity, but not to the same degree. The UPCHIPS data from ask three surveys confirm this. In models controlling for age, sex, level of education, educational attainment, and county of residence, the average BMI was significantly higher in those reporting anxiety (2017: adjOR: 1.023, 95%CI: 1.011, 1.035; 2021: adjOR=1.016, 95%CI: 1.003, 1.029; 2024: adjOR=1.023, 95%CI: 1.011, 1.035; Combined: adjOR=1.036, 95%CI: 1.029). Similar findings were seen for those meeting the criteria for obesity (2017: adjOR: 1.40, 95%CI: 1.19, 1.65; 2021: adjOR=1.17, 95%CI: 0.97, 1.41; 2024: adjOR=1.34, 95%CI: 1.12, 1.60; Combined: adjOR=1.32, 95%CI: 1.20, 1.46).

10.3.5 Schizophrenia [9]

Schizophrenia is serious, complex, long-term mental illness that interferes with the ability to think clearly, make decisions, and relate to others.

While the exact prevalence is difficult to measure, schizophrenia is estimated to affect between 0.25% and 0.64% of adults in the United States. The average onset is in the late teens and early 20s for men and the late 20s to early 30s for women. A new diagnosis is unusual in those younger than 12 or older than 40.

Diagnosing schizophrenia in teenagers can be difficult as the first signs can be a change of friends, a drop-in grade, sleep problems, and irritability, all of which are common and nonspecific adolescent behaviors. Other indications of schizophrenia include isolating oneself and withdrawing from others, an increase in unusual thoughts and suspicions, and a family history of psychosis. This early stage of the disorder is called the "prodromal" period.

10.4 Mental Health Screening

A mental health screening is an examination of emotional health and used to help diagnose a variety of mental disorders, including depression, anxiety disorders, eating disorders, attention deficit hyperactivity disorder, post-traumatic stress disorder (PTSD), substance abuse/addictive disorders, bipolar disorder, and schizophrenia/psychotic disorders.

Mental health screening may be indicated if any of the following symptoms and signs are present:

- Excessive worrying or fear
- Extreme sadness
- Major changes in personality, eating habits, and/or sleeping patterns
- Dramatic mood swings
- Anger, frustration, or irritability
- Fatigue and lack of energy

- Confused thinking and trouble concentrating
- Feelings of guilt or worthlessness
- Avoidance of social activities

A mental health screening performed by a medical provider often includes an interview (primarily about feelings, mood, behavioral patterns, and other symptoms), a review of the medical history, a physical examination, and blood tests (if indicated). Standardized questionnaires are often used to evaluate for specific diagnoses.

10.5 Treatment of Mental Illness

With the development of telemedicine, the number of psychiatrists practicing in the Upper Peninsula is difficult to determine. Most of the care provided by pediatric/adolescent psychiatrists is provided by physicians located in either the Lower Peninsula or Wisconsin who interact with patients remotely.

The NorthCare Network works through five Community Mental Health agencies: Copper Country Community Mental Health, Gogebic County Community Mental Health, Hiawatha Behavioral Health, Northpoint Behavioral Health, and Pathways Community Mental Health. The data provided by the NorthCare Network includes both those on regular Medicaid and Healthy MI, which is a version of Medicaid for those who do not qualify for Medicaid but have enough of a financial need to qualify for Healthy MI.

The 2024 UPCHIPS reported on the access to mental health services and barriers to receiving these services in **Tables 13-52A** and **13-52B**.

10.6 Future Implications

The barriers to mental health services identified in previous community health needs assessments persist. Improvements can be achieved by focusing on:

- Access to care. The paucity of mental health care professionals and the distance one must travel see one makes these services unattainable for a substantial number of people. This includes training and recruiting more mental health professionals and placing them in underserved regions. This would also include an expansion of services for children and adolescents. The Certificate of Need calculations indicate the need for 75 adult beds for the Upper Peninsula, but there are only 57 beds available. In 2023, there were 20 adult psychiatric beds at MyMichigan Medical Center in Sault Ste Marie, where the average daily census was 8.8, and 37 adult psychiatric beds at Upper Peninsula Health System in Marquette where the average daily census was 15.7. [10] For pediatric/adolescents there are beds, but no pediatric/adolescent psychiatrists.
- Training primary care health professionals to care for mental health issues in their patients to lessen the burden on our limited number of psychiatrists.
- Expanding Telehealth and other technologies to alleviate distance and workforce shortages barriers to care.

References:

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11 SUBSTANCE ABUSE

11.1 Introduction

Substance abuse is a pervasive issue in communities across the country. The number of people who abuse substances often reflects the underlying stress in the community from factors such as unemployment, wars, and pandemics. Underlying substance abuse is addiction.

11.1.1 Addiction

As defined by the American Society for Addiction Medicine in September 2019,

> Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.
> Prevention efforts and treatment approaches for addiction are generally as successful as those for other chronic diseases. [1]

Addiction is also characterized by diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.

Genetic factors may account for about half of the likelihood that an individual will develop an addiction. Interactions with environmental and cultural factors as well as acquired individual resiliencies also contribute to determining a predisposition towards addiction.

Addiction is now considered a complex "disease" that merits therapeutic interventions. Drug use alters the brain in ways that make quitting difficult, even in those motivated to quit, yet addiction can be effectively prevented, treated, and managed by healthcare professionals in combination with family or peer support. [2]

The most common symptoms of addiction are severe loss of control, continued use despite serious consequences, preoccupation with using, failed attempts to quit, tolerance, and withdrawal. [3] If left untreated or treated inadequately, addiction may lead to disability or premature death as well as cause significant harm to families, relationships, schools, workplaces, and communities.

Individuals may become addicted to many things including tobacco, alcohol, gambling, food, sex, and, of course, legal and illegal drugs. For the purposes of this report, we have focused on tobacco, alcohol, marijuana, and opioids.

11.2 Tobacco

More than 16 million people are living with a disease caused by smoking. Each year in the United States, 480,000 deaths can be attributed to smoking. [4] Smoking causes many types of cancer, heart disease,

stroke, lung diseases, diabetes, and chronic obstructive pulmonary disease (COPD) (emphysema and chronic bronchitis), while also increasing the risk for tuberculosis, certain eye diseases, and immune system related diseases such as rheumatoid arthritis. Secondhand smoke exposure contributes to 41,000 deaths each year in nonsmoking adults and 400 deaths in infants. Secondhand smoke increases the risk of stroke, lung cancer, and coronary heart disease in adults, and sudden infant death syndrome (SIDS), acute respiratory infections, middle ear disease (ear infections), severe asthma, respiratory symptoms, and slowed lung growth in children. [4,5] Third-hand exposure occurs when smoke residue on clothing, carpeting, and other surfaces is absorbed via direct contact through the mouth or skin.

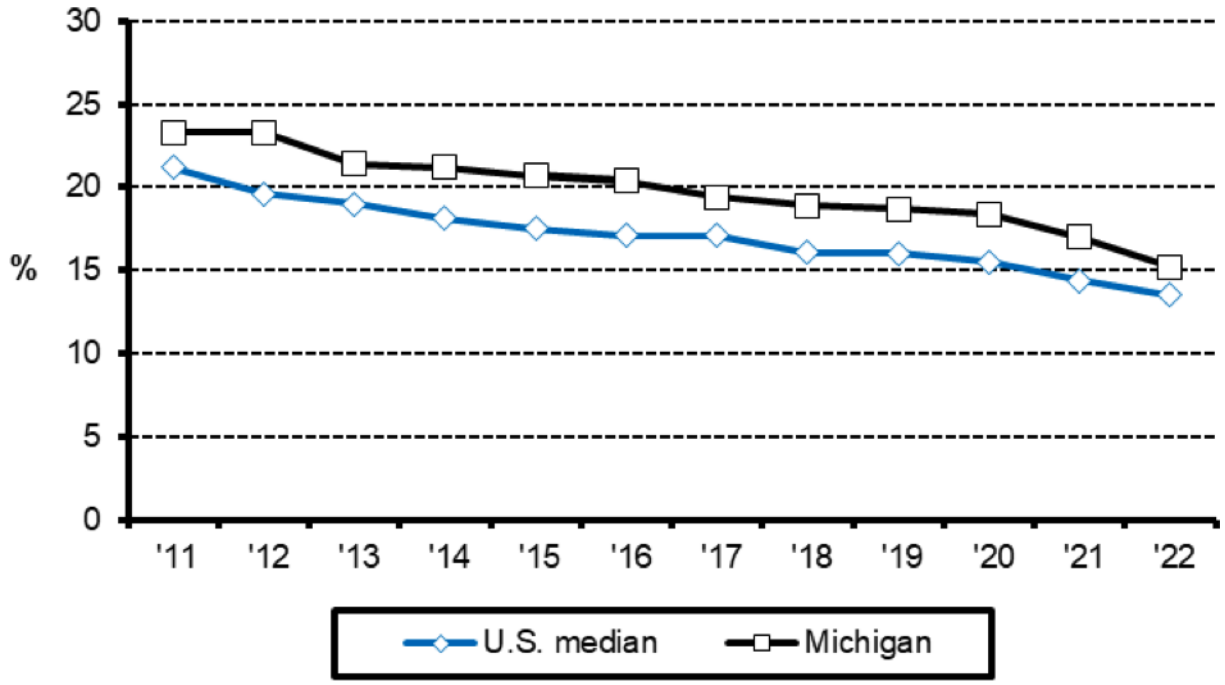


Figure 11-1: Behavioral Risk Factor Survey: regular smoking rates for Michigan and the median of state. rates in the United States, 2011-2023

11.2.1 Michigan Numbers

In the 2023 Michigan BRFSS [6] reported that 13.6% (95%CI: 12.6, 14.7) of adults (18 years and older) in Michigan smoked regularly, with 14.0% (95%CI: 12.6, 15.5) % in male adults and 13.3% (95%CI: 11.9, 14.8) in females. The median for states across the nation is 12.1%. The trends of smoking regularly from 2011 through 2022 in Michigan and the median of rates of states in the United States are shown in **Figure 11-1**. Those from households with annual incomes below $20,000 makes at a rate of 31.3% (95%CI: 26.6, 36.5) while those from households with annual incomes at or above $75,000 percent year had 6.5% (95%CI: 5.4, 7.9) regular smokers. A similar gap was seen in those without and with health insurance (22.6% (95%CI: 16.9, 29.7) versus 13.4% (95%CI: 12.4, 14.5)).

Exposure to secondhand smoke in the home or care was reported by 15.8% (95%CI: 14.2, 17.6) of Michigan adults These exposures were more common in males than females (17.2% (95%CI: 14.7, 19.9) versus 14.6% (95%CI: 12.4, 17.1)). The prevalence of secondhand smoke exposure was decreased with increasing household income (36.1% (95%CI: 27.9, 45.1) for annual household income less than $20,000 and 7.4% (95%CI: 5.7, 9.6) for $75,000 or above). Uninsured adults (24.8%, 95%CI: 14.6, 39.2) reported secondhand smoke exposure more frequently than insured adults (15.3%. 95%CI: 13.6, 17.2). [6]

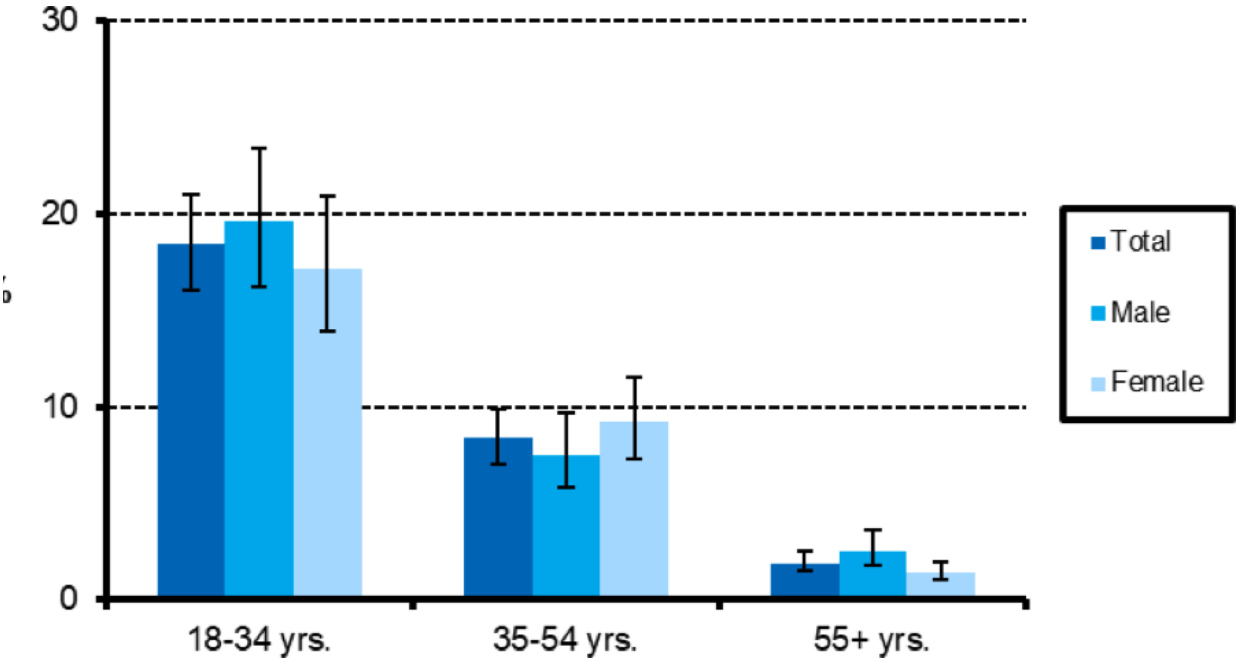


Figure 11-2: Behavioral Risk Factor Survey: e-cigarette use for Michigan by age and sex, 2023

E-cigarette use in adults in 2023 was 9.8% (95%CI: 8.5, 11.4) in males, 7.1% (95%CI: 6.1, 8.3) in females, and 8.5% (95%CI: 7.6, 9.4) overall. The median among states across the nation was 7.7%. The breakdown by age and sex is shown in **Figure 11-2**. In those 18 to 24 years of age, the use of e-cigarettes in 2023 was 20.2% (95%CI: 16.2, 24.8) increased from 11.6% in 2016 to 12.8% in 2017, but decreased from 23.7 in 2022. Use was higher in those without health insurance (12.9%, 95%CI: 8.4, 19.3) than those with health insurance (8.3%, 95%CI: 7.4, 9.3). The gap based on annual household income was not as great with a rate of 10.9% (95%CI: 8.0, 14.6) for those in households below $20,000 and 6.6% (95%CI: 5.4, 8.2) for those in household at or above $75,000. [6]

Smoking in adolescents is addressed in §6.2.3.

11.2.2 Local County Numbers

The results of the 2017, 2021, and 2024 UPCHIPS surveys are available for viewing in **Tables 13-31A, 13-31B**, **13-32A**, and **13-32B**. The age of the onset of smoking is addressed in §6.2.3.

In the 2024 UPCHIPS, the average length of smoking among those who currently smoke is 42.89 years (SD=14.34, Median=46 years). Women smoked an average of 4.91 years shorter than men (95%CI: 1.49, 8.33, t=2.83, p=.0051). In multivariate analysis, income level (p=.7637) education level (p=.3281), sex (p=.05085), and county of residence (p=.6966) were not significant factors, but age (p<.0001), and was statistically significant. This makes sense as older people would have more opportunity to smoke longer.

11.2.3 Smoking during Pregnancy

This topic is covered in the Maternal/Infant Health Chapter (see Section §5.3.6).

11.2.4 Smoking Cessation

Tobacco addiction can be managed with proper treatment; however, tobacco users tend to have high relapse rates. While in 2022, 67.7% of smokers wanted to quit and 53.3% tried to quit in the past year, only 8.8% of adult smokers were successful. Among smokers who saw a healthcare professional in the past year, 50.5% were advised to quit and 49.2% received assistance. Of those in the past two year who tried to quit, 36.3% used medication, 7.3% received counseling, and 5.3% received both. Of adults who report to have ever smoked cigarettes, 66.5% had quit. [7] Not surprisingly, encountering environments and situations previously associated with smoking, such as establishments that serve alcohol or interacting with friends who smoke, has been demonstrated to increase the risk of relapse. The results of the 2024 UPCHIPS are found in **Tables 13-33A** and **13-33B**.

11.2.5 Smokeless Tobacco

The use of "smokeless" tobacco in the United States, documented in 2023, varies by age and ethnicity as documented in **Table 11-1**. [8] Use appears to be highest in those 21 to 49 years of age and among those who identify as "American Indian/Alaskan Native." The results of the 2024 UPCHIPS for the use of smokeless tobacco and vaping as in **Tables 13-34A** and **13-34B**.

Table 11-1: Smokeless Tobacco Use, United States 2019

	Lifetime	Last Year	Last Month
Total	15.5%	4.2%	3.1%
12-17	4.0%	2.5%	1.0%
18 and older	16.6%	4.3%	3.3%
50 and older	13.1%	2.5%	2.1%
26-49	20.6%	5.4%	4.2%
30-34	21.6%	6.2%	4.4%
21-25	18.9%	7.8%	5.4%
Native American/Native Alaskan 12-17	9.8%	4.2%	4.1%
Native American/Native Alaskan 18 and older	20.9%	7.6%	6.4%

11.2.6 E-cigarettes / Vaping

E-cigarettes (electronic nicotine delivery systems), also known as vapes, vape pens, tanks, mods, and pod mods, are battery-powered devices that aerosolize a liquid for inhalation. The liquids typically contain nicotine, flavorings, and other compounds in a solvent (usually propylene glycol and vegetable glycerin). E-cigarettes are designed to deliver nicotine to the body through the lungs, which provides rapid absorption and nearly instantaneous delivery of the substance to the brain.

There are no safe tobacco products. While some of the harmful chemicals in cigarette smoke are not delivered by e-cigarettes, there are chemicals aerosolized by e-cigarettes for which the health impact remains unknown. Those who smoke cigarettes and use e-cigarettes have similar exposure to toxins compared to those who only smoked conventional cigarettes. There is evidence that the use of e-cigarettes increases exposure to heavy metals such as tin, nickel, and lead. Because e-cigarettes are not regulated, the exposure to nicotine and potentially toxic substances varies widely. E-cigarettes are a relatively new product, so the long-term health effects are unknown.

E-cigarettes have not been formally evaluated as a smoking cessation product. The studies regarding whether e-cigarettes are helpful in smoking cessation have been of poor quality, with most showing little difference from other interventions. The question remains whether e-cigarettes will have a net negative or net positive effect on public health.

The results of the UPCHIPS regarding e-cigarette use are shown in as in **Tables 13-34A** and **13-34B**. There was a 40% increase in use from the 2017 to the 2021 survey, and another 58% increase from the 2021 to the 2024 survey (**Table 13-64**). In the 2024 survey, the average age of someone regularly using e-cigarettes was 49.97 years (standard deviation 15.94), while those who did not use e-cigarettes averaged 65.50 years (standard deviation 15.12). This 15.53-year difference as statistically significant (95%CI: 12.70, 18.37; t=10.83, p<.0001). Across all three surveys the ages were 65.10 (standard deviation 14.55) and 52.06 (standard deviation 16.29) with the 13.04-year difference also being statistically significance (95%CI: 11.15, 14.93; t=13.56, p<.0001).

The data on e-cigarette use for nicotine and THC in adolescents are presented in §6.2.3.1 and §6.2.4.

11.3 Alcohol

People drink alcoholic beverages for many reasons: to socialize, to celebrate, and to relax. Yet, alcohol can have strong effects than can induce those who imbibe to act and feel differently. The effects of alcohol vary from person to person and may be impacted by:

- How much alcohol is consumed
- How often alcohol is consumed
- Age
- Health status
- Family history

While many people drink alcohol in moderation without discernible harm or health impact, excessive drinking, as defined by the CDC, includes binge drinking, heavy drinking, and any drinking by pregnant women or people younger than age 21.

The Dietary Guidelines for Americans do not recommend that individuals who do not drink alcohol start drinking for any reason. However, there are some people who should not drink any alcohol, including those who are:

- Younger than the legal age for drinking
- Pregnant or may be pregnant.
- Taking certain prescription or over-the-counter medications that can interact with alcohol.
- Suffering from certain medical conditions.
- Recovering from alcoholism or are unable to control the amount they drink. [9]

The economic costs of excessive alcohol consumption in 2010 were estimated at $249 billion, or $2.05 a drink, with three-fourths of the costs being related to binge drinking. [10,11]

11.3.1 Health Effects [12]

Alcohol can have a deleterious effect on the central nervous system (brain), the cardiovascular system (heart and blood vessels), liver, pancreas, the immune system, and increase the risk of head and neck cancer, esophageal cancer, liver cancer, breast cancer, and colorectal cancer.

Excessive drinking in 2020 through 2021 was responsible for 178,000 per year. This is an increase from 138,000 deaths yearly deaths estimated in 2016 through 2017. Approximately 4 million years of potential life were lost, an average of 24 years lost per death. [13]

11.3.2 Alcohol, Driving, and Crime

Alcohol consumption also has impacts in addition to the health concerns of the individual who imbibes. The two most notable examples are the impacts of driving while impaired and violent crimes. These topics are addressed in §12.3.

11.3.3 Demographics

11.3.3.1 Definitions

Before looking at the data on who drinks and how much, it is necessary to define two concerning patterns of alcohol use: binge drinking and heavy drinking.

- Binge drinking, the most common form of excessive drinking, is defined by the CDC as consuming
  - For women, 4 or more drinks during a single occasion.
  - For men, 5 or more drinks during a single occasion. [14]
- Heavy drinking is defined by the Centers for Disease Control and Prevention as consuming
  - For women, 8 or more drinks per week.
  - For men, 15 or more drinks per week. [15]

Table 11-2: Alcohol Use by Demographics, United States, 2023

	Lifetime	Last Year	Last Month
Aged 12-17	21.6%	16.9%	6.9%
Male	19.1%	14.7%	6.0%
Female	24.1%	19.2%	7.9%
American Indian/Alaskan Native	18.5%	x	4.0%
Asian	12.0%	9.5%	1.3%
Black/African American	15.1%	10.2%	4.3%
White	24.0%	19.1%	8.2%
Hispanic/Latinx	22.4%	17.8%	7.3%
Aged 18-25	74.7%	68.1%	49.6%
Male	73.1%	66.4%	48.4%
Female	76.4%	69.8%	50.8%
American Indian/Alaskan Native	66.6%	55.9%	x
Asian	59.3%	54.4%	35.3%
Black/African American	66.8%	59.4%	42.7%
White	79.7%	74.0%	56.0%
Hispanic/Latinx	72.3%	64.1%	43.8%
Aged 26+	86.5%	67.0%	51.9%
Male	88.7%	69.5%	55.8%
Female	84.3%	64.6%	48.3%
American Indian/Alaskan Native	78.2%	51.2%	35.2%
Asian	68.0%	51.5%	35.4%
Black/African American	78.7%	63.0%	47.7%
White	90.9%	70.7%	55.9%
Hispanic/Latinx	81.9%	62.4%	46.8%
(x) Low Precision			

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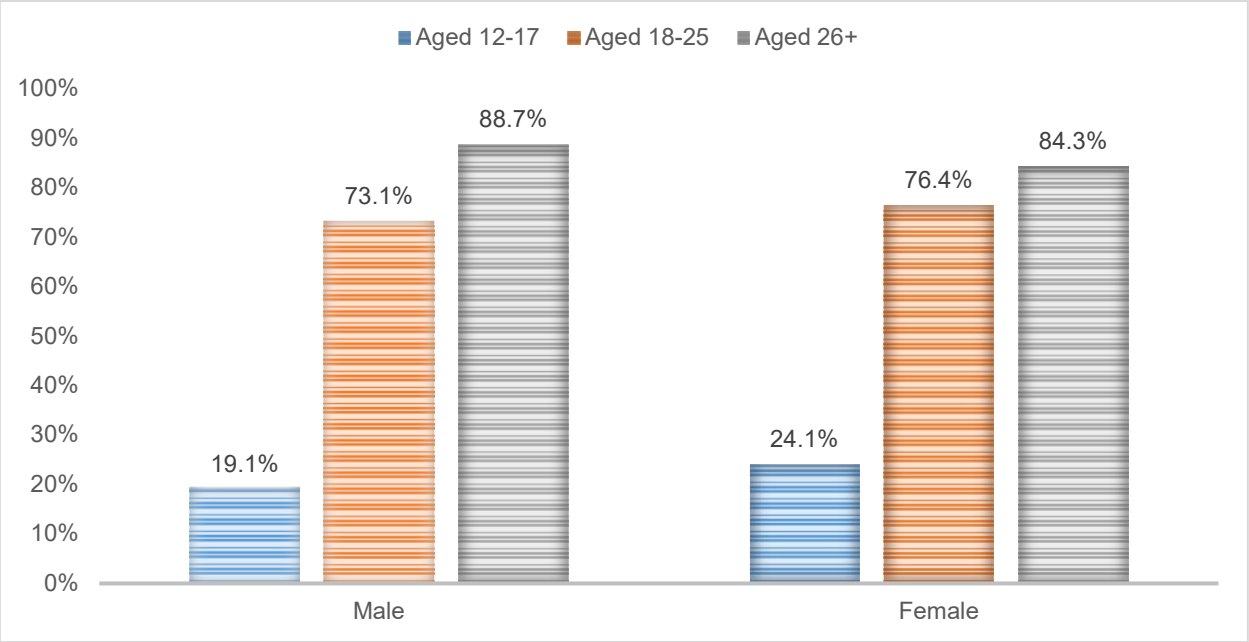


Figure 11-3: Lifetime alcohol use by sex, United States, 2023

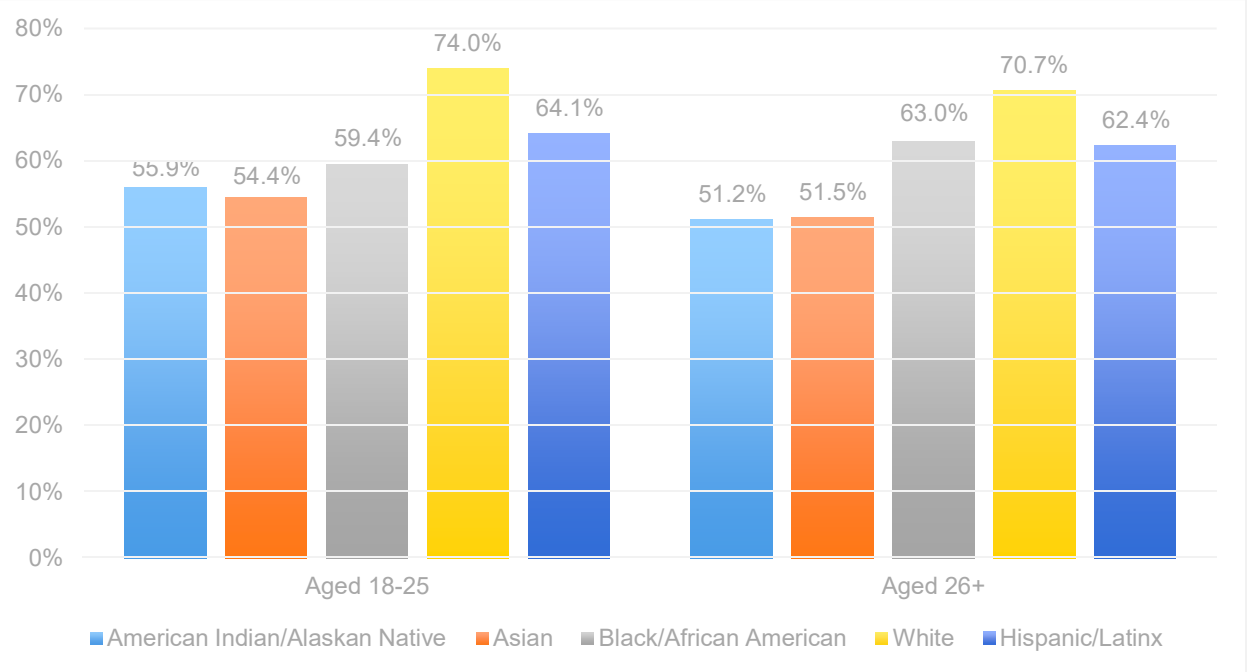


Figure 11-4: Alcohol use in past by race, United States, 2023

- The Dietary Guidelines for Americans defines moderate drinking as up to 1 drink per day for women and up to 2 drinks per day for men. [9]

11.3.3.2 National Impact

In the United States each year 178,000 die from alcohol (120,000 male, 59,000 female), making it the fourth leading preventable cause of death behind tobacco, and poor diet / physical inactivity, and illegal drugs. [16,17] As will be discussed further in §12.3. In 2022, alcohol-impaired driving accounted for 32%

of driving fatalities (13,524 deaths). [18]

According to the 2023 National Survey on Drug Use and Health (NSDUH) for those 18 through 25 years 74.7% reported they had drunk alcohol at some point ever in the past, 68.1%% in the past year, and 49.6 % in the past months. For those 26 years and older these percentages were 86.5%, 67.0% and 51.9%, respectively. [8]

The breakdown by age and ethnicity for alcohol use, binge drinking, and excessive alcohol intake for the United States in 2023 is shown in **Table 11-2**, **Figure 11-3**, and **Figure 11-4**. [8]

In the 2023 Michigan BRFSS survey, 52.2% (95%CI: 50.8, 53.6) reported consuming alcohol in the past month. Binge drinking at least once in the past month was reported in 15.2.0% (95%CI: 14.1, 16.2) with 19.3% (17.7, 21.0) of male reporting this behavior versus 11.2% (10.0, 12.6) in females. Rates were highest in those identifying as Hispanic (20.1%, 95%CI: 14.4, 27.3) and decreased with age (35 to 44 years: 25.4, 95%CI: 22.1, 28.9; 75 years and older: 2.0, 95%CI: 1.3, 3.0). Rates for Native Americans were not reported. Those with medical insurance had a lower rate than those without medical insurance (14.8 (95%CI: 13.7, 15.9) versus 20.1 (95%CI: 14.4, 27.4)). The trend in binge drinking from 2011 through 2023 in the Michigan and the median value for states in the United States are shown in **Figure 11-5**. [6]

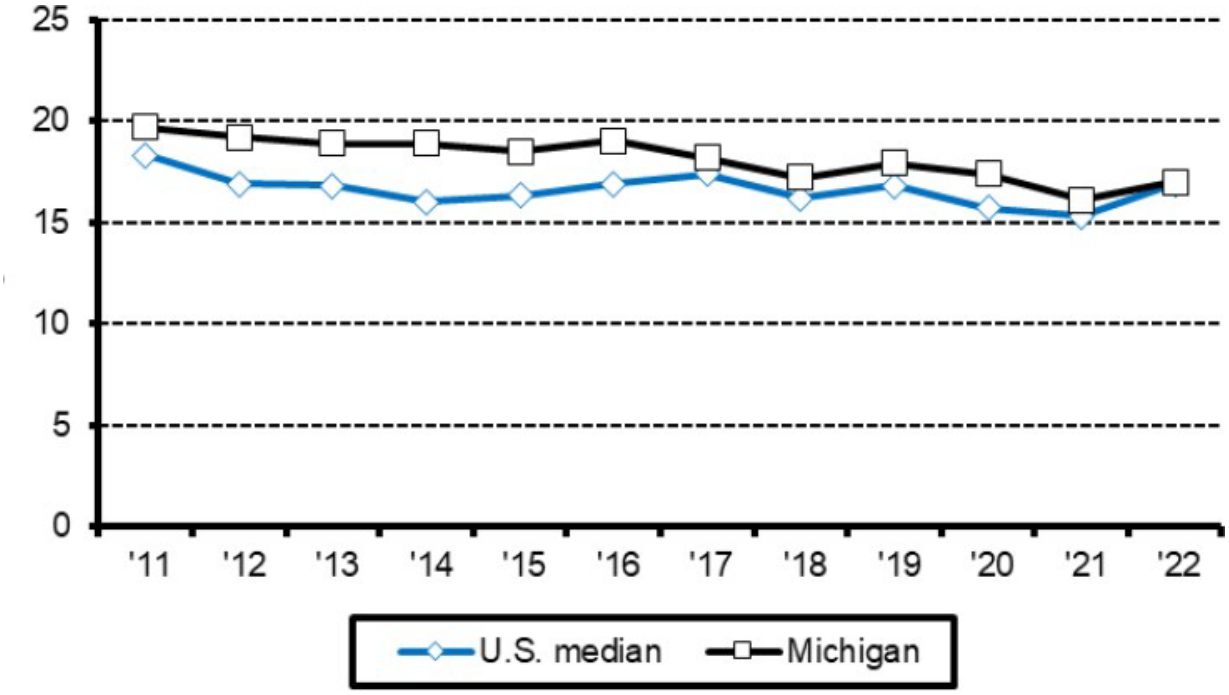


Figure 11-5: Behavioral Risk Factor Survey: Binge drinking in the past month rates in Michigan and the median of the states in the United States, 2011-2023

When full-time college students are compared to people the same age who are not full-time college students in the 2023 National Survey on Drug Use and Health (NSDUH): 49.6% drank in the past month versus 49.4%; 29.3% were binge drinking versus 28.8% and 6.8% engaged in heavy alcohol use versus 7.5%. [19]

Data for youth drinking are found in Section §6.2.2.

Table 11-3: Substance Use Upper Peninsula and Michigan				
	Upper Peninsula (2016-2018)*	Michigan (2021-2022)		
	Small Area Estimate Aged 12+	Aged 12-17	Aged 18-25	Aged 26+
Illicit drug use in the past month	14.1%	8.2%	31.1%	18.8%
Marijuana use in the past year	18.0%	12.7%	44.0%	24.2%
Marijuana use in the past month	12.4%	7.1%	30.1%	18.0%
Average annual initiation of first use of marijuana	2.6%	4.7%	10.9%	1.3%
Perception of great risk for smoking marijuana once a month	19.6%	16.7%	8.0%	15.6%
Cocaine use in the past year	1.7%	0.2%	2.8%	1.4%
Perception of great risk of using cocaine once a month	73.5%	50.2%	60.2%	68.4%
Heroin use in the past month	0.3%	x	0.2%	0.3%
Perception of great risk with trying heroin once or twice	87.2%	56.3%	76.7%	84.3%
Methamphetamine use in the past year	0.4%	0.1%	0.5%	0.7%
Pain reliever misuse in the past year	4.5%	1.6%	2.8%	2.7%
Alcoholic beverage in the past month	57.0%	7.0%	53.6%	54.7%
Binge drinking episode in the past month	28.2%	3.4%	30.5%	22.5%
Perception of great risk for having 5+ drinks 1 to 2 times per week	36.8%	39.7%	36.5%	42.1%
Tobacco product use in the past month	32.0%	2.4%	16.6%	23.2%
Cigarette use in the past month	24.6%	1.3%	11.4%	18.9%
Perception of great risk for smoking 1 pack per day or more	65.6%	64.7%	64.8%	67.7%
Illicit drug use disorder in the past year	2.8%	6.6%	19.2%	8.6%
Alcohol use disorder in the past year	4.8%	2.9%	15.5%	10.0%
Substance use disorder in the past year	6.7%	8.1%	28.8%	16.8%
Needing substance use disorder treatment in the past year	x	10.2%	30.4%	20.2%
Did not receive substance use disorder treatment in the past year	6.1%	59.3%	80.5%	73.7%
Any mental illness in the past year (18+)	18.5%	x	35.9%	20.9%
Serious mental illness in the past year (18+)	4.7%	x	12.8%	4.8%
Received mental health treatment in the past year	17.0%	30.1%	29.9%	23.9%
Major depressive episode in the past year	7.5%	18.7%	19.9%	6.6%
Serious thoughts of suicide in the past year	3.9%	11.9%	13.8%	4.1%
Made suicide plans in the past year	x	5.3%	5.4%	1.0%
Attempted suicide in the past year	x	3.0%	2.5%	0.4%
(x) Not Available, *With concerns about the rapid societal changes in 2020, it was determined that averages across the three years (2018-2020) maybe misleading. Therefore, as explained above, the sub state estimates for 2018-2020 are no longer provided.				

11.3.3.3 Regional Impact

Regional data for the Upper Peninsula collected in 2016-2018 and Michigan from 2021 through 2022 as part of NSDUH on people 12 years of age and older are shown in **Table 11-3**. [20]

Table 11-4: UPCHIPS Drinks per Month by County, 2017-2024		
County	Drinks per month	Standard Deviation
Alger	24.15	51.51
Baraga	31.41	85.68
Chippewa	21.75	49.74
Delta	21.21	41.13
Dickinson	19.13	38.28
Gogebic	22.63	52.48
Houghton/Keweenaw	23.44	56.26
Iron	25.26	57.08
Luce	20.73	42.84
Mackinac	27.19	49.05
Marquette	23.1	41.18
Menominee	22.83	49.81
Ontonagon	24.22	52.21
Schoolcraft	18.58	47.16
[a] Variability between counties: F=2.80, p=.0005		

The results of the 2024 UPCHIPS for alcohol consumption are given in **Tables 13-53A** and **13-53B**. The results of a multivariate regression analysis of the alcoholic drinks consumed per month are found in **Table 13-18**. Further discussion can be found in §13.3.16.1.

The raw combined 2017, 2021, and 2024 UPCHIPS data on the number of drinks per month per respondent was an average of 23.34 (SD=52.60). Men had more drinks than women (35.73 versus 16.12, difference 19.61, 95%CI: 17.25, 21.94, t=16.27, p<.0001). The raw averages of the number of monthly drinks by county is shown in **Table 11-4**. The differences between counties was statistically significant (F=2.80, p=.0005). Number of monthly drinks decrease with age (p<.0001), trended up with income (t=1.85, p=.0637), but was not impacted by level of education (F=0.19, p=.9065; t=0.66, p=.5084).

11.3.4 Potential Future Implications

Continued high rates of alcohol abuse will cause acute and chronic disease in many individuals as well as have a broader potential impact on the community due to associated motor vehicle crashes and fatalities, domestic violence, and other societal problems.

11.4 Marijuana

In late 2018, Michigan legalized the recreational use of marijuana within its borders, but with restrictions. As of January 1, 2024, there were 994 licensed marijuana dispensaries in Michigan. Only Oklahoma, California, and Colorado have more. [21] A visit to Michigan Cannabis Information indicates 36 marijuana dispensaries in the Upper Peninsula. [22] This number is suspect as only two dispensaries were listed in Ironwood and none in Menominee, indicating many dispensaries were not included.

Under Federal law marijuana and its psychoactive ingredient (tetrahydrocannabinol (THC)) remains a Schedule I controlled substance "with no currently accepted medical use and a high potential for abuse;" however, on May 21, 2024 the United States Justice Department of Justice Drug Enforcement Administration proposed to change the rules and transfer marijuana from Schedule I to Schedule III under the Controlled Substance Act.

11.4.1 Marijuana Usage

According to the National Survey on Drug Use and Health (NSDUH), 2021-2022 survey, marijuana use in 2021 through 2022 was 12.7% (95%CI: 10.68, 15.12) in Michigan and 11.19% (95%CI: 10.56, 11.86) nationally in the 12-17-year old, 44.02% (95%CI: 40.33, 47.77) in Michigan and 37.27% (95%CI: 36.22, 38.32) nationally in the 18-25 group, and 24.17 (95%CI: 22.04, 26.44) in Michigan and 18.98% (95%CI: 18.42, 19.55) nationally in those older than 25 years. [23]

In 2023, among those 12 years and older who used marijuana in the past year, it was smoked by 77.0%, ate or drank by 48.3%, vaped by 38.3%, dabbed (inhaling vapors from concentrated marijuana) by 16.0%, or used in another mode by 13.9%. Type of use varied by age with 61.3% of those 12 to 17 years of age vaping marijuana compared to 31.4% of those 26 years of age and older.

The results of the 2024 UPCHIPS regarding marijuana use are shown in **Tables 13-56A** and **13-56B**.

Marijuana use in youth is addressed further in §6.2.4.

11.5 The Opioid Epidemic

11.5.1 Background

In 2024, 80,391 Americans died from a drug overdose, down from 110,037 in 2023. The biggest drop was seen in deaths associated with synthetic opioids (such as fentanyl) who the number dropping from 76,282 to 44,422. [24] In 2022, overdose death from any opioid was seen in 81,806. Deaths from prescription opioids were 14,716 (down from 16,706 in 2021), while heroin deaths were tallied at 5,871 (down from 13,165 in 2020). [25] The economic costs (healthcare costs, lost productivity, addiction treatment, criminal justice involvement) of opioid misuse in the United States in 2017 was $92 billion. [26]

11.5.2 National Data

In a national survey (NSDUH) undertaken in 2021 to 2022, use of heroin in the past year was 0.18% in the 12-17 age group and 0.42% those 18 years and older. Misuse of prescription pain medication was

seen in 1.85% of those 12 to 17 years and 3.21% of those 18 years and older. Opioid misuse was seen in 1.85% and 3.41%, respectively. Opioid use disorder was documented in 1.04% and 2.19%, respectively. [27]

The percentage change in reports drug overdose deaths from 2022 to 2023 by jurisdiction across the United States is shown in **Figure 11-6**. From 2022 to 2023 the number of reported drug overdoses decreased 5.14% (109,413 to 103,793), while the number of predicted cases decreased 3.14% (111,029 to 107,543). [28]

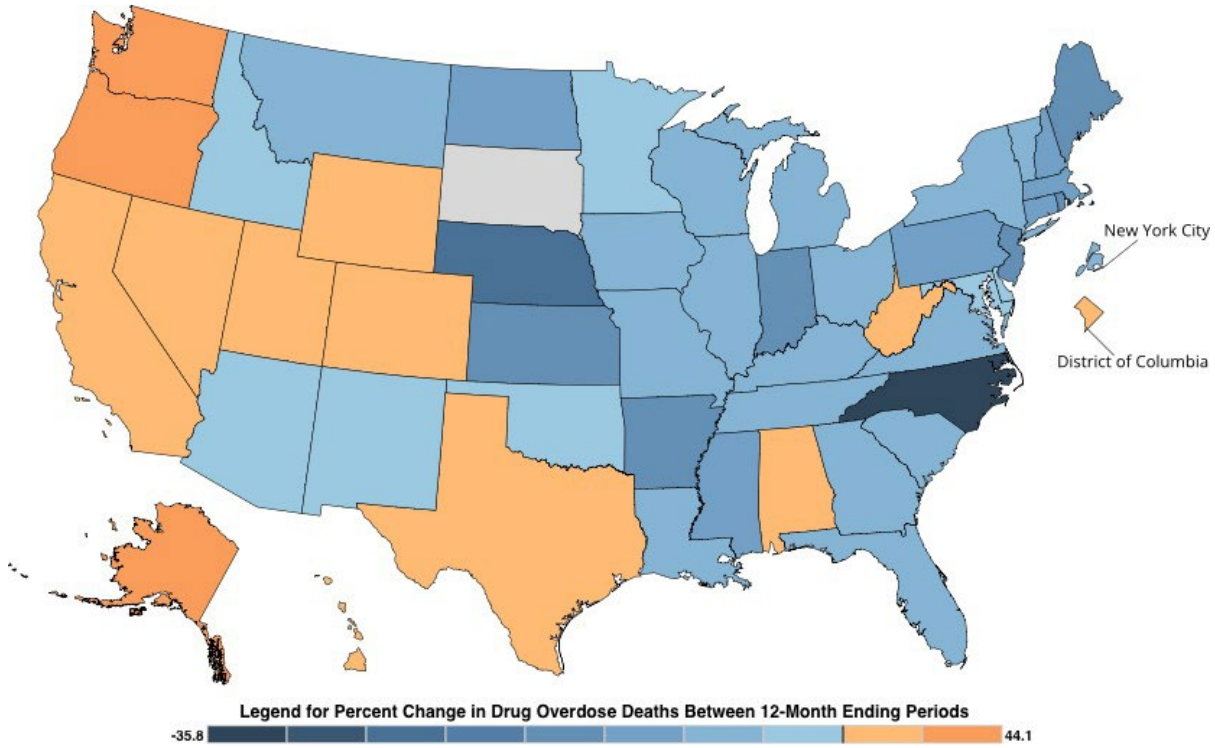


Figure 11-6: Percent change in reported drug overdose deaths reported in 12 months ending December 2022 to December 2023 for jurisdictions across the United States

More opioid use in youth data are available in Section §6.2.5.

11.5.3 Michigan Data [29]

The predicted number of drug overdose deaths in Michigan from the twelve months prior to January 2025 was 1,968, a 33.72% decrease from the 2,969 deaths in the twelve months prior to January 2024. The United States saw a 25.9% decrease over the same time span.[30] The number of opioid deaths in Michigan documented by the CDC from 2015 through 2023 are shown in **Table 11-5** with the trend shown in **Figure 11-7**.[29] In 2022, there were 2,997 deaths in Michigan from opioid overdose (30.7 per 100,000 person-years).[31] In 2023, the number decreased 7.14% to 2,783 (28.5 per 100,000).[28] The number of opioid-related deaths in the individual counties in the Upper Peninsula were too low (less

than 6 per year) to report. Overdose deaths in Michigan from 2016 through 2023 by type of substance used is shown in **Figure 11-8**. [32]

Table 11-5: Drug Overdose Deaths, Michigan, 2015-2023

	2015	2016	2017	2018	2019	2021	2022	2023
Total Drug Overdose	23,417	24,245	31,175	31,993	28,803	31,110	36,092	36,168
Cocaine						9,578	11,904	14,139
Heroin						3,679	2,119	1,432
Methadone						1,420	1,072	802
Natural & Semi-Synthetic Opioids						4,906	4,174	3,081
Opioids						28,801	29,391	29,300
Psycho Stimulants						5,606	5,956	6,183
Synthetic Opioids, excluding Methadone						26,650	26,752	27,201

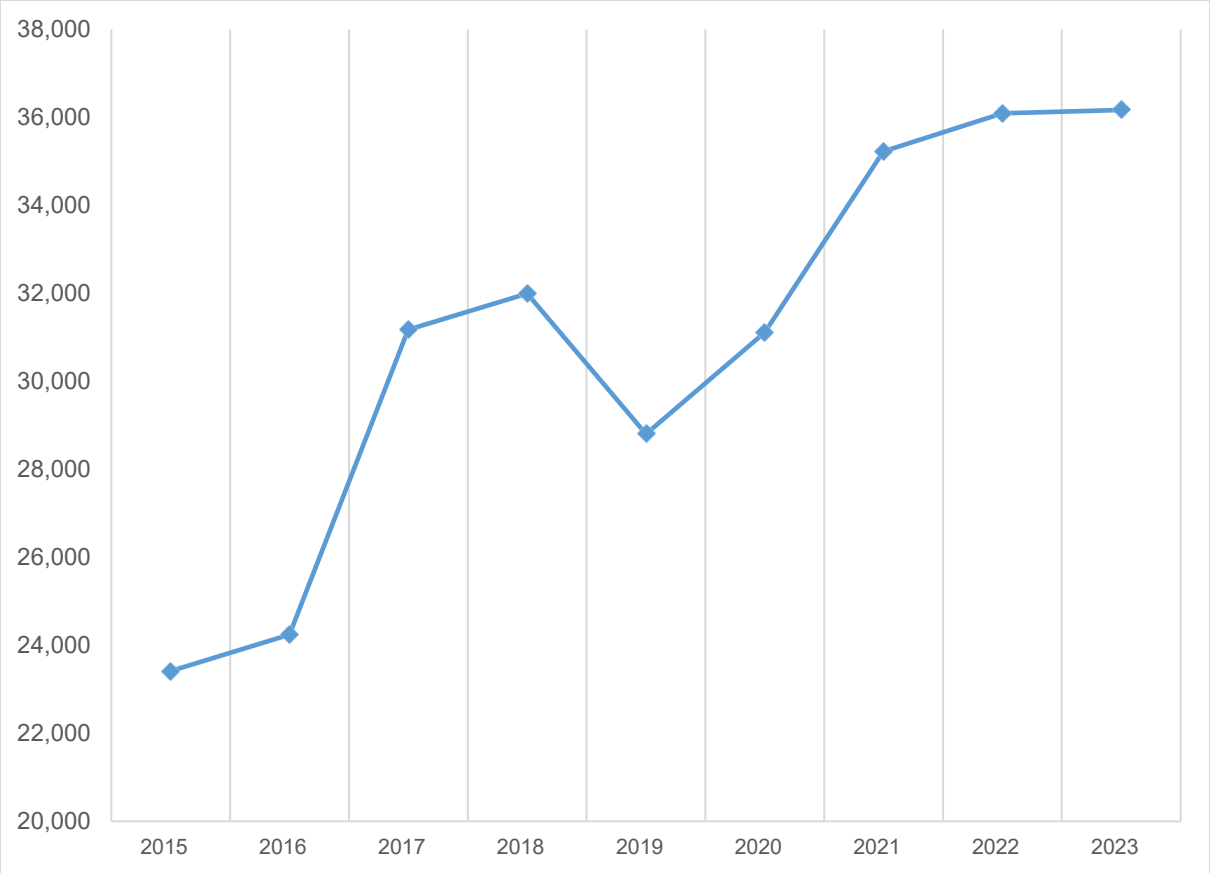


Figure 11-7: Drug overdose deaths, Michigan, 2015-2023

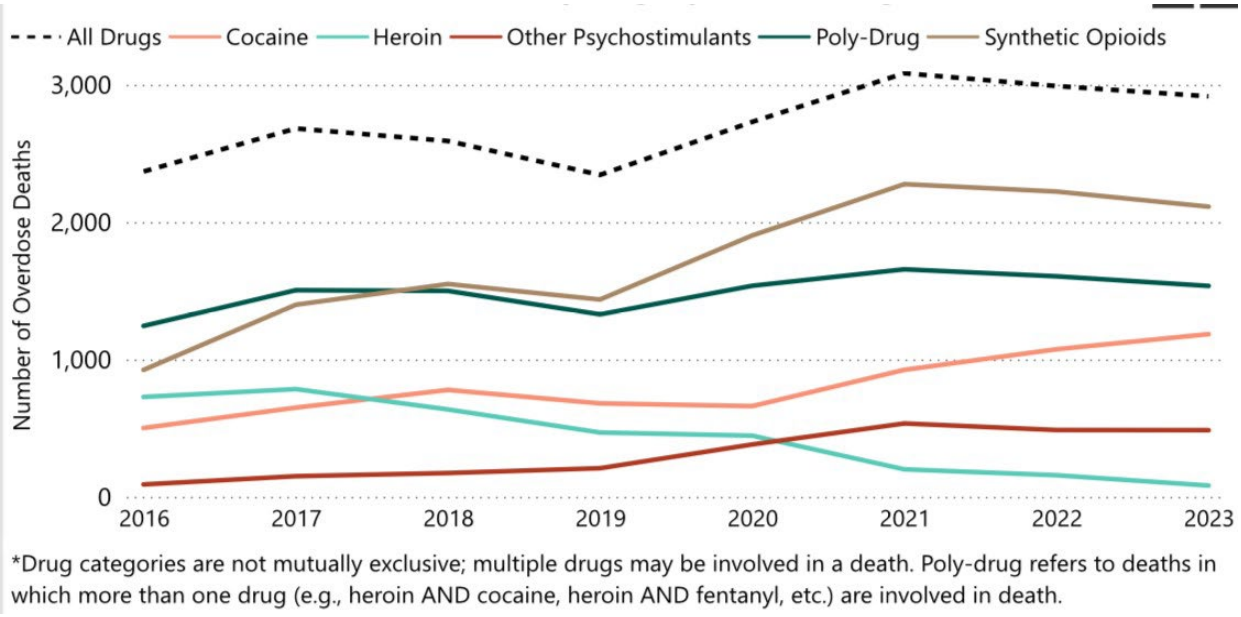


Figure 11-8: Michigan overdose deaths by substance used, 2016-2023

In data collected in the NSDUH 2021-2022 in Michigan, use of heroin in the past year was 0.30% those 18 years and older.[3] Misuse of prescription pain medication was seen in 1.57% of those 12 to 17 years and 2.74% of those 18 years and older. Opioid misuse was seen in 1.58% and 2.94%, respectively. Opioid use disorder was documented in 0.84% and 2.17%, respectively. [27]

The annual rates of emergency department visits for non-fatal drug overdoses (all drug types) in Michigan from 2018 through 2022 are shown in **Figure 11-9**. The 12 month-ending provisional counts of drug overdose deaths in Michigan from January 2015 through March 2024 are shown in **Figure 11-10**.

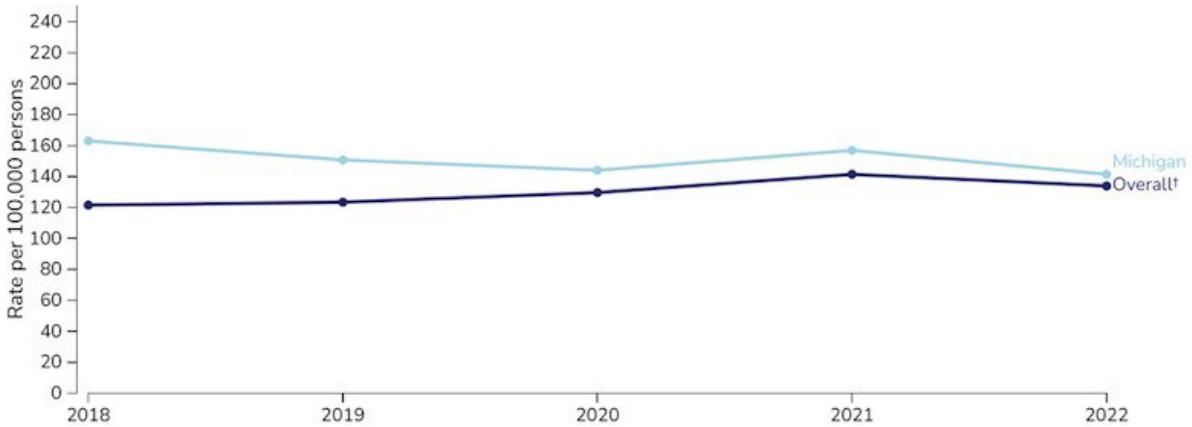


Figure 11-9: Annual rates of emergency department visits for non-fatal drug overdoses (all drug types) in Michigan, 2018-2022

[3] Data in those 12 to 17 years was not collected in Michigan.

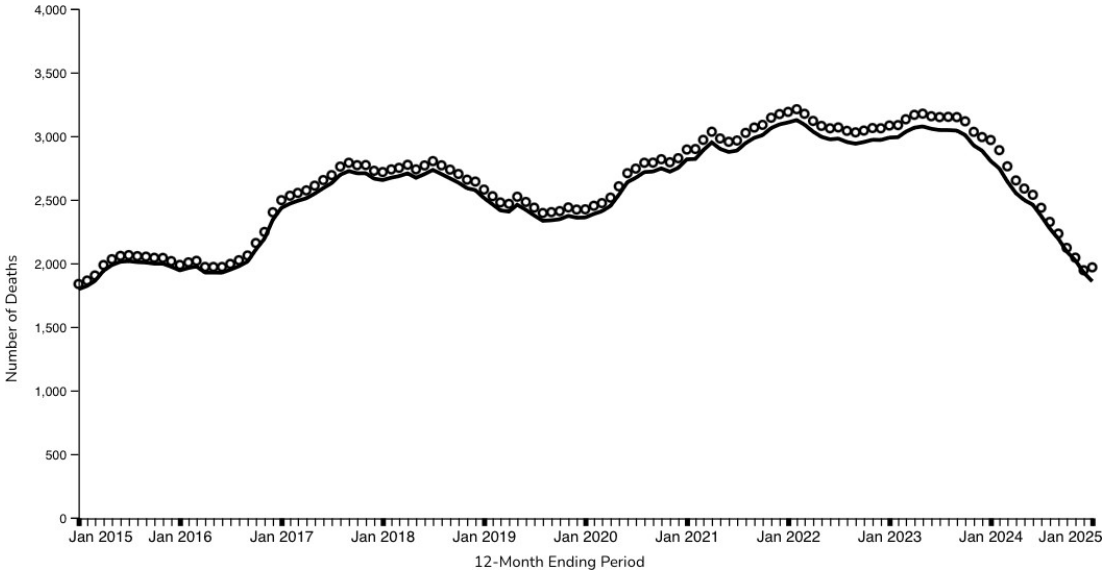


Figure 11-10: 12 month-ending provisional counts of drug overdose deaths in Michigan, January 2015 - January 2025

11.5.4 Local Data

The number and rates of overdose deaths from 2021 through 2023 and emergency health visits related to overdose in 2023 is shown in **Table 11-6**. [32] The number of medical encounters and deaths related to opioid use, opioid abuse, and opioid dependence are currently collected by the State of Michigan using the Michigan Disease Surveillance System (MDSS) platform. The program, MiCelerity, is an automated, real-time surveillance system created in 2019 designed to collect information regarding fatal and "non-fatal drug poisoning events" (overdoses) in Michigan. The trends in opioid deaths in Michigan over from 1999 through 2024 are illustrated in **Figures 11-11** and **11-12**. [33]

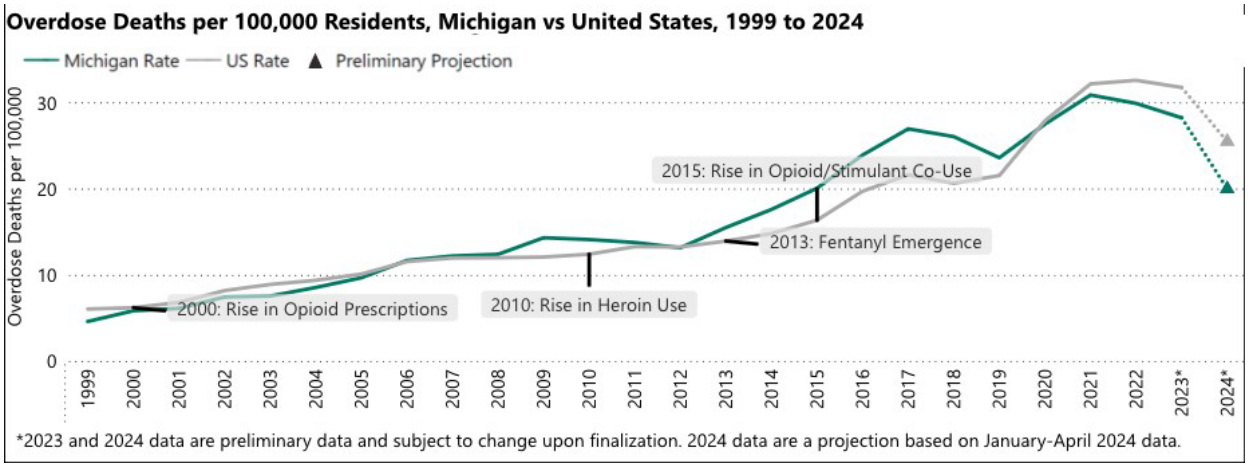


Figure 11-11: Overall death rate per 100,00 residents, Michigan versus United States, 1999 to 2024.

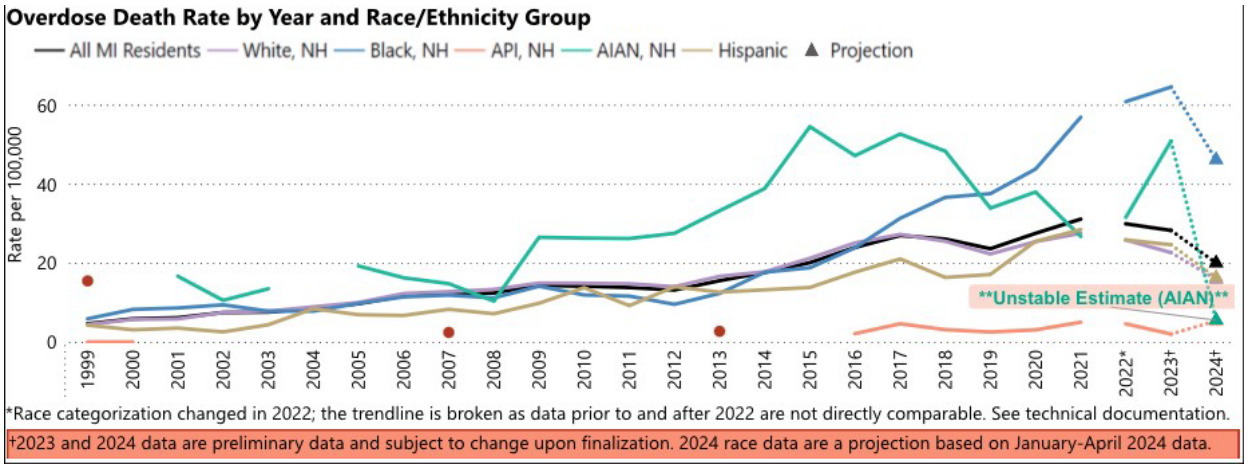


Figure 11-12: Overall death rate by year and race/ethnicity group, Michigan, 1999 to 2024.

11.5.4.1 Opioid Prescription Data

Many of those who become addicted to opioids begin their road to addiction with a prescription of opioids written by medical providers. Aggressive efforts have been made to limit the number of prescriptions of opioids. **Table 11-7** provides the number of prescriptions dispensed in 2022 in each of the counties in the Upper Peninsula, the Upper Peninsula as a whole, and statewide. [34] Of those people 12 years of age and older who misused prescription pain relievers in 2023, hydrocodone was misused by 42.8%, followed by oxycodone (31.3%), codeine (23.6%), tramadol (15.8%), buprenorphine (7.2%), prescription fentanyl (5.6%), morphine (3.3%), hydromorphone (2.6%), methadone (2.4%), oxymorphone (1.6%), and meperidine (0.9%). The twelve-month opioid prescription unit rates per 1,000 people in each county in 2023 are also shown in **Table 11-7**. The low rates in Menominee County likely reflect that much of the health care provided and prescriptions filled take place in Marinette County, Wisconsin.

The amount of drug use documented in the 2024 UPCHIPS is shown in **Tables 13-54A** and **13-54B** and discussed in §13.3.16.2.

11.5.5 Maternal Opioid Use

In 2017, about one in five women with private insurance and one in four on Medicaid filled at least one opioid prescription. In 2019, 7% of women reported using prescription opioid pain relievers during pregnancy. Of which, 1 in 5 reported misuse (getting from a source other than a health care provider). [35]

Maternal opioid use has been linked to maternal death, poor fetal growth, premature birth, stillbirth, specific birth defects, and neonatal abstinence syndrome.

11.5.6 Neonatal Abstinence Syndrome

Neonatal abstinence syndrome (NAS) is a group of conditions in which newborns withdraw from certain substances, including opioids, they were exposed to before birth. Withdrawal symptoms usually begin within the first 72 hours of life. Newborns with NAS have longer hospital stays and are more likely to be re-hospitalized within 30 days of birth; however, the long-term impact of NAS is unclear.

Table 11-6: Overdose Events, Deaths 2021-2023,

	Deaths (2021-2023		Emergency Health Care Visits (2023)	
County	Number of Deaths	Rate per 100,000	Number	Rate per 100,000
Alger	10	37.8	10	113.5
Baraga	6	24.2	25	302
Chippewa	8	7.3	103	283.8
Delta	8	7.3	117	318.4
Dickinson	13	16.7	87	336.2
Gogebic	13	30.3	48	335.2
Houghton	9	8.1	78	210.6
Iron	8	22.9	29	249.5
Keweenaw	1	*	3	*
Luce	1	*	18	337.7
Mackinac	5	*	26	237.6
Marquette	27	13.5	134	201
Menominee	4	*	†	<200
Ontonagon	4	*	14	238.8
Schoolcraft	4	*	14	171
* number of events too small to provide rate				
† number of events unavailable				

In a study of Medicaid eligible newborns in Alabama who were diagnosed with NAS from 2010 through 2020, the average estimated increase in cost of hospitalization for a newborn diagnosed with NAS was $17,921 (95%CI: $14,830, $21,012) compared to newborns without NAS. [36]

11.5.6.1 Michigan Data[4]

According to State of Michigan 2021 data, the rate of neonatal abstinence syndrome for the entire state is 6.5 per 1,000 live births (95%CI: 6.0, 7.0). The breakdown by race/ethnicity (as self-identified by

[4] Data for this section based on Michigan Resident Inpatient Files created by the Division for Vital Records and Health Statistics, Bureau of Epidemiology and Population Health, Michigan Department of Health and Human Services, using data from the Michigan Inpatient Database obtained with permission from the Michigan Health and Hospital Association Service Corporation (MHASC). All data analyses were conducted by the Michigan Department of Health and Human Services, Maternal and Child Health Epidemiology Section.

mother) is:

- White, non-Hispanic: 7.5 per 1,000 live births;
- Black, non-Hispanic: 4.1 per 1,000 live births;
- Hispanic: 4.8 per 1,000 live births; and
- Native American: 46.5 per 1,000 live births (95%CI: 37.6, 56.1). [37]

Table 11-7: Opioid Prescriptions Dispensed by County, 2013-2019

Jurisdiction	2013	2014	2015	2016	2017	2018	2019
Alger	9600	10843	11507	10598	10104	9044	8261
Baraga	9149	9289	10132	9211	8574	7678	7024
Chippewa	35398	37281	39027	38096	35649	29339	25519
Delta	43790	45432	47915	46755	42514	36976	33289
Dickinson	26826	27828	29781	38148	25311	20841	18457
Gogebic	12949	13080	15479	15654	13876	10520	8568
Houghton	24108	26611	29741	27953	25579	22641	21231
Iron	12066	12845	15288	15077	14076	11971	10702
Keweenaw	1626	1673	1772	1843	1659	1411	1390
Luce	8115	8340	8622	7513	6635	5539	5011
Mackinac	13194	13834	14158	14037	13146	10722	9532
Marquette	56860	60338	64618	60002	55318	47248	42379
Menominee	16923	19027	19362	17610	14739	12571	11318
Ontonagon	5292	5396	6395	6605	6111	5269	4902
Schoolcraft	11023	11309	11635	11545	10132	8719	7655
UP	286919	303126	325432	320647	283423	240489	215238
Michigan	9771351	10153501	10680751	10334619	9492455	7989511	7229663

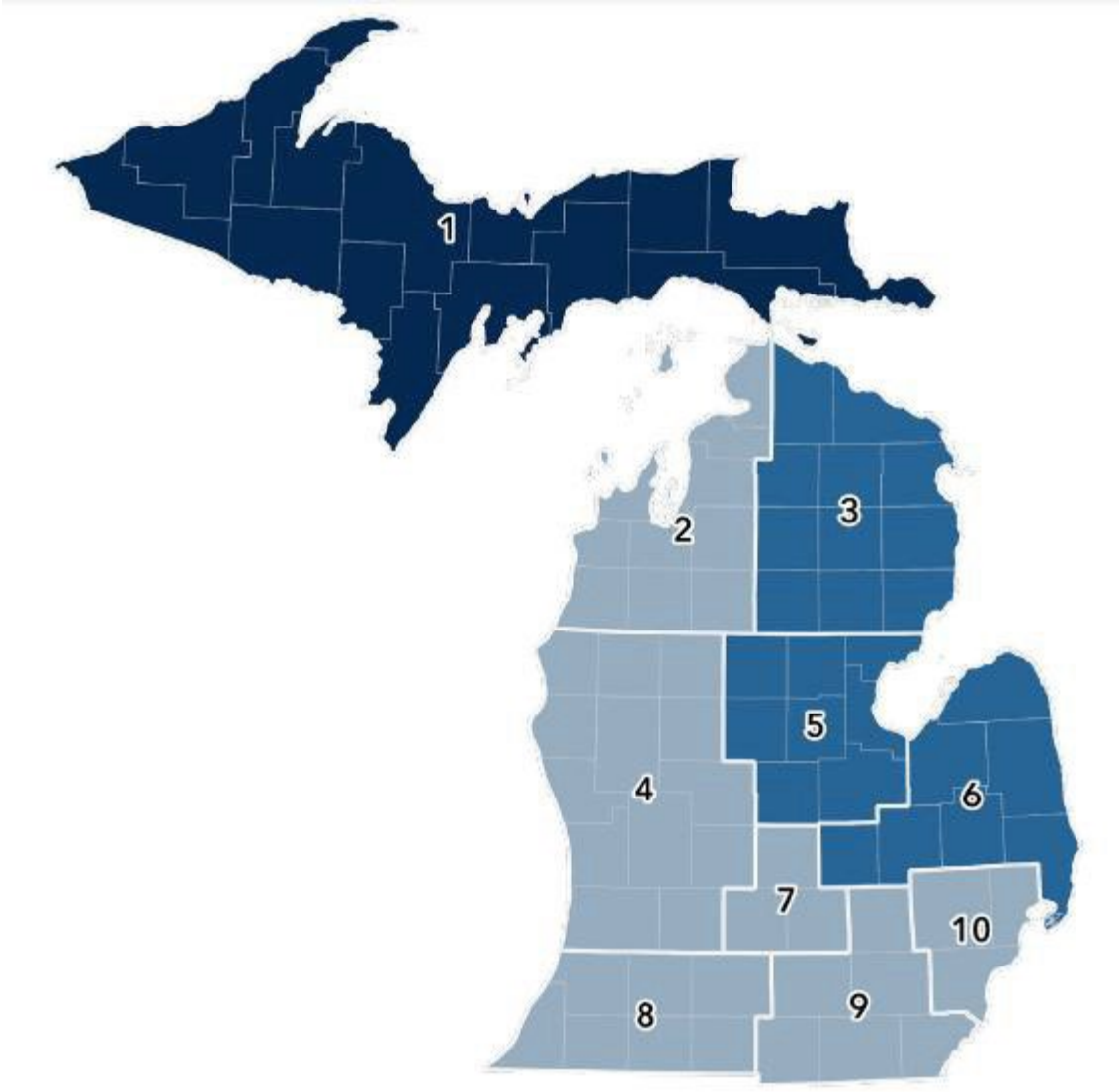


Figure 11-13: Rate of neonatal abstinence syndrome (per 1,000 live births) in Michigan by region. Michigan: 6.0, Region 1: 20.2, Region 2: 6.2, Region 3: 12.7, Region 4: 2.6, Region 5: 12.1 , Region 6: 12.3, Region 7: 5.1, Region 8: 6.5, Region 9: 4.8, and Region 10: 4.7.

11.5.6.1 Michigan Data[5]

According to State of Michigan 2021 data, the rate of neonatal abstinence syndrome for the entire state is 6.5 per 1,000 live births (95%CI: 6.0, 7.0). The breakdown by race/ethnicity (as self-identified by mother) is:

- White, non-Hispanic: 7.5 per 1,000 live births;
- Black, non-Hispanic: 4.1 per 1,000 live births;

[5] Data for this section based on Michigan Resident Inpatient Files created by the Division for Vital Records and Health Statistics, Bureau of Epidemiology and Population Health, Michigan Department of Health and Human Services, using data from the Michigan Inpatient Database obtained with permission from the Michigan Health and Hospital Association Service Corporation (MHASC). All data analyses were conducted by the Michigan Department of Health and Human Services, Maternal and Child Health Epidemiology Section.

- Hispanic: 4.8 per 1,000 live births; and
- Native American: 46.5 per 1,000 live births (95%CI: 37.6, 56.1). [37]

The rates of neonatal abstinence syndrome by region is shown in **Figure 11-13**.

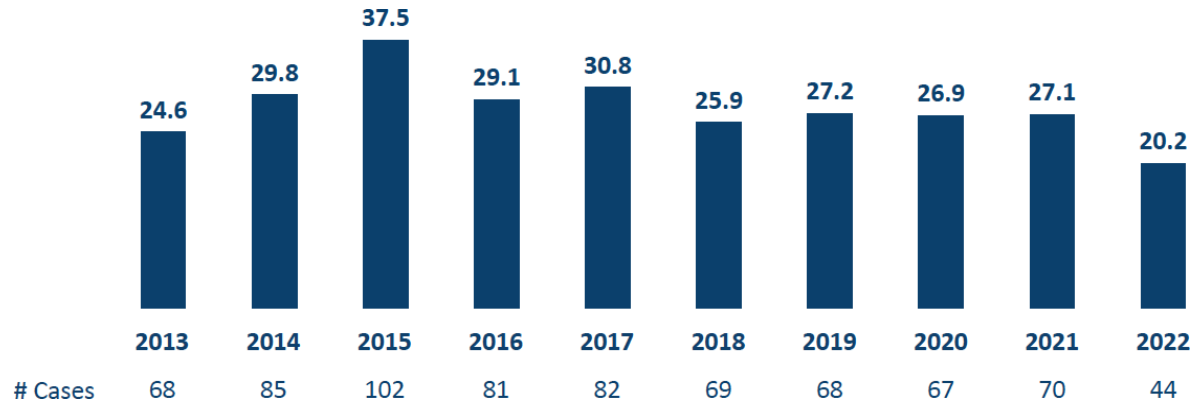


Figure 11-14: Rates of neonatal abstinence syndrome (per 1,000 live births) in the Upper Peninsula, 2013-2022

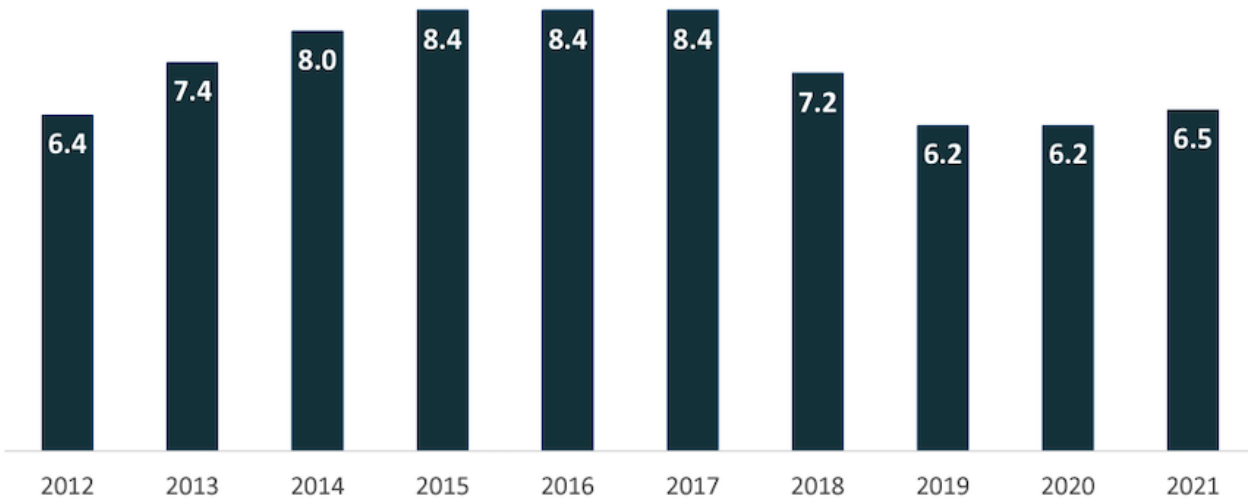


Figure 11-15: Rates of neonatal abstinence syndrome (per 1,000 live births) in Michigan, 2012-2021

11.5.6.2 Regional/County Data

The incidence rates of NAS in the Upper Peninsula from 2012 through 2021 are shown in **Table 11-8** and **Figure 11-14**. The rates of NAS in Michigan for the same time span are shown in. One of the caveats in interpreting the NAS data is that in the Fall of 2015 the ICD-9 codes used to tabulate data changed to ICD-10 codes, so the decreases following 2015 may be from this change in disease definition. Furthermore, the numbers reflect only those treated with pharmaceuticals **Figure 11-15**. Those with

NAS who were treated without medication are not included. In data collected from 2018 through 2022, the incidence per 1,000 births of NAS in the Upper Peninsula was 25.6 (95%CI: 22.8, 28.4). The incidence in non-Hispanic Whites was 22.0 (95%CI: 19.2, 24.8) and 72.6 (95%CI: 54.9, 90.3) in Native Americans. The number of cases of NAS was too low in those identifying other ethic/racial categories to report the incidence. Native American newborns were more than three times more like to have NAS than those were not Native American (OR=3.44, 95%CI: 2.57, 4.60). [38]

Table 11-8: Neonatal Abstinence Syndrome, Upper Peninsula, 2012-2021[a]

Year	Cases [b]	Births	Rate per 1,000 births	95% Confidence Intervals
2012	50	2829	17.7	12.8, 22.5
2013	68	2763	24.6	18.8, 30.4
2014	85	2856	29.8	23.5, 36.0
2015	102	2723	37.5	30.3, 44.6
2016	81	2786	29.1	22.8, 35.3
2017	82	2665	30.8	24.2, 37.3
2018	69	2666	25.9	19.9, 31.9
2019	68	2499	27.2	20.8, 33.6
2020	67	2489	26.9	20.6, 33.3
2021	70	2585	27.1	20.8, 33.3
[a] Source: Michigan Resident Live Birth Files with Michigan Hospital Discharge Data, Division for Vital Records and Health Statistics, Michigan Department Health and Human Services				
[b] Data through 2015 based on diagnosis code 779.5 (drug withdrawal syndrome in newborn); data from 2016 on based on diagnosis code P96.1 (neonatal withdrawal syndrome from maternal use of drugs of addition)				

11.5.7 Needle-Exchange Programs

Each of the six public health departments in the Upper Peninsula has implemented a needle-exchange program. The primary focus of these programs is to reduce the number of HIV and hepatitis C infections associated with needle sharing by intravenous drug users. The cost for a course of medication to treat a case of hepatitis C has been reduced dramatically and now ranges from $39,600 to $94,500, [39] while the lifetime health costs of an HIV infection are $379,668 in 2010 dollars. [40] Preventing only a few infections makes the programs cost effective. The program provides unused (“clean”) syringes, collects used (“dirty”) syringes, distributes naloxone kits (used to treat overdoses), distributes fentanyl test strips (to detect the presence of deadly high-potency synthetic opioids), delivers education on safe intravenous practices, and makes referrals for counseling and treatment. The programs were at various

Table 11-9: Needle Exchange, 2020-2023

	Participants	Syringes distributed	Syringes collected	Naloxone kits	Fentanyl test strips	Treatment referrals	Overdose reversals
CCHD							
2020	274	39,774	38,245	99	132	15	13
2021	208	30,211	20,000	98	271	14	15
2022	417	29,040	16,620	68	*	8	9
2023	448	28,570	18,040	234	*	8	4
DIDHD							
2020	6	1,950	520	3	*	1	*
2021	98	25,660	15,660	50	28	10	*
2022	238/67	56,030	26,900	125	136	80	0
2023	231/72	58,850	64,200	128	201	90	0
LMAS							
2020	74	5,133	3,561	39	*	*	1
2021	146	23,031	14,691	59	5	1	*
2022	392/42	21,146	12,864	979	602	7	0
2023	330/34	13,330	11,870	1,444	639	9	0
MCHD							
2020	367	125,811	18,556	293	40	5	23
2021	630	145,813	42,461	331	689	8	12
2022	746/196	136,580	69,495	362	612	2	7
2023	870/215	130,655	68,530	542	350	2	0
PHDM							
2020	162	50,304	16,655	132	*	12	9
2021	423	161,580	56,283	196	239	20	25
2022	131	137,151	27,480	377	888	7	26
2023	111	115,790	1,800	404	523	4	18
WUPHD							
2020	1	450	41	4	*	*	*
2021	14	2,700	*	*	*	*	*
2022	169/55	37,005	*	296	359	11	*
2023	140/24	66,883	*	134	249	1	17
Upper Peninsula							
2020	884	223,422	77,578	570	172	33	46
2021	1,519	388,995	149,095	1,304	1,232	86	52
2022		416,952	153,359	2,207	2,597	115	42
2023		414,078	164,440	2,886	1,962	114	39

CCHD = Chippewa County Health Department, DIDHD = Dickinson-Iron District Health Department, LMAS = Luce, Mackinac, Alger, Schoolcraft Health Department, PHDM = Public Health Delta-Menominee, WUPHD = Western Upper Peninsula Health Department

stages of development when the COVID-19 pandemic started. The services delivered by the health departments in 2020 through 2023 are shown in **Table 11-9**.

11.6 Substance Abuse Patients Receiving Treatment

The Treatment Episode Data Set compiled by the Substance Abuse and Mental Health Services Administration [41] provides important information on how many patients with substance abuse are being treated. For the Michigan data, required reporters in Michigan were "State licensed facilities that receive state/public funding" and "Medicaid providers of behavioral health services" and eligible clients included "Clients whose services are supported by state/public funds through Department of Health and Human Services, including Medicaid."

Substance abuse admission rates per 100,000 population for those 12 years and older by substance of abuse in the State of Michigan from 2011 through 2021 are shown in **Table 11-10**. [42] Overall admissions were decreased in 2020 and 2021, but this may have been impacted by the COVID-19 pandemic. Admissions for marijuana abuse had tapered before the pandemic and may reflect the legalization of recreational marijuana use in Michigan. Admissions for those abusing methamphetamine and other amphetamines increased steadily over this time span despite the pandemic.

Figure 11-10: Substance Abuse Admissions, 12 Years and Older, Michigan per 100,000 Population

Year	All Admissions	Alcohol	Marijuana/Hashish	Cocaine	Meth/Speed	Primary Opiates	Heroin	Synthetic Opiates
2011	696	271	112	60	10	234	133	101
2012	662	251	104	49	10	236	142	94
2013	653	243	105	47	10	236	145	92
2014	738	269	102	46	14	294	190	104
2015	737	249	76	47	12	339	234	105
2016	892	311	87	62	20	397	288	110
2017	927	336	83	72	27	394	287	107
2018	904	336	73	81	41	359	267	92
2019	911	360	54	86	59	341	257	84
2020	758	311	42	66	64	264	204	60
2021	731	308	36	65	76	233	178	55

The details of substance abuse admissions for those 12 years and older in Michigan in 2021 are shown in **Table 11-11**. For those admitted to programs for substance abuse, the median outpatient stay was 133 days, for intensive outpatients was 89 days, short-term residential 21 days, long term residential 39 days, detoxification 3 days, and outpatient medical assisted opioid therapy 239 days. [42]

Table 11-11: Substance Abuse Admissions — Details, Michigan, 12 Years and Older

Total	63,356				
Ambulatory		Alcohol only	15,368	Male	40,803
— Outpatient	20,608	Alcohol with secondary drug	11,375	Female	22,553
— Intensive Outpatient	3,670	Heroin	15,404	Native American	743
Detoxification		Other Opiates	4,800	Asian	135
— Freestanding Residential	9,205	Cocaine	5,661	Black	13,619
— Ambulatory	167	Marijuana	3,157	Native Hawaiian/Pacific Islander	83
Rehabilitation Residential		Methamphetamine/Amphetamines	6,565	White Other	44,317
— Short Term (<30 days)	12,679	Tranquilizers	637	Other race	4,145
— Long term	3,152	Sedatives	92	Employed Fulltime	6,767
Medicated-assisted Opioid Therapy		Hallucinogens	39	Employed Part-time	3,551
— Outpatient	7,345	Phencyclidine (PCP)	2	Unemployed	43,715
— Detoxification	4,547	Inhalants	65	Not in labor force	8,856
— Residential	1,983	Other/Not specified	191		

Nationally, the number of admissions for those 12 years and older for substance abuse was 1,482,543 in 2021, down from 1,919,466 in 2011 and 1,545,201 in 2020.

NSDUH survey data from 2021 found the substances being used by those being treated were: Marijuana (8.7% (down from 18.2% in 2011), cocaine (4.8% down from 7.9% in 2011), heroin (17.2% up from 14.9% in 2011), hallucinogens (0.1%), inhalants (0.1%), methamphetamine (11.5% up from 5.5% in 2011), pain relievers (19.5%/17.5%), tranquilizers (1.0%), stimulants (including methamphetamine) (11.5% up from 6.0% in 2011), sedatives (0.2%), and alcohol (29.7% down from 39.1% in 2011). [42]

The mainstay of treating opioid abuse is medication-assisted treatment (MAT) with medications such as buprenorphine (Subutex®). The rate of prescription units dispensed per 1,000 in each county is shown in **Table 11-12**. [32]

Table 11-12: Buprenorphine Prescription Units Dispensed per 1,000

County	Rate
Alger	1252.1
Baraga	2259.8
Chippewa	1409.4
Delta	1525.5
Dickinson	852.3
Gogebic	223.5
Houghton	721.4
Iron	1103.1
Keweenaw	510.1
Luce	688.6
Mackinac	937.3
Marquette	1060.0
Menominee	804.8
Ontonagon	651.4
Schoolcraft	1363.2

11.7 Substance Use Vulnerability

The State of Michigan has developed the Michigan Substance Use Vulnerability Index that incorporates the burden on the population, the resources available, and the level of social vulnerability. The rankings, among the 83 counties in Michigan, for the index and the factors contributing to it for the counties in the Upper Peninsula are shown in **Table 11-13**. [32]

11.8 Adverse Childhood Experience and Substance Dependence

The allostatic load theory posits that the cumulative burden of chronic stress and life events can exceed an individual's ability to cope and increases an individual's risk of developing a chronic disease. Adverse childhood experiences, as discussed in §6.4.2, add to the allostatic load and have been linked to an increased risk of a variety of chronic illnesses. [43] Adverse childhood experiences contribute to the risk

of substance dependence. [43] As the number of types of adverse childhood experiences increases, the risk of substance dependence also increases.

Table 11-13: Michigan Substance Use Vulnerability Index

	Michigan Substance Use Vulnerability Index		Substance Use Burden Rank [a]	Resource Rank [a]	Social Vulnerability Ranking [a]
	County Ranking [a]	Percentile [b]			
Alger	27	67.9	54	8	29
Baraga	10	88.1	15	39	15
Chippewa	41	51.2	51	77	9
Delta	59	29.8	37	72	47
Dickinson	70	16.7	28	35	80
Gogebic	46	45.2	56	6	63
Houghton	64	23.8	80	47	34
Iron	23	72.6	40	7	36
Keweenaw	62	26.2	79	2	76
Luce	2	97.6	30	3	6
Mackinac	3	96.4	41	5	4
Marquette	68	19	63	49	62
Menominee	53	36.9	34	33	60
Ontonagon	29	65.5	69	1	57
Schoolcraft	20	76.2	50	12	19
[a] Ranking among 83 counties going from 1 (the worst) to 83 (the best)					
[b] Percentile from 0% (the best) to 100% (the worst)					

A history of adverse childhood experiences is so common (perhaps 11 out of 12) in those seeking treatment for substance dependence that screening for adverse childhood experiences has become routine. Given a child's exposure to trauma, their subsequent substance use is a predictable result. [44]

11.9 Future Implications

The way forward involves a multi-pronged approach:

- Improving access to treatment and recovery services
- Recognizing and addressing the conditions that lead to substance abuse such as mental health issues and adverse childhood experiences
- Decreasing overdose deaths through the distribution of overdose-reversing medications (naloxone)
- Better surveillance so resources can be directed where they are most needed
- More research on ameliorating pain and limiting addiction
- Identifying those at risk for substance abuse
- Improving pain management practices

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12 PUBLIC SAFETY / CRIME

12.1 Introduction

One of the core functions of public health is the prevention of injuries. Crimes, whether intentional or not, are one form of injury that warrants attention. Public safety is a highly valued aspect of overall community health. Public safety data presented in this section include those pertaining to violent crimes (murder, domestic violence), motor vehicle crashes and arrests involving alcohol and/or illicit drugs, and crimes involving drugs or alcohol.

12.2 Violent Crimes

In the Federal Bureau of Investigation's (FBI) Uniform Crime Reporting (UCR) Program violent crimes are defined in the UCR Program as those offenses that involve force or threat of force. The UCR Program notes that violent crime is composed of four offenses: murder, rape and sexual assault, robbery, and assault. [1] The Criminal Index Offenses ranked by County for the counties in the Upper Peninsula are presented in **Table 12-1**. [2]

The number of reported violent crime offenses per 100,000 population from 2017 through 2021 extracted from the FBI's UCR Program by county, and the number of deaths from injury and the number of deaths due to firearms per 100,000 population from 2017 through 2021 were extracted from the National Center for Health Statistics — Mortality Files are shown in **Table 12-2**. The number of violent crimes, property crimes, and all crimes for Michigan and each county in the Upper Peninsula in 2022 are shown in **Table 12-3**. [3] **Table 12-4** includes the number of arrests for each year from 2012 through 2022 in each county in the Upper Peninsula, the Upper Peninsula, and the State of Michigan. Trends over this time period for the number of arrests in the State of Michigan and the Upper Peninsula are shown in **Figure 12-1** and **Figure 12-2**. [2] There was a dip in the number of crimes during the COVID-19 pandemic**.**

12.2.1 Domestic Violence

The State of Michigan defines domestic violence as "a pattern of learned behavior in which one person uses physical, sexual, and emotional abuse to control another person against a household or family member. You do not have to be married to someone to be a victim of domestic violence. Any crime can be an act of domestic violence if perpetrated as a means of controlling another person who is a family or household member including:

- Arson
- Assault
- Extortion
- Homicide or attempted murder
- Kidnapping or unlawful imprisonment
- Obstruction of justice
- Prohibited conduct against a pregnant woman causing death, miscarriage, stillbirth, or physical injury to the embryo or fetus." [4]

Table 12-1: Criminal Index Offenses Ranked by County, 2022			
Location	1st (highest committed)	2nd	3rd
Alger	Larceny, Other	Aggravated/Felonious Assault	Burglary, Forced Entry
Baraga	Aggravated/Felonious Assault	Larceny, Other	Burglary, Forced Entry
Chippewa	Larceny, Other	Aggravated/Felonious Assault	Retail Fraud/Theft
Delta	Larceny, Other	Retail Fraud/Theft	Larceny, Theft from Building
Dickinson	Burglary, Forced Entry	Larceny, Other	Aggravated/Felonious Assault & Motor Vehicle Theft
Gogebic	Retail Fraud/Theft	Larceny, Other	Larceny, Theft from Motor Vehicle
Houghton	Larceny, Other	Larceny, Theft from Building	Retail Fraud/Theft
Iron	Aggravated/Felonious Assault	Larceny, Other & Motor Vehicle Theft	Burglary, Forced Entry
Keweenaw	Larceny, Other	Aggravated/Felonious Assault & Burglary Entry Without Force (Intent) & Retail Fraud/Theft	Arson & Larceny, Theft from Motor Vehicle
Luce	Larceny, Other	Aggravated/Felonious Assault	Burglary, Forced Entry
Mackinac	Larceny, Other	Burglary, Forced Entry	Retail Fraud/Theft
Marquette	Larceny, Other	Retail Fraud/Theft	Aggravated/Felonious Assault
Menominee	Larceny, Other	Larceny, Theft from Building	Aggravated/Felonious Assault
Ontonagon	Larceny, Other	Sexual Penetration P/V CSC 1st	Aggravated/Felonious Assault & Larceny, Theft from Building & Motor Vehicle Theft
Schoolcraft	Larceny, Other	Aggravated/Felonious Assault	Sexual Penetration P/V CSC 1st & Burglary, Forced Entry & Retail Fraud/Theft

Domestic violence can be an important contributor to poor health in the victims. It is estimated that a quarter of women will experience domestic violence in their lifetimes. Victims are at greater risk for mental health issues, including depression, anxiety, and post-traumatic stress disorder, as well as substance abuse and smoking.

In Michigan 34.7% of women report an episode of contact sexual violence in their lifetime. This is higher than the 30.7% prevalence nationwide. The lifetime prevalence of partner and sexual violence in Michigan and the United States in 2016-2017 is shown in **Table 12-5**. [5]

Episodes of domestic violence in 2022 by county in the Upper Peninsula and broken down by sex and race are reported in **Table 12-6**. [2] These data are presumed to understate the scope of domestic

Table 12-2: Injury and Firearms Deaths, 2017-2021

Location	Deaths from injury† per 100,000 population	Deaths from firearms per 100,000 population
Michigan	84	13
Alger	64	*
Baraga	102	*
Chippewa	76	11
Delta	72	13
Dickinson	98	13
Gogebic	87	*
Houghton	71	10
Iron	114	*
Keweenaw	104	*
Luce	102	*
Mackinac	93	*
Marquette	77	11
Menominee	109	18
Ontonagon	121	*
Schoolcraft	79	*
† does not include homicides, suicides, motor vehicle crashes, or poisonings		
* numbers too small to accurately report		

Table 12-3: Violent, Property, and All Crimes by County, 2022

Location	Violent Crime (murder, rape, robbery, aggravated assault)	Property Crime (burglary, larceny, motor vehicle theft, and arson)	Grand Total (all crimes)
Michigan	45,449	154,563	637,529
Alger	18	59	458
Baraga	25	38	415
Chippewa	90	177	2,721
Delta	97	309	2,231
Dickinson	16	44	362
Gogebic	21	90	628
Houghton	39	225	1,349
Iron	32	41	392
Keweenaw	2	13	77
Luce	28	64	501
Mackinac	21	174	875
Marquette	162	539	3,658
Menominee	67	176	2,040
Ontonagon	6	19	170
Schoolcraft	41	95	591

Table 12-4: Trends in Arrests, 2012-2022

Location	Arrests										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Michigan	262,444	263,411	260,403	256,305	253,984	248,548	236,488	215,812	165,419	157,957	163,547
Upper Peninsula	7,387	7,861	7,915	8,093	8,012	8,043	7,738	7,006	5,733	6,197	6,388
Alger	245	274	243	237	254	218	254	249	222	147	181
Baraga	211	161	180	183	184	137	173	100	87	105	133
Chippewa	879	987	1,095	974	1,052	843	939	833	652	580	782
Delta	1,181	1,319	1,091	1,288	1,392	1,287	1,213	1,019	856	930	879
Dickinson	144	294	170	266	263	355	338	358	185	162	186
Gogebic	281	281	292	326	337	373	321	340	315	297	254
Houghton	537	569	591	664	532	532	416	359	295	317	485
Iron	212	254	330	331	293	309	290	268	172	178	172
Keweenaw	29	14	37	21	20	22	12	8	12	8	23
Luce	164	166	164	144	167	166	213	218	177	159	172
Mackinac	377	353	377	464	434	410	323	255	229	251	252
Marquette	2,274	2,140	1,980	1,906	1,989	2,143	2,125	1,971	1,797	1,967	1,671
Menominee	463	749	1,004	852	774	895	845	790	531	837	1,005
Ontonagon	169	91	124	167	81	110	58	62	51	56	53
Schoolcraft	221	209	237	270	240	243	218	176	152	203	140

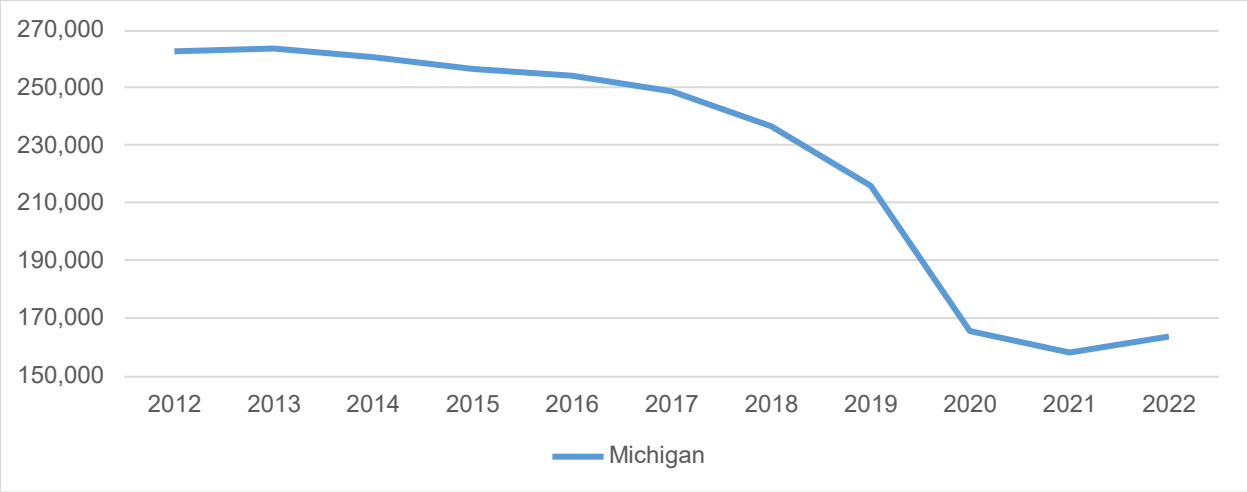


Figure 12-1: Annual number of arrests, Michigan, 2012 through 2022

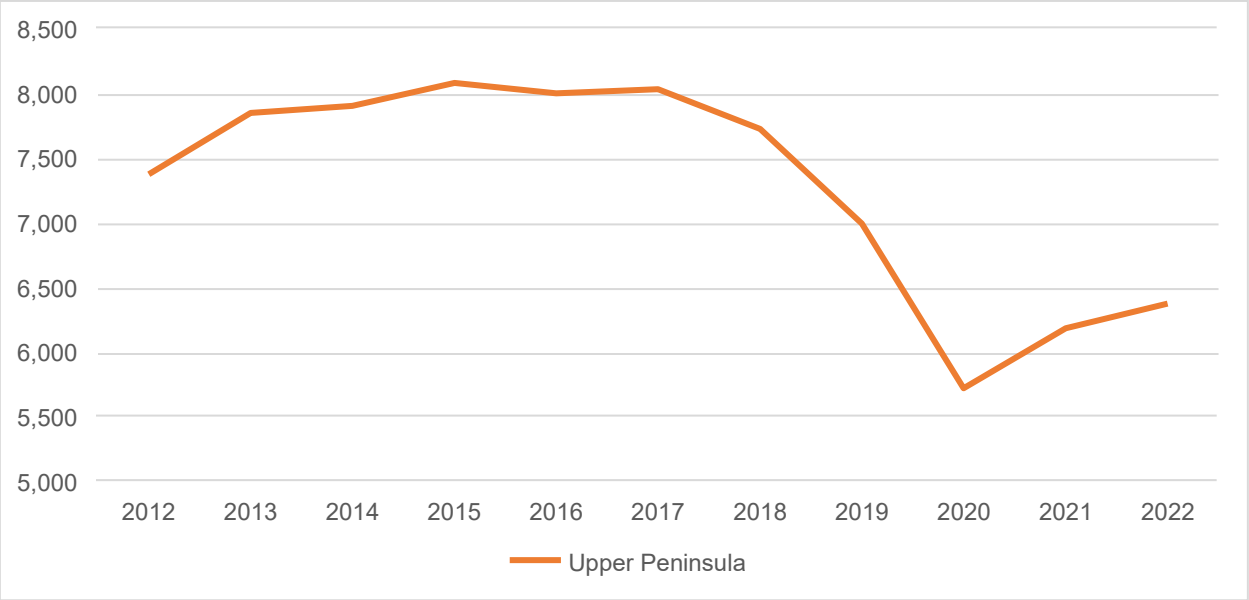


Figure 12-2: Annual number of arrests, Upper Peninsula, 2012 through 2022

Table 12-5: Intimate Partner and Sexual Violence, United States and Michigan by Sex, 2016-2017

	Lifetime Prevalence of Sexual Violence Victimization	Lifetime Prevalence of Rape (Completed or Attempted, Any Type)	Lifetime Prevalence of Sexual Coercion	Lifetime Prevalence of Unwanted Sexual Contact	Lifetime Prevalence of Verbal Sexual Harassment in a Public Place	Lifetime Prevalence of Stalking Victimization	Lifetime Prevalence of Contact Sexual Violence, Physical Violence, and/or Stalking Victimization by an Intimate Partner
United States							
Men			10.90%	23.30%	10.90%	16.10%	44.20%
Women	54.30%	26.80%	23.60%	47.60%	30.40%	31.20%	47.30%
Michigan							
Men			15.20%	23.90%	10.60%	20.30%	46.90%
Women	59.60%	28.70%	29.70%	52.10%	35.00%	29.20%	45.50%
	Lifetime Prevalence of Contact Sexual Violence						
US	30.70%						
MI	34.70%						

Table 12-6: Domestic Violence Victims by Sex and Race, 2022							
Jurisdiction	Total	Females	Males	White	Black	Native American	Other/Unknown Race
Upper Peninsula	1212	815	397	1006	34	87	85
Alger	24	18	6	20	0	0	4
Baraga	22	12	10	16	1	3	2
Chippewa	140	86	54	91	3	27	19
Delta	146	92	54	110	4	4	28
Dickinson	18	13	5	16	1	0	1
Gogebic	58	43	15	54	2	1	1
Houghton	109	66	43	103	5	1	0
Iron	34	28	6	33	0	0	1
Keweenaw	6	4	2	6	0	0	0
Luce	60	40	20	59	0	1	0
Mackinac	50	33	17	37	1	4	8
Marquette	347	250	97	320	8	6	13
Menominee	124	82	42	74	9	37	4
Ontonagon	25	19	6	20	0	1	4
Schoolcraft	49	29	20	47	0	2	0

violence, because studies show that a considerable percentage of abuse, harassment, and physical violence goes unreported: these data represent only the cases reported to police in which the officer determines a criminal offense has been committed.

12.3 Crimes Involving Alcohol and Drugs

High rates of heavy drinking increase the risk of not only motor vehicle accidents[6] but also are associated with domestic violence [8] and other violent crime. [9]

[6] In 2020, 11,654 people died in alcohol-impaired driving crashes. [6] The percentage of fatalities by the highest driver blood alcohol concentration above 0.08% in Michigan was 28% in 2012 and 29% in 2021. The percentages in the United States were 31% and 31% in 2012 and 2021. [7]

12.3.1 Driving under the Influence

In the State of Michigan, driving under the influence falls into a couple categories for tabulation purposes. One category, "operating under the influence of liquor" (OUIL), combines the total arrests for operating a vehicle under the influence of liquor, unlawful bodily alcohol content, operating a vehicle while under the influence of drugs, and high blood alcohol content, while "operating with presence of drugs" (OWPD) is a separate offense. Implied Consent Suspensions are cases in which the driver is arrested, refused to submit to a chemical test, and, consequently had his/her license suspended. In Michigan, operating while intoxicated is defined as a blood alcohol level above 0.08% or higher. [9] **Table 12-7** shows the breath and blood alcohol levels in those tested in 2023 in each Upper Peninsula county as part of the Michigan Statewide Breath Testing program. [10] The yearly tabulations (including deer crashes) for the Upper Peninsula and the State of Michigan from 2014 through 2023 are listed in **Table 12-8**. Crashes in 2023 by county are listed **Table 12-9**. [10]

Table 12-7: Michigan Statewide Breath Testing Program, 2023

	Persons Arrested		Breath						Blood						
County	Male	Female	Total	0	0.01-0.07	0.08-0.09	0.10-0.16	0.17+	Total	0	0.01-0.07	0.08-0.09	0.10-0.16	0.17+	Refused
Upper Peninsula Total	1110	467	292	3	16	23	151	99	1141	505	23	28	151	224	210
Alger	46	10	1	*	*	*	1	*	47	21	2	*	9	11	4
Baraga	55	22	24	*	1	3	14	6	37	17	1	*	2	8	9
Chippewa	124	52	54	*	1	2	23	28	112	63	2	*	11	8	28
Delta	87	47	8	*	*	2	5	1	123	47	3	2	17	36	18
Dickinson	77	32	2	*	*	*	2	*	99	39	3	4	17	20	16
Gogebic	46	21	28	*	*	*	16	12	31	13	*	*	1	5	12
Houghton	140	57	39	1	2	2	21	13	129	56	3	4	17	30	19
Iron	51	13	0	*	*	*	*	*	59	25	1	2	8	11	12
Keweenaw	7	4	5	*	3	1	1	*	6	2	*	*	*	1	3
Luce	27	14	16	*	3	*	8	5	23	12	*	*	5	3	3
Mackinac	52	11	16	1	*	*	4	11	44	10	*	5	13	7	9
Marquette	254	121	48	*	3	8	26	11	302	143	7	9	35	62	46
Menominee	107	43	47	1	3	5	27	11	89	48	*	1	8	13	19
Ontonagon	7	5	4	*	x	x	3	1	3	1	*	*	*	1	1
Schoolcraft	30	15	0	*	*	*	*	*	37	8	1	1	8	8	11

* number of cases too small to report

Table 12-8: Motor Vehicle Crashes, Upper Peninsula and Michigan, 2014-2023								
	Michigan				**Upper Peninsula**			
Year	Total Crashes	Total Fatal Crashes	Drug/Alcohol Fatal Crashes	Percent of Fatal Crashes Involving Drugs/Alcohol	Total Crashes	Total Fatal Crashes	Drugs/Alcohol Fatal Crashes	Percent of Fatal Crashes Involving Drugs/Alcohol
2014	298,699	806	291	36%	9,141	20	7	35%
2015	297,023	893	346	39%	8,107	25	13	52%
2016	312,172	980	378	39%	8,277	29	21	72%
2017	314,921	937	421	45%	9,550	35	16	46%
2018	312,798	905	394	44%	8,948	33	13	39%
2019	314,377	902	378	42%	9,140	37	23	62%
2020	245,432	1,010	422	42%	7,378	32	17	53%
2021	282,640	1,068	475	44%	7,990	41	25	61%
2022	293,341	1,053	420	40%	8,571	34	21	62%
2023	287,953	1,021	404	40%	7,797	30	20	67%

12.4 Future Implications

Being and feeling safe impact both physical and mental health. Accidental and non-accidental injuries can result in substantial morbidity and mortality. It is in the community's interest to limit these threats to health through laws, regulations, and local orders. As new vehicles are being designed to enhance their safety, the behavior issues that lead to accidents, violence, and crime remain to be addressed.

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Table 12-9: Motor Vehicle Crashes by County, 2023										
	Crashes	Fatal Crash	Fatalities	Injured	Alcohol Involved	Drug Involved	Distracted Driver	Motorcycle Involved	ORV Involved	Deer Involved
Alger	232	1	1	57	10	3	7	6	2	97
Baraga	237	2	2	44	9	5	9	2	2	153
Chippewa	927	3	3	175	33	14	45	6	11	357
Delta	1,057	6	7	143	33	16	39	11	2	500
Dickinson	859	1	1	124	19	7	34	6	5	411
Gogebic	266	0	0	53	13	3	19	4	5	85
Houghton	745	2	2	123	42	10	29	8	7	198
Iron	382	2	2	37	14	3	11	3	2	253
Keweenaw	44	1	1	17	7	0	4	1	1	12
Luce	153	0	0	35	5	5	5	2	4	92
Mackinac	531	4	6	69	16	9	10	6	3	303
Marquette	1,517	2	2	272	65	22	86	17	4	415
Menominee	291	4	4	99	22	4	30	9	5	53
Ontonagon	240	2	2	28	8	2	7	4	7	158
Schoolcraft	316	0	0	40	7	2	0	2	0	203
Upper Peninsula	7,797	30	33	1316	303	105	335	87	60	3290
ORV = Off Roading Vehicle										

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13 REGIONAL ADULT HEALTH SURVEY

13.1 Introduction

On behalf of our partners, the Western Upper Peninsula Health Department conducted a behavioral risk factor survey of Upper Peninsula adults in September/October 2024. Survey results, which follow this introduction, provide county-level and regional data on physical and mental health status; access to primary care, dental care, mental health counseling and substance abuse treatment services; use of screening and preventive health care services; the prevalence of chronic diseases and disabilities; and certain behaviors linked to health status, morbidity, and mortality, including diet, exercise, and use of alcohol, tobacco, and other drugs.

The survey was inspired by and modeled on the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFS). [1]

The smallest geographic area for which Michigan BRFS data are provided is at the level of the health department jurisdiction. Because of the small number of interviews conducted in each local health district each year, BRFS data must be aggregated over a three-year interval to produce meaningful estimates for prevalence rates. In the Upper Peninsula, only two of the 15 counties (Chippewa and Marquette) have health departments serving a single county. The remaining 13 counties are served by district health departments that cover between two and five counties each. The Upper Peninsula Community Health Issues and Priorities Survey (UPCHIPS) was undertaken with enough participants to provide reliable estimates of the prevalence of chronic diseases, disabilities, health behaviors, and health access at the county level.

13.2 Local Survey Methodology

While the Michigan and nationwide BFRS surveys collect their data through phone calls, the UPCHIPS has been conducted by mail rather than by telephone for several reasons. In the second half of 2023, 76.0% of adults and 86.8% of children lived in wireless only households. [2] a situation that markedly reduces those available to complete the survey if only landlines are called. Given the increase in phone solicitations, people are reluctant to answer a call from a number with which they are not familiar. A 2005 study found estimates from BRFS surveys distributed by mail and those conducted over the telephone yielded roughly equivalent results, with the exception that self-administered surveys produced higher estimates than interviewer-administered surveys for questions about sensitive behaviors, such as binge drinking. [3]

13.2.1 Sample

The sample for the 2024 Community Health Survey of Upper Peninsula Adults was purchased from Marketing Systems Group. The sample was address-based and drawn from a database matched to the United States Postal Service's Delivery Sequence File. Prior to drawing the sample, 14 sampling frames were defined: Alger County, Baraga County, Delta County, Dickinson County, Gogebic County, Houghton and Keweenaw counties combined, Iron County, Luce County, Mackinac County, Marquette County, Menominee County, Ontonagon County, and Schoolcraft County. From each of these frames, 1700 addresses classified as residential and occupied were randomly selected with an equal probability of being chosen. Seasonal and educational addresses were eligible for selection. Households that received

the survey was instructed to have the adult with the next birthday complete it. This instruction was intended to yield an approximately random sample of adults within each household.

13.2.2 Survey Design

Packets containing a cover letter, survey, and postage-paid pre-addressed return envelope were prepared and mailed to the entire sample of 23,800 addresses in September 2024. The packet included instructions for accessing an online version of the same survey. Households that returned completed surveys early qualified for a prize drawing consisting of eight $50 grocery gift cards. No reminders were sent.

The majority of the questions used in the survey were taken directly from the mail-out versions of the BRFS piloted in several states. The questions included in the current survey are unchanged from the 2021 survey; however, several questions from the 2021 survey were not included. In past surveys these questions had failed to produce actionable information.

State-level data are available from the 2024 survey cycle for most indicators presented here. These results have been included for rough benchmarking purposes in the tables that follow. If a Michigan rate is provided for a particular indicator, the year or years of the source data are noted in the table. Not all questions are included each year in the statewide BRFS. There are a few questions developed locally or where the phrasing of the question varies significantly from the statewide BRFS. In these cases, if no analogous Michigan standard is available or the wording of the question is different, this is noted in the table.

13.2.3 Response Rate

Table 13-1 summarizes the response rate for each sampling frame and the fourteen frames combined as well as the number of surveys completed online or returned by mail that were largely complete and had the necessary demographic data so that they could be included in the analysis. The estimate of 1,500 deliverable surveys per population frame (about 88% deliverable) was chosen based on rates of delivered versus return-to-sender surveys in 2012. [4] The response rate is calculated as the number of completed surveys within a frame divided by the number of surveys estimated to have been successfully delivered.

The trend in survey response rate for the four surveys is shown in **Figure 13-1**. The number of responses to the 2024 survey was similar to the number of responses to the 2021 survey. The persistent low response rate may reflect a couple of trends. First, the use of surveys has exploded in the past decade. As a consequence, Americans are surveyed more frequently and may be less willing to complete “yet another” survey.

Second, the public health interventions have been highly politicized during the COVID-19 pandemic. As a consequence, there may be an overriding negative sentiment towards local health departments and an unwillingness to cooperate in providing information that will help guide future efforts to improve the health of our communities.

Table 13-1: UPCHIPS Responses by County, 2024, 2021, 2017						
	2024		2021		2017	
	Number	Percentage[a]	Number	Percentage[a]	Number	Percentage[a]
Alger	265	17.7	271	18.1	336	22.4
Baraga	227	15.1	253	16.9	391	26.1
Chippewa	223	14.9	213	14.2	282	18.8
Delta	234	15.6	204	13.6	324	21.6
Dickinson	193	12.9	228	15.2	310	20.7
Gogebic	276	18.4	249	16.6	353	23.5
Houghton/Keweenaw	276	18.4	269	17.9	359	23.9
Iron	263	17.5	254	16.9	341	22.7
Luce	274	18.3	261	17.4	337	22.4
Mackinac	225	15.0	251	16.7	298	19.9
Marquette	261	17.4	277	18.4	325	21.7
Menominee	197	13.1	203	13.5	272	18.1
Ontonagon	355	23.7	370	24.7	524	34.9
Schoolcraft	211	14.1	249	16.6	368	24.5
[a] Based on 1500 of the 1700 surveys mailed being delivered.						

While our sample was organized by county, we suspected that in some cases zip codes that span multiple counties would result in a small percentage of addresses assigned to one sampling frame actually belonging in another. This prompted us to include a question in the survey asking the respondent to identify their county of residence. Accordingly, estimates are calculated based on the county of residence indicated by the respondent. Surveys were included in the analysis if they were largely complete and had the necessary demographic data for weighting.

13.2.4 Analysis

Data analysis was conducted by Robert S. Van Howe, MD, MS, MPH, the Medical Director for the Western U.P. Health Department, the Dickinson-Iron District Health Department, the Marquette County Health Department, and Public Health Delta-Menominee Counties. All analyses were completed in SAS, version 9.4 (Cary, North Carolina). Survey data were assessed for completeness and consistency. Conflicting responses were adjudicated using standards developed by Ray Sharp and Kelly Kamm for the 2017 UPCHIPS. Survey data were weighted to account for the probability of selection within the

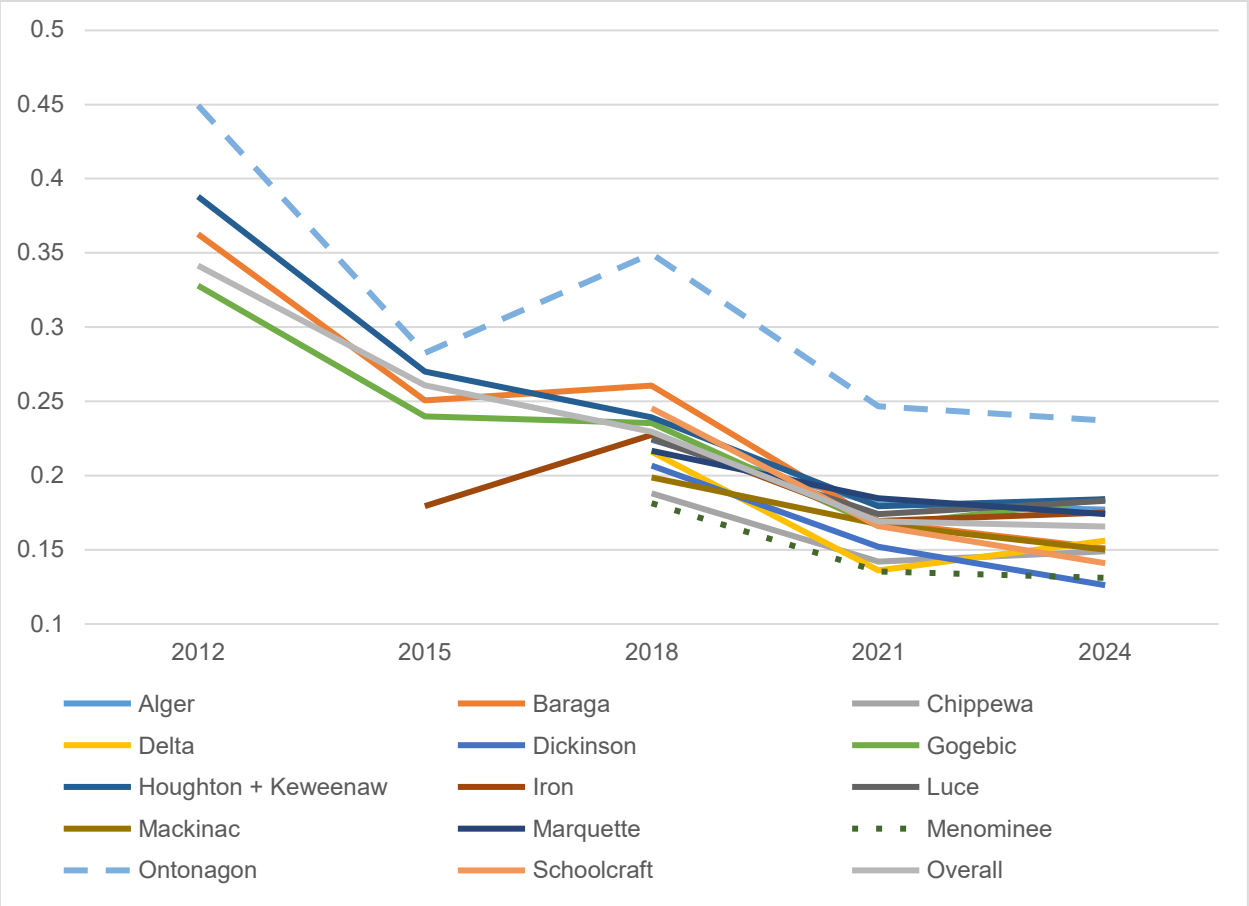


Figure 13-1: Response rates to regional adult health surveys, 2012-2024

household (design weight) and for the overrepresentation of certain demographic characteristics among survey respondents (post-stratification weight). In order to prevent a specific respondent from contributing excessively to the overall estimate, the design weight was limited to a maximum of five adults per household. To correct for differences between the survey respondents and the population of the Upper Peninsula, post-stratification weighting was used for age, sex, education level, and income level. These characteristics are a subset of the weighting characteristics used by the BRFS. Overall Upper Peninsula estimates were also weighted for the population of the identified county of residence, with Keweenaw and Houghton counties being combined because of the small population of Keweenaw County. Keweenaw County, by far the least populous county in Michigan, literally does not have the requisite 1,700 households employed in the survey sample design, and Keweenaw County residents access health care and social services primarily in adjacent Houghton County. The address sample for the combined two-county population frame was drawn proportionately to the numbers of household addresses in the Marketing Systems Group database, so with many times greater representation from residents of the more populous Houghton County, but the respondents among the two counties were combined and weighted according to the total two-county adult population, without further re-weighting for relative distribution between the counties.

County-level data from the 2023 American Community Survey were used to represent population estimates of the distribution of age, sex, education, and income. Weighting for each characteristic was calculated sequentially, with age and gender calculated together. The weight for age and gender was

calculated and applied to the data. A weighted frequency for education was generated and an education weight was calculated. The product of the two weights was applied to the data and a weighted frequency for income was then generated. An income weight was calculated and the post-stratification weight was calculated as the product of the three weights for each observation. The weighted frequency of age, gender, education, and income were compared to the population data for each county. A second iteration was completed to improve comparability between the population data and weighted sample estimates. Observations missing a response to a weighting variable were assigned a weight of "1" for the missing response. Because of the variability in response rates to individual questions and differences in relevant subpopulations for particular questions, not all estimates are based on the same total sample size. Questions regarding health screening tests and knowledge of chronic disease diagnoses included a response option of "Don't know." Responses of "Don't know" were categorized as "No."

13.2.5 Results

13.2.5.1 Demographics

The raw (unadjusted) demographics of those who completed the UPCHIPS in 2017, 2021, and 2024 are shown in **Table 13-2**. In 2017 the ratio of female respondents to male respondents was 1.74:1. In 2021 the ratio was 1.68:1 and in 2024 it was 2.01:1. The ratio remained unchanged between the first two surveys (χ^2=0.27, p=.6014), but increased significantly between the second and third survey (χ^2=11.26, p=.0008). The men who answered were on average 2.4 years older in the 2021 UPCHIPS, 2.7 years older in the 2017 UPCHIPS, and 3.9 years older in the 2024 UPCHIPS. Statistically significant differences in both income level and education level were seen based on gender and county of residence. Not surprisingly, the age of the respondents varied significantly from county to county (p<.0001 in all three surveys) (also see **Table 3-3**). Those who responded to the 2024 UPCHIPS had significantly higher levels of and income than those who responded to the 2021 UPCHPS. The raw demographics of those completing the surveys at the county level are shown in **Tables 13-3** through **13-16**.

Table 13-2: Demographics of UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.9 (15.5) [68]	65.5 (14.3) [67]	63.9 (14.7) [65]
Women	63.6 (16.0) [67]	64.6 (15.0) [66]	62.9 (15.2) [64]
Men	67.5 (14.0) [70]	67.0 (13.0) [69]	65.6 (13.6) [67]
Difference[b]	3.85	2.43	2.68
Sex[c]	(percentage)	(percentage)	(percentage)
Female	2308 (67.78%)	2183 (62.6%)	3024 (63.5%)
Male	1148 (33.22%)	1302 (37.4%)	1739 (36.5%)
Educational Attainment[d]			
Less than 12th grade	115 (3.38%)	111 (3.19%)	202 (4.24%)
High School graduate	1036 (30.43%)	1101 (31.61%)	1688 (35.43%)
1-3 years of college	1165 (34.22%)	1115 (32.01%)	1533 (32.18%)
4-year degree or higher	1088 (31.96%)	1156 (33.19%)	1341 (28.15%)
Household Income[e]			
Less than $25,000	803 (23.95%)	853 (25.02%)	1408 (30.27%)
$25,000 to $49,999	1075 (32.06%)	1158 (33.97%)	1713 (36.83%)
$50,000 or higher	1475 (43.99%)	1398 (41.01%)	1530 (32.90%)
[a] The average age of respondents in 2024 was 0.57 years younger (95% confidence interval: -0.13, 1.28, t=1.60, p=.1108) than respondents in 2021 and 1.06 years older (95% confidence interval: 0.39, 1.72, t=3.11, p<.0001) than respondents in 2017. When adjusted for education level, income level, sex, and county of residence, the 2024 respondent was 0.34 years younger (t=0.95, p=.3418) and 1.81 years older (t=5.42, p<.0001) than the 2017 respondent.			
[b] 2024: 95% confidence interval: 2.80, 4.91; t=7.18, p<.0001. 2021: 95% confidence interval: 1.48, 3.38; t=5.03, p<.0001. 2017: 95% confidence interval: 1.84, 3.51; t=6.25, p<.0001.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 9.48, p=.0021; between 2021 and 2024: chi=square (df=1) = 11.26, p=.0008.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 30.89, p<.0001; between 2021 and 2024: chi=square (df=3) = 4.30, p=.2309.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 104.81, p<.0001; between 2021 and 2024: chi=square (df=2) = 6.20, p=.0451.			

Table 13-3: Demographics of Alger County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	66.1 (15.7) [68]	65.5 (13.6) [67]	63.8 (13.5) [65]
Women	64.9 (16.2) [68]	65.0 (14.6) [66]	62.1 (13.5) [63]
Men	68.8 (13.9) [69]	66.3 (12.0) [67]	66.5 (13.0) [68]
Difference[b]	3.9	1.23	4.32
Sex[c]	(percentage)	(percentage)	(percentage)
Female	172 (65.15%)	167 (61.6%)	207 (61.6%)
Male	92 (34.85%	104 (38.4%)	129 (38.4%)
Educational Attainment[d]			
Less than 12th grade	8 (3.11%)	7 (2.69%)	19 (5.71%)
High School graduate	77 (29.96%)	74 (28.46%)	98 (29.43%)
1-3 years of college	78 (30.35%)	84 (32.31%)	110 (33.03%)
4-year degree or higher	94 (36.58%)	95 (36.54%)	106 (31.83%)
Household Income[e]			
Less than $25,000	49 (19.29%)	39 (15.35%)	86 (26.46%)
$25,000 to $49,999	80 (31.5 %)	93 (36.61%)	129 (39.69%)
$50,000 or higher	125 (49.21%)	122 (48.03%)	110 (33.85%)
[a] The average age of respondents in 2024 was 2.31 years older (95% confidence interval: -0.10, 4.72, t=1.89, p=.0598) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 3.12 years older (t=2.63, p=.0089).			
[b] 2024: 95% confidence interval: 0.07, 7.73; t=2.01, p=.0460. 2021: 95% confidence interval: -2.03, 4.50; t=0.74, p=.4575. 2017: 95% confidence interval: 1.40, 7.24; t=2.91, p=.0039)			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.80, p=.3716.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 3.44, p=.3292.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 14.09, p=.0009.			

Table 13-4: Demographics of Baraga County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	66.9 (14.4) [69]	66.5 (13.2) [68]	64.1 (13.2) [65]
Women	66.0 (15.3) [69]	65.8 (13.5) [67]	63.3 (13.2) [63]
Men	68.0 (12.6) [69]	67.7 (12.6) [70]	65.3 (13.1) [67]
Difference[b]	2.08	1.92	2.01
Sex[c]	(percentage)	(percentage)	(percentage)
Female	136 (61.26%)	172 (68.3%)	245 (62.7%)
Male	86 (38.74%)	80 (31.7%)	146 (37.3%)
Educational Attainment[d]			
Less than 12th grade	10 (4.63%)	7 (2.83%)	16 (4.12%)
High School graduate	78 (36.11%)	93 (37.65%)	148 (38.14%)
1-3 years of college	73 (33.80%)	92 (37.25%)	138 (35.57%)
4-year degree or higher	55 (25.46%)	55 (22.27%)	86 (22.16%)
Household Income[e]			
Less than $25,000	52 (23.96%)	63 (26.25%)	106 (27.75%)
$25,000 to $49,999	76 (35.02%)	91 (37.92%)	169 (44.24%)
$50,000 or higher	89 (41.01%)	86 (35.83%)	107 (28.01%)
[a] The average age of respondents in 2024 was 2.78 years older (95% confidence interval: 0.46, 5.11, t=2.35, p=.0192) than respondents in 2017. When adjusted for education level, income level, and sex, the 2041 respondent was 3.00 years older (t=2.55, p=.0110).			
[b] 2024: 95% confidence interval: -1.72, 5.88; t=1.08, p=.2815. 2021: 95% confidence interval: -1.54, 5.39; t=1.10, p=.2747. 2017: 95% confidence interval: -0.73, 4.73; t=1.45, p=.1475)			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.12, p=.7315.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 1.01, p=.7996.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 10.78, p=.0046.			

Table 13-5: Demographics of Chippewa County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.4 (14.8) [66.5]	66.3 (14.0) [68]	63.3 (15.3) [65]
Women	63.3 (15.2) [66]	64.6 (14.6) [66]	61.6 (15.8) [64]
Men	66.5 (13.6) [68.5]	68.7 (12.5) [71]	66.0 (14.1) [67]
Difference[b]	3.27	4.04	4.39
Sex[c]	(percentage)	(percentage)	(percentage)
Female	152 (69.09%)	131 (61.8%)	170 (60.3%)
Male	68 (30.91%)	81 (38.2%)	112 (39.7%)
Educational Attainment[d]			
Less than 12th grade	14 (6.36%)	7 (3.37%)	11 (3.96%)
High School graduate	67 (30.45%)	68 (32.69%)	89 (32.01%)
1-3 years of college	75 (34.09%)	51 (24.52%)	82 (29.50%)
4-year degree or higher	64 (29.09%)	82 (39.42%)	96 (34.53%)
Household Income[e]			
Less than $25,000	51 (23.50%)	52 (25.37%)	59 (22.01%)
$25,000 to $49,999	66 (30.41%)	63 (30.73%)	107 (39.93%)
$50,000 or higher	100 (46.08%)	90 (43.90%)	102 (38.06%)
[a] The average age of respondents in 2024 was 1.06 years older (95% confidence interval: -1.60, 3.72, t=0.78, p=.4330) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 1.73 years older (t=1.27, p=.2057).			
[b] 2024: 95% confidence interval: -0.81, 7.36; t=1.58, p=1155. 2021: 95% confidence interval: 0.27, 7.81; t=2.11, p=.0358. 2017: 95% confidence interval: 0.82, 7.96; t=2.42, p=.0160)			
[c] Difference between 2017 and 2024: chi=square (df=1) = 4.17, p=.0412.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 3.47, p=.3251.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 5.01, p=.0816.			

Table 13-6: Demographics of Delta County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.0 (16.3) [67]	66.6 (14.8) [68]	63.0 (15.6) [65]
Women	63.0 (16.7) [67]	66.2 (15.0) [67]	61.6 (16.6) [64]
Men	66.5 (15.2) [69]	67.7 (14.6) [69]	66.0 (12.8) [67]
Difference[b]	3.51	1.52	4.37
Sex[c]	(percentage)	(percentage)	(percentage)
Female	163 (69.66%)	146 (71.6%)	219 (67.6%)
Male	71 (30.34%)	58 (28.4%)	105 (32.4%)
Educational Attainment[d]			
Less than 12th grade	7 (3.04%)	11 (5.45%)	7 (2.19%)
High School graduate	69 (30.00%)	60 (29.70%)	128 (40.13%)
1-3 years of college	82 (35.65%)	72 (35.64%)	111 (34.80%)
4-year degree or higher	72 (31.30%)	59 (29.21%)	73 (22.88%)
Household Income[e]			
Less than $25,000	48 (21.62%)	54 (27.98%)	105 (33.87%)
$25,000 to $49,999	84 (37.84%)	60 (31.09%)	97 (31.29%)
$50,000 or higher	90 (40.54%)	79 (40.93%)	108 (34.84%)
[a] The average age of respondents in 2024 was 1.00 years older (95% confidence interval: -1.73, 3.72, t=0.72, p=.4728) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 1.97 years older (t=1.45, p=.1489).			
[b] 2024: 95% confidence interval: -0.93, 7.94; t=1.56, p=1202. 2021: 95% confidence interval: -3.04, 6.08; t=0.66, p=.5106. 2017: 95% confidence interval: 1.04, 7.70; t=2.58, p=.0104.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.27, p=.6044.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 7.81, p=.0501.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 9.51, p=.0086.			

Table 13-7: Demographics of Dickinson County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.3 (16.7) [67]	64.1 (14.9) [66]	63.8 (15.9) [65]
Women	62.3 (16.8) [65]	62.7 (14.8) [64.5]	63.7 (16.3) [64.5]
Men	69.1 (16.0) [73]	66.4 (14.9) [68]	63.8 (15.3) [65]
Difference[b]	6.77	3.73	0.09
Sex[c]	(percentage)	(percentage)	(percentage)
Female	135 (70.68%)	138 (60.8%)	215 (69.4%)
Male	56 (29.32%)	89 (39.2%)	95 (30.6%)
Educational Attainment[d]			
Less than 12th grade	2 (1.10%)	2 (0.90%)	11 (3.56%)
High School graduate	54 (29.67%)	75 (33.63%)	120 (38.83%)
1-3 years of college	70 (38.46%)	79 (35.43%)	86 (27.83%)
4-year degree or higher	56 (30.77%)	67 (30.04%)	92 (29.77%)
Household Income[e]			
Less than $25,000	40 (21.74%)	47 (21.96%)	91 (30.54%)
$25,000 to $49,999	55 (29.89%)	81 (37.85%)	91 (30.54%)
$50,000 or higher	89 (48.37%)	86 (40.19%)	116 (38.93%)
[a] The average age of respondents in 2024 was 0.55 years older (95% confidence interval: -2.47, 3.57, t=0.36, p=.7204) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 2.08 years older (t=1.41, p=.1587).			
[b] 2024: 95% confidence interval: 1.50, 12.3; t=2.55, p=.0122. 2021: 95% confidence interval: -0.29, 7.74; t=1.83, p=.0687. 2017: 95% confidence interval: -3.71, 3.88; t=0.04, p=.9643.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.10, p=.7534.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 9.45, p=.0239.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 5.64, p=.0596.			

Table 13-8: Demographics of Gogebic County UPCHIPS Responses, 2024, 2021, 2017			
		2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.9 (14.9) [69]	66.3 (13.9) [69]	63.9 (14.6) [66]
Women	63.8 (15.7) [68]	64.7 (15.8) [68]	63.1 (15.5) [65]
Men	67.2 (13.2) [71]	68.4 (10.7) [69]	65.2 (12.8) [66]
Difference[b]	3.39	3.72	2.04
Sex[c]	(percentage)	(percentage)	(percentage)
Female	181 (65.82%)	138 (55.4%)	224 (63.5%)
Male	94 (34.18%)	111 (44.6%)	129 (36.5%)
Educational Attainment[d]			
Less than 12th grade	6 (2.21%)	5 (2.04%)	7 (2.00%)
High School graduate	77 (28.41%)	69 (28.16%)	94 (26.86%)
1-3 years of college	103 (38.01%)	80 (32.65%)	137 (39.14%)
4-year degree or higher	85 (31.37%)	91 (37.14%)	112 (32.00%)
Household Income[e]			
Less than $25,000	71 (26.59%)	74 (30.45%)	138 (39.88%)
$25,000 to $49,999	90 (33.71%)	73 (30.04%)	109 (31.50%)
$50,000 or higher	106 (39.70%)	96 (39.51%)	99 (28.61%)
[a] The average age of respondents in 2024 was 1.05 years older (95% confidence interval: -1.30, 3.40, t=0.88, p=.3792) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 1.97 years older (t=1.69, p=.0924).			
[b] 2024: 95% confidence interval: -0.18, 6.95; t= 1.87, p=.0625. 2021: 95% confidence interval: 0.38, 7.07; t=2.20, p=.0290. 2017: 95% confidence interval: -0.98, 5.06; t=1.33, p=.1845.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.38, p=.5394.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 0.24, p=.9712.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 13.58, p=.0011.			

Table 13-9: Demographics of Houghton/Keweenaw Counties UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	60.1 (17.3) [63.5]	63.5 (15.2) [66]	60.3 (16.4) [63]
Women	59.5 (17.9) [63]	62.3 (15.3) [65.5]	59.4 (16.2) [62]
Men	61.5 (16.0) [66]	65.5 (14.9) [68]	61.8 (16.6) [65]
Difference[b]	1.92	3.18	2.36
Sex[c]	(percentage)	(percentage)	(percentage)
Female	195 (70.91%)	168 (62.5%)	215 (59.9%)
Male	80 (29.09%)	101 (37.5%)	144 (40.1%)
Educational Attainment[d]			
Less than 12th grade	8 (2.95%)	5 (1.89%)	11 (3.10%)
High School graduate	61 (22.51%)	62 (23.40%)	97 (27.32%)
1-3 years of college	86 (31.73%)	84 (31.70%)	113 (31.83%)
4-year degree or higher	116 (42.80%)	114 (43.02%)	134 (37.75%)
Household Income[e]			
Less than $25,000	61 (22.93%)	60 (22.90%)	106 (30.64%)
$25,000 to $49,999	64 (24.06%)	76 (29.01%)	105 (30.35%)
$50,000 or higher	141 (53.01%)	126 (48.09%)	135 (39.02%)
[a] The average age of respondents in 2024 was 0.24 years younger (95% confidence interval: -2.92, 2.43, t=0.17, p=.8635) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 0.76 years older (t=0.55, p=.5828).			
[b] 2024: 95% confidence interval: -2.45, 6.29; t=0.87, p=.3868. 2021: 95% confidence interval: -0.59, 6.95; t=1.66, p=.0978. 2017: 95% confidence interval: -1.15, 5.87; t=1.32, p=.1863.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 8.28, p=.0040.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 2.41, p=.4905.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 11.95, p=.0025.			

Table 13-10: Demographics of Iron County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	69.0 (12.6) [70]	66.9 (14.4) [69]	65.8 (13.4) [66]
Women	68.1 (13.3) [70]	66.5 (15.0) [69]	65.5 (14.3) [65]
Men	70.6 (11.4) [72]	67.6 (13.5) [69]	66.3 (11.6) [67]
Difference[b]	2.46	1.05	0.82
Sex[c]	(percentage)	(percentage)	(percentage)
Female	166 (63.36%	157 (61.8%)	214 (62.8%)
Male	96 (36.64%)	97 (38.2%)	127 (37.2%)
Educational Attainment[d]			
Less than 12th grade	10 (3.88%)	4 (1.59%)	10 (2.96%)
High School graduate	93 (36.05%)	87 (34.52%)	138 (40.83%)
1-3 years of college	88 (34.11%)	89 (35.32%)	102 (30.18%)
4-year degree or higher	67 (25.97%)	72 (28.57%)	88 (26.04%)
Household Income[e]			
Less than $25,000	78 (31.20%)	69 (27.71%)	111 (33.33%)
$25,000 to $49,999	87 (34.80%)	89 (35.74%)	129 (38.74%)
$50,000 or higher	85 (34.00%)	91 (36.55%)	93 (27.93%)
[a] The average age of respondents in 2024 was 3.19 years older (95% confidence interval: 1.09, 5.30, t=2.98, p=.0030) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 3.26 years older (t=3.04, p=.0024).			
[b] 2024: 95% confidence interval: -0.63. 5.55; t=1.57, p=.1186. 2021: 95% confidence interval: -2.54, 4.65; t=0.58, p=.5628. 2017: 95% confidence interval: -1.99, 3.63; t=0.57, p=.5660.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.02, p=.8793.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 1.94, p=.5850.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 2.52, p=.2833.			

Table 13-11: Demographics of Luce County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.7 (15.1) [66]	66.1 (13.9) [67]	63.8 (15.9) [66]
Women	63.9 (15.0) [66]	66.5 (14.3) [67]	62.8 (16.4) [65]
Men	66.4 (15.5) [67]	65.4 (13.2) [67]	65.7 (14.6) [67]
Difference[b]	2.53	-1.13	2.94
Sex[c]	(percentage)	(percentage)	(percentage)
Female	189 (69.23%)	159 (61.6%)	219 (65.0%)
Male	84 (30.77%)	99 (38.4%)	118 (35.0%)
Educational Attainment[d]			
Less than 12th grade	11 (4.09%)	13 (5.12%)	14 (4.24%)
High School graduate	89 (33.09%)	86 (33.86%)	123 (37.27%)
1-3 years of college	95 (35.32%)	76 (29.92%)	112 (33.94%)
4-year degree or higher	74 (27.51%)	79 (31.10%)	81 (24.55%)
Household Income[e]			
Less than $25,000	77 (28.84%	72 (28.80%)	104 (31.90%)
$25,000 to $49,999	88 (32.96%)	80 (32.00%)	108 (33.13%)
$50,000 or higher	102 (38.20%)	98 (39.20%)	114 (34.97%)
[a] The average age of respondents in 2024 was 0.82 years older (95% confidence interval: -1.67, 3.31, t=0.65, p=.5186) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 1.01 years older (t=0.79, p=.4291).			
[b] 2024: 95% confidence interval: -1.47, 6.53; t=1.25, p=.2131. 2021: 95% confidence interval: -4.59, 2.33; t=-0.64, p=.5201. 2017: 95% confidence interval: -0.54, 6.41; t=1.66, p=.0973.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 1.23, p=.2679.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 1.33, p=.7228.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 0.87, p=.6461.			

Table 13-12: Demographics of Mackinac County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	64.8 (15.6) [68]	65.4 (13.4) [67]	64.7 (13.4) [66]
Women	62.4 (16.4) [65.5]	64.1 (13.9) [66]	64.1 (13.7) [65]
Men	69.1 (12.7) [71]	67.3 (12.6) [68]	65.9 (12.8) [68]
Difference[b]	6.76	3.2	1.88
Sex[c]	(percentage)	(percentage)	(percentage)
Female	148 (66.67%)	155 (62.0%)	191 (64.1%)
Male	74 (33.33%)	95 (38.0%)	107 (35.9%)
Educational Attainment[d]			
Less than 12th grade	4 (1.83%)	10 (4.07%)	19 (6.46%)
High School graduate	56 (25.57%)	64 (26.02%)	84 (28.57%)
1-3 years of college	76 (34.70%)	69 (28.05%)	84 (28.57%)
4-year degree or higher	83 (37.90%)	103 (41.87%)	107 (36.39%)
Household Income[e]			
Less than $25,000	48 (21.82%)	41 (17.08%)	72 (24.91%)
$25,000 to $49,999	52 (23.64%)	77 (32.08%)	108 (37.37%)
$50,000 or higher	120 (54.55%)	122 (50.83%)	109 (37.72%)
[a] The average age of respondents in 2024 was 0.11 years older (95% confidence interval: -2.46, 2.68, t=0.08, p=.9343) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 0.94 years older (t=0.72, p=.4710).			
[b] 2024: 95% confidence interval: 2.79, 10.73; t=3.36, p=.0009. 2021: 95% confidence interval: -0.18, 6.57; t=1.87, p=.0365. 2017: 95% confidence interval: -1.27, 5.03; t=1.18, p=.2411.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.37, p=.5424.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 8.02, p=.0335.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 15.87, p=.0004.			

Table 13-13: Demographics of Marquette County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	63.0 (16.3) [67]	61.3 (16.5) [64.5]	59.9 (15.9) [63]
Women	61.8 (16.5) [66]	59.8 (17.1) [63]	59.6 (15.8) [62]
Men	64.7 (16.0) [69]	63.9 (14.9) [68]	60.4 (16.1) [64]
Difference[b]	2.86	4.11	0.78
Sex[c]	(percentage)	(percentage)	(percentage)
Female	165 (63.95%)	180 (65.0%)	206 (63.4%)
Male	93 (36.05%)	97 (35.0%)	119 (36.6%)
Educational Attainment[d]			
Less than 12th grade	5 (1.93%)	6 (2.19%)	12 (3.73%)
High School graduate	49 (18.92%)	62 (22.63%)	88 (27.33%)
1-3 years of college	78 (30.12%)	87 (31.75%)	83 (25.78%)
4-year degree or higher	127 (49.03%)	119 (43.43%)	139 (43.17%)
Household Income[e]			
Less than $25,000	42 (16.67%)	60 (22.06%)	74 (23.57%)
$25,000 to $49,999	58 (23.02%)	85 (31.25%)	113 (35.99%)
$50,000 or higher	152 (60.32%)	127 (46.69%)	127 (40.45%)
[a] The average age of respondents in 2024 was 3.10 years older (95% confidence interval: 0.45, 5.74, t=2.30, p=.0217) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 3.87 years older (t=2.81, p=.0051).			
[b] 2024: 95% confidence interval: -1.31, 7.02; t=1.35, p=.1777. 2021: 95% confidence interval: 0.19, 8.03; t=2.07, p=.0397. 2017: 95% confidence interval: -2.89, 4.44; t=0.42, p=.6766.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.02, p=.88.72.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 7.94, p=.0472.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 22.23, p<.0001.			

Table 13-14: Demographics of Menominee County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	62.2 (15.7) [65]	64.1 (15.0) [66]	65.2 (13.8) [66]
Women	62.4 (15.9) [65.5]	64.1 (16.4) [67]	65.1 (14.3) [67]
Men	62.5 (15.2) [64]	64.1 (12.6) [64]	65.4 (12.9) [65]
Difference[b]	0.18	-0.06	0.28
Sex[c]	(percentage)	(percentage)	(percentage)
Female	133 (70.00%)	123 (60.6%)	173 (63.6%)
Male	57 (30.00%)	80 (39.4%)	99 (36.4%)
Educational Attainment[d]			
Less than 12th grade	9 (4.66%)	9 (4.50%)	21 (7.84%)
High School graduate	61 (31.61%)	72 (36.00%)	117 (43.66%)
1-3 years of college	69 (35.75%)	72 (36.00%)	79 (29.48%)
4-year degree or higher	54 (27.98%)	47 (23.50%)	51 (19.03%)
Household Income[e]			
Less than $25,000	52 (27.23%)	60 (30.30%)	95 (37.25%)
$25,000 to $49,999	72 (37.70%)	71 (35.86%)	96 (37.66%)
$50,000 or higher	67 (35.08%)	67 (33.84%)	64 (25.10%)
[a] The average age of respondents in 2024 was 3.00 years younger (95% confidence interval: -0.24, 5.77, t=2.13, p=.0335) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 2.09 years younger (t=1.47, p=.1430).			
[b] 2024: 95% confidence interval: -4.69, 5.05; t=0.07, p=.9418. 2021: 95% confidence interval: -4.11, 3.99; t=-0.03, p=.9762. 2017: 95% confidence interval: -3.10, 3.65; t=0.16, p=.8721.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 2.05, p=.1525.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 11.28, p=.0099.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 7.04, p=.0297.			

Table 13-15: Demographics of Ontonagon County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	67.7 (14.2) [69]	68.3 (12.5) [69]	66.5 (13.6) [68]
Women	65.7 (15.2) [67]	67.1 (13.0) [68]	65.2 (14.6) [67]
Men	71.0 (11.6) [72.5]	70.2 (11.25) [71]	68.8 (11.5) [69]
Difference[b]	5.29	3.11	3.67
Sex[c]	(percentage)	(percentage)	(percentage)
Female	224 (64.00%)	235 (63.5%)	330 (63.0%)
Male	126 (36.00%)	135 (36.5%)	194 (37.0%)
Educational Attainment[d]			
Less than 12th grade	13 (3.76%)	16 (4.42%)	21 (4.05%)
High School graduate	122 (35.26%)	133 (36.74%)	228 (44.02%)
1-3 years of college	127 (36.71%)	113 (31.22%)	178 (34.36%)
4-year degree or higher	84 (24.28%)	100 (27.62%)	91 (17.57%)
Household Income[e]			
Less than $25,000	93 (27.76%)	105 (30.09%)	173 (34.53%)
$25,000 to $49,999	124 (37.01%)	132 (37.82%)	207 (41.32%)
$50,000 or higher	118 (35.22%)	112 (32.09%)	121 (24.15%)
[a] The average age of respondents in 2024 was 1.16 years older (95% confidence interval: -0.74, 3.07, t=1.20, p=.2306) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 1.97 years older (t=2.04, p=.0420).			
[b] 2024: 95% confidence interval: 2.41, 8.18; t=3.61, p=.0004. 2021: 95% confidence interval: 0.56, 5.68; t=2.39, p=.0173. 2017: 95% confidence interval: 1.39, 5.94; t=3.17, p=.0016.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 0.09, p=.7584.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 8.91, p=.0306.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 12.44, p=0020.			

Table 13-16: Demographics of Schoolcraft County UPCHIPS Responses, 2024, 2021, 2017			
	2024	2021	2017
Age[a]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]	Mean (standard deviation) [Median]
Total	65.1 (15.1) [68]	65.2 (14.4) [68]	64.5 (13.8) [66]
Women	62.9 (15.9) [65]	63.8 (15.4) [66.5]	62.1 (14.6) [63]
Men	69.6 (12.1) [70]	67.9 (11.9) [69]	68.6 (11.4) [69]
Difference[b]	6.71	4.06	6.52
Sex[c]	(percentage)	(percentage)	(percentage)
Female	145 (69.05%)	162 (65.3%)	233 (63.3%)
Male	65 (30.95%)	86 (34.7%)	135 (36.7%)
Educational Attainment[d]			
Less than 12th grade	7 (3.43%)	9 (3.67%)	23 (6.35%)
High School graduate	76 (37.25%)	96 (39.15%)	136 (37.57%)
1-3 years of college	64 (31.37%)	67 (27.35%)	118 (32.60%)
4-year degree or higher	57 (27.94%)	73 (29.80%)	85 (23.48%)
Household Income[e]			
Less than $25,000	36 (17.82%)	57 (23.57%)	88 (24.58%)
$25,000 to $49,999	77 (38.12%)	87 (36.25%)	145 (40.50%)
$50,000 or higher	89 (44.06%)	96 (40.00%)	125 (34.92%)
[a] The average age of respondents in 2024 was 0.66 years older (95% confidence interval: -1.86, 3.18, t=0.52, p=.6061) than respondents in 2017. When adjusted for education level, income level, and sex, the 2024 respondent was 1.43 years older (t=1.16, p=.2448).			
[b] 2024: 95% confidence interval: 2.72, 10.70; t=3.32, p=.0011. 2021: 95% confidence interval: 0.57, 7.56; t=2.29, p=.0229. 2017: 95% confidence interval: 3.80, 9.23; t=4.72, p<.0001.			
[c] Difference between 2017 and 2024: chi=square (df=1) = 1.94, p=.1635.			
[d] Difference between 2017 and 2024: chi-square (df=3) = 3.20, p=.3617.			
[e] Difference between 2017 and 2024: chi-square(df=2) = 5.67, p=.0586.			

13.2.5.2 Responses to Survey Questions

The responses to survey questions are broken down at the county level with data being weighted for age, sex, education level, and income level. An estimate for the Upper Peninsula as a whole is further weighted for the populations of the counties. Where available, weighted state-level and national responses are provided for comparison. These estimates and 95% confidence intervals are provided in the **"A"** tables of **Table 13-19** through **Table 13-63**. The **"B"** tables of **Table 13-19** through **Table 13-63** break down the weighted responses by age group, sex, education level, and income level. Each table has a two-page spread with the **"A"** table on the left and the **"B"** table on the right. These tables include results from the previous surveys for comparison.

A comparison of the responses in the 2017, 2021, and 2024 UPCHIPS survey results that control for age, sex, education level, income level, and county of residence are presented in **Table 13-64**. The results are expressed in adjusted odds ratios and 95%CIs. The odds ratio represents how many times higher the odds of a positive response increased between the various surveys.

Age, level of education, and socioeconomic status powerfully correlate with many measures of health. Chronic diseases are diagnosed and worsen over time, so older adults as a group report poorer health and higher lifetime prevalence of conditions like heart disease, cancer, and disability. For many, but not all, of the indicators that follow, people of higher income and education report better health status and healthier behaviors.

For some conditions that are chronic, progressive, and strongly associated with aging, the local prevalence of these conditions will be influenced by the local age distribution. A county with more elderly will have rates that are statistically worse than Michigan's or other, younger counties. To allow more accurate comparisons between counties and the entire State of Michigan, estimates are weighted to adjust for differences in age distribution in each county and the age distribution of those completing the surveys.

13.2.5.3 Multivariate Analyses and Comparison Evaluations

The surveys from the 2017, 2021, and 2024 UPCHIPS provide a rich source of data. An ample number of questions were asked and enough people responded to provide robust analyses of the questions asked. For the questions in which there were a sufficient number of responses to provide reliable analysis, the impact of positive responses by the demographic factors of sex, education level, income level, age, and county of residence were all included in a logistic regression, multivariate model. The value reported for an individual factor is controlled for all of the other factors included in the model. For example, in the reports of poor or fair general health in the 2021 UPCHIPS the adjusted odds ratio for sex is 1.47, which meant that when adjusted for the other factors, the odds of a man reporting poor or fair health was 1.47 times higher than that of a woman reporting poor or fair general health. The 95% confidence interval (95%CI) ranging from 1.22 to 1.78 indicates that this same survey was repeatedly distributed to the same population, 95% of the survey results would fall within this range. The finding is statistically significant, using $p<.05$ as a standard because the value of 1.00 is not within the range reported. If the range included 1.00, the finding would not be statistically significant.

The adjusted odds ratio for reporting poor or fair general health for education level is 0.69 with a 95%CI of 0.61 to 0.77. In other words, going up *one* level of education resulted in the odds being 0.69 times higher – thus decreasing the odds. Going up a second level of education would result in the odds being

another 0.69 times higher. So, going up two levels would result in the odds being 0.48 (0.69 X 0.69) times higher. A rough estimate of the percentage change using odds ratios is to take the reported odds ratio and subtract 1. In this example, 1.47 – 1 = 0.47, or a 47% increase. 0.69 – 1 = -0.31, or 31% decrease. For most questions, there was no significant impact on the county of residence. In models that found county of residence to be a significant factor, values for χ^2_{19} and p-values are provided.

13.2.6 Key Survey Findings

The tables and analyses that follow are self-explanatory a few items stick out.

13.2.6.1 Similarities between Surveys

When the responses given to the 2024 UPCHIPS are compared to those given to the 2021 UPCHIPS, the 2017 UPCHIPS, and the surveys completed in 2015 and 2012, not much has changed. There have been few demographic shifts and the differences between counties persist. The negative impact of age, lower education level, and lower income level continue to make portions of population more prone to disease. The region continues to carry a heavy burden of illness, both physical and mental.

13.2.6.2 Differences between Surveys

The COVID-19 pandemic limited access to medical professionals, which, in turn, led to a postponement of preventive screening opportunities documented in the 2021 survey. Preventive health services did not increase between 2021 and 2024, when a recovery in the rates of these services would have been expected. The region continued to see an increase in those reporting depressive disorders and anxiety disorders. Snorting or injecting drugs leveled off, while the use of another drugs use continued to increase.

The legalization of marijuana in Michigan led to an almost three-fold increase from the 2017 to the 2021 UPCHIPS in respondents reporting the use of marijuana products in the last month. This increase may reflect a willingness to admit to using these products now that it is legal, but it also may reflect a broadening of the population using these products. This pattern continued with a 20% increase from 2021 to 2024. Certainly, the proliferation of marijuana dispensaries has had an influence.

A lack of leisure-time activities and exercising increased by 16% from 2017 to 2021, perhaps the result of the lockdowns associated with the COVID-19 pandemic, but did not change from 2021 to 2024. Decreased access to physicians during the pandemic may also explain the decrease in those receiving health screening services and procedures.

The percentage of those diagnosed with depressive disorder and anxiety disorder continued to increase as did the percentage of people receiving treatment for mental health issues. The percentage of people taking medication for mood issues did not change from 2021 to 2024. The percentage of people calling or texting a crisis line also increased dramatically from 2017 to 2024, but remained the same from 2021 to 2024.

All forms of drug use continued to increase, with the exception of injecting or snorting drugs did not change from 2021 to 2024.

13.3 Topics

13.3.1 Health Status

General health was assessed by having respondents choose between "poor," "fair," "good," "very good," and "excellent." A positive response was a combination of those responding either "poor" or fair." A positive response for physical or mental health was reporting "poor" or "fair" health in 14 or more days in the past 30 days. The results of these questions are seen in **Tables 13-19A**, **13-19B**, **13-20A**, **13-20B**, **13-21A**, and **13-21B**. From 2017 to 2021 there was an increase in positive responses regarding physical and mental health and a marked increase from 2021 to 2024 (see **Table 13-64**).

On multivariate analysis, those reporting "poor" or "fair" general health were more likely to be men (2024: adjOR=1.28, 95%CI: 1.05, 1.57; 2021: adjOR=1.47, 95%CI: 1.22, 1.78; 2017: adjOR=1.30, 95%CI: 1.11, 1.54), be less educated (2024: adjOR=0.73, 95%CI: 0.65, 0.82; 2021: adjOR=0.69, 95%CI: 0.61, 0.77; 2017: adjOR=0.75, 95%CI: 0.68, 0.83), and have lower income (2024: adjOR=0.50, 95%CI: 0.44, 0.57; 2021: adjOR=0.50, 95%CI: 0.44, 0.57; 2017: adjOR=0.48, 95%CI: 0.43, 0.54).

On multivariate analysis, those reporting "poor" or "fair" physical health were more likely to be men in 2021 but not statistically significant in 2017 (2024: adjOR=1.11, 95%CI: 0.92, 1.34; 2021: adjOR=1.46, 95%CI: 1.22, 1.76; 2017: adjOR=1.15, 95%CI: 0.98, 1.35), be less educated (2024: adjOR=0.76, 95%CI:0.68, 0.85; 2021: adjOR=0.69, 95%CI: 0.61, 0.77; 2017: adjOR=0.73, 95%CI: 0.67, 0.81), and have lower income (2024: adjOR=0.53, 95%CI: 0.47, 0.60; 2021: adjOR=0.51, 95%CI: 0.45, 0.58; 2017: adjOR=0.51, 95%CI: 0.46, 0.57).

On multivariate analysis, those reporting "poor" or "fair" mental health were more likely to be women in 2021, but not 2017 or 2024 (2024: adjOR=0.94, 95%CI: 0.76, 1.15; 2021: adjOR=0.74, 95%CI: 0.60, 0.91; 2017: adjOR=1.07, 95%CI: 0.89, 1.29), be less educated in 2021 2024 but not 2017 (2024: adjOR=0.82, 95%CI: 0.73, 0.92; 2021: adjOR=0.76, 95%CI: 0.67, 0.88; 2017: adjOR=0.90, 95%CI: 0.79, 1.01), and have lower income (2024: adjOR=0.55, 95%CI: 0.48, 0.62; 2021: adjOR=0.51, 95%CI: 0.44, 0.58; 2017: adjOR=0.44, 95%CI: 0.39, 0.50).

13.3.2 Disability

Based on the 2019 Michigan BRFSS survey, 30.4% of Michigan adults reported one or more disabilities:

- 7.9% reported a hearing disability
- 4.4% reported a vision disability
- 13.4 % reported a cognitive disability
- 15.2% reported a mobility disability
- 4.7% reported a self-care disability
- 8.7% reported an independent living disability

Generally, 17.0% of Michiganders with disabilities reported less than high school education; 29.2% reported low household income (below $20,000), and 9.7% reported being uninsured. [6]

The UPCHIPS assessed disability by asking about activity limitations resulting from physical, mental, or emotional problems and about the required use of special equipment secondary to health problems. The results are shown in **Tables 13-22A**, **13-22B**, **13-23A**, and **13-23B**. There was no statistically

significant difference in the responses in the 2017 and 2021 UPCHIPS, but an increase in 2024 (see **Table 13-64**).

On multivariate analysis, those reporting their activities were limited secondary to illness were more likely to be men (2024: adjOR=1.36, 95%CI: 1.16, 1.60; 2021: adjOR=1.31, 95%CI: 1.12, 1.53;2017: adjOR=1.26, 95%CI: 1.10, 1.44), be less educated in 2021 but not 2017 or2024 (2024: adjOR=0.97, 95%CI: 0.88, 1.07; 2021: adjOR=0.90, 95%CI: 0.82, 0.99; 2017: adjOR=0.95, 95%CI: 0.87, 1.03), and have lower income (2024: adjOR=0.54, 95%CI: 0.49, 0.60; 2021: adjOR=0.56, 95%CI: 0.50, 0.62; 2017: adjOR=0.51, 95%CI: 0.47, 0.56).

On multivariate analysis, those reporting the required use of special equipment secondary to a health problem were similar in both men and women (2024: adjOR=1.15, 95%CI: 0.94, 1.40; 2021: adjOR=1.10, 95%CI: 0.90, 1.34; 2017: adjOR=1.09, 95%CI: 0.91, 1.14), had received similar levels of education (2024: adjOR=0.93, 95%CI: 0.83, 1.05; 2021: adjOR=0.98, 95%CI: 0.87, 1.11; 2017: adjOR=1.03, 95%CI: 0.93, 1.14), and have lower income (2024: adjOR=0.53, 95%CI: 0.47, 0.61; 2021: adjOR=0.56, 95%CI: 0.49, 0.65; 2017: adjOR=0.52, 95%CI: 0.46, 0.59).

13.3.3 Health Care Access

The percentage of those uninsured, which decreased from 2012 to 2017, continued a statistically significant descent in 2021 (**Table 13-24A** and **Table 13-64**) following the implementation of the Affordable Care Act. The percentage of those uninsured returned to 2017 levels in 2024.Unfortunately, those who report not having anyone they thought of as their person health care provider remains high (**Table 13-24A**). This indicates the primary care needs of the community are not being met and an influx of professionals to provide these services is needed. The percentages who have found cost, lack of transportation as shown in **Tables 13-24A** and **13-24B**. The cost barrier to care decreased significantly from 2017 to 2021, but bounced back in 2024 (**Table 13-64**). About a quarter of those responding to the 2024 UPCHIPS did not have a routine checkup in the past year (**Tables 13-26A** and **13-26B**), which is consistent with the 2017 and 2021 UPCHIPS (**Table 13-64**). Given the limited access to health care professionals during the height of the pandemic, this lack of change is remarkable.

On multivariate analysis, those from 18 to 64 years of age reporting no health insurance of any type were more likely to be men (2024: adjOR=1.58, 95%CI: 0.98, 2.53; 2021: adjOR=2.26, 95%CI: 1.51, 3.37; 2017: adjOR=1.73, 95%CI: 1.28, 2.33), received similar levels of education (2024: adjOR=0.88, 95%CI: 0.66, 1.17; 2021: adjOR=0.82, 95%CI: 0.64, 1.06; 2017: adjOR=0.88, 95%CI: 0.73, 1.06), and have lower income (2024: adjOR=0.56, 95%CI: 0.42, 0.75; 2021: adjOR=0.52, 95%CI: 0.40, 0.69; 2017: adjOR=0.42, 95%CI: 0.33, 0.52).

On multivariate analysis, those reporting they did not have anyone they thought of as their personal doctor or health care provider were more likely to be men (2024: adjOR=2.10, 95%CI: 1.63, 2.71; 2021: adjOR=1.74, 95%CI: 1.35, 2.24; 2017: adjOR=1.76, 95%CI: 1.43, 2.16), received similar levels of education (2024: adjOR= 1.17, 95%CI: 0.99, 1.37; 2021: adjOR=1.07, 95%CI: 0.91, 1.25; 2017: adjOR=0.94, 95%CI: 0.83, 1.07), and have lower income (2024: adjOR=0.79, 95%CI: 0.66, 0.93; 2021: adjOR=0.76, 95%CI: 0.64, 0.90; 2017: adjOR=0.82, 95%CI: 0.71, 0.94).

On multivariate analysis, those reporting they could not see a doctor when they needed in the past 12 months due to costs were more likely to be women in 2017 but not 2021 or 2024 (2024: adjOR=0.81, 95%CI: 0.60, 1.08; 2021: adjOR=0.96, 95%CI: 0.71, 1.30; 2017: adjOR=0.80, 95%CI: 0.65, 0.99), to have

received similar levels of education (2024: adjOR=1.03, 95%CI: 0.87, 1.21; 2021: adjOR=0.96, 95%CI: 0.80, 1.15; 2017: adjOR=0.93, 95%CI: 0.82, 1.06), and have lower income (2024: adjOR=0.59, 95%CI: 0.50, 0.70; 2021: adjOR=0.52, 95%CI: 0.43, 0.64; 2017: adjOR=0.55, 95%CI: 0.48, 0.64). There was a significant difference in the response rates between counties in 2017 (χ^2_{13}= 29.5, p=.0056), but not in 2021 or 2024.

On multivariate analysis, those reporting they could not see a doctor when they needed in the past 12 months due to a lack of transportation were as likely to be men as women (2024: adjOR=0.94, 95%CI: 0.67, 1.31; 2021: adjOR=1.021, 95%CI: 0.86, 1.70; 2017: adjOR=0.86, 95%CI: 0.63, 1.17), be less educated 2021 but not 2017 or 2024 (2024: adjOR=0.97, 95%CI: 0.80, 1.17; 2021: adjOR=0.70, 95%CI: 0.56, 0.87; 2017: adjOR=0.99, 95%CI: 0.83, 1.19), and have lower income (2024: adjOR=0.30, 95%CI: 0.21, 0.33; 2021: adjOR=0.31, 95%CI: 0.24, 0.40; 2017: adjOR=0.19, 95%CI: 0.14, 0.25).

On multivariate analysis, those reporting they had not had a routine checkup in the past year were more likely to be men in 2017 but not 2021 (2024: adjOR=1.26, 95%CI: 1.02, 1.56; 2021: adjOR=1.16, 95%CI: 0.96, 1.40; 2017: adjOR=1.18, 95%CI: 1.01, 1.37), have received similar levels of education (2024: adjOR=1.05, 95%CI: 0.93, 1.20; 2021: adjOR=0.99, 95%CI: 0.89, 1.12; 2017: adjOR=0.97, 95%CI: 0.88, 1.06), and have lower income (2024: adjOR=0.75, 95%CI: 0.65, 0.85; 2021: adjOR=0.73, 95%CI: 0.65, 0.83; 2017: adjOR=0.79, 95%CI: 0.71, 0.88). There was significant variation in the answer to this question between the counties (2024: χ^2_{13}=36.8, p=.0004; 2021: χ^2_{13} =38.4, p=.0003; 2017: χ^2_{13} =36.7, p=.0005).

13.3.4 Oral Health Care Access

The UPCHIPS assess oral health care access by inquiring about dental care insurance, whether a dentist or dental clinic has been visited in the past year, and whether cost, lack of transportation, or lack of availability were barriers to care. The results are shown in **Tables 13-27A**, **13-27B**, **13-28A**, **13-28B**, **13-29A**, and **13-29B**. The lack of transportation and the lack of available dentists as barriers to care both increased substantially from 2021 to 2024 (**Table 13-64**). The differences in responses from various counties between the two surveys indicate local disruptions of oral health care. There were also notable shifts in the importance of access to dental care as a health priority in a number of counties (**Table 14-3A**).

On multivariate analysis, those reporting no insurance coverage for dental care were more likely to be men in 2017 and 2024, but more likely to be women in 2021 (2024: adjOR=1.24, 95%CI: 1.07, 1.46; 2021: adjOR=0.74, 95%CI: 0.64, 0.86; 2017: adjOR=1.26, 95%CI: 1.11, 1.44), be less educated in 2017, more educated in 2021, and no different in 2024 (2024: adjOR=0.93, 95%CI: 0.85, 1.03; 2021: adjOR=0.79, 95%CI: 0.73, 0.86; 2017: adjOR=1.21, 95%CI: 1.10, 132), and have lower income in 2017 and 2024 and higher income in 2021 (2024: adjOR=0.70, 95%CI: 0.63, 0.78; 2021: adjOR=1.44, 95%CI: 1.30, 1.59; 2017: adjOR=0.59, 95%CI: 0.54, 0.65).

On multivariate analysis, those reporting they had not visited a dentist or dental clinic for any reason in the past year were more likely to be women in 2017 and 2021 and more likely to be men in 2024 (2024: adjOR=1.40, 95%CI: 1.18, 1.67; 2021: adjOR=0.61, 95%CI: 0.52, 0.72; 2017: adjOR=0.54, 95%CI: 0.47, 0.62), be less educated (2024: adjOR=0.69, 95%CI: 0.63, 0.77; 2021: adjOR=0.73, 95%CI: 0.66, 0.81; 2017: adjOR=0.68, 95%CI: 0.62, 0.74), and have lower income (2024: adjOR=0.50, 95%CI: 0.44, 0.55; 2021: adjOR=0.46, 95%CI: 0.41, 0.51; 2017: adjOR=0.45, 95%CI: 0.41, 0.49). There was significant variance between counties in the response to this question in 2017, but not 2021 or 2024 (2017: χ^2_{13} =25.3, p=.0210).

On multivariate analysis, those reporting they could not see a dentist when they needed in the past 12 months due to cost were similar in men and women (2024: adjOR=0.91, 95%CI: 0.72, 1.16; 2021: adjOR=1.02, 95%CI: 0.81, 1.29; 2017: adjOR=0.99, 95%CI: 0.83, 1.18), be less educated in 2021 but not 2017 or 2024 (2024: adjOR=0.92, 95%CI: 0.80, 1.06; 2021: adjOR=0.87, 95%CI: 0.76, 0.99; 2017: adjOR=0.94, 95%CI: 0.85, 1.05), and have lower income (2024: adjOR=0.48, 95%CI: 0.41, 0.56; 2021: adjOR=0.41, 95%CI: 0.35, 0.48; 2017: adjOR=0.40, 95%CI: 0.36, 0.45).

On multivariate analysis, those reporting they could not see a dentist when they needed in the past 12 months due to a lack of transportation were similar in men and women (2024: adjOR=0.79, 95%CI: 0.52, 1.20; 2021: adjOR=0.99, 95%CI: 1.63, 1.57; 2017: adjOR=1.01, 95%CI: 0.70, 1.47), be less educated in 2021 but not 2017 or 2024 (2024: adjOR=1.07, 95%CI: 0.85, 1.34; 2021: adjOR=0.64, 95%CI: 0.48, 0.86; 2017: adjOR=0.99, 95%CI: 0.80, 1.24), and have lower income (2024: adjOR=0.26, 95%CI: 0.19, 0.34; 2021: adjOR=0.22, 95%CI: 0.15, 0.32; 2017: adjOR=0.14, 95%CI: 0.10, 0.21).

On multivariate analysis, those they could not see a dentist when they needed in the past 12 months because they could not find an available dental professional were more similar between men and women (2024: adjOR=1.02, 95%CI: 0.82, 1.26; 2021: adjOR=0.95, 95%CI: 0.74, 1.21; 2017: adjOR=0.95, 95%CI: 0.74, 1.21), had received similar levels of education (2024: adjOR=1.11, 95%CI: 0.98, 1.26; 2021: adjOR=1.06, 95%CI: 0.91, 1.23; 2017: adjOR=1.08, 95%CI: 0.93, 1.24), and have lower income (2024: adjOR=0.68, 95%CI: 0.59, 0.76; 2021: adjOR=0.66, 95%CI: 0.56, 0.77; 2017: adjOR=0.43, 95%CI: 0.36, 0.50). Responses to this question varied significantly between counties in all surveys (2021: χ^2_{15}=76.4, p<.0001; 2017: χ^2_{15}=27.4, p=.0111).

13.3.5 Weight Status

Body mass index (BMI) was calculated using the heights and weights provided by those completing the survey. Since BMI is a continuous variable (a number), the multivariate analysis takes a different form, using multivariate linear regression models. The results of the models run on the 2017, 2021 and 2024 UPCHIPS are shown in **Table 13-17**. The first column of the table is the variable of interest. The second column is the slope of line calculated by the model and is represented by the term "β." For the variable "Sex," the β value is 0.235. This is interpreted that going from female to male the BMI value increases by 0.235. For the "education level variable" going up *one* level of income, the BMI decreases by 0.550. Going up *two* levels of income the BMI would decrease by 1.100 (0.550 + 0.550). The third column is the variation of the estimate in the second column expressed as the standard error (SE). The fourth column is the t-value which is the β divided by the SE. The fifth column is the p-value for each of the variables.

Respondents were categorized into those with obesity (BMI of 32 or greater) and overweight (BMI of 25 or greater and less than 32). Percentages of those falling into these categories are presented in **Tables 13-30A** and **13-30B**. The obesity rates noted in 2017, 2021, and 2024 were similar (**Table 13-64**). In a multivariate logistic regression analysis controlling for education level, income level, age, sex, and county of residence, the average BMI did not change between 2017 and 2021 (β=-0.0432, standard error=0.147, t=-0.29, p=.7692).

On multivariate analysis, those reporting weights and heights consistent with obesity (BMI of 32 or greater) were similar in both men and women (2024: adjOR=0.92, 95%CI: 0.79, 1.08; 2021: adjOR=1.03, 95%CI: 0.88, 1.19; 2017: adjOR=1.10, 95%CI: 0.97, 1.25), be less educated (2024: adjOR=0.87, 95%CI: 0.79, 0.95; 2021: adjOR=0.89, 95%CI: 0.81, 0.97; 2017: adjOR=0.88, 95%CI: 0.81, 0.95), and have lower

Table 13-17: Multivariate Linear Regression of Body Mass Index, 2024, 2021, 2017				
Factor	B	Standard Error	t-value	P-value
	2024			
Sex (male versus female)	0.235	0.255	0.92	0.3591
Education level	-0.55	0.153	-3.59	0.0003
Income level	-0.413	0.167	-2.47	0.0137
Age	-0.0432	0.0079	-5.46	<0.0001
County of residence			F=2.72	0.0008
	2021			
Sex (male versus female)	0.376	0.235	1.6	0.1092
Education level	-0.322	0.144	-2.24	0.0252
Income level	-0.27	0.159	-1.67	0.0941
Age	-0.0396	0.00805	-4.91	<.0001
County of residence			F=2.35	0.004
	2017			
Sex (male versus female)	0.529	0.197	2.68	0.0073
Education level	-0.335	0.119	-2.83	0.0047
Income level	-0.447	0.132	-3.39	0.0007
Age	-0.0269	0.00661	-4.06	<.0001
County of residence			F=1.99	0.0183

income in 2021 but not 2017 or 2024 (2024: adjOR=0.90, 95%CI: 0.82, 1.00; 2021: adjOR=0.93, 95%CI: 0.85, 0.99; 2017: adjOR=0.92, 95%CI: 0.85, 1.004). The responses significantly varied between counties in 2024 and 2021 but not 2017 (2024: χ^2 =26.6, p=.0141; 2021: χ^2 =25.0, p=.0228).

13.3.6 Cigarette Smoking (see Section §11.2)

The percentages of those who had ever smoked 100 or more cigarettes in their lifetime and those who are current smokers are shown in **Tables 13-31A** and **13-31B**. The percentage who never smoked are shown in **Tables 13-32A** and **13-32B**. The percentages of current smokers who attempted to quit in the past 12 months are shown in **Tables 13-33A** and **12-33B**. The rates of ever smoking, currently smoking, and attempting to quit smoking were similar in 2017, 2021, and 2024 (**Table 13-64**).

On multivariate analysis, those reporting ever smoking 100 or more cigarettes in their lifetime were more likely to be men (2024: adjOR=1.81, 95%CI: 1.55, 2.10; 2021: adjOR=1.87, 95%CI: 1.62, 2.17; 2017: adjOR=1.73, 95%CI: 1.53, 1.96), be less educated (2024: adjOR=0.71, 95%CI: 0.64, 0.77; 2021: adjOR=0.69, 95%CI: 0.63, 0.76; 2017: adjOR=0.79, 95%CI: 0.73, 0.85), and have lower income (2024: adjOR=0.80, 95%CI: 0.73, 0.89; 2021: adjOR=0.89, 95%CI: 0.81, 0.99; 2017: adjOR=0.81, 95%CI: 0.75,

0.88). Responses to this question varied significantly by county in 2017 and not 2021 or 2024 (2017: χ^2_{13}=28.5, p=.0078).

On multivariate analysis, those reporting they currently smoke cigarettes now, either every day or some days, were as often men as women (2024: adjOR= 0.97, 95%CI: 0.76, 1.24; 2021: adjOR=1.11, 95%CI: 0.89, 1.38; 2017: adjOR=1.03, 95%CI: 0.87, 1.23), be less educated (2024: adjOR= 0.84, 95%CI: 0.72, 0.98; 2021: adjOR=0.61, 95%CI: 0.53, 0.69; 2017: adjOR=0.73, 95%CI: 0.66, 0.81), and have lower income (2024: adjOR0.54 95%CI: 0.46, 0.63; 2021: adjOR=0.68, 95%CI: 0.59, 0.79; 2017: adjOR=0.58, 95%CI: 0.51, 0.65).

13.3.7 Other Tobacco Products (see Sections §11.2.5 & §11.2.6)

Percentages of those using other tobacco products, including chewing tobacco, snuff, or snus, regularly, and those currently using e-cigarettes or vaping are presented in **Tables 13-34A** and **13-34B**. Chewing tobacco, snuff, and snus are primarily used by men. E-cigarettes are used more frequently by younger respondents. While chewing tobacco, snuff, and snus use did not change from 2017 through 2024, but e-cigarette use increased by more than doubled from 2017 to 2024 (adjOR=2.31, 95%CI: 1.73, 3.07) (**Table 13-64**).

On multivariate analysis, those reporting they currently use of chewing tobacco, snuff, or snus, either every day or some days, were more likely to be men (2024: adjOR=14.30, 95%CI: 6.85, 29.87; 2021: adjOR=36.4, 95%CI: 13.12, 100.70; 2017: adjOR=43.42, 95%CI: 17.50, 107.73), be less educated (2024: adjOR=0.59, 95%CI: 0.42, 0.83; 2021: adjOR=0.67, 95%CI: 0.49, 0.91; 2017: adjOR=0.65, 95%CI: 0.51, 0.84), but was not impacted by income level (2024: adjOR=1.11, 95%CI: 0.77, 1.60; 2021: adjOR=0.83, 95%CI: 0.60, 1.16; 2017: adjOR=0.98, 95%CI: 0.74, 1.29).

On multivariate analysis, those reporting they currently use e-cigarettes or vaping, either every day or some days, were the same in men and women (2024: adjOR=0.95, 95%CI: 0.62, 1.45; 2021: adjOR=1.02, 95%CI: 0.62, 1.67; 2017: adjOR=1.48, 95%CI: 0.95, 2.29), be less educated (2024: adjOR=0.71, 95%CI: 0.56, 0.90; 2021: adjOR=0.71, 95%CI: 0.53, 0.96; 2017: adjOR=0.65, 95%CI: 0.49, 0.85), and have lower income (2024: adjOR=0.66, 95%CI: 0.52, 0.85; 2021: adjOR=0.59, 95%CI: 0.43, 0.80; 2017: adjOR=0.67, 95%CI: 0.50, 0.91).

13.3.8 Fruit and Vegetable Consumption

As seen in **Tables 13-35A** and **13-35B**, the recommendation to eat an average of five or more servings of fruits and vegetables is rarely followed. The likelihood of following the recommendation dropped by 76% from 2021 to 2024 (adjOR=0.24, 95%CI: 0.19, 0.30) (**Table 13-64**). The role of the intake of sufficient fruits and vegetables on chronic health discussions is assessed throughout Chapter Nine. The analysis is limited by the small percentage of respondents who reported eating a daily average of five or more servings of fruits and vegetables and the timing of following this recommendation. For example, someone may not have followed the recommendation before having a heart attack or being diagnosed with diabetes, but following these events/diagnoses, the respondents may now be following the recommendation.

On multivariate analysis, those reporting the intake of an average of five or more times per day in the past seven days were more likely to be men in 2017 and 2021 but not in 2024 (2024: adjOR=0.64, 95%CI: 0.41, 1.02; 2021: adjOR=0.58, 95%CI: 0.46, 0.74; 2017: adjOR=0.59, 95%CI: 0.48, 0.72), be more

educated (2024: adjOR=1.57, 95%CI: 1.19, 2.06; 2021: adjOR=1.49, 95%CI: 1.29, 1.73; 2017: adjOR=1.38, 95%CI: 1.23, 1.55), and have higher income in 2017 but not 2021 or 2024 (2024: adjOR=1.06, 95%CI: 0.79, 1.42; 2021: adjOR=1.16, 95%CI: 0.99, 1.36; 2017: adjOR=1.16, 95%CI: 1.01, 1.31). Responses to the question varied significantly by county in 2017 and 2024 but not 2021 (2024: χ^2_{15}=26.3, p=.0154; 2017: χ^2_{15}=23.7, p=.0342).

13.3.9 Physical Activity

Physical activity was assessed by identifying those who did not participate in any leisure-time activities or exercise. These results are shown in **Tables 13-36A** and **13-326B**. One caveat of note with this question is that people who are physically active as part of their employment, such as postal carriers who walk from house to house, may be less likely to report physical activity in their leisure time**.** Those who reported no leisure-time activities or exercise increased by 16% from 2017 to 2021 (adjOR=1.16, 95%CI: 1.02, 1.31), but did not change from 2021 to 2024 (**Table 13-64**). It is not clear if the lockdowns associated with the COVID-19 pandemic decreased the opportunities for leisure-time activities as there has been no change following the pandemic.

On multivariate analysis, those reporting not participating in any leisure-time physical activities or exercises were similar for men and women (2024: adjOR=1.09, 95%CI: 0.90, 1.33; 2021: adjOR=1.10, 95%CI: 0.91, 1.33; 2017: adjOR=1.03, 95%CI: 0.87, 1.23), be less educated (2024: adjOR=0.81, 95%CI: 0.72, 0.91; 2021: adjOR=0.71, 95%CI: 0.63, 0.80; 2017: adjOR=0.72, 95%CI: 0.65, 0.80), and have lower income (2024: adjOR=0.59, 95%CI: 0.52, 0.67; 2021: adjOR=0.68, 95%CI: 0.63, 0.80; 2017: adjOR=0.67, 95%CI: 0.59, 0.75). Responses to the question varied significantly by county in 2017 but not 2021 or 2024 (2017: χ^2_{15}=24.2, p=.0287).

13.3.10 Motor Vehicle Safety

Seatbelt use, as measured by reporting “always” wearing a seatbelt, is reported in Tables **13-37A** and **13-37B**. From 2017 to 2021 seatbelt use increased by 29% (adjOR=1.29, 95%CI: 1.10, 1.51), but no change was noted from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those reporting always wearing a seatbelt were more likely to be women (2024: adjOR=0.46, 95%CI: 0.36, 0.60; 2021: adjOR=0.44, 95%CI: 0.34, 0.56; 2017: adjOR=0.44, 95%CI: 0.37, 0.53), to have received a similar level of education (2024: adjOR=0.96, 95%CI: 0.82, 1.13; 2021: adjOR=1.14, 95%CI: 0.98, 1.34; 2017: adjOR=1.06, 95%CI: 0.94, 1.19), and have higher income in 2021 and 2024 but not 2017 (2024: adjOR=1.22, 95%CI: 1.03, 1.45; 2021: adjOR=1.23, 95%CI: 1.03, 1.46; 2017: adjOR=1.08, 95%CI: 0.95, 1.23). Responses to the questioned varied significantly between counties in 2017 but not 2021 or 2024 (χ^2_{15}=29.2, p=.0060).

13.3.11 Hypertension Awareness

The survey asked if the respondent had ever been told they had high blood pressure (hypertension). The responses are shown in **Tables 13-38A** and **13-38B**. The rate of those reporting being told they had high blood pressure decreased from the 2017 UPCHIPS to the 2021 UPCHIPS by 11% (adjOR=0.89, 95%CI: 0.81, 0.98) but did not change from 2021 to 2024 (**Table 13-64**).

The relationship between hypertension and a variety of chronic diseases is explored in Chapter Nine.

On multivariate analysis, those reporting ever being told they had high blood pressure were more likely to be men (2024: adjOR=1.33, 95%CI: 1.13, 1.55; 2021: adjOR=1.41, 95%CI: 1.21, 1.64; 2017: adjOR=1.40, 95%CI: 1.23, 1.60), be less educated (2024: adjOR=0.90, 95%CI: 0.82, 0.99; 2021: adjOR=0.90, 95%CI: 0.82, 0.99; 2017: adjOR=0.86, 95%CI: 0.80, 0.94), and have lower income in 2017 and 2024 but not 2021 (2024: adjOR=0.87, 95%CI: 0.78, 0.96; 2021: adjOR=0.94, 95%CI: 0.85, 1.04; 2017: adjOR=0.85, 95%CI: 0.78, 0.93).

13.3.12 Cholesterol Screening

The UPCHIPS asked if the respondent had ever had their cholesterol checked and whether they had been told they had high cholesterol levels. The results are shown in **Tables 39A** and **13-39B**. From 2017 to 2024, the percentage of those who had been screened for elevated cholesterol levels decreased by 31% (adjOR=0.69, 95%CI: 0.59, 0.80), while those who reported they had high cholesterol levels increased by 14% (adjOR=1.14, 95%CI: 1.03, 1.27) (**Table 13-64**).

The relationship between elevated cholesterol levels and a variety of chronic diseases is explored in Chapter Nine.

On multivariate analysis, those reporting ever being told they had elevated cholesterol levels were more likely to be men in 2017 and 2024 but not 2021 (2024: adjOR=1.25, 95%CI: 1.05, 1.47; 2021: adjOR=1.10, 95%CI: 0.94, 1.28; 2017: adjOR=1.29, 95%CI: 1.13, 1.47), be less educated (2024: adjOR=0.85, 95%CI: 0.77, 0.94; 2021: adjOR=0.88, 95%CI: 0.80, 0.97; 2017: adjOR=0.92, 95%CI: 0.85, 0.99), and have lower income in 2017 but not 2021 or 2024 (2024: adjOR=0.96, 95%CI: 0.86, 1.07; 2021: adjOR=0.96, 95%CI: 0.86, 0.57, 1.07; 2017: adjOR=0.94, 95%CI: 0.88, 0.99).

13.3.13 Chronic Illnesses

The UPCHIPS surveys inquired as to whether the respondents had ever been told they had a number of particular illnesses. As noted in section §9.2.10, several people had experienced multiple diagnoses. The sections below highlight these findings.

13.3.13.1 Asthma

Asthma is a chronic inflammatory disorder of the lungs that is more common in children than adults. The surveys asked if the respondent had ever been told they had asthma and whether they currently have asthma. The results are shown in **Tables 13-40A** and **13-40B**. Ever having had asthma showed a 13% from 2017 to 2021, but no change from 2021 to 2024. Those reported currently having asthma had a relative increase of 46 from 2021 to 2024 (**Table 13-64**).

One must interpret these numbers with caution. A high percentage of those reporting chronic lung disease also report either having had asthma or currently having asthma. This overlap may, in part, result in the overlap of medications used to treat these conditions. There is also a lack of distinction between asthma, bronchitis, chronic bronchitis, and emphysema when discussing these conditions.

On multivariate analysis, those reporting having ever been told they had asthma were more likely to be

women (2024: adjOR=0.65, 95%CI: 0.53, 0.81; 2021: adjOR=0.61, 95%CI: 0.50, 0.74; 2017: adjOR=0.66, 95%CI: 0.56, 0.79), have received similar levels of education (2024: adjOR=1.01, 95%CI: 0.90, 1.14; 2021: adjOR=1.02, 95%CI: 0.91, 1.15; 2017: adjOR=0.99, 95%CI: 0.90, 1.11), and have lower income (2024: adjOR=0.74, 95%CI: 0.66, 0.84; 2021: adjOR=0.79, 95%CI: 0.69, 0.90; 2017: adjOR=0.85, 95%CI: 0.76, 0.95).

On multivariate analysis, those reporting they still have asthma were more likely to be women (2024: adjOR=0.63, 95%CI: 0.49, 0.81; 2021: adjOR=0.60, 95%CI: 0.47, 0.77; 2017: adjOR=0.73, 95%CI: 0.60, 0.90), have received similar levels of education (2024: adjOR=0.97, 95%CI: 0.85, 1.12; 2021: adjOR=1.01, 95%CI: 0.88, 1.16; 2017: adjOR=0.98, 95%CI: 0.87, 1.10), and have lower income (2024: adjOR=0.68, 95%CI: 0.59, 0.79; 2021: adjOR=0.73, 95%CI: 0.63, 0.85; 2017: adjOR=0.80, 95%CI: 0.70, 0.91).

13.3.13.2 Diabetes (see Section §9.2.4)

The percentages of those who reported being told they have diabetes are provided in **Tables 13-41A** and **13-41B**. The rates did not change significantly from 2017 to 2021 or from 2021 to 2024 (**Table 13-64**).

The interaction of diabetes with other chronic illnesses is discussed in Chapter Nine.

On multivariate analysis, those reporting having ever been told they have diabetes mellitus were more likely to be men (2024: adjOR=1.48, 95%CI: 1.21, 1.80; 2021: adjOR=1.40, 95%CI: 1.15, 1.70; 2017: adjOR=1.48, 95%CI: 1.25, 1.75), be less educated (2024: adjOR=0.85, 95%CI: 0.75, 0.96; 2021: adjOR=0.87, 95%CI: 0.77, 0.98; 2017: adjOR=0.86, 95%CI: 0.77, 0.96), and have lower income (2024: adjOR=0.77, 95%CI: 0.68, 0.88; 2021: adjOR=0.74, 95%CI: 0.65, 0.85; 2017: adjOR=0.72, 95%CI: 0.64, 0.81).

13.3.13.3 Cardiovascular Disease (see §9.2.1)

Heart disease is the leading cause of death in Michigan and the United States (see Section §9.3). The UPCHIPS asked if respondents had ever been told they had a heart attack, heart disease, or a stroke. The results are shown in **Tables 13-42A**, **13-42B**, **13-43A**, and **13-43B**. While the results from 2017 through 2024 remained stable for heart attack and heart disease, there was a 28% increase in those reporting having been told they had a stroke from 2017 to 2021 (adjOR=1.28, 95%CI: 1.03, 1.58), but no change from 2021 to 2024 (**Table 13-64**).

The interaction between these illnesses is discussed in Chapter Nine. There is also some evidence of a possible disconnect of education regarding medical conditions. Over the two surveys, of those who were told they had a heart attack, 29.0% did not report having heart disease. Keep in mind that this survey depends on what the respondent remembers being told.

On multivariate analysis, those reporting ever being told they suffered a heart attack were more likely to be men (2024: adjOR=2.38, 95%CI: 1.81, 3.14; 2021: adjOR=2.31, 95%CI: 1.76, 3.04; 2017: adjOR=2.87, 95%CI: 2.27, 3.63), be less educated in 2017 and 2021 but not 2024 (2024: adjOR=0.97, 95%CI: 0.82, 1.15; 2021: adjOR=0.74, 95%CI: 0.63, 0.88; 2017: adjOR=0.78, 95%CI: 0.67, 0.90), and have lower income in 2017 and 2024 but not 2021 (2024: adjOR=0.72, 95%CI: 0.60, 0.87; 2021: adjOR=0.65, 95%CI: 0.53, 1.05; 2017: adjOR=0.75, 95%CI: 0.63, 0.89).

On multivariate analysis, those reporting ever being told they had heart disease were more likely to be men (2024: adjOR=1.85, 95%CI: 1.50, 2.27; 2021: adjOR=2.47, 95%CI: 2.02, 3.04; 2017: adjOR=2.05, 95%CI: 1.71, 2.46), be less educated in 2017 but not 2021 or 2024 (2024: adjOR=0.97, 95%CI: 0.86, 1.11; 2021: adjOR=0.94, 95%CI: 0.83, 1.06; 2017: adjOR=0.89, 95%CI: 0.80, 0.99), and have lower income in 2017 and 2021, but not 2024 (2024: adjOR=0.99, 95%CI: 0.86, 1.15; 2021: adjOR=0.78, 95%CI: 0.68, 0.90; 2017: adjOR=0.83, 95%CI: 0.72, 0.94). Responses to this question varied significantly between counties in 2021 but not 2017 or 2024 (2021: χ^2_{13}=23.4, p=.0368).

On multivariate analysis, those reporting ever being told they had suffered a stroke were more likely to be men in 2017 and 2021, but not in 2024 (2024: adjOR=1.06, 95%CI: 0.75, 1.50; 2021: adjOR=1.65, 95%CI: 1.20, 2.26; 2017: adjOR=1.63, 95%CI: 1.21, 2.20), had received similar levels of education (2024: adjOR=0.94, 95%CI: 0.76, 1.15; 2021: adjOR=0.98, 95%CI: 0.81, 1.20; 2017: adjOR=1.00, 95%CI: 0.83, 1.20), and have lower income (2024: adjOR=0.62, 95%CI: 0.49, 0.78; 2021: adjOR=0.67, 95%CI: 0.53, 0.84; 2017: adjOR=0.44, 95%CI: 0.35, 0.56).

13.3.13.4 Cancer (see Section §9.2.2)

Cancer is the second leading cause of death in the Upper Peninsula, Michigan, and the United States (see Section §9.2.2). UPCHIPS inquired regarding ever being told about having skin cancer or any other form of cancer, and any form of cancer. The results can be seen in **Tables 13-44A** and **13-44B**. Surprisingly, skin cancer was more common with increasing levels of education and income, but this may reflect having access to services in which these cancers can be identified. Those who had been told they had skin cancer increased by 23% from 2017 to 2021 (adjOR=1.23, 95%CI: 1.07, 1.41) then trended downward from 2021 to 2024. For all forms of cancer there was no difference across the surveys (**Table 13-64**).

On multivariate analysis, those reporting ever being told they had skin cancer were more likely to be men (2024: adjOR=1.34, 95%CI: 1.08, 1.65; 2021: adjOR=1.36, 95%CI: 1.11, 1.66; 2017: adjOR=1.42, 95%CI: 1.18, 1.72), be more educated (2024: adjOR=1.31, 95%CI: 1.15, 1.50; 2021: adjOR=1.32, 95%CI: 1.16, 1.49; 2017: adjOR=1.33, 95%CI: 1.18, 1.50), and have higher income (2024: adjOR=1.26, 95%CI: 1.08, 1.47; 2021: adjOR=1.16, 95%CI: 1.001, 1.34; 2017: adjOR=1.33, 95%CI: 1.15, 1.52). The response to this questioned varied significantly between counties in 2021 but not 2017 or 2024 (2021: χ^2_{13}=36.6, p=.0005).

On multivariate analysis, those reporting ever being told they had *any* form of cancer were as likely to be men as women (2024: adjOR=0.87, 95%CI: 0.70, 1.07; 2021: adjOR=0.92, 95%CI: 0.75, 1.13; 2017: adjOR=0.88, 95%CI: 0.73, 1.05), be more educated in 2017 but not 2021 or 2024 (2024: adjOR=1.01, 95%CI: 0.89, 1.14; 2021: adjOR=1.01, 95%CI: 0.89, 1.14; 2017: adjOR=1.18, 95%CI: 1.06, 1.31), and have similar levels of income (2024: adjOR=1.02, 95%CI: 0.89, 1.17; 2021: adjOR=1.004, 95%CI: 0.87, 1.15; 2017: adjOR=0.95, 95%CI: 0.84, 1.07).

13.3.13.5 Chronic Pulmonary Disease (see Section §9.2.3)

Chronic obstructive pulmonary disease (COPD) is a progressive disease that makes it hard to breathe. The condition comes on gradually and has a number of names such as emphysema, chronic obstructive lung disease, chronic obstructive pulmonary disease (COPD), chronic pulmonary disease, and chronic bronchitis. The lack of consistent appellation can lead to confusion. The percentage of those who report being told they have COPD is reported in **Tables 13-45A** and **13-45B**. The rate did not change between

the three surveys (**Table 13-64**).

As shown in Chapter Nine, COPD is often a co-morbidity in those with other chronic illnesses.

On multivariate analysis, those reporting ever being told they had chronic obstructive pulmonary disease (COPD), emphysema, or chronic bronchitis were more likely to be men in 2021 but not 2017 or 2024 (2024: adjOR=1.25, 95%CI: 0.99, 1.58; 2021: adjOR=1.32, 95%CI: 1.06, 1.64; 2017: adjOR=1.20, 95%CI: 0.99, 1.45), be less educated (2024: adjOR=0.74, 95%CI: 0.64, 0.86; 2021: adjOR=0.68, 95%CI: 0.60, 0.79; 2017: adjOR=0.83, 95%CI: 0.73, 0.93), and have lower income (2024: adjOR=0.53, 95%CI: 0.45, 0.62; 2021: adjOR=0.63, 95%CI: 0.54, 0.73; 2017: adjOR=0.57, 95%CI: 0.49, 0.65). Responses to the question varied significantly between counties in 2021 and 2024 but not 2017 (2024: χ^2_{15}=30.9, p=.0035; 2021: χ^2_{15}=25.2, p=.0218).

13.3.13.6 Activity Limited by Arthritis

While arthritis and rheumatism are leading causes of disability in the United States, they rarely lead to mortality. The percentage of those reporting they were limited in their usual activities because or arthritis or joint symptoms is reported in **Tables 13-46A** and **13-46B**. Those reporting this increased by 13% from 2017 to 2021 (adjOR=1.13, 95%CI: 1.03, 1.24) and another 8% from 2021 to 2024 (adjOR=1.08, 95%CI: 1.03, 1.13) (**Table 13-64**).

On multivariate analysis, those reporting they were limited in their usual activities because of arthritis or joint symptoms were as likely to be men as women (2024: adjOR=1.14, 95%CI: 0.97, 1.32; 2021: adjOR=0.99, 95%CI: 0.86, 1.15; 2017: adjOR=0.94, 95%CI: 0.82, 1.07), be less educated in 2017 and 2021 but not 2024 (2024: adjOR=0.98, 95%CI: 0.90, 1.08; 2021: adjOR=0.90, 95%CI: 0.82, 0.99; 2017: adjOR=0.91, 95%CI: 0.84, 0.98), and have lower income (2024: adjOR=0.68, 95%CI: 0.62, 0.75; 2021: adjOR=0.67, 95%CI: 0.61, 0.74; 2017: adjOR=0.65, 95%CI: 0.60, 0.71). Responses to the question varied significantly between counties in 2017 and 2024 but not 2021 (2024: χ^2_{15}=32.6, p=.0020; 2017: χ^2_{15}=23.1, p=.0407).

13.3.13.7 Alzheimer's Disease or Dementia (see Section §9.2.6)

The UPCHIPS asked if respondents were ever told by a doctor, neurologist, psychologist, or other health professional they had Alzheimer's disease or dementia. Only 42 reported having Alzheimer's disease or dementia in the 2017 UPCHIPS, 23 in the 2021 survey, and 35 in the 2024 survey. In 2017 the weighted percentage was 0.6% (95%CI: 0.3, 0.8), while in 2021 it was 0.3% (95%CI: 0.1, 0.5), and 1.05% (95%CI: 0.10, 2.01) in 2024. The rate doubled from 2021 to 2024 (adjOR=2.19, 95%CI: 1.22, 3.94) (**Table 13-64**). The UPCHIPS would be expected to underestimate the percentage of those with Alzheimer's disease or dementia as having these conditions would present a barrier to completing the survey and those with these conditions are more likely to be geographically concentrated in long-term care facilities, which would have been missed by randomizing distribution of the surveys using addresses. The small number of responses also precludes performing a meaningful multivariate analysis.

Similarly, when asked whether a doctor, social worker, or other professional recommended they move to a nursing home, long-term care facility, or other alternative living as a consequence of declining physical or mental capacities, only 44 respondents in 2017, 23 in 2021, and 26 in 2024 answered in the affirmative. The weighted percentage in 2017 was 0.4% (95%CI: 0.2, 0.6), 0.6% (95%CI: 0.2, 1.0) in 2021,

and 1.23% (95%CI: 0.00, 2.56) in 2024. There was no difference between the surveys (**Table 13-64**). This question faced the same difficulties as asking about dementia that precluded any meaningful interpretation. A more reliable estimate would be obtained using different methodologies targeting more specific populations.

13.3.14 Vaccinations (see Sections §7.3.5 and §7.3.6)

The vaccination rates among those completing the surveys for influenza and pneumococcal vaccines are shown in **Tables 13-47A**, **13-47B**, **13-48A**, and **13-48B**. Vaccination in the past year for influenza in both all adults and those 65 years and older increased from 2017 to 2021 (all adults: adj OR=1.33 95%CI: 1.20, 1.46; 65 years and older: adj OR= 1.18, 95%CI: 1.02, 1.36) then markedly dropped from 2021 to 2024 (all adults: adjOR=0.57, 95%CI: 0.51, 0.63; 65 years and older: adjOR=0.54, 95%I: 0.47, 0.63) (**Table 13-64**). This initial increase, reflecting the motivation provided by the COVID-19 pandemic and the vaccine was readily available without visiting a health care provider's office, was followed by vaccine hesitance fueled by misinformation. The percentage of those 65 years and older who had ever received the pneumococcal vaccine did not change from 2017 to 2021 then dropped 35% from 2021 to 2024 (adjOR=0.65, 95%CI: 0.56, 0.75) (**Table 13-64**).

On multivariate analysis, those reporting having received an influenza vaccine in the past year were more likely to be women in 2021 but not 2017 or 2024 (2024: adjOR=0.88, 95%CI: 0.75, 1.03; 2021: adjOR=0.80, 95%CI: 0.68, 0.94; 2017: adjOR=1.04, 95%CI: 0.91, 1.19), be more educated (2024: adjOR=1.15, 95%CI: 1.05, 1.26; 2021: adjOR=1.21, 95%CI: 1.09, 1.33; 2017: adjOR=1.10, 95%CI: 1.02, 1.19), and have higher income (2024: adjOR=1.29, 95%CI: 1.17, 1.43; 2021: adjOR=1.35, 95%CI: 1.21, 1.50; 2017: adjOR=1.21, 95%CI: 1.11, 1.32).

On multivariate analysis, those 65 years of age and older reporting having received an influenza vaccine in the past year were as likely to be men as women (2024: adjOR=0.91, 95%CI: 0.75, 1.12; 2021: adjOR=0.95, 95%CI: 0.76, 1.18; 2017: adjOR=1.09, 95%CI: 0.90, 1.34), had received similar levels of education (2024: adjOR=01.09, 95%CI: 0.96, 1.23; 2021: adjOR=0.96, 95%CI: 0.84, 1.10; 2017: adjOR=1.01, 95%CI: 0.90, 1.14), and have higher income (2024: adjOR=1.47, 95%CI: 1.28, 1.68; 2021: adjOR=1.66, 95%CI: 1.41, 1.95; 2017: adjOR=1.37, 95%CI: 1.19, 1.58). Responses to the question varied significantly between counties in 2024 (2024: χ^2_{13}=29.9, p=.0049).

On multivariate analysis, those 65 years and older reporting ever receiving a pneumococcal vaccine were more likely to be women in 2017 but not 2021 or 2024 (2024: adjOR=0.91, 95%CI: 0.77, 1.07; 2021: adjOR=0.95, 95%CI: 0.81, 1.12; 2017: adjOR=0.77, 95%CI: 0.63, 0.94), had received similar levels of education (2024: adjOR=1.07, 95%CI: 0.97, 1.18; 2021: adjOR=1.07, 95%CI: 0.97, 1.18; 2017: adjOR=1.04, 95%CI: 0.92, 1.18), and have higher income in 2017 but not 2021 or 2024 (2024: adjOR=1.08, 95%CI: 0.97, 1.21; 2021: adjOR=0.97, 95%CI: 0.87, 1.08; 2017: adjOR=1.29, 95%CI: 1.11, 1.50).

13.3.15 Mental Health (see Section §10.1)

Mental illness is common in adolescents and adults and impacts their family members and the community. Several aspects of mental health were queried in the UPCHIPS.

13.3.15.1 Depression or Anxiety (see Sections §10.3.1 and §10.3.4)

Depression is a common and treatable mental health condition, while anxiety can have crippling results. The surveys asked if the respondent had ever been told they had a depressive disorder or an anxiety disorder (including phobias). The results are shown in **Tables 13-49A** and **13-49B**. From the 2017 UPCHIPS to the 2021 UPCHIPS those reporting a depressive disorder increased by 22% (adjOR=1.22, 95%CI: 1.09, 1.36). This increased an additional 12% from 2021 to 2024 (adjOR=1.12, 95%CI: 0.99, 1.26). Those reporting an anxiety disorder increased by 33% from 2017 to 2021 (adjOR=1.33, 95%CI: 1.18, 1.50). This increased an additional 26% from 2021 to 2024 (adjOR=1.26, 95%CI: 1.11, 1.43) (**Table 13-64**). It is not clear how much of this increase can be attributed to the response to the COVID-19 pandemic (see Section §10.4). This survey was conducted prior to the 2024 presidential election.

On multivariate analysis, those reporting ever being told they had a depressive disorder, including major depression, dysthymia, or minor depression, were more likely to be women (2024: adjOR=0.56, 95%CI: 0.46, 0.67; 2021: adjOR=0.46, 95%CI: 0.39, 0.56; 2017: adjOR=0.59, 95%CI: 0.50, 0.69), had received similar levels of education (2024: adjOR=0.99, 95%CI: 0.90, 1.11; 2021: adjOR=1.10, 95%CI: 0.99, 1.23; 2017: adjOR=1.07, 95%CI: 0.98, 1.17), and have lower income (2024: adjOR=0.68, 95%CI: 0.61, 0.76; 2021: adjOR=0.64, 95%CI: 0.57, 0.72; 2017: adjOR=0.64, 95%CI: 0.58, 0.71).

On multivariate analysis, those reporting ever being told they had an anxiety disorder, including generalized anxiety disorder, panic disorder, social anxiety disorder, or a specific phobia, were more likely to be women (2024: adjOR=0.47, 95%CI: 0.38, 0.58; 2021: adjOR=0.53, 95%CI: 0.43, 0.64; 2017: adjOR=0.48, 95%CI: 0.40, 0.58), had received similar levels of education (2024: adjOR=0.91, 95%CI: 0.82, 1.02; 2021: adjOR=1.05, 95%CI: 0.94, 1.19; 2017: adjOR=0.92, 95%CI: 0.83, 1.02), and have lower income (2024: adjOR=0.71, 95%CI: 0.63, 0.80; 2021: adjOR=0.61, 95%CI: 0.54, 0.69; 2017: adjOR=0.66, 95%CI: 0.59, 0.74).

13.3.15.2 Mental Health Care Access (see Sections §10.2.2 and §10.6)

The percentage of those taking medications to help with mood, emotions, or mental health, those who received counseling, and those who contacted a crisis line are shown in **Tables 13-50A**, **13-50B**, **13-51A**, and **13-51B**. Between 2017 and 2021 the percentage taking medication increased 25% (adjOR=1.25, 95%CI: 1.12, 1.39) but did not change from 2021 to 2024. The percentage receiving counseling increased 45% (adjOR=1.45, 95%CI: 1.19, 1.75) from 2017 to 2021 and additional 23% (adjOR=1.23, 95%CI: 1.01, 1.48) from 2021 to 2024. The percentage calling or texting a crisis line increased 64% (adjOR=1.64, 95%CI: 1.12, 2.42) from 2017 to 2021, but there was no change from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those reporting taking medication to help with mood, emotions, or mental health in the past 12 months were more likely to be women (2024: adjOR=0.56, 95%CI: 0.46, 0.67; 2021: adjOR=0.44, 95%CI: 0.36, 0.53; 2017: adjOR=0.46, 95%CI: 0.39, 0.54), had received similar levels of education (2024: adjOR=0.95, 95%CI: 0.85, 1.05; 2021: adjOR=0.97, 95%CI: 0.87, 1.07; 2017: adjOR=0.99, 95%CI: 0.90, 1.08), and have lower income (2024: adjOR=0.73, 95%CI: 0.65, 0.82; 2021: adjOR=0.75, 95%CI: 0.67, 0.84; 2017: adjOR=0.69, 95%CI: 0.63, 0.76).

On multivariate analysis, those reporting they had received counseling or other non-medication treatment from a mental health professional in the past 12 months were more likely to be women in 2021 but not 2017 or 2024 (2024: adjOR=0.77, 95%CI: 0.57, 1.03; 2021: adjOR=0.71, 95%CI: 0.52, 0.96;

2017: adjOR=76, 95%CI: 0.57, 1.01), be more educated (2024: adjOR=1.21, 95%CI: 1.02, 1.43; 2021: adjOR=1.28, 95%CI: 1.07, 1.54; 2017: adjOR=1.20, 95%CI: 1.02, 1.42), and have lower income (2024: adjOR=0.72, 95%CI: 0.61, 0.86; 2021: adjOR=0.60, 95%CI: 0.50, 0.73; 2017: adjOR=0.58, 95%CI: 0.49, 0.69). Responses to the question varied significantly between counties in 2017 but not 2021 or 2024 (2017: χ^2_{15}=30.6, p=.0038).

On multivariate analysis, those reporting they called or texted a crisis line one or more times in the past 12 months were as likely to men or women (2024: adjOR=0.84, 95%CI: 0.46, 1.54; 2021: adjOR=1.14, 95%CI: 0.64, 2.00; 2017: adjOR=1.36, 95%CI: 0.77, 2.39), have received similar levels of education (2024: adjOR=1.03, 95%CI: 0.73, 1.43; 2021: adjOR=1.37, 95%CI: 0.96, 1.96; 2017: adjOR=1.13, 95%CI: 0.80, 1.59), and have lower income (2024: adjOR=0.46, 95%CI: 0.32, 0.66; 2021: adjOR=0.42, 95%CI: 0.29, 0.62; 2017: adjOR=0.52, 95%CI: 0.35, 0.77). The reliability of this model is limited by the small number of positive responses (61 in 2024, 55 in 2021, and 52 in 2017).

13.3.15.3 Mental Health Care Barriers

As the rate of receiving a mental health diagnosis increases and the demand for mental health services increases it is important to identify the barriers to receiving care. The UPCHIPS asked about costs, lack of transportation, and the lack of availability of services being a barrier to receiving care. The result is shown in **Tables 13-52A** and **13-52B**. From 2017 to 2024 cost as barrier to care has doubled (adjOR=2.04, 95%CI: 1.61, 2.59) while lack of transportation as a barrier increased over seven-fold (adjOR=7.56, 95%CI: 5.16, 11.09) (**Table 13-64**).

On multivariate analysis, those reporting they delayed or did not receive needed counseling in the past 12 months due to cost as barrier to receiving mental health care were more likely to be women (2024: adjOR=0.37, 95%CI: 0.23, 0.58; 2021: adjOR=0.53, 95%CI: 0.34, 0.84; 2017: adjOR=0.63, 95%CI: 0.42, 0.94), be more educated in 2021 but not 2017 or 2024 (2024: adjOR=1.20, 95%CI: 0.97, 1.49; 2021: adjOR=1.48, 95%CI: 1.15, 1.91; 2017: adjOR=1.13, 95%CI: 0.91, 1.41), and have lower income (2024: adjOR=0.61, 95%CI: 0.49, 0.77; 2021: adjOR=0.55, 95%CI: 0.43, 0.71; 2017: adjOR=0.53, 95%CI: 0.42, 0.67). The trend toward higher education may reflect that mental health care is more likely to be covered for those on Medicaid than those with private insurance.

On multivariate analysis, those reporting they delayed or did not receive needed counseling in the past 12 months due to a lack of transportation were more likely to be women in 2017 but not 2021 (2024: adjOR=0.55, 95%CI: 0.38, 0.79; 2021: adjOR=0.85, 95%CI: 0.39, 1.86; 2017: adjOR=0.31, 95%CI: 0.13, 0.74), had received similar levels of education (2024: adjOR=1.19, 95%CI: 0.98, 1.44; 2021: adjOR=0.76, 95%CI: 0.47, 1.21; 2017: adjOR=1.21, 95%CI: 0.83, 1.77), and have lower income (2024: adjOR=0.70, 95%CI: 0.57, 0.85; 2021: adjOR=0.20, 95%CI: 0.11, 0.39; 2017: adjOR=0.44, 95%CI: 0.35, 0.57). The reliability of this model in 2017 and 2021 is limited by the small number of positive responses (32 in 2021 and 46 in 2017). There were 224 positive responses in 2024.

13.3.16 Substance Use and Treatment (see Chapter 11)

Substance use continues to be a major health concern across our region as discussed in Chapter 11. The UPCHIPS explored alcohol consumption, drug use, and marijuana use.

13.3.16.1 Alcohol Consumption (see Section §11.3)

The UPCHIPS asked questions regarding the amount of alcohol beverages consumed on a daily basis. It also asked about binge drinking. The results of the surveys as provide in **Tables 13-53A** and **13-53B**. The percentage that reported driving after drinking are shown in **Tables 13-37A** and **13-37B**. Heavy drinking and driving after drinking did not change from 2017 through 2024, but those reporting binge drinking increased 43% (adjOR=1.43, 95%CI: 1.21, 1.68) from 2017 to 2021, but no change was seen from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those reporting heavy drinking (defined as consuming an average of more than two alcoholic drinks per day for men or more than one per day for women in the past months) were more likely to be men in 2017 and 2021 but not 2024 (2024: adjOR=1.12, 95%CI: 0.89, 1.42; 2021: adjOR=1.22, 95%CI: 1.000, 1.50; 2017: adjOR=1.39, 95%CI: 1.16, 1.66), had similar levels of education (2024: adjOR=0.91, 95%CI: 0.79, 1.04; 2021: adjOR=0.98, 95%CI: 0.87, 1.11; 2017: adjOR=0.99, 95%CI: 0.88, 1.10), and have higher income in 2021 but not 2017 or 2024 (2024: adjOR=1.12, 95%CI: 0.96, 1.31; 2021: adjOR=1.17, 95%CI: 1.01, 1.34; 2017: adjOR=1.13, 95%CI: 0.99, 1.27). Responses to this questioned varied significantly between counties in 2017 and 2024 but not 2021 (2014: χ^2_{13}=25.0, p=.0233; 2017: χ^2_{13}=26.5, p=.0155).

On multivariate analysis, those reporting binge drinking (defined five or more drinks per occasion for men or four or more drinks per occasion for women at least once in the past month) were more likely to be men (2024: adjOR=1.80, 95%CI: 1.37, 2.37; 2021: adjOR=2.06, 95%CI: 1.60, 2.67; 2017: adjOR=1.99, 95%CI: 1.63, 2.45), be less educated in 2017 and 2021 (2024: adjOR=0.84, 95%CI: 0.71, 1.00; 2021: adjOR=0.79, 95%CI: 0.67, 0.93; 2017: adjOR=0.83, 95%CI: 0.73, 0.94), and no impact from income level (2024: adjOR=0.85, 95%CI: 0.70, 1.02; 2021: adjOR=1.07, 95%CI: 0.90, 1.28; 2017: adjOR=1.09, 95%CI: 0.95, 1.26).

The number of drinks consumed in a month was calculated using information provided by those completing the survey. Since the number of drinks consumed in a month is a continuous variable (a number), the multivariate analysis takes a different form, using multivariate linear regression models. The results of the models run on the 2021, 2017, and 2024 UPCHIPS is shown in **Table 13-18**. An explanation of how to interpret the numbers in this table is provided in section §13.3.5.

13.3.16.2 Drug Use (see Section §11.5)

The UPCHIPS assessed the use of designer drugs, prescription drugs to get high, and drugs that were injected or snorted. The results are shown in **Table 13-54A**, **13-54B**, **13-55A**, and **13-55B**. The use of designer drugs doubled going from 2017 to 2021 (adjOR=2.04, 95%CI: 1.38, 3.00) and almost doubled again going from 2021 to 2024 (adjOR=1.92, 95%CI: 1.39, 2.64). Using prescription medications to get high increased 71% going from 2017 to 2021 (adjOR=1.71, 95%CI: 1.24, 2.35) and another 58% going from 2021 to 2024 (adjOR=1.58, 95%CI: 1.19, 2.11). Those reporting snorting or injecting drugs to get high increased by 56% going from 2017 to 2021 (adjOR=1.56, 95%CI: 1.24, 1.96), but no change was noted going from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those reporting ever using over the counter or synthetic/designer drugs such as K2/spice, Salvia, Bath Salts, or synthetic cannabinoids for the purpose of getting high were more likely to be men in 2017 but not 2021 (2024: adjOR=1.70, 95%CI: 1.14, 2.54; 2021: adjOR=1.27, 95%CI: 0.75, 2.16; 2017: adjOR=2.35, 95%CI: 1.32, 4.19), had received similar levels of education in 2017 and 2021,

but lower education in 2024 (2024: adjOR=0.75, 95%CI: 0.58, 0.95; 2021: adjOR=0.89, 95%CI: 0.64, 1.22;

Table 13-18: Multivariate Linear Regression of Drinks per Month, 2024, 2021, 2017

Factor	B	Standard Error	t-value	P-value
	2024			
Sex (male versus female)	20.61	2.56	8.04	<.0001
Education level	-3.598	1.599	-2.25	0.0245
Income level	-1.775	1.753	-1.01	0.3114
Age	-0.24	0.082	-2.93	0.0034
County of residence			F=2.79	0.0006
	2021			
Sex (male versus female)	18.83	1.79	10.53	<.0001
Education level	-0.337	1.09	-0.58	0.56
Income level	0.674	1.121	0.56	0.5778
Age	-0.353	0.0613	-5.76	<.0001
County of residence			F=0.45	0.9502
	2017			
Sex (male versus female)	21.67	1.62	13.36	<.0001
Education level	-1.53	0.979	-1.56	0.1192
Income level	0.643	1.09	0.59	0.5546
Age	-0.283	0.0546	-5.19	<.0001
County of residence			F=2.87	0.0004

2017: adjOR=1.02, 95%CI: 0.71, 1.46), and have lower income in 2021 and 2024 but not 2017 (2024: adjOR=0.74, 95%CI: 0.57, 0.95; 2021: adjOR=0.68, 95%CI: 0.48, 0.95; 2017: adjOR=0.73, 95%CI: 0.50, 1.07).

On multivariate analysis, those reporting ever using prescription drugs not prescribed to them for the purpose of getting high were more likely to be men (2024: adjOR=1.92, 95%CI: 1.31, 2.79; 2021: adjOR=2.49, 95%CI: 1.58, 3.92; 2017: adjOR=2.23, 95%CI: 1.42, 3.50), be more educated in 2017, not in 2021 or 2024 (2024: adjOR=1.01, 95%CI: 0.80, 1.28; 2021: adjOR=0.85, 95%CI: 0.64, 1.12; 2017: adjOR=1.34, 95%CI: 1.01, 1.77), and have lower income (2024: adjOR=0.70, 95%CI: 0.54, 0.89; 2021: adjOR=0.58, 95%CI: 0.43, 0.77; 2017: adjOR=0.48, 95%CI: 0.35, 0.66).

On multivariate analysis, those reporting ever injecting or snorting drugs for the purpose of getting high were more likely to be men (2024: adjOR=2.98, 95%CI: 2.14, 4.13; 2021: adjOR=2.43, 95%CI: 1.75, 3.36; 2017: adjOR=2.99, 95%CI: 2.16, 4.13), had received similar levels of education (2024: adjOR=1.07, 95%CI: 0.87, 1.31; 2021: adjOR=0.83, 95%CI: 0.68, 1.02; 2017: adjOR=1.20, 95%CI: 0.99, 1.47), and have lower income (2024: adjOR=0.61, 95%CI: 0.49, 0.75; 2021: adjOR=0.78, 95%CI: 0.63, 0.97; 2017: adjOR=0.66, 95%CI: 0.53, 0.82).

13.3.16.3 Marijuana Use (see Section §11.4)

The UPCHIPS asked about marijuana-containing products in the past month. The results are shown in **Tables 13-56A** and **13-56B**.With the legalization of the recreational use of marijuana-containing products in Michigan between two Upper Peninsula-wide surveys, it is not surprising that reported use of these products nearly tripled (adjOR=2.93, 95%CI: 2.48, 3.46) going from 2017 to 2021 (**Table 13-64**). With legalization, more respondents may have felt comfortable reporting their marijuana use. Also, more people may have been willing to try and use these products once they were legalized. Determining how much influence each of these factors had on the increased reports of use would be difficult. Recreational use of marijuana containing produces was legal during the gap between 2021 and 2024 and there its use increased another 20% (adjOR=1.20, 95%CI: 1.04, 1.39).

On multivariate analysis, those reporting using marijuana, hashish, marijuana was, or marijuana-infused edibles were more likely to be men (2024: adjOR=2.17, 95%CI: 1.76, 2.66; 2021: adjOR=1.86, 95%CI: 1.50, 2.30; 2017: adjOR=2.22, 95%CI: 1.72, 2.85), have received similar levels of education (2024: adjOR=1.09, 95%CI: 0.96, 1.24; 2021: adjOR=0.98, 95%CI: 0.86, 1.12; 2017: adjOR=0.98, 95%CI: 0.84, 1.14), and have lower income (2024: adjOR=0.59, 95%CI: 0.52, 0.68; 2021: adjOR=0.62, 95%CI: 0.53, 0.71; 2017: adjOR=0.48, 95%CI: 0.40, 0.57). Responses to this question varied significantly between counties in 2017 and 2021, but not 2024 (2021: χ^2_{13}=22.4, p=.0500; 2017: χ^2_{13}=23.6, p=.0348).

13.3.16.4 Substance Abuse Treatment and Barriers (see Section §11.6)

The UPCHIPS assessed the percentage of those who had received treatment in the past 12 months for alcohol and/or drug use (**Tables 13-57A** and **13-57B**). In the 2017 UPCHIPS, 21 people identified as having received treatment for drug use. This increased to 22 in the 2021 UPCHIPS and to 35 in the 2024 UPCHIPS. The weighted percentage for receiving treatment for substance abuse in the past 12 months across the Upper Peninsula was 0.9% (95%CI: 0.1, 1.6) in the 2017 UPCHIPS, 0.7% (95%CI: 0.2, 1.2) in the 2021 UPCHIPS, and 2.54% (95%CI: 1.26, 3.83) in the 2024 UPCHIPS. The number of people receiving treatment is too small to generate any reliable analysis.

Those identifying cost as barriers to receiving treatment for substance use disorder numbered 7 in 2017 and 4 in 2021. Similarly, those who identified transportation barriers and lack of services as barriers numbered 6 and 15 in 2017 and 8 and 12 in 2021. These numbers are too small to provide any meaningful analysis. As a consequence, the various barriers to receiving treatment for substance abuse were combined into a single question. Only 26 respondents identified such a barrier (**Tables 13-8A** and **13-58B**).

On multivariate analysis, those reporting having received substance abuse treatment services in the past 12 months were more likely to be men in 2017 but not 2021 or 2024 (2024: adjOR=0.67, 95%CI: 0.27, 1.69; 2021: adjOR=2.17, 95%CI: 0.91, 5.19; 2017: adjOR=4.84, 95%CI: 1.88, 12.48), have received less education in 2024, but not 2017 or 2021 (2024: adjOR=0.46, 95%CI: 0.29, 0.73; 2021: adjOR=1.24, 95%CI: 0.74, 2.25; 2017: adjOR=1.10, 95%CI: 0.65, 1.86), and have lower income in 2017 and 2021 but not 2024 (2024: adjOR=0.77, 95%CI: 0.47, 1.26; 2021: adjOR=0.39, 95%CI: 0.22, 0.70; 2017: adjOR=0.39, 95%CI: 0.21, 0.74).

13.3.17 Health Screening

Public and health are both served through preventative measures. The UPCHIP included several questions to determine how frequently these screening efforts are utilized. The rates of most screening tests and procedures decreased in the 2021 UPCHIPS compared to the 2017 UPCHIPS. This may reflect the limited availability of clinician encounters during the COVID-19 pandemic.

13.3.17.1 Hepatitis C Testing (see Section §8.3.3.3)

The percentages of those reported ever having been tested for hepatitis C is shown in **Tables 13-59A** and **13-59B**. The lifetime testing rate did not change between 2017 and 2024, but increase 31% going from 2021 to 2024 (adjOR=1.31, 95%CI: 1.16, 1.48) (**Table 13-64**).

On multivariate analysis, those reporting having been tested for hepatitis C were more likely to be men (2024: adjOR=1.36, 95%CI: 1.14, 1.63; 2021: adjOR=1.66, 95%CI: 1.38, 2.00; 2017: adjOR=1.44, 95%CI: 1.23, 1.70), be more educated in 2017 and 2021 but not 2024 (2024: adjOR=1.11, 95%CI: 0.99, 1.24; 2021: adjOR=1.18, 95%CI: 1.05, 1.33; 2017: adjOR=1.17, 95%CI: 1.06, 1.30), and have lower income in 2021 but not 2017 or 2024 (2024: adjOR=0.94, 95%CI: 0.84, 1.06; 2021: adjOR=0.87, 95%CI: 0.77, 0.99; 2017: adjOR=0.96, 95%CI: 0.86, 1.07).

13.3.17.2 Breast Cancer Screening

Periodic clinical breast exams coupled with mammography are breast cancer screening procedures. In the most recent recommendation statement of April 30, 2024, the USPSTF recommends biennial screening mammography for women aged 40 to 74 years. [6]

The percentages of women 40 years and older who reported ever having had a mammogram and having had a mammogram in the past two years are reported in **Tables 13-60A** and **13-60B**. Reports of ever having had a mammogram decreased from 2017 to 2021 (adjOR=0.72, 95%CI: 0.54, 0.97), but did not change or increase going from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those women 40 years and older reporting having ever had a mammogram had received similar levels of education (2024: adjOR=1.03, 95%CI: 0.83, 1.27; 2021: adjOR=1.01, 95%CI: 0.80, 1.28; 2017: adjOR=1.12, 95%CI: 0.86, 1.45), and have higher income on 2017 and 2021, but not 2024 (2024: adjOR=1.23, 95%CI: 0.98, 1.55; 2021: adjOR=1.61, 95%CI: 1.25, 2.08; 2017: adjOR=1.78, 95%CI: 1.36, 2.34). Responses to this question varied significantly between counties in 2024 (χ^2_{13}=23.9, p=.0323).

On multivariate analysis, those women 40 years and older reporting having had a mammogram in the past two years had received similar levels of education (2024: adjOR=1.12, 95%CI: 0.99, 1.26; 2021: adjOR=0.98, 95%CI: 0.86, 1.11; 2017: adjOR=0.96, 95%CI: 0.85, 1.09), and have higher income(2024: adjOR=1.36, 95%CI: 1.20, 1.56; 2021: adjOR=1.62, 95%CI: 1.41, 1.87; 2017: adjOR=1.52, 95%CI: 1.32, 1.74). Responses to this question varied significantly between counties in 2024 (χ^2_{13}=30.7, p=.0038).

13.3.17.3 Cervical Cancer Screening

Cervical cancer screening, also called the Pap test, is used to detect abnormal cells on the cervix that could turn into cancer over time. In its most recent recommendation statement on August 21, 2018,

USPSTF recommends screening for cervical cancer every three years with cervical cytology alone in women 21-29 years. For women aged 30 to 65 years, the USPSTF recommends screening every 3 years with cervical cytology alone, every 5 years with high risk human papillomavirus (hrHPV) testing alone or in combination with cytology. The USPSTF recommends against screening for cervical cancer in women younger than 21 year, women who have had a hysterectomy with removal of the cervix (without a higher of a high-grade precancerous lesion), and women older than 65 years who have adequate screening in the past. [7]

The percentages of women who ever had a PAP smear are reported in **Tables 13-61A** and **13-61B**. The percentage of women reporting ever had a PAP smear decreased 39% (adjOR=0.61, 95%CI: 0.45, 0.83) going from 2017 to 2021. The percentage has not improved going from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those women who had not had a hysterectomy reporting ever having had a PAP test were more educated in 2017 and 2021, but not 2024 (2024: adjOR=1.03, 95%CI: 0.80,1.32; 2021: adjOR=1.54, 95%CI: 1.16, 2.05; 2017: adjOR=1.48, 95%CI: 1.11, 1.98), and have higher income (2024: adjOR=2.40, 95%CI: 1.82, 3.17; 2021: adjOR=1.98, 95%CI: 1.44, 2.72; 2017: adjOR=2.26, 95%CI: 1.60, 3.18).

13.3.17.4 Prostate Cancer Screening

Screening for prostate cancer in men begins at 50 years of age. Obtaining prostate-specific antigen (PSA) test can be ordered for men aged 50 and older as a marker for possible prostate cancer. As of May 8, 2018, the United States Preventive Services Task Force recommends that men aged 55 to 69 years discuss the potential benefits and harms of prostate-specific antigen (PSA) screening with their clinician and to incorporate their values and preference into the decision. While screening offers the small benefit of reducing the risk of death from prostate cancer in some men, many men will experience the potential harms of screening. These include false-positive tests requiring additional testing with possible biopsy, overdiagnosis, and overtreatment. Treatment complications include urinary incontinence and erectile dysfunction. The balance of benefits and harms needs to take family history, race/ethnicity, comorbid medical conditions, patient values, and other health needs into consideration. Clinicians should not screen men who do not express a preference for screening. Men 70 years of age and older should not have PSA-based screening. [8]

The percentage of men 50 years and older who discussed prostate cancer screening and every had a PSA test are shown in **Tables 13-62A** and **13-62B**. Prostate cancer discussion and ever having had a PSA level decreased from 2017 to 2021 (discussion: adjOR=0.84, 95%CI: 0.70, 0.99; PSA: adjOR=0.67, 95%CI: 0.55, 0.82), but showed no improvement going from 2021 to 2024 (**Table 13-64**).

On multivariate analysis, those men 50 years and older reporting ever discussing a prostate screening test with their health care provider were more educated in 2017 and 2021, but not 2024 (2024: adjOR=1.17, 95%CI: 0.98, 1.39; 2021: adjOR=1.40, 95%CI: 1.20, 1.64; 2017: adjOR=1.23, 95%CI: 1.07, 1.42), and have a higher income (2024: adjOR=1.82, 95%CI: 1.50, 2.20; 2021: adjOR=1.36, 95%CI: 1.14, 1.61; 2017: adjOR=1.67, 95%CI: 1.41, 1.97).

On multivariate analysis, those men 50 years and older reporting ever having a PSA level were more educated in 2017 and 2021, but not 2024 (2024: adjOR=1.09, 95%CI: 0.91, 1.31; 2021: adjOR=1.56, 95%CI: 1.30, 1.88; 2017: adjOR=1.25, 95%CI: 1.06, 1.48), and have a higher income (2024: adjOR=2.15, 95%CI: 1.75, 2.64; 2021: adjOR=1.36, 95%CI: 1.12, 1.66; 2017: adjOR=2.11, 95%CI: 1.74, 2.56).

13.3.17.5 Colorectal Cancer Screening

Regular colorectal cancer screening, beginning at age 45, was key to preventing colon cancer. The U.S. Preventive Services Task Force (USPSTF) in its most recent recommendation statement (May 18, 2021) recommends screening asymptomatic adults 45 years and older who are at average risk of colorectal cancer. For adults 76 to 85 years of age colorectal cancer screening should be selectively offered, as the benefits of screening all persons in this age group is small. Screening strategies include stool-based high sensitivity guaiac-based fecal occult blood test (HSgFOBT) every year, stool DNA test plus fecal immunochemical test (sDNA-FIT) every one to three years, computerized tomography (CT scan) colonography every five years, flexible sigmoidoscopy every five years, flexible sigmoidoscopy every ten years supplemented with annual FIT tests, and colonoscopy every ten years. [9]

The percentage of those 50 years of age and older who received appropriately timed colorectal cancer screening is reported in **Tables 13-63A** and **13-63B**. Of the components of this screening testing stool for occult blood decreased from 2017 to 2021 by 12% (adjOR=0.88, 95%CI: 0.80, 0.98). Those who had ever had a screening colonoscopy increased by 22% (adjOR=1.22, 95%CI: 1.07, 1.39). In the timespan from 2021 to 2024 there was little change and no improvement (**Table 13-64**).

On multivariate analysis, those reporting ever having a fecal occult blood test for colorectal cancer screening were as likely to be men as women (2024: adjOR=1.16, 95%CI: 0.99, 1.36; 2021: adjOR=1.12, 95%CI: 0.96, 1.14; 2017: adjOR=1.06, 95%CI: 0.92, 1.22), be more educated in 2017 and 2021, but not 2024 (2024: adjOR=1.05, 95%CI: 0.96, 1.16; 2021: adjOR=1.19, 95%CI: 1.08, 1.32; 2017: adjOR=1.20, 95%CI: 1.10, 1.31), and had higher levels of income in 2024, but not 2017 and 2021 (2024: adjOR=1.12, 95%CI: 1.01, 1.24; 2021: adjOR=0.99, 95%CI: 0.89, 1.11; 2017: adjOR=1.10, 95%CI: 0.99, 1.21). Responses to this question varied significantly between counties in all three surveys (2024: χ^2_{15}=38.0, p=.0003; 2021: χ^2_{15}=51.5, p<.0001; 2017: χ^2_{15}=45.3, p<.0001).

On multivariate analysis, those 50 years and older reporting ever having colonoscopy for colorectal cancer screening were more likely to be women in 2021 and 2024 but not 2017 (2024: adjOR=0.79, 95%CI: 0.65, 0.96; 2021: adjOR=0.80, 95%CI: 0.66, 0.96; 2017: adjOR=0.95, 95%CI: 0.80, 1.12), be more educated (2024: adjOR=1.18, 95%CI: 1.05, 1.33; 2021: adjOR=1.20, 95%CI: 1.06, 1.35; 2017: adjOR=1.19, 95%CI: 1.07, 1.32), and have higher income (2024: adjOR=1.42, 95%CI: 1.25, 1.62; 2021: adjOR=1.44, 95%CI: 1.27, 1.64; 2017: adjOR=1.77, 95%CI: 1.57, 1.98). Responses to this question varied significantly between counties in 2024 (χ^2_{15}=30.4, p=.0042).

13.4 Comparison of 2024 UPCHIPS Results to 2017 and 2021 UPCHIPS Results

The responses gathered in the 2024 UPCHIPS were compared to those gathered in the 2017 UPCHIPS and 2021 UPCHIPS. The comparisons are controlled regarding education level, income level, age, sex, and county of residence. Questions with categorical (such as yes/no) responses are reported as an adjusted odds ratio of a positive response in subsequent surveys. These comparisons are shown in **Table 13-64**. For example, rating general health as being fair or poor was 10% more common in 2021, but this finding was not statistically significant as the range of 95% confidence intervals include a value of 1.0.

Of note, issues surrounding dental care showed marked changes. There were increases in reports of depression, anxiety, treatment of mental health, and barriers to mental health treatment. Reported

marijuana usage nearly tripled, following its legalization in Michigan. This may reflect both an increase in use and a willingness to report usage. Injectable drug use and abuse of prescription medications have also increased. The decrease in health screening activities may reflect the postponement of preventive care services during the COVID-19 pandemic. Colonoscopy levels increased as this was an outpatient procedure that the pandemic did not interfere with.

Two questions provided continuous responses. Number of drinks per month increased by 0.77 (standard error = 1.17) in 2021 compared to 2017, but this difference was not statistically significant (t=0.66, p=.5118). The body mass index (BMI) decreased by 0.043 (standard error = 0.147) in 2021 compared to 2017. This difference was also not statistically significant (t=0.29, p=.7692).

The large number of comparisons (65) makes it likely that three of the comparisons would yield an estimate that was statistically significantly different when no actual difference existed. We allow a Type I error of 0.05. This means 5 times in 100 a difference will be detected when there is no difference. A Bonferroni adjustment (dividing the Type I error of 0.05 by the number of comparisons made) will provide a threshold that reduces the possibility of Type I error (a false positive result). In this case, the threshold would be a p-value of .0006. This may be a bit extreme, but it reduces the likelihood of reporting a false positive result.

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Table 13-19A: General Health Status by County					
	General Health, Fair, or Poor[a]				
	2024	2021	2017	2015	2012
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		14.3 (14.2, 14.4)			
US Weighted		14.1			
Michigan (2023)	19.0 (17.9, 20.1)	15.5 (14.4, 16.7)	18.0 (17.2, 18.9)	16.8 (15.8, 17.8)	17.2 (16.2, 18.3)
Upper Peninsula (MiBRFS 2021-2023)	16.9 (14.2, 20.1)	19.3 (16.2, 22.9)			
Upper Peninsula	18.7 (15.8, 21.7)	14.0 (11.5, 16.6)	16.3 (13.8, 18.7)	14.3 (14.1, 14.5) [b]	19.6 (16.9, 22.5) [b]
Alger	13.0 (6.6, 19.5)	16.1 (9.4, 22.8)	16.3 (10.2, 22.4)		
Baraga	20.6 (12.0, 29.2)	16.9 (9.4, 24.5)	18.6 (10.6, 26.6)	19.2 (18.4, 19.9)	18.9 (14.8, 23.7)
Chippewa	21.4 (11.7, 31.0)	15.6 (8.2, 23.0)	21.7 (12.6, 30.9)		
Delta	19.2 (9.4, 29.0)	7.3 (0.7, 13.9)	13.5 (5.8, 21.3)		
Dickinson	21.7 (12.2, 31.1)	16.8 (7.9, 25.6)	16.3 (9.9, 22.6)		
Gogebic	24.7 (17.2, 32.1)	29.5 (12.5, 46.5)	13.8 (7.9, 19.8)	15.5 (14.6, 16.3)	24.3 (18.8, 30.8)
Houghton/Keweenaw	13.8 (7.7, 20.0)	16.1 (8.9, 23.4)	14.5 (4.6, 24.4)	12.3 (12.0, 12.6)	17.0 (13.3-21.6)
Iron	18.9 (8.7, 29.1)	21.1 (13.5, 28.7)	23.3 (16.8, 29.7)	12.8 (12.3, 13.3)	
Luce	28.7 (20.8, 36.6)	17.1 (11.2, 23.0)	22.3 (14.6, 29.9)		
Mackinac	16.7 (9.4, 24.1)	17.6 (10.0, 25.1)	12.2 (5.6, 18.8)		
Marquette	15.4 (6.8, 24.1)	9.4 (5.2, 13.7)	15.5 (9.8, 21.2)		
Menominee	21.1 (12.8, 29.5)	12.2 (6.3, 18.1)	12.7 (6.6, 18.8)		
Ontonagon	24.7 (17.8, 31.5)	15.4 (10.6, 20.1)	15.6 (11.8, 19.3)	19.8 (19.0, 20.6)	23.6 (19.2, 28.5)
Schoolcraft	26.0 (17.1, 34.9)	18.9 (12.2, 25.7)	25.0 (13.8, 36.2)		
[a] Among all adults, the proportion who reported their health, in general, was either Fair or Poor. Other survey choices were Good, Very Good, and Excellent.					
[b] Cumulative estimate for the counties surveyed.					

Table 13-19B: General Health Status by Population Group			
	General Health, Fair or Poor[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	18.7 (15.8, 21.7)	14.0 (11.5, 16.6)	16.3 (13.8, 18.7)
Age			
18-39	10.5 (5.1, 15.9)	7.7 (2.7, 12.6)	10.8 (5.0, 16.6)
40-65	24.2 (19.3, 29.2)	16.2 (12.9, 19.5)	17.6 (14.2, 20.9)
65+	20.3 (16.9, 23.6)	19.6 (16.8, 22.4)	21.5 (18.6, 24.4)
Gender			
Male	21.6 (15.0, 28.3)	16.2 (11.2, 21.2)	16.6 (12.5, 20.7)
Female	17.1 (14.1, 20.1)	11.9 (9.8, 14.0)	15.9 (13.1, 18.8)
Educational Attainment			
Less than 12th grade	39.9 (23.1, 56.6)	45.6 (28.5, 62.7)	49.5 (36.4, 62.7)
High School Graduate	24.8 (18.7, 30.8)	18.3 (11.8, 24.7)	17.2 (13.0, 21.4)
1-3 years of college	14.4 (10.9, 17.9)	12.7 (9.5, 16.0)	12.0 (9.0, 15.0)
4-year degree or higher	10.3 (4.4, 16.2)	5.8 (3.3, 8.3)	4.0 (2.8, 5.1)
Household Income			
Less than $25,000	30.3 (22.9, 37.6)	29.4 (15.5, 43.3)	29.9 (24.5, 35.2)
$25,000 to $49,999	15.6 (11.7, 19.5)	13.0 (9.7, 16.2)	22.1 (15.8, 28.4)
$50,000 or higher	7.6 (5.1, 10.1)	7.6 (5.2, 10.1)	5.1 (3.4, 6.7)

[a] Among all adults, the proportion who reported their health, in general, was either Fair or Poor. Other survey choices were Good, Very Good, and Excellent.

Table 13-20A: Health Status on at Least 14 Days in Past Month by County						
	Poor Physical Health[a]			Poor Mental Health[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		13.8 (13.7, 13.9)			11.9 (11.8, 12.0)	
US Weighted		12.55			13.28	
Michigan (2023)	14.0 (13.0, 14.9)	11.3 (10.4, 12.4)	14.1 (13.3, 14.9)	17.1 (16.0, 18.3)	15.8 (14.7, 17.0)	13.4 (12.6, 14.3)
Upper Peninsula (MiBRFS 2021-2023)	13.5 (11.0, 16.5)	16.8 (13.8, 20.4)		15.5 (12.8, 18.6)	11.8 (9.3, 14.7)	
Upper Peninsula	22.0 (18.8, 25.2)	15.2 (12.6, 17.8)	17.3 (15.0, 19.7)	22.7 (19.4, 25.9)	16.3 (13.3, 19.3)	15.0 (12.6, 17.4)
Alger	26.5 (15.0, 38.1)	19.4 (12.3, 26.5)	15.0 (9.7, 20.4)	16.2 (9.1, 23.3)	15.5 (9.0, 22.1)	18.9 (11.9, 25.9)
Baraga	31.9 (21.1, 42.6)	17.3 (10.0, 24.6)	20.1 (12.1, 28.2)	29.5 (19.1, 39.8)	13.3 (7.9, 18.8)	13.9 (8.3, 19.6)
Chippewa	25.7 (15.4, 36.0)	15.9 (9.0, 22.9)	21.7 (12.6, 30.9)	26.3 (15.1, 37.4)	14.2 (7.0, 21.5)	27.2 (15.5, 38.8)
Delta	23.1 (12.3, 33.8)	9.0 (1.4, 16.6)	18.0 (9.9, 26.1)	21.7 (12.2, 31.2)	10.0 (1.4, 18.5)	10.6 (6.4, 14.9)
Dickinson	25.0 (15.2, 34.9)	22.4 (13.3, 31.6)	16.2 (10.0, 22.4)	16.9 (8.7, 25.2)	24.1 (13.8, 34.3)	10.7 (6.4, 15.0)
Gogebic	19.0 (12.8, 25.2)	31.0 (14.2, 47.8)	22.6 (15.1, 30.1)	16.5 (10.9, 22.0)	27.7 (10.3, 45.1)	16.7 (9.6, 23.8)
Houghton/Keweenaw	17.1 (7.5, 26.7)	15.7 (9.1, 22.3)	12.8 (8.4, 17.1)	18.9 (10.7, 27.1)	17.2 (9.3, 25.0)	8.7 (5.1, 12.2)
Iron	25.1 (14.3, 35.8)	23.1 (14.9, 31.3)	22.5 (15.9, 30.8)	26.4 (14.8, 37.9)	16.1 (9.3, 22.9)	16.9 (10.0, 23.7)
Luce	30.8 (22.5, 39.0)	17.9 (11.9, 23.9)	23.1 (15.4, 30.8)	28.6 (20.3, 36.8)	25.2 (15.0, 35.4)	17.6 (11.3, 23.9)
Mackinac	20.9 (12.0, 29.9)	16.9 (9.4, 24.3)	13.3 (6.4, 20.1)	28.3 (18.0, 38.7)	10.8 (5.9, 15.8)	6.7 (2.7, 10.7)
Marquette	17.6 (8.9, 26.3)	7.8 (4.4, 11.3)	14.5 (9.0, 20.1)	23.8 (13.9, 33.6)	17.6 (10.7, 24.5)	14.8 (8.3, 21.4)
Menominee	23.2 (14.3, 32.0)	18.8 (10.9, 26.8)	20.3 (10.2, 30.4)	25.9 (16.6, 35.2)	14.2 (7.7, 20.8)	16.5 (9.2, 23.9)
Ontonagon	31.9 (24.1, 39.6)	19.4 (13.2, 25.6)	18.0 (14.0, 22.1)	26.1 (18.6, 33.5)	11.0 (6.6, 15.5)	14.6 (10.6, 18.7)
Schoolcraft	24.3 (15.5, 33.0)	19.9 (12.8, 27.0)	20.0 (13.3, 26.7)	23.6 (15.3, 32.0)	16.9 (10.7, 23.1)	23.7 (12.0, 35.5)
[a] Among all adults, the proportion who reported 14 or more days of fair or poor physical health, which includes illness and injury, during the past 30 days.						
[b] Among all adults, the proportion who reported 14 or more days of fair or poor mental health, which includes stress, depression, and problems with emotions during the past 30 days.						

Table 13-20B: Health Status on at Least 14 Days in Past Month by Population Group						
	Poor Physical Health[a]			Poor Mental Health[b]		
	2024	2021	2017	2024	2021	2017
		% (95%C.I.)			% (95%C.I.)	
Upper Peninsula	22.0 (18.8, 25.2)	15.2 (12.6, 17.8)	17.3 (15.0, 19.7)	22.7 (19.4, 25.9)	16.3 (13.3, 19.3)	15.0 (12.6, 17.4)
Age						
18-39	13.6 (7.2, 20.1)	6.3 (1.9, 10.8)	10.1 (5.3, 14.9)	24.5 (16.7, 32.3)	16.4 (8.9, 23.9)	16.0 (9.9, 22.1)
40-65	27.9 (22.8, 33.0)	19.3 (15.9, 22.6)	19.8 (16.4, 23.2)	25.3 (20.6, 30.0)	18.1 (14.7, 21.5)	15.3 (12.6, 18.0)
65+	24.4 (21.0, 27.9)	21.4 (18.5, 24.2)	22.8 (19.8, 25.8)	15.4 (12.9, 18.0)	13.4 (11.0, 15.7)	12.0 (9.8, 14.3)
Gender						
Male	43.5 (5.3, 81.8)	16.4 (11.5, 21.2)	16.5 (12.9, 20.1)	12.1 (0.0, 28.0)	13.2 (8.4, 17.9)	13.8 (10.0, 17.5)
Female	56.5 (18.2, 94.7)	14.0 (11.7, 16.4)	18.1 (15.2, 21.1)	87.9 (72.0, 100.0)	19.3 (16.1, 22.5)	16.1 (13.1, 19.1)
Educational Attainment						
Less than 12th grade	48.8 (31.4, 66.2)	49.2 (31.2, 67.2)	49.2 (35.8, 62.6)	*35.4 (19.9, 50.8)*	31.7 (15.7, 47.7)	31.9 (19.5, 44.4)
High School Graduate	27.3 (21.0, 33.6)	21.4 (14.3, 28.6)	19.2 (15.5, 22.9)	24.3 (18.3, 30.4)	18.8 (12.0, 25.6)	15.0 (11.8, 18.2)
1-3 years of college	19.0 (14.9, 23.2)	12.5 (9.4, 15.5)	12.5 (9.7, 15.4)	21.8 (16.7, 27.0)	18.3 (13.7, 23.0)	14.6 (10.1, 19.1)
4-year degree or higher		5.5 (3.8, 7.3)	5.2 (3.6, 6.7)		7.8 (4.9, 10.7)	5.1 (3.2, 7.0)
Household Income						
Less than $25,000	35.1 (27.1, 43.2)	29.2 (15.4, 43.0)	32.9 (27.1, 38.7)	32.0 (24.4, 39.6)	30.8 (16.1, 45.4)	29.0 (23.1, 34.9)
$25,000 to $49,999	18.6 (14.3, 22.9)	16.1 (12.4, 19.7)	19.9 (14.9, 24.9)	20.4 (14.9, 25.9)	16.3 (12.0, 20.6)	15.0 (10.8, 19.2)
$50,000 or higher	9.7 (6.9, 12.5)	8.3 (6.0, 10.7)	7.1 (5.2, 9.0)	13.0 (9.9, 16.2)	10.0 (7.0, 12.9)	6.5 (3.7, 9.2)
[a] Among all adults, the proportion who reported 14 or more days of fair or poor physical health, which includes illness and injury, during the past 30 days.						
[b] Among all adults, the proportion who reported 14 or more days of fair or poor mental health, which includes stress, depression, and problems with emotions during the past 30 days.						

Table 13-21A: Activity Limitation on at Least 14 Days in Past Month by County			
	Activity Limitation[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
US Raw			
US Weighted			
Michigan (2023)	11.3 (10.4, 12.2)	9.1 (8.3, 10.1)	9.7 (9.0, 10.4)
Upper Peninsula (MiBRFS 2021-2023)	9.8 (7.6, 12.6)		
Upper Peninsula	16.4 (13.5, 19.3)	10.3 (8.1, 12.6)	13.8 (11.2, 16.4)
Alger	16.1 (8.8, 23.4)	15.4 (8.3, 22.5)	12.3 (5.6, 19.0)
Baraga	22.0 (12.6, 31.3)	9.6 (4.7, 14.4)	14.1 (8.0, 20.2)
Chippewa	17.6 (8.6, 26.5)	9.2 (3.4, 15.1)	17.4 (7.3, 27.5)
Delta	17.4 (7.6, 27.2)	7.2 (0.4, 13.9)	11.0 (1.8, 20.2)
Dickinson	12.4 (4.9, 19.8)	15.4 (6.5, 24.3)	10.3 (4.6, 16.1)
Gogebic	15.0 (9.4, 20.6)	23.6 (5.9, 41.3)	14.0 (7.6, 20.5)
Houghton/Keweenaw	14.4 (7.1, 21.6)	11.2 (5.4, 17.0)	8.0 (4.1, 11.9)
Iron	18.7 (7.8, 29.7)	9.0 (4.8, 13.3)	19.9 (12.9, 26.9)
Luce	23.6 (15.1, 32.2)	18.0 (9.5, 26.5)	16.3 (8.9, 23.7)
Mackinac	15.4 (8.1, 22.8)	9.2 (3.5, 14.9)	14.4 (5.7, 23.2)
Marquette	12.9 (4.6, 21.3)	7.6 (3.9, 11.3)	15.4 (8.5, 22.4)
Menominee	22.4 (13.2, 31.7)	7.1 (3.2, 11.1)	17.5 (5.3, 29.7)
Ontonagon	23.2 (16.1, 30.3)	9.2 (5.5, 13.0)	11.6 (7.8, 15.4)
Schoolcraft	23.8 (14.8, 32.8)	14.8 (8.5, 21.2)	16.3 (8.9, 23.7)
[a] Among all adults, the proportion who reported 14 or more days in the past 30 days in which either poor physical or poor mental health kept respondents from doing their usual activities.			

Table 13-21B: Activity Limitation on at Least 14 Days in Past Month by Population Group			
	Activity Limitation[a]		
	2024	2021	2017
		% (95%C.I.)	
Upper Peninsula	16.4 (13.5, 19.3)	10.3 (8.1, 12.6)	13.8 (11.2, 16.4)
Age			
18-39	11.9 (6.1, 17.7)	6.5 (1.8, 11.2)	9.5 (4.3, 14.8)
40-65	20.5 (15.9, 25.2)	12.6 (9.7, 15.6)	16.7 (12.9, 20.6)
65+	15.1 (11.8, 18.5)	12.1 (10.0, 14.3)	14.6 (11.8, 17.4)
Gender			
Male	54.5 (18.4, 90.7)	9.8 (5.8, 13.7)	14.7 (10.1, 19.3)
Female	45.5 (9.3, 81.6)	10.8 (8.7, 12.9)	13.0 (10.1, 15.5)
Educational Attainment			
Less than 12th grade	46.7 (29.2, 64.2)	28.5 (13.3, 43.6)	31.2 (17.4, 44.9)
High School Graduate	17.7 (12.6, 22.9)	14.8 (8.9, 20.7)	14.3 (10.4, 18.3)
1-3 years of college	15.0 (11.1, 18.9)	8.5 (6.2, 10.8)	11.8 (7.6, 16.0)
4-year degree or higher		3.7 (2.2, 5.1)	5.3 (2.8, 7.8)
Household Income			
Less than $25,000	28.4 (21.2, 35.6)	21.3 (10.5, 32.1)	26.9 (20.5, 33.2)
$25,000 to $49,999	12.4 (8.4, 16.4)	9.7 (6.7, 12.8)	14.6 (8.9, 20.2)
$50,000 or higher	5.7 (3.4, 8.1)	5.4 (3.3, 7.6)	5.0 (3.2, 6.9)
[a] Among all adults, the proportion who reported 14 or more days in the past 30 days in which either poor physical or poor mental health kept respondents from doing their usual activities.			

Table 13-22A: Disability by County						
	Any Disability[a]			Any Activity Limitation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Michigan (2023)	30.9 (29.7, 32.3)	ND	26.7 (25.7, 27.8)	ND	ND	24.3 (23.3, 25.2)
Upper Peninsula	37.6 (33.7, 41.6)	27.7 (23.7, 31.8)	29.1 (26.2, 32.0)	36.3 (32.3, 40.1)	26.4 (22.5, 30.3)	27.7 (24.8, 30.6)
Alger	37.1 (26.0, 48.2)	29.5 (21.4, 37.7)	33.0 (25.6, 40.5)	36.1 (24.9, 47.3)	28.2 (20.1, 36.2)	32.0 (24.7, 39.4)
Baraga	39.3 (28.6, 50.1)	27.7 (19.0, 36.3)	26.8 (17.9, 35.7)	38.6 (27.8, 49.5)	26.4 (17.9, 34.9)	26.4 (17.5, 35.2)
Chippewa	37.7 (26.1, 49.2)	22.8 (14.3, 31.3)	34.9 (24.2, 45.6)	37.4 (25.9, 48.9)	22.1 (13.6, 30.5)	33.2 (22.6, 43.7)
Delta	32.1 (19.3, 44.8)	19.8 (5.3, 34.2)	33.2 (23.9, 42.5)	30.5 (18.0, 43.0)	18.5 (4.8, 32.3)	29.7 (20.6, 38.8)
Dickinson	39.1 (29.3, 49.0)	32.8 (23.3, 42.3)	28.0 (20.2, 35.8)	34.9 (25.3, 44.5)	30.8 (21.4, 40.3)	26.5 (19.3, 33.6)
Gogebic	34.1 (26.2, 42.0)	33.0 (22.0, 43.9)	27.8 (20.5, 35.1)	31.4 (23.8, 38.9)	29.9 (19.5, 40.2)	26.4 (19.3, 33.6)
Houghton/Keweenaw	35.1 (23.5, 46.7)	27.4 (18.2, 36.5)	26.0 (16.2, 35.9)	34.2 (22.5, 45.8)	24.9 (16.2, 33.5)	25.0 (15.1, 34.9)
Iron	42.8 (32.5, 53.1)	30.3 (21.6, 38.9)	35.0 (27.4, 42.6)	40.3 (30.0, 50.7)	26.9 (19.0, 34.8)	32.1 (24.8, 39.4)
Luce	46.7 (38.0, 55.4)	34.1 (26.2, 42.1)	39.9 (31.0, 48.8)	42.8 (34.1, 51.5)	32.7 (25.0, 40.5)	38.5 (29.6, 47.4)
Mackinac	36.1 (26.1, 46.1)	29.7 (21.3, 38.1)	26.6 (18.1, 35.0)	35.5 (25.5, 45.6)	28.4 (20.0, 36.7)	25.7 (17.3, 34.0)
Marquette	41.2 (30.2, 52.1)	29.4 (20.0, 38.9)	23.9 (17.3, 30.6)	40.0 (29.0, 51.0)	29.0 (19.6, 38.5)	23.6 (17.0, 30.2)
Menominee	38.0 (26.4, 49.6)	31.7 (21.8, 41.6)	28.5 (18.3, 38.8)	37.0 (25.3, 48.7)	31.3 (21.4, 41.1)	26.8 (16.6, 37.0)
Ontonagon	44.9 (36.6, 53.2)	36.3 (28.1, 44.4)	28.5 (23.3, 33.7)	44.7 (36.4, 53.1)	34.5 (26.4, 42.7)	27.3 (22.1, 32.4)
Schoolcraft	36.0 (26.4, 45.6)	29.9 (21.2, 38.5)	40.0 (29.5, 50.5)	33.9 (24.6, 43.3)	28.9 (20.3, 37.4)	37.5 (26.8, 48.2)

[a] Among all adults, the proportion who reported being limited in any activity because of physical, mental, or emotional problems, or reported they required use of special equipment (such as cane, wheelchair, a special bed, or a special telephone) due to a health problem.

[b] Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems.

Table 13-22B: Disability by Population Group						
	Any Disability[a]			Any Activity Limitation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	37.6 (33.7, 41.6)	27.7 (23.7, 31.8)	29.1 (26.2, 32.0)	36.3 (32.3, 40.1)	26.4 (22.5, 30.3)	27.7 (24.8, 30.6)
Age						
18, 39	27.9 (16.6, 37.2)	16.0 (7.9, 24.1)	16.2 (9.6, 22.8)	27.2 (17.9, 36.5)	15.5 (7.5, 23.5)	15.7 (9.1, 22.2)
40, 65	42.6 (37.5, 47.7)	30.7 (26.5, 34.8)	33.4 (29.6, 37.2)	42.1 (37.0, 47.3)	29.7 (25.6, 33.9)	32.3 (28.5, 36.1)
65+	42.4 (38.7, 46.1)	39.5 (36.2, 42.7)	38.9 (35.6, 42.1)	38.7 (35.1, 42.4)	36.4 (33.2, 39.6)	35.5 (32.3, 38.7)
Gender						
Male	41.4 (34.1, 48.7)	29.0 (21.5, 36.5)	31.7 (26.6, 36.7)	39.6 (32.4, 46.9)	28.1 (20.7, 35.5)	30.2 (25.2, 35.2)
Female	35.8 (31.1, 40.4)	26.5 (22.8, 30.1)	26.7 (32.7, 29.7)	34.4 (29.7, 39.0)	24.7 (21.1, 28.3)	25.3 (22.4, 28.3)
Educational Attainment						
Less than 12th grade	64.7 (49.7, 79.6)	44.3 (27.5, 61.1)	47.9 (34.6, 61.1)	63.2 (48.1, 78.4)	38.1 (22.3, 53.9)	45.4 (32.3, 58.5)
High School Graduate	42.8 (34.8, 50.9)	32.9 (22.8, 42.9)	31.7 (26.7, 36.7)	41.0 (33.0, 49.0)	31.8 (22.0, 41.6)	29.9 (25.0, 34.9)
1, 3 years of college	35.6 (29.3, 42.0)	27.7 (22.6, 32.7)	27.0 (22.4, 31.7)	34.2 (27.9, 40.6)	26.1 (21.1, 31.0)	26.2 (21.6, 30.7)
4-year degree or higher	26.4 (20.0, 32.8)	18.1 (12.3, 23.9)	15.4 (12.5, 18.4)	25.7 (19.3, 32.1)	17.3 (11.6, 23.1)	13.9 (11.2, 16.7)
Household Income						
Less than $25,000	55.3 (45.7, 64.9)	38.8 (21.4, 56.2)	47.0 (40.6, 53.3)	53.6 (44.1, 63.2)	36.9 (20.2, 53.5)	44.8 (38.5, 51.1)
$25,000 to $49,999	34.6 (28.9, 40.4)	32.6 (26.3, 38.8)	34.4 (28.2, 40.5)	32.8 (27.1, 38.5)	31.7 (25.5, 38.0)	33.1 (27.0, 39.3)
$50,000 or higher	19.9 (16.5, 23.2)	20.1 (15.7, 24.5)	15.1 (12.2, 18.1)	19.1 (15.8, 22.4)	18.9 (14.5, 23.2)	14.0 (11.2, 16.8)

[a] Among all adults, the proportion who reported being limited in any activity because of physical, mental, or emotional problems, or reported they required use of special equipment (such as cane, wheelchair, a special bed, or a special telephone) due to a health problem.

[b] Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems.

Table 13-23A: Use of Special Equipment by County

	Uses Special Equipment[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Michigan (2023)	ND	ND	10.7 (10.0, 11.4)
Upper Peninsula	15.9 (13.2, 18.6)	9.9 (8.1, 11.7)	10.1 (8.6, 11.7)
Alger	15.0 (9.1, 20.8)	14.9 (8.2, 21.7)	8.5 (5.1, 11.9)
Baraga	26.0 (15.8, 36.2)	11.0 (4.7, 17.3)	8.4 (4.6, 12.1)
Chippewa	9.7 (4.7, 14.7)	9.5 (4.4, 14.7)	12.1 (7.0, 17.1)
Delta	15.7 (7.8, 23.6)	7.9 (1.6, 14.2)	10.7 (6.2, 15.1)
Dickinson	17.7 (10.7, 24.7)	8.8 (4.7, 12.9)	10.3 (5.9, 16.7)
Gogebic	12.2 (7.0, 17.4)	13.9 (7.8, 20.1)	7.8 (4.0, 11.6)
Houghton/Keweenaw	10.9 (6.1, 15.7)	10.5 (5.0, 16.0)	7.9 (4.6, 11.2)
Iron	19.8 (13.0, 26.6)	14.4 (7.9, 20.9)	20.7 (14.4, 27.0)
Luce	26.1 (18.5, 33.6)	16.2 (10.8, 21.6)	12.7 (8.3, 17.2)
Mackinac	13.3 (7.5, 19.0)	16.0 (8.6, 23.4)	7.9 (4.3, 11.4)
Marquette	17.1 (8.5, 25.7)	5.9 (2.7, 9.2)	7.9 (3.9, 11.9)
Menominee	25.6 (12.5, 38.8)	11.9 (5.8, 18.1)	13.0 (3.9, 22.1)
Ontonagon	17.3 (11.9, 22.7)	13.1 (9.0, 17.2)	11.3 (8.0, 14.5)
Schoolcraft	16.0 (8.6, 23.4)	16.2 (10.2, 22.3)	13.7 (8.9, 18.5)

[a] Among all adults, the proportion who reported they required use of special equipment (such as cane, wheelchair, a special bed, or a special telephone) due to a health problem.

Table 13-23B: Use of Special Equipment by Population Group			
	Uses Special Equipment[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	15.9 (13.2, 18.6)	9.9 (8.1, 11.7)	10.1 (8.6, 11.7)
Age			
18, 39	7.8 (2.2, 13.5)	1.3 (0.0, 2.8)	4.6 (1.2, 7.9)
40, 65	16.1 (12.2, 20.1)	11.5 (8.6, 14.4)	9.2 (7.1, 11.2)
65+	25.7 (22.1, 29.2)	19.6 (17.0, 22.2)	19.8 (17.2, 22.3)
Gender			
Male	17.5 (11.8, 23.2)	9.8 (6.7, 12.9)	9.9 (7.4, 12.4)
Female	14.8 (11.9, 17.7)	9.9 (8.0, 11.9)	10.4 (8.5, 12.3)
Educational Attainment			
Less than 12th grade	18.1 (7.3, 28.9)	30.3 (15.8, 44.8)	15.7 (9.1, 22.2)
High School Graduate	21.1 (15.3, 26.8)	12.5 (8.0, 16.9)	12.7 (9.6, 15.8)
1, 3 years of college	14.6 (11.1, 18.1)	8.9 (6.5, 11.3)	8.3 (6.1, 10.5)
4-year degree or higher	9.9 (4.3, 15.6)	5.1 (3.6, 6.7)	4.9 (3.4, 6.3)
Household Income			
Less than $25,000	23.4 (16.8, 29.9)	15.4 (8.0, 22.8)	19.4 (15.1, 23.7)
$25,000 to $49,999	17.5 (13.1, 21.9)	11.8 (8.5, 15.2)	12.4 (9.0, 15.8)
$50,000 or higher	5.8 (4.1, 7.4)	6.2 (4.3, 8.1)	3.6 (2.4, 4.9)
[a] Among all adults, the proportion who reported they required use of special equipment (such as cane, wheelchair, a special bed, or a special telephone) due to a health problem.			

Table 13-24A: Health Care Access by County						
	No Health Insurance Age 18-64[a]			No Personal Health Provider[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
US Raw		7.8 (7.7, 7.99)			16.9 (16.8, 17.0)	
US Weighted		12.3			23.2	
Michigan (2023)	5.9 (5.1, 6.9)	8.4 (7.3, 9.6)	9.9 (9.0, 10.8)	12.0 (11.0, 13.1)	14.5 (13.3, 15.7)	14.8 (13.9, 15.7)
Upper Peninsula (MiBRFS 2021-2023)	4.6 (2.9, 7.2)	13.6 (10.2, 17.9)		13.8 (10.4, 18.1)	13.7 (10.9, 17.0)	
Upper Peninsula	7.6 (5.1, 10.1)	4.4 (2.3, 6.5)	7.0 (4.6, 9.4)	12.2 (9.7, 14.6)	11.3 (8.4, 14.3)	14.1 (11.5, 16.8)
Alger	6.0 (0.0, 12.7)	5.0 (0.3, 9.8)	5.8 (1.3, 10.3)	10.6 (5.0, 16.2)	11.5 (6.2, 16.8)	15.9 (10.0, 21.7)
Baraga	6.3 (0.0, 14.1)	9.3 (0.0, 22.3)	8.5 (0.0, 17.3)	12.1 (5.1, 19.1)	18.9 (8.3, 29.4)	16.0 (4.3, 27.6)
Chippewa	9.3 (0.3, 18.2)	1.9 (0.0, 4.0)	5.8 (0.0, 13.2)	15.0 (5.0, 25.0)	5.4 (0.4, 10.4)	18.9 (7.1, 30.7)
Delta	11.8 (2.6, 21.1)	2.6 (0.0, 8.4)	4.4 (0.7, 8.1)	7.8 (2.5, 13.1)	6.1 (0.1, 12.1)	5.7 (2.5, 8.9)
Dickinson	3.7 (0.0, 9.6)	12.1 (3.8, 20.3)	1.0 (0.0, 2.2)	3.8 (0.0, 7.9)	11.2 (2.3, 20.2)	10.4 (3.2, 17.6)
Gogebic	8.5 (2.0, 15.0)	2.3 (0.0, 5.5)	7.1 (1.3, 12.8)	9.2 (4.5, 13.9)	25.8 (6.9, 44.7)	18.5 (11.7, 25.3)
Houghton/Keweenaw	2.5 (0.2, 4.9)	7.5 (0.0, 19.1)	14.7 (3.9, 25.5)	22.3 (11.9, 32.7)	9.0 (0.0, 18.2)	9.2 (4.7, 13.7)
Iron	4.7 (0.0, 10.2)	3.6 (0.0, 7.7)	9.9 (1.1, 18.6)	9.9 (4.1, 15.7)	20.1 (8.6, 31.5)	21.4 (11.6, 31.1)
Luce	5.6 (0.0, 12.6)	8.1 (0.0, 17.9)	3.8 (0.0, 10.2)	11.6 (4.7, 18.6)	7.1 (1.7, 12.5)	11.1 (4.8, 17.5)
Mackinac	7.1 (1.5, 12.7)	3.8 (0.0, 8.4)	8.0 (1.9 14.2)	15.0 (7.4, 22.6)	17.0 (7.3, 26.6)	19.7 (11.6, 27.7)
Marquette	8.8 (1.0, 16.5)	2.6 (0.0, 5.2)	8.0 (1.9 14.2)	9.6 (4.5, 14.7)	13.5 (5.3, 21.8)	19.7 (11.6, 27.7)
Menominee	9.3 (1.3, 17.4)	2.5 (0.0, 6.2)	5.8 (0.7, 10.8)	13.0 (6.3, 19.8)	12.5 (4.1, 21.0)	11.2 (4.9, 17.5)
Ontonagon	15.3 (0.9, 29.7)	3.8 (0.0, 8.1)	7.8 (3.2, 12.5)	24.0 (14.4, 33.6)	15.3 (8.9, 21.7)	19.3 (11.9, 26.7)
Schoolcraft	6.6 (0.9, 12.3)	6.3 (1.4, 11.1)	3.0 (0.0, 6.8)	10.5 (4.8, 16.2)	7.4 (3.6, 11.1)	7.5 (3.0, 12.0)
[a] Among adults 18, 64 years, the proportion who reported having no health insurance of any type.						
[b] Among all adults, the proportion who reported they did not have anyone they thought of as their personal doctor or health care provider.						

[c] Cumulative estimate for the counties surveyed.

Table 13-24B: Health Care Access by Population Group						
	No Health Insurance Age 18-64[a]			No Personal Health Provider[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	7.6 (5.1, 10.1)	4.4 (2.3, 6.5)	7.0 (4.6, 9.4)	12.2 (9.7, 14.6)	11.3 (8.4, 14.3)	14.1 (11.5, 16.8)
Age						
18-39	7.5 (4.6, 10.3)	4.4 (0.3, 8.6)	9.9 (4.7, 15.1)	21.9 (14.9, 29.0)	17.0 (8.6, 25.4)	24.3 (17.1, 31.6)
40-65	6.4 (4.9, 7.9)	4.4 (2.9, 5.9)	4.9 (3.5, 6.3)	9.0 (6.6, 11.5)	11.1 (8.2, 14.1)	11.2 (8.8, 13.7)
65+	—	—	—	4.7 (3.0, 6.3)	3.8 (2.8, 4.7)	5.5 (3.7, 7.4)
Gender						
Male	8.7 (3.8, 13.6)	6.2 (2.1, 10.4)	8.3 (4.3, 12.3)	18.0 (11.9, 24.0)	15.1 (9.2, 21.1)	16.7 (12.1, 21.3)
Female	7.1 (4.2, 10.1)	2.6 (1.2, 4.1)	5.8 (3.1, 8.5)	10.0 (7.5, 12.4)	7.7 (5.7, 9.7)	11.7 (8.9, 14.5)
Educational Attainment						
Less than 12th grade	6.4 (0.0, 13.8)	33.4 (1.6, 65.3)	5.0 (0.5, 9.4)	7.2 (0.5, 13.8)	6.5 (0.0, 15.4)	12.5 (5.2, 19.9)
High School Graduate	7.2 (3.4, 11.1)	4.3 (1.5, 7.2)	7.1 (4.0, 10.2)	8.0 (4.9, 11.1)	9.1 (4.6, 13.7)	15.1 (10.1, 20.1)
1-3 years of college	8.3 (4.0, 12.7)	2.3 (1.1, 3.5)	8.2 (3.1, 13.4)	14.2 (9.7, 18.7)	11.7 (7.4, 16.0)	13.8 (9.5, 18.1)
4-year degree or higher	7.5 (2.0, 13.0)	1.5 (0.6, 2.4)	4.8 (2.2, 7.4)	17.0 (10.9, 23.0)	12.2 (6.0, 18.4)	13.3 (9.4, 17.2)
Household Income						
Less than $25,000	8.1 (3.6, 12.6)	3.9 (0.9, 6.9)	10.6 (5.6, 15.6)	11.2 (6.4, 16.0)	10.4 (2.8, 18.0)	13.4 (9.4, 17.4)
$25,000 to $49,999	14.1 (7.2, 21.1)	13.4 (4.7, 22.1)	7.7 (3.7, 11.6)	13.7 (8.7, 18.7)	12.8 (7.3, 18.4)	14.1 (9.4, 18.8)
$50,000 or higher	3.0 (1.3, 4.6)	1.3 (0.6, 2.0)	4.9 (1.2, 8.6)	12.2 (9.1, 15.3)	11.3 (7.4, 15.1)	14.8 (10.0, 19.5)
[a] Among adults 18-64 years, the proportion who reported having no health insurance of any type.						
[b] Among all adults, the proportion who reported they did not have anyone they thought of as their personal doctor or health care provider.						

Table 13-25A: Health Care Barriers by County						
	Unable to Access Health Care in Past 12 Months due to Cost[a]			Unable to Access Health Care in Past 12 Months due to Lack of Transportation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
US Raw		10.6 (10.5, 10.7)				
US Weighted		13.4				
Michigan (2023)	9.2 (8.4, 10.1)	7.9 (7.1, 8.8)	12.8 (12.0, 13.6)			
Upper Peninsula (MiBRFS 2021-2023)	9.5 (6.8, 13.2)	10.0 (7.7, 13.0)				
Upper Peninsula	12.7 (10.3, 15.0)	8.0 (5.8, 10.1)	15.8 (12.8, 18.8)	8.8 (6.5, 11.1)	4.6 (3.0, 6.3)	4.8 (3.3, 6.3)
Alger	4.4 (1.0, 7.8)	11.0 (4.2, 17.8)	7.3 (3.7, 10.9)	9.5 (0.0, 20.6)	4.3 (0.9, 7.8)	5.5 (1.0, 10.1)
Baraga	14.8 (5.9, 23.7)	10.5 (3.7, 17.2)	14.2 (7.6, 20.7)	12.2 (3.8, 20.6)	2.7 (0.4, 5.1)	8.8 (0.0, 19.5)
Chippewa	11,4 (4.6, 18.2)	10.9 (1.9, 19.9)	8.2 (0.9, 15.5)	10.9 (3.4, 18.4)	5.2 (0.5, 10.0)	10.5 (2.0, 19.1)
Delta	14.3 (6.6, 22.1)	1.9 (0.0, 4.1)	13.9 (4.8, 23.0)	7.0 (1.5, 12.5)	2.3 (0.0, 5.5)	2.2 (0.5, 5.5)
Dickinson	14.4 (6.5, 22.4)	9.8 (4.1, 15.5)	13.3 (6.9, 19.8)	6.8 (1.2, 12.4)	2.4 (0.02, 4.9)	3.0 (0.5, 5.5)
Gogebic	13.2 (7.0, 19.4)	4.8 (1.3, 8.3)	13.3 (7.4, 19.2)	9.8 (4.2, 15.4)	4.2 (1.3, 7.1)	3.3 (1.0, 5.6)
Houghton/Keweenaw	16.6 (9.2, 24.0)	9.6 (3.0, 16.1)	19.0 (10.0, 28.1)	4.4 (0.4, 8.4)	6.4 (1.0, 11.8)	3.5 (0.8, 6.1)
Iron	11.1 (5.2, 16.9)	8.5 (3.9, 13.1)	21.8 (14.2, 29.4)	16.0 (5.1, 26.9)	11.1 (4.4, 17.8)	6.2 (2.8, 9.5)
Luce	13.7 (7.5, 19.8)	8.8 ()2.4, 15.1)	10.8 (6.0, 15.6)	8.9 (3.2, 14.5)	4.6 (2.0, 7.3)	10.7 (3.7, 17.7)
Mackinac	9.1 (4.4, 13.8)	9.7 (2.8, 16.7)	21.3 (7.0, 35.5)	7.5 (2.1, 12.8)	2.9 (0.8, 5.1)	5.0 (0.7, 9.2)
Marquette	9.6 (3.4, 15.9)	8.1 (2.4, 13.7)	19.9 (11.2, 28.6)	7.3 (1.0, 13.5)	5.2 (0.0, 10.6)	4.6 (0.4, 8.8)
Menominee	13.0 (6.5, 19.5)	9.3 (3.6, 15.0)	19.0 (8.8, 29.2)	18.3 (5.2, 31.5)	6.0 (1.4, 10.6)	3.0 (0.2, 5.7)
Ontonagon	17.2 (11.0, 23.5)	9.3 (3.0, 15.6)	12.3 (8.3, 16.3)	11.1 (5.8, 16.5)	3.6 (1.9, 5.4)	5.1 (2.5, 7.6)
Schoolcraft	14.8 (5.9, 23.7)	6.4 (2.6, 10.2)	9.4 (4.4, 14.4)	6.6 (1.9, 11.3)	2.9 (0.5, 5.2)	3.7 (1.5, 5.9)
[a] Among all adults, the proportion who reported they could not see a doctor when they needed in the past 12 months due to cost.						

[b] Among all adults, the proportion who reported they could not see a doctor when they needed in the past 12 months due to lack of transportation. This question is not part of the statewide BRFS.

Table 13-25B: Health Care Barriers by Population Group						
	Unable to Access Health Care in Past 12 Months due to Cost[a]			Unable to Access Health Care in Past 12 Months due to Lack of Transportation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% C.I.)	% (95% C.I.)		% (95% C.I.)	% (95% C.I.)	
Upper Peninsula	12.7 (10.3, 15.0)	8.0 (5.8, 10.1)		8.8 (6.5, 11.1)	4.6 (3.0, 6.3)	
Age						
18-39	17.0 (11.1, 23.0)	9.7 (4.1, 15.4)	24.8 (17.0-32.7)	11.0 (5.4, 16.5)	4.5 (0.6, 8.4)	6.1 (1.9-10.4)
40-65	13.3 (10.2, 16.5)	10.2 (7.6, 12.8)	15.3 (12.2-18.4)	8.1 (5.1, 11.1)	5.7 (3.5, 8.0)	4.7 (3.4-6.0)
65+	5.6 (3.6, 7.7)	2.2 (1.3, 3.1)	3.8 (2.4-5.1)	6.7 (3.9, 9.6)	0.6 (2.0, 4.3)	2.7 (1.6-3.7)
Gender						
Male		6.3 (3.2, 9.4)	15.6 (10.5-20.7)		5.5 (2.5, 8.5)	3.6 (2.0-5.3)
Female	13.6 (10.8, 16.4)	9.6 (6.7, 12.5)	15.9 (12.7-19.1)	9.9 (6.9, 12.9)	3.8 (2.3, 5.4)	5.9 (3.5-8.4)
Educational Attainment						
Less than 12th grade	11.2 (2.5, 19.8)	16.1 (2.5, 29.8)	16.4 (4.9-27.9)	37.2 (20.3, 54.0)	16.7 (4.8, 28.6)	15.7 (5.5-25.8)
High School Graduate	12.3 (8.3, 16.3)	8.6 (4.8, 12.4)	18.4 (13.1-23.6)	10.5 (5.6, 15.4)	4.3 (2.2, 6.5)	4.8 (2.8-6.7)
1-3 years of college	14.6 (10.5, 18.7)	9.2 (4.9, 13.6)	15.4 (10.4-20.3)	6.9 (4.2, 9.7)	5.9 (2.2, 9.7)	3.5 (1.1-5.9)
4-year degree or higher	10.7 (5.9, 15.6)	4.3 (2.5, 6.1)	9.3 (6.0-12.6)	1.8 (0.5, 3.0)	1.7 (0.0, 3.7)	0.9 (0.4-1.5)
Household Income						
Less than $25,000	12.0 (7.7, 16.3)	13.0 (5.2, 20.9)	19.2 (14.0-24.3)	16.5 (10.9, 22.1)	8.7 (3.8, 13.6)	13.0 (8.8-17.3)
$25,000 to $49,999	17.1 (12.0, 22.1)	12.1 (7.2, 17.0)	20.4 (14.6-26.2)	7.0 (3.4, 10.6)	7.1 (2.1, 12.1)	2.1 (0.08-4.1)
$50,000 or higher	9.1 (6.4, 11.7)	3.9 (2.2, 5.7)	11.3 (6.5-16.1)	1.3 (0.4, 2.2)	1.5 (0.2, 2.8)	1.6 (0.0-3.5)

[a] Among all adults, the proportion who reported they could not see a doctor when they needed in the past 12 months due to cost.

[b] Among all adults, the proportion who reported they could not see a doctor when they needed in the past 12 months due to lack of transportation. This question is not part of the statewide BRFS.

Table 13-26A: Most Recent Checkup by County					
		No Routine Checkup in Past 12 Months[a]			
	2024	2021	2017	2015	2012
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		20.2			
US Weighted		24.3			
Michigan (2023)	18.4 (17.3, 19.5)	23.4 (22.1, 24.8)	26.9 (25.9, 28.0)	28.2 27.0, 29.5	33.5 32.2, 34.9
Upper Peninsula (MiBRFS 2021-2023)	20.4 (17.1, 24.1)	21.0 (17.7, 24.8)			
Upper Peninsula	22.1 (18.5, 25.8)	24.0 (19.7, 28.3)	25.9 (22.8, 29.1)	29.8 (29.6, 30.0) [b]	39.8 (35.8, 44.0) [b]
Alger	11.9 (5.7, 18.1)	21.3 (14.3, 28.3)	29.2 (20.6, 37.8)		
Baraga	13.4 (6.5, 20.3)	26.3 (15.8, 36.8)	34.0 (23.3, 44.8)	29.1 (28.3, 30.0)	37.3 (30.9, 44.2)
Chippewa	23.9 (12.9, 34.9)	27.9 (16.8, 39.0)	30.6 (17.6, 43.7)		
Delta	23.3 (13.0, 33.6)	19.0 (4.0, 33.9)	19.8 (13.4, 26.2)		
Dickinson	11.6 (4.8, 18.5)	15.9 (6.5, 25.2)	17.0 (9.7, 24.3)		
Gogebic	24.0 (15.8, 32.3)	30.0 (13.1, 47.0)	32.9 (24.6, 41.1)	30.7 (30.0, 31.3)	39.9 (33.5, 46.6)
Houghton/Keweenaw	38.1 (25.8, 50.4)	26.2 (13.7, 38.7)	21.4 (12.6, 30.2)	30.8 (30.4, 31.2)	39.6 (33.1, 46.5)
Iron	24.4 (13.4, 35.4)	24.1 (15.4, 32.7)	28.8 (19.5 38.2)	26.6 (25.9, 27.3)	
Luce	21.4 (13.3, 29.5)	17.0 (8.8, 25.2)	21.0 (12.4, 29.7)		
Mackinac	17.2 (9.8, 24.7)	24.8 (15.2, 34.4)	31.2 (20.5, 43.9)		
Marquette	16.5 (7.2, 25.9)	27.2 (16.7, 37.7)	28.5 (20.2, 36.9)		
Menominee	21.6 (9.4, 33.8)	24.2 (14.2, 34.3)	27.5 (14.5, 40.4)		
Ontonagon	28.5 (19.0, 37.9)	27.5 (19.7, 35.3)	32.6 (25.3, 39.8)	24.7 (23.8, 25.6)	43.7 (38.4 49.2)
Schoolcraft	16.7 (7.4, 25.9)	12.8 (7.5, 18.1)	18.3 (11.4, 25.2)		
[a] Among all adults, the proportion who reported they did not have a routine checkup in the past year.					

[b] Cumulative estimate for the counties surveyed.

Table 13-26B: Most Recent Checkup by Population Group			
	No Routine Checkup in Past 12 Months[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	22.1 (18.5, 25.8)	24.0 (19.7, 28.3)	25.9 (22.8, 29.1)
Age			
18-39	38.5 (28.6, 48.3)	32.1 (19.7, 44.5)	40.2 (31.8, 48.5)
40-65	17.3 (13.8, 20.8)	25.3 (21.1, 29.4)	23.2 (20.1, 26.3)
65+	8.5 (6.7, 10.3)	10.9 (8.7, 13.1)	11.3 (8.8, 13.8)
Gender			
Male	24.5 (17.2, 31.9)	28.0 (19.7, 36.2)	26.3 (21.1, 31.4)
Female	21.5 (17.3, 25.7)	20.2 (16.5, 23.8)	25.6 (21.9, 29.4)
Educational Attainment			
Less than 12th grade	21.9 (8.8, 34.9)	15.5 (3.4, 27.6)	24.7 (13.6, 35.8)
High School Graduate	18.5 (12.9, 24.0)	20.5 (12.6, 28.4)	25.9 (20.6, 31.1)
1-3 years of college	24.0 (17.4, 30.9)	25.1 (19.3, 30.9)	26.7 (21.0, 32.5)
4-year degree or higher	24.8 (17.2, 32.5)	26.8 (19.1, 34.6)	24.9 (20.2, 29.7)
Household Income			
Less than $25,000	24.3 (16.2, 32.4)	25.2 (11.9, 38.4)	27.4 (21.6, 33.2)
$25,000 to $49,999	23.4 (17.4, 29.4)	29.6 (21.5, 37.7)	24.9 (20.0, 29.9)
$50,000 or higher	18.4 (14.6, 22.1)	21.0 (16.3, 25.6)	25.8 (20.3, 31.4)

[a] Among all adults, the proportion who reported they did not have a routine checkup in the past year.

Table 13-27A: Oral Health Care Access by County						
	No Dental Care Past 12 Months[a]			No Dental Insurance[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Michigan (2023)	ND	30.8 (29.3, 32.2)	29.9 (28.8, 31.0)			27.0 (25.1, 29.1)
Upper Peninsula (MiBRFS 2021-2023)	ND	29.6 (22.1, 38.3)				
Upper Peninsula	36.5 (32.2, 40.8)	28.2 (24.0, 32.5)	31.8 (28.7, 34.9)	29.5 (25.3, 33.7)	28.1 (24.1, 32.1)	35.9 (32.9, 39.0)
Alger	31.4 (20.3, 42.4)	37.2 (28.2, 46.2)	35.5 (27.2, 43.8)	27.3 (16.3, 38.3)	31.1 (23.0, 39.3)	35.1 (27.7, 42.6)
Baraga	31.9 (21.6, 42.2)	32.6 (22.0, 43.2)	23.6 (15.4, 31.9)	22.9 (14.3, 31.5)	36.2 (26.1, 46.4)	33.6 (24.4, 42.7)
Chippewa	43.5 (31.2, 55.8)	35.1 (24.0, 46.8)	30.6 (20.4, 40.8)	25.1 (15.3, 34.9)	33.2 (21.2, 45.2)	25.7 (15.5, 35.9)
Delta	47.6 (30.3, 64.8)	14.8 (3.4, 26.3)	38.4 (28.3, 48.5)	42.3 (24.0, 60.7)	18.7 (5.2, 32.3)	38.6 (29.3, 47.8)
Dickinson	25.9 (16.5, 35.3)	23.9 (16.2, 31.5)	31.2 (22.3, 40.1)	25.0 (17.0, 32.9)	40.1 (30.8, 49.4)	43.7 (35.0, 52.4)
Gogebic	36.7 (28.4, 45.1)	36.7 (20.5, 52.8)	29.6 (22.2, 36.9)	35.0 (27.1, 42.8)	27.2 (18.1, 36.4)	42.7 (34.8, 50.7)
Houghton/Keweenaw	36.1 (25.4, 46.8)	26.9 (17.3, 36.6)	32.9 (23.5, 42.4)	31.6 (21.5, 41.7)	26.4 (15.6, 37.1)	38.8 (29.2, 48.3)
Iron	41.8 (31.1, 52.4)	36.2 (25.2, 47.2)	41.7 (32.7, 50.7)	30.9 (22.6, 39.1)	42.2 (31.7, 52.8)	41.7 (33.7, 49.7)
Luce	48.7 (40.0, 57.5)	30.1 (21.0, 39.1)	32.9 (24.5, 41.2)	21.9 (14.7, 29.1)	28.2 (19.9, 36.5)	28.0 (20.7, 35.2)
Mackinac	33.4 (22.9, 43.8)	42.9 (33.0, 52.8)	25.6 (14.7, 36.5)	26.3 (18.0, 34.5)	31.2 (22.6, 39.8)	38.3 (25.5, 51.1)
Marquette	28.5 (18.4, 38.7)	31.2 (21.7, 40.7)	28.2 (20.2, 36.3)	21.4 (13.5, 29.4)	22.5 (16.1, 28.9)	35.1 (27.0, 43.1)
Menominee	39.5 (27.7, 51.3)	17.8 (11.3, 24.3)	28.0 (18.5, 37.5)	33.0 (21.3, 44.8)	26.1 (17.8, 34.5)	29.3 (21.1, 37.5)
Ontonagon	32.6 (23.4, 41.8)	33.1 (25.4, 40.8)	34.7 (28.4, 41.0)	37.9 (29.2, 46.6)	39.4 (31.4, 47.3)	43.0 (36.5, 49.4)
Schoolcraft	38.5 (28.1, 48.9)	33.0 (21.8, 44.2)	44.1 (33.7, 54.6)	34.5 (25.2, 43.9)	38.0 (26.4, 49.6)	368 (28.2, 45.4)

[a] Among all adults, the proportion who reported they had not visited a dentist or dental clinic for any reason in the past year.

[b] Among all adults, the proportion having no insurance coverage for dental care. Statewide survey question refers to the proportion who reported they did not have dental coverage for the entire past 12 months.

Table 13-27B: Oral Health Care Access by Population Group						
	No Dental Care Past 12 Months[a]			No Dental Insurance[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	36.5 (32.2, 40.8)	28.2 (24.0, 32.5)	31.8 (28.7, 34.9)	29.5 (25.3, 33.7)	28.1 (24.1, 32.1)	35.9 (32.9, 39.0)
Age						
18-39	46.6 (35.9, 57.2)	28.3 (17.3, 39.2)	35.2 (27.3, 43.1)	25.7 (14.3, 37.1)	16.4 (8.5, 24.3)	24.9 (17.7, 32.1)
40-65	32.2 (27.4, 37.0)	28.9 (24.8, 33.1)	29.8 (26.1, 33.5)	24.3 (20.2, 28.3)	27.3 (23.3, 31.2)	32.1 (28.4, 35.9)
65+	31.0 (27.2, 34.8)	27.0 (24.1, 29.9)	30.8 (27.6, 33.9)	40.8 (37.0, 44.5)	45.7 (42.4, 49.1)	58.1 (54.8, 61.4)
Gender						
Male	35.3 (28.3, 42.2)	30.3 (22.3, 38.3)	37.2 (31.9, 42.5)	28.4 (22.1, 34.8)	27.6 (20.5, 34.7)	37.2 (32.2, 42.3)
Female	36.4 (30.9, 41.8)	26.2 (22.3, 30.0)	26.6 (23.3, 30.0)	29.4 (24.1, 34.8)	28.4 (24.6, 32.2)	34.7 (31.2, 38.2)
Educational Attainment						
Less than 12th grade	65.5 (48.5, 82.6)	62.9 (47.3, 78.5)	52.4 (39.4, 65.4)	24.1 (12.6, 35.6)	48.3 (30.4, 66.2)	51.5 (38.4, 64.6)
High School Graduate	45.2 (36.2, 54.1)	30.4 (20.9, 39.9)	35.8 (30.7, 40.9)	34.6 (25.1, 44.0)	31.3 (21.9, 40.7)	38.8 (33.9, 43.7)
1-3 years of college	34.0 (28.1, 39.9)	27.7 (22.4, 33.0)	28.3 (22.9, 33.6)	30.2 (24.6, 35.7)	28.9 (23.8, 34.0)	33.7 (28.4, 39.1)
4-year degree or higher	22.3 (16.0, 28.5)	22.1 (15.0, 29.2)	17.0 (12.8, 21.2)	21.6 (15.6, 27.7)	17.3 (12.7, 21.9)	22.8 (19.0, 26.6)
Household Income						
Less than $25,000	52.2 (43.0, 61.4)	41.5 (22.7, 60.2)	55.1 (48.7, 61.4)	36.7 (27.1, 46.3)	30.2 (16.3, 44.2)	46.1 (39.8, 52.3)
$25,000 to $49,999	34.9 (28.6, 41.1)	31.2 (25.3, 37.2)	33.2 (27.4, 38.9)	34.8 (28.7, 40.8)	42.1 (35.1, 49.1)	46.3 (40.5, 52.2)
$50,000 or higher	21.4 (17.5, 25.3)	20.9 (16.3, 25.5)	18.1 (13.9, 22.3)	15.0 (12.4, 17.6)	20.3 (16.6, 24.0)	22.7 (18.6, 26.8)
[a] Among all adults, the proportion who reported they had not visited a dentist or dental clinic for any reason in the past year.						

[b] Among all adults, the proportion having no insurance coverage for dental care. Statewide survey question refers to the proportion who reported they did not have dental coverage for the entire past 12 months.

Table 13-28A: Dentists Unavailable by County

	Delayed Dental Care in Past 12 Months Because Could Not Find Available Dentist[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
Upper Peninsula	23.7 (20.4, 27.2)	17.5 (9.1, 25.8)	7.4 (5.6, 9.1)
Alger	14.3 (7.5, 21.1)	8.6 (2.3, 15.0)	7.0 (2.7, 11.3)
Baraga	21.2 (10.6, 31.8)	3.3 (0.6, 6.0)	3.1 (0.5, 5.7)
Chippewa	38.8 (26.7, 50.9)	31.5 (19.6, 43.4)	5.3 (1.3, 9.3)
Delta	19.0 (9.3, 28.7)	36.2 (0.0, 78.01)	8.4 (0.8, 15.9)
Dickinson	15.5 (7.0, 24.1)	15.2 (5.4, 24.9)	5.3 (1.7, 8.9)
Gogebic	32.1 (23.4, 40.8)	16.0 (7.9, 24.0)	3.8 (1.9, 5.7)
Houghton/Keweenaw	29.6 (18.0, 41.2)	12.6 (5.3, 19.9)	8.7 (5.2, 12.1)
Iron	22.2 (11.0, 33.3)	9.9 (5.0, 14.8)	9.6 (5.0, 14.3)
Luce	29.8 (20.8, 38.7)	13.4 (4.1, 22.7)	12.2 (5.9, 18.6)
Mackinac	24.0 (15.5, 32.5)	12.8 (6.6, 19.0)	15.3 (0.9, 29.6)
Marquette	21.2 (12.1, 30.4)	10.4 (5.7, 15.0)	6.0 (1.6, 10.5)
Menominee	16.0 (8.4, 23.6)	6.4 (2.1, 10.7)	8.2 (2.6, 13.8)
Ontonagon	19.5 (12.8, 26.2)	15.2 (7.9, 22.4)	6.0 (3.7, 8.2)
Schoolcraft	22.9 (13.1, 32.7)	8.3 (4.3, 12.4)	14.4 (7.6, 21.3)

[a] Among all adults, the proportion who reported they could not see a dentist when they needed in the past 12 months because they could not find an available dental professional.

This question is not part of the statewide BRFS.

Table 13-28B: Oral Health Care Barriers by Population Group			
	Delayed Dental Care in Past 12 Months Because Could Not Find Available Dentists[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	23.7 (20.4, 27.2)	17.5 (9.1, 25.8)	7.4 (5.6, 9.1)
Age			
18-39	31.8 (22.9, 40.8)	29.4 (8.9, 49.8)	7.1 (3.3, 10.9)
40-65	24.1 (19.6, 28.5)	13.8 (10.4, 17.3)	9.4 (6.8, 12.0)
65+	13.2 (10.6, 15.9)	6.4 (4.8, 7.9)	3.3 (2.1, 4.4)
Gender			
Male	22.7 (16.0, 29.4)	19.8 (3.4, 36.1)	6.0 (3.4, 8.6)
Female	24.5 (20.3, 28.6)	15.2 (11.8, 18.7)	8.6 (6.3, 10.9)
Educational Attainment			
Less than 12th grade	36.8 (19.8, 53.8)	10.8 (0.0, 22.8)	14.9 (3.9, 25.8)
High School Graduate	20.2 (14.7, 25.7)	24.4 (4.2, 44.6)	7.3 (4.8, 9.8)
1-3 years of college	25.2 (18.9, 31.5)	13.6 (9.2, 18.1)	6.9 (4.2, 9.5)
4-year degree or higher	23.9 (17.4, 30.5)	13.5 (8.6, 18.3)	3.4 (2.2, 4.6)
Household Income			
Less than $25,000	29.0 (21.1, 78.9)	36.0 (8.2, 63.8)	13.5 (9.4, 17.6)
$25,000 to $49,999	21.8 (16.5, 27.1)	14.3 (8.9, 19.6)	9.1 (4.7 13.5)
$50,000 or higher	20.4 (16.5, 24.3)	10.9 (7.6, 14.2)	2.5 (1.6, 4.1)
[a] Among all adults, the proportion who reported they could not see a dentist when they needed in the past 12 months because they could not find an available dental professional.			

Table 13-29A: Oral Health Care Barriers by County						
	Unable to Access Dental Care in Past 12 Months Due to Cost[a]			Unable to Access Dental Care in Past 12 Months due to Lack or Transportation[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Upper Peninsula	21.0 (16.7, 25.3)	12.1 (9.6, 14.6)	20.7 (17.6, 23.7)	6.3 (4.5, 8.2)	3.4 (1.9, 4.9)	5.1 (3.2, 7.0)
Alger	17.7 (6.3, 29.0)	13.5 (6.4, 20.6)	17.8 (11.0, 24.6)	10.1 (0.0, 21.2)	3.5 (0.4, 6.7)	4.6 (0.2, 8.9)
Baraga	8.1 (1.2, 15.0)	5.9 (2.6, 9.2)	13.9 (7.9, 19.8)	8.6 (0.5, 16.7)	4.8 (0.0, 10.8)	1.8 (0.0, 3.8)
Chippewa	22.1 (11.3, 32.9)	17.7 (7.2, 28.1)	13.9 (5.8, 22.0)	11.3 (3.4, 19.2)	4.4 (0.0, 8.8)	11.7 (1.9, 21.5)
Delta	36.2 (16.0, 56.4)	7.2 (0.8, 13.5)	19.4 (12.0, 26.9)	5.5 (0.4, 10.7)	0.5 (0.0, 1.3)	3.2 (0.6, 5.9)
Dickinson	19.6 (10.8, 28.4)	16.9 (9.0, 24.8)	14.5 (8.9, 20.1)	3.1 (0.06, 6.1)	4.1 (0.0, 9.0)	1.5 (0.4, 2.7)
Gogebic	23.7 (16.3, 31.1)	13.9 (7.1, 20.6)	13.5 (8.1, 18.9)	6.4 (1.4, 11.3)	1.3 (0.0, 2.7)	2.2 (0.2, 4.3)
Houghton/Keweenaw	18.9 (9.5, 28.3)	12.1 (5.0, 19.1)	21.8 (12.3, 31.3)	1.7 (0.0, 3.9)	3.6 (0.0, 7.6)	2.7 (0.2, 5.2)
Iron	28.6 (17.7, 39.6)	15.7 (9.2, 22.1)	24.9 (17.6, 32.3)	10.6 (0.1, 21.0)	6.9 (1.3, 12.4)	4.4 (1.4, 9.5)
Luce	15.1 (8.4, 21.8)	18.2 (8.6, 27.8)	23.2 (15.3, 31.1)	8.4 (2.5, 14.4)	2.0 (0.2, 3.8)	9.9 (2.6, 17.2)
Mackinac	10.4 (4.8, 16.1)	11.6 (4.7, 18.5)	21.9 (8.1, 35.7)	7.8 (2.1, 13.5)	1.5 (0.0, 3.0)	11.9 (0.0, 26.6)
Marquette	15.7 (8.3, 23.0)	11.5 (6.6, 16.3)	28.3 (19.2, 37.4)	5.2 (0.0, 10.4)	5.1 (0.0, 10.5)	4.7 (0.2, 9.1)
Menominee	20.8 (12.1, 29.5)	7.3 (3.4, 11.2)	19.0 (9.2, 28.8)	9.1 (3.1, 15.2)	3.4 (0.7, 6.0)	8.4 (0.0, 17.7)
Ontonagon	15.7 (9.3, 22.0)	12.9 (7.8, 17.9)	14.3 (10.1, 18.4)	6.3 (1.6, 11.1)	3.2 (0.5, 5.9)	2.9 (0.7, 5.1)
Schoolcraft	15.8 (9.3, 22.4)	9.4 (5.0, 13.8)	26.8 (15.2, 38.4)	8.9 (3.3, 14.5)	1.4 (0.0, 2.8)	2.2 (0.6, 3.8)
[a] Among all adults, the proportion who reported they could not see a dentist when they needed in the past 12 months due to cost.						
[b] Among all adults, the proportion who reported they could not see a dentist when they needed in the past 12 months due to lack of transportation.						
These questions are not part of the statewide BRFS.						

Table 13-29B: Oral Health Care Barriers by Population Group						
	Unable to Access Dental Care in Past 12 Months Due to Cost[a]			Unable to Access Dental Care in Past 12 Months due to Lack or Transportation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	21.0 (16.7, 25.3)	12.1 (9.6, 14.6)	20.7 (17.6, 23.7)	6.3 (4.5, 8.2)	3.4 (1.9, 4.9)	5.1 (3.2, 7.0)
Age						
18-39	28.8 (17.6, 40.0)	12.0 (6.0, 18.0)	29.6 (21.5, 37.7)	7.1 (3.2, 11.0)	3.7 (0.04, 7.3)	9.5 (4.0, 14.9)
40-65	18.9 (15.0, 22.9)	14.6 (11.4, 17.9)	19.1 (16.3, 22.0)	6.5 (3.7, 9.3)	4.3 (2.3, 6.4)	3.6 (2.4, 4.9)
65+	14.0 (10.6, 17.3)	8.4 (6.7, 10.1)	10.6 (8.8, 12.5)	4.5 (1.8, 7.3)	1.6 (0.9, 2.3)	1.3 (0.5, 2.1)
Gender						
Male	17.8 (11.6, 24.1)	9.3 (6.0, 12.6)	20.0 (15.0, 25.0)	4.0 (1.7, 6.3)	4.0 (1.2, 6.7)	4.9 (2.1, 7.8)
Female	22.0 (16.5, 27.5)	14.8 (11.4, 18.1)	21.3 (17.7, 24.8)	6.9 (4.6, 9.2)	2.9 (1.6, 4.3)	5.3 (2.7, 7.9)
Educational Attainment						
Less than 12th grade	26.3 (12.6, 39.9)	22.9 (7.8, 38.0)	17.2 (9.3, 25.1)	30.5 (13.8, 47.1)	11.0 (1.2, 20.8)	11.7 (2.2, 21.2)
High School Graduate	26.7 (16.6, 36.8)	13.4 (8.6, 18.3)	22.5 (17.2, 27.7)	6.3 (3.0, 9.5)	3.3 (1.5, 5.0)	5.3 (2.3, 8.2)
1-3 years of college	20.4 (15.3, 25.5)	13.7 (9.3, 18.1)	23.9 (18.4, 29.5)	4.8 (2.4, 7.1)	5.0 (1.3, 8.7)	4.9 (1.6, 8.2)
4-year degree or higher	12.9 (7.1, 18.8)	6.8 (3.6, 10.1)	9.6 (6.8, 12.3)	2.2 (0.8, 3.6)	0.3 (0.04, 0.5)	0.7 (0.2, 1.2)
Household Income						
Less than $25,000	30.1 (20.3, 40.0)	19.4 (9.8, 29.0)	30.7 (24.8, 36.6)	11.5 (7.3, 15.7)	7.9 (3.2, 12.6)	13.5 (8.0, 19.0)
$25,000 to $49,999	21.8 (16.1, 27.5)	17.2 (11.8, 22.5)	24.0 (18.6, 29.4)	5.0 (1.7, 8.3)	3.9 (0.0, 8.5)	2.8 (0.0, 5.8)
$50,000 or higher	10.1 (7.0, 13.2)	6.6 (4.1, 9.1)	12.4 (7.5, 17.3)	1.5 (0.03, 3.0)	1.1 (0.0, 2.2)	1.6 (0.0, 3.5)
[a] Among all adults, the proportion who reported they could not see a dentist when they needed in the past 12 months due to cost.						

[b] Among all adults, the proportion who reported they could not see a dentist when they needed in the past 12 months due to lack of transportation.

Table 13-30A: Weight Status by County

	Obese[a]			Overweight[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		32.3 (32.1, 32.4)			35.7 (35.6, 35.9)	
US Weighted		31.4			35.3	
Michigan (2023)	35.4 (34.0, 36.8)	35.2 (33.7, 36.7)	32.5 (31.4, 33.6)	33.4 (32.0, 34.7)	34.6 (33.1, 36.1)	35.0 (33.9, 36.2)
Upper Peninsula (MiBRFS 2021-2023)	33.6 (29.6, 37.9)	35.9 (31.8, 40.2)		35.0 (31.3, 38.9)	34.0 (29.8, 38.5)	
Upper Peninsula	40.5 (36.5, 44.5)	37.7 (30.7, 44.7)	36.9 (33.7, 40.2)	26.2 (23.2, 29.1)	34.6 (29.6, 39.5)	34.0 (30.8, 37.2)
Alger	33.8 (24.0, 43.7)	42.0 (32.2, 51.8)	41.5 (33.1, 49.8)	37.0 (26.1, 47.9)	31.5 (23.8, 39.3)	29.2 (22.1, 36.3)
Baraga	43.0 (32.2, 53.4)	45.5 (34.8, 56.3)	43.5 (32.4, 54.7)	34.8 (24.2, 45.3)	29.1 (20.2, 38.0)	36.4 (25.7, 47.1)
Chippewa	55.0 (42.8, 67.1)	27.0 (17.3, 36.6)	43.7 (31.6, 55.8)	21.9 (13.8, 30.0)	35.1 (23.9, 46.2)	26.9 (18.7, 35.1)
Delta	41.5 (26.4, 56.7)	56.2 (26.2, 86.2)	41.7 (33.8, 50.5)	21.5 (12.3, 30.8)	24.8 (6.4, 43.2)	36.7 (27.4, 46.0)
Dickinson	40.8 (30.6, 50.9)	33.0 (24.1, 41.9)	31.8 (23.2, 40.3)	27.9 (19.2, 36.6)	31.3 (22.5, 40.2)	32.9 (24.8, 41.1)
Gogebic	36.0 (28.1, 44.0)	42.8 (29.1, 56.4)	42.1 (33.8, 50.5)	36.8 (28.5, 45.0)	27.8 (18.0, 37.5)	33.3 (25.7, 40.9)
Houghton/Keweenaw	31.2 (22.0, 40.5)	26.0 (12.9, 39.1)	29.6 (21.4, 37.8)	27.0 (18.6, 34.8)	44.8 (31.8, 57.8)	35.6 (25.8, 45.4)
Iron	34.1 (25.1, 43.1)	34.8 (23.8, 45.8)	40.3 (32.0, 48.7)	32.8 (23.6, 42.0)	33.7 (24.2, 43.2)	30.8 (22.2, 39.5)
Luce	47.2 (38.4, 55.9)	49.1 (39.3, 58.8)	53.4 (44.4, 62.5)	38.5 (29.6, 47.4)	29.1 (21.1, 37.2)	28.5 (19.9, 37.1)
Mackinac	37.6 (27.5, 47.6)	36.2 (27.0, 45.3)	35.2 (22.0, 48.5)	24.3 (17.1, 31.6)	32.4 (23.7, 41.0)	29.3 (20.3, 38.4)
Marquette	37.0 (26.6, 47.4)	32.5 (22.6, 42.4)	32.6 (23.7, 41.6)	22.5 (14.4, 30.5)	40.6 (30.3, 50.9)	37.4 (28.3, 46.5)
Menominee	51.5 (40.6, 62.4)	45.7 (33.4, 58.0)	35.8 (25.7, 45.9)	27.5 (19.4, 35.6)	33.1 (23.0, 43.2)	36.1 (23.6, 48.6)
Ontonagon	33.5 (25.8, 41.1)	39.7 (30.4, 49.0)	39.2 (32.2, 46.3)	40.2 (31.0, 49.4)	33.6 (26.1, 41.1)	37.3 (30.8, 43.8)
Schoolcraft	44.2 (33.7, 54.6)	47.5 (35.5, 59.5)	42.0 (31.5, 52.4)	23.8 (16.2, 31.4)	34.1 (22.9, 45.3)	27.3 (20.1, 34.5)

Note: BMI (body mass index) is defined as weight (in kilograms) divided by height (in meters) squared [weight in kg/ (height in m) ^2. Weight and height are self, reported.

[a] Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.

[b] Among all adults, the proportion of respondents whose BMI was greater than or equal to 25.0 but less than 30.0.

Table 13-30B: Weight Status by Population Group						
	Obese[a]			Overweight[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	40.5 (36.5, 44.5)	37.7 (30.7, 44.7)	36.9 (33.7, 40.2)	26.2 (23.2, 29.1)	34.6 (29.6, 39.5)	34.0 (30.8, 37.2)
Age						
18-39	35.6 (26.4, 44.8)	40.1 (21.5, 58.6)	32.4 (24.2, 40.6)	19.3 (13.1, 25.4)	30.9 (18.8, 42.9)	32.2 (23.9, 40.5)
40-65	48.7 (43.7, 53.8)	36.4 (32.0, 40.8)	40.7 (36.7, 44.6)	24.5 (20.6, 28.5)	37.0 (32.4, 41.6)	32.9 (29.2, 36.5)
65+	34.7 (31.4, 38.0)	36.4 (33.1, 39.7)	36.3 (33.0, 39.6)	37.8 (34.5, 41.2)	36.0 (32.8, 39.3)	38.6 (35.3, 41.9)
Gender						
Male	37.5 (30.5, 44.6)	42.0 (29.2, 54.8)	39.0 (33.5, 44.6)	31.8 (25.9, 37.6)	38.0 (28.5, 47.4)	38.4 (32.9, 43.9)
Female	41.8 (37.0, 46.7)	33.5 (29.6, 37.4)	34.9 (31.4, 38.5)	23.9 (20.4, 27.3)	31.2 (26.9, 35.5)	29.7 (26.3, 33.1)
Educational Attainment						
Less than 12th grade	43.6 (25.7, 60.5)	35.1 (19.1, 51.0)	46.1 (32.9, 59.3)	21.3 (10.8, 31.7)	29.7 (15.0, 44.3)	33.7 (20.8, 46.7)
High School Graduate	45.3 (36.9, 53.6)	46.2 (31.1, 61.4)	39.1 (33.4, 44.8)	27.7 (21.6, 33.9)	27.4 (18.7, 36.2)	33.1 (28.1, 38.1)
1-3 years of college	42.5 (36.2, 48.9)	38.6 (32.1, 45.1)	35.7 (30.6, 40.8)	27.6 (22.8, 32.5)	36.0 (29.9, 42.1)	36.5 (30.7, 42.4)
4-year degree or higher	30.9 (25.0, 36.7)	24.1 (19.2, 29.1)	28.8 (23.9, 33.6)	23.3 (18.8, 36.7)	43.0 (35.4, 50.6)	30.4 (25.8, 35.0)
Household Income						
Less than $25,000	40.9 (32.3, 49.5)	52.1 (30.7, 73.5)	35.3 (29.5, 41.1)	19.4 (14.6, 24.3)	25.7 (12.9, 38.5)	31.0 (24.9, 37.0)
$25,000 to $49,999	45.4 (38.9, 52.0)	36.6 (29.1, 44.1)	38.7 (33.0, 44.3)	31.6 (25.8, 37.3)	30.4 (24.3, 36.6)	33.7 (28.1, 39.4)
$50,000 or higher	36.1 (31.8, 40.3)	32.0 (26.9, 37.1)	37.6 (32.2, 43.1)	29.2 (25.4, 33.1)	40.4 (35.0, 45.9)	35.4 (30.2, 40.5)
Note: BMI (body mass index) is defined as weight (in kilograms) divided by height (in meters) squared [weight in kg/ (height in m) ^2. Weight and height are self-reported.						
[a] Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0.						

[b] Among all adults, the proportion of respondents whose BMI was greater than or equal to 25.0 but less than 30.0.

Table 13-31A: Cigarette Smoking by County

	Current Smoker[a]			Former Smoker[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		33.5 (33.3, 33.7)			26.7 (26.6, 26.9)	
US Weighted		38.6			22.8	
Michigan (2023)	13.6 (12.6, 14.7)	18.4 (17.1, 19.7)	20.4 (19.4, 21.4)	26.9 (25.7, 28.1)	27.1 (25.8, 28.5)	25.8 (24.8, 26.8)
Upper Peninsula (MiBRFS 2021-2023)	16.6 (13.8, 19.9)	20.3 (16.9, 24.1)		29.3 (25.9, 32.9)	31.1 (27.3, 35.2)	
Upper Peninsula	19.7 (15.3, 24.1)	15.5 (12.6, 18.3)	17.8 (15.3, 20.4)	29.6 (26.4, 32.7)	30.4 (26.1, 34.7)	32.5 (29.6, 35.4)
Alger	14.1 (3.3, 24.9)	23.5 (14.6, 32.4)	14.6 (9.0, 20.2)	29.2 (21.1, 37.3)	36.6 (28.2, 45.0)	39.4 (31.6, 47.2)
Baraga	22.3 (11.8, 32.7)	17.1 (10.0, 24.2)	17.3 (9.3, 25.4)	34.5 (24.7, 44.3)	41.2 (31.3, 51.2)	42.0 (30.9, 53.1)
Chippewa	15.8 (5.8, 25.8)	18.4 (8.5, 28.3)	24.4 (13.9, 34.8)	36.8 (25.4, 48.2)	35.1 (24.0, 46.3)	26.5 (17.9, 35.2)
Delta	35.1 (14.5, 55.7)	7.9 (0.5, 15.3)	10.0 (6.0, 13.9)	27.6 (16.4, 38.9)	20.4 (5.0, 35.7)	32.8 (24.4, 41.2)
Dickinson	17.1 (8.4, 25.7)	18.5 (10.8, 26.2)	12.8 (6.8, 18.8)	27.7 (18.7, 36.8)	27.0 (17.7, 36.3)	32.6 (24.0, 41.2)
Gogebic	15.9 (10.1, 21.7)	15.4 (7.2, 23.7)	20.1 (12.9, 27.4)	40.2 (31.8, 48.5)	30.4 (20.1, 40.7)	37.4 (29.4, 45.3)
Houghton/Keweenaw	19.4 (9.5, 29.3)	18.3 (10.0, 26.6)	11.5 (5.7, 17.3)	22.4 (15.6, 29.3)	26.6 (17.7, 35.6)	28.8 (21.1, 36.5)
Iron	17.8 (9.8, 25.7)	16.8 (8.8, 24.9)	19.0 (10.3, 27.8)	37.8 (27.5, 48.1)	39.4 (28.9, 49.9)	37.3 (29.1, 45.5)
Luce	24.8 (16.4, 33.1)	16.1 (6.4, 25.8)	22.0 (13.0, 31.0)	31.8 (23.9, 39.6)	32.2 (24.1, 40.2)	38.0 (29.7, 46.4)
Mackinac	21.6 (10.8, 32.4)	18.5 (9.5, 27.4)	18.0 (10.8, 25.3)	32.0 (23.0, 41.0)	33.8 (25.5, 42.1)	41.3 (28.1, 54.5)
Marquette	14.8 (7.2, 22.4)	11.8 (6.1, 17.5)	19.7 (12.5, 26.8)	25.9 (17.7, 34.1)	31.6 (22.5, 40.6)	31.3 (23.3, 39.3)
Menominee	20.2 (12.4, 28.1)	22.5 (13.0, 32.0)	27.0 (16.1, 37.8)	28.6 (19.9, 37.2)	32.9 (22.9, 42.9)	30.6 (19.4, 41.9)
Ontonagon	14.5 (9.0, 20.0)	13.1 (6.4, 19.7)	20.3 (13.2, 27.4)	36.7 (29.1, 44.4)	35.6 (28.3, 43.0)	35.6 (29.5, 41.8)
Schoolcraft	11.7 (4.9, 18.4)	15.9 (5.3, 26.4)	20.4 (13.1, 27.8)	41.4 (31.2, 51.6)	38.3 (26.8, 49.7)	37.2 (26.6, 47.8)

[a] Among all adults, the proportion who reported they currently smoke cigarettes now, either daily or on some days.

[b] Among all adults, the proportion who reported they ever smoked at least 100 cigarettes (5 packs) in their life but they do not smoke cigarettes now.

Table 13-31B: Cigarette Smoking by Population Group						
	Current Smoker[a]			Former Smoker[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	19.7 (15.3, 24.1)	15.5 (12.6, 18.3)	17.8 (15.3, 20.4)	29.6 (26.4, 32.7)	30.4 (26.1, 34.7)	32.5 (29.6, 35.4)
Age						
18-39	23.0 (11.7, 34.3)	14.1 (7.4, 20.8)	21.3 (14.6, 28.1)	21.2 (15.4, 27.0)	18.5 (10.0, 26.9)	22.2 (15.4, 28.9)
40-65	23.5 (18.6, 28.3)	21.0 (17.3, 24.7)	20.4 (17.4, 23.3)	34.6 (30.9, 38.2)	32.9 (28.5, 37.4)	32.5 (28.8, 36.2)
65+	10.2 (8.0, 12.3)	8.8 (6.8, 10.8)	8.1 (6.3, 9.9)	39.8 (37.2, 42.5)	43.0 (39.7, 46.4)	46.5 (43.1, 49.8)
Gender						
Male	20.7 (14.0, 27.5)	12.4 (8.4, 16.3)	16.8 (13.0, 20.6)	37.5 (32.6, 42.3)	35.2 (26.4, 43.9)	36.6 (31.6, 41.7)
Female	19.5 (13.9, 25.1)	18.4 (14.7, 22.1)	18.8 (15.4, 22.1)	30.0 (27.1, 32.9)	25.8 (22.5, 29.2)	28.5 (25.3, 31.7)
Educational Attainment						
Less than 12th grade	43.8 (26.0, 61.7)	44.9 (26.4, 63.5)	30.2 (16.8, 43.7)	34.1 (20.3, 47.8)	22.8 (10.9, 34.8)	31.2 (20.7, 41.6)
High School Graduate	27.7 (17.8, 37.7)	19.7 (12.8, 26.7)	18.7 (15.0, 22.4)	31.1 (26.6, 35.5)	30.3 (21.1, 39.4)	35.7 (30.7, 40.8)
1-3 years of college	15.9 (11.1, 20.6)	16.1 (12.0, 20.1)	18.2 (13.8, 22.7)	37.2 (33.1, 41.3)	33.5 (27.6, 39.4)	32.8 (27.7, 37.9)
4-year degree or higher	8.9 (3.3, 14.4)	4.2 (1.9, 6.5)	7.1 (4.3, 9.9)	25.3 (21.3, 29.4)	27.5 (21.2, 33.9)	23.8 (19.9, 27.7)
Household Income						
Less than $25,000	33.1 (23.0, 43.1)	17.8 (9.1, 26.5)	31.9 (25.4, 38.5)	29.6 (24.6, 34.6)	28.1 (14.7, 41.4)	28.9 (24.0, 33.9)
$25,000 to $49,999	16.1 (11.2, 20.9)	17.0 (12.1, 21.9)	17.3 (13.2, 21.3)	34.3 (30.2, 38.4)	28.8 (23.0, 34.6)	33.2 (28.1, 38.4)
$50,000 or higher	8.5 (6.1, 10.9)	13.5 (9.7, 17.3)	10.5 (7.5, 13.5)	33.5 (29.8, 37.1)	32.4 (27.7, 37.2)	33.6 (28.6, 38.5)

[a] Among all adults, the proportion who reported they currently smoke cigarettes now, either daily or on some days.

[b] Among all adults, the proportion who reported they ever smoked at least 100 cigarettes (5 packs) in their life but they do not smoke cigarettes now.

Table 13-32A: Never Smoked by County			
	Never Smoked[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		57.5 (57.3, 57.6)	
US Weighted		60.09	
Michigan (2023)	59.5 (58.1, 60.9)	54.4 (53.0, 56.0)	53.8 (52.6, 54.9)
Upper Peninsula (MiBRFS 2021-2023)	54.1 (50.0, 58.1)	48.6 (44.4, 52.9)	
Upper Peninsula	50.7 (46.6, 53.4)	54.2 (48.5, 59.8)	47.7 (46.4, 53.0)
Alger	56.7 (46.0, 67.5)	39.9 (30.8, 49.0)	46.0 (37.5, 54.4)
Baraga	43.2 (33.0, 53.4)	41.6 (31.2, 52.1)	40.7 (30.0, 51.3)
Chippewa	47.4 (39.8, 65.5)	46.5 (34.2, 58.8)	49.1 (37.4, 60.8)
Delta	37.3 (24.0, 50.4)	71.7 (51.5, 91.9)	57.2 (48.3, 66.2)
Dickinson	55.2 (34.7, 54.9)	54.5 (44.6, 64.4)	54.6 (45.7, 63.5)
Gogebic	43.9 (35.6, 52.2)	54.2 (40.6, 67.8)	42.5 (34.4, 50.6)
Houghton/Keweenaw	58.2 (31.2, 52.4)	55.1 (42.9, 67.3)	59.7 (50.5, 69.0)
Iron	44.4 (34.4, 54.4)	43.8 (33.9, 53.6)	43.7 (35.6, 51.8)
Luce	43.5 (34.9, 52.0)	51.8 (42.1, 61.4)	40.0 (31.5, 48.4)
Mackinac	46.4 (36.3, 56.5)	47.7 (38.4, 57.1)	40.7 (29.8, 51.6)
Marquette	59.3 (49.0, 69.6)	56.7 (46.8, 66.5)	49.0 (39.9, 58.2)
Menominee	51.2 940.4, 62.1)	44.5 (32.5, 56.6)	42.4 (31.2, 53.6)
Ontonagon	48.7 (40.1, 57.3)	51.3 (42.7, 59.9)	44.1 (37.5, 50.7)
Schoolcraft	46.9 (36.8, 57.1)	45.9 (34.3, 57.4)	42.3 (33.0, 51.7)
[a] Among all adults, the proportion who reported they had never smoked.			

Table 13-32B: Never Smoked by Population Group			
	Never Smoked[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	50.7 (46.6, 53.4)	54.2 (48.5, 59.8)	49.7 (46.4, 53.0)
Age			
18-39	55.9 (47.8, 64.1)	67.4 (55.5, 79.4)	56.5 (48.2, 64.8)
40-65	42.6 (38.8, 46.4)	46.1 (41.6, 50.6)	47.2 (43.2, 51.1)
65+	49.6 (47.7, 53.1)	48.2 (44.8, 51.5)	45.5 (42.1, 48.8)
Gender			
Male	42.8 (37.4, 48.1)	52.5 (41.5, 63.4)	46.6 (40.9, 52.3)
Female	51.2 (45.3, 52.3)	55.8 (51.5, 60.1)	52.7 (49.1, 56.4)
Educational Attainment			
Less than 12th grade	28.2 (16.3, 40.0)	32.3 (16.9, 47.6)	38.6 (25.8, 51.4)
High School Graduate	42.7 (37.3, 48.2)	50.0 (35.8, 64.2)	45.6 (39.9, 51.3)
1-3 years of college	47.6 (43.1, 52,1)	50.5 (44.0, 56.9)	49.0 (43.3, 54.7)
4-year degree or higher	66.5 (61.7, 71.4)	68.3 (61.7, 74.8)	69.1 (64.6, 73.6)
Household Income			
Less than $25,000	38.7 (32.6, 44.7)	54.1 (33.7, 74.5)	39.1 (32.8, 45.4)
$25,000 to $49,999	49.6 (45.8, 55.0)	54.2 (47.1, 61.3)	49.5 (43.6, 55.4)
$50,000 or higher	58.1 (54.3, 61.9)	54.1 (48.7, 59.5)	55.9 (50.7, 61.2)
[a] Among all adults, the proportion who reported they had never smoked.			

Table 13-33A: Current Smokers Who Attempted to Quit by County					
	Tried to Quit in Past Year[a]				
	2024	2021	2017	2015	2012
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		54.58 (54.2, 55.0)			
US Weighted		57.2			
Michigan (2023)	50.3 (44.0, 56.6)	56.2 (52.2, 60.1)	58.8 (56.0, 61.5)	61.5 (58.1, 64.8)	62.4 (59.2 65.5)
Upper Peninsula	61.7 (52.2, 71.2)	55.4 (46.9, 63.8)	58.7 (50.8, 66.6)	54.6 (54.0, 55.2) [b]	51.2 (42.9, 59.5) [b]
Alger	67.4 (47.3, 87.5)	68.8 (49.1, 88.5)	67.4 (47.9, 86.8)		
Baraga	60.8 (45.0, 76.6)	42.4 (19.1, 65.6)	33.4 (12.8, 54.1)	67.9 (65.8, 69.9)	60.8 (46.1, 73.8)
Chippewa	69.9 (53.4, 86.4)	67.7 (39.7, 95.7)	45.4 (20.5, 70.4)		
Delta	44.0 (20.5, 67.6)	27.2 (2.7, 51.8)	44.3 (24.9, 63.7)		
Dickinson	61.9 (45.3, 78.4)	63.2 (41.8, 84.6)	44.0 (18.1, 70.0)		
Gogebic	71.6 (61.7, 81.4)	53.8 (25.6, 82.1)	61.6 (40.6, 82.6)	45.4 (44.0, 46.7)	57.0 (40.9, 71.8)
Houghton/Keweenaw	53.6 (37.2, 70.1)	67.7 (47.3, 88.1)	54.0 (29.4, 78.5)	63.8 (62.9, 64.6)	47.9 (35.2, 60.8)
Iron	68.0 (54.6, 81.4)	55.5 (28.0, 82.9)	79.1 (61.9, 96.3)	44.1 (42.3, 46.0)	
Luce	56.2 (43.8, 68.5)	80.4 (63.0, 97.8)	79.4 (62.2, 96.6)		
Mackinac	59.7 (43.0, 76.3)	64.6 (39.1, 90.1)	54.4 (33.7, 75.1)		
Marquette	63.6 (48.6, 78.6)	45.1 (18.1, 72.1)	70.0 (49.3, 90.6)		
Menominee	58.6 (45.7, 71.4)	38.5 (15.9, 61.1)	64.7 (43.1, 86.4)		
Ontonagon	71.7 (62.2, 81.1)	39.3 (12.0, 66.6)	53.3 (32.5, 74.1)	45.2 (43.8, 46.5)	45.5 (35.8, 55.6)
Schoolcraft	78.0 (66.0, 90.1)	68.9 (41.0, 96.8)	60.2 (41.0, 79.5)		
[a] Among all adults, the proportion who reported they had tried to quit smoking one day or longer in the past 12 months.					
[b] Cumulative estimate for the counties surveyed.					

Table 13-33B: Current Smokers Who Attempted to Quit by Population Group			
	Tried to Quit in Past Year[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	61.7 (52.2, 71.2)	55.4 (46.9, 63.8)	58.7 (50.8, 66.6)
Age			
18-39	71.3 (53.5, 89.2)	56.2 (35.6, 76.9)	60.1 (42.1, 78.2)
40-65	60.0 (46.8, 73.2)	57.2 (47.4, 67.0)	59.2 (51.7, 66.7)
65+	46.9 (33.1, 60.6)	46.9 (35.2, 58.7)	52.7 (41.4, 64.0)
Gender			
Male	62.4 (44.4, 80.3)	56.3 (43.3, 69.3)	57.1 (44.5, 69.7)
Female	61.7 (50.4, 73.0)	54.8 (43.6, 66.0)	60.0 (50.1, 70.0)
Educational Attainment			
Less than 12th grade	69.8 (41.1, 98.4)	53.7 (18.9, 88.5)	38.8 (13.3, 64.2)
High School Graduate	58.0 (44.8, 71.2)	54.7 (41.7, 67.8)	59.8 (49.9, 69.6)
1-3 years of college	64.8 (48.6, 81.0)	55.1 (42.0, 68.3)	64.6 (52.4, 76.7)
4-year degree or higher	55.6 (18.1, 93.1)	71.4 (50.4, 92.4)	61.0 (41.1, 80.9)
Household Income			
Less than $25,000	64.5 (51.4, 77.6)	61.8 (49.7, 73.9)	52.5 (39.1, 65.9)
$25,000 to $49,999	63.8 (46.1, 81.4)	33.7 (21.2, 46.1)	61.0 (49.6, 72.4)
$50,000 or higher	49.7 (30.0, 69.6)	64.2 (50.6, 77.7)	67.4 (54.5, 80.4)
[a] Among all adults, the proportion who reported they had tried to quit smoking one day or longer in the past 12 months.			

Table 13-34A: Other Nicotine Products by County						
	Smokeless Tobacco Use (Chew)[a]			Vaping or E- Cigarette Use[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		3.6 (3.6, 3.7)				
US Weighted		3.8				
Michigan (2023)	2.5 (2.1, 3.1)	2.9 (2.4, 3.4)	3.6 (3.2, 4.1)	8.5 (7.6, 9.4)	6.4 (5.5, 7.6)	4.9 (4.4, 5.5)
Upper Peninsula	3.8 (0.0, 7.8)	3.9 (2.1, 5.8)	5.2 (3.2, 7.3)	9.2 (5.0, 13.3)	5.0 (2.9, 7.1)	3.8 (2.1, 5.6)
Alger	3.9 (0.5, 7.4)	5.8 (0.9, 10.7)	4.6 (0.8, 8.3)	9.9 (0.0, 20.8)	7.2 (2.1, 12.4)	1.3 (0.0, 3.1)
Baraga	2.0 (0.1, 3.9)	4.4 (0.8, 8.1)	10.9 (2.6, 19.2)	6.3 (0.2, 12.3)	6.0 (0.0, 12.1)	3.6 (0.5, 6.7)
Chippewa	1.1 (0.0, 2.7)	3.7 (0.0, 8.5)	3.4 (0.0, 6.9)	8.5 (2.5, 14.4)	6.6 (0.0, 13.9)	1.5 (0.0, 3.5)
Delta	16.3 (0.0, 40.6)	1.1 (0.0, 2.9)	4.2 (0.0, 10.1)	23.0 (0.02, 46.0)	0.5 (0.0, 1.3)	1.1 (0.07, 2.0)
Dickinson	1.5 (0.0, 4.5)	6.8 (0.3, 13.3)	1.7 (0.0, 3.9)	5.3 (0.0, 11.2)	2.9 (0.0, 7.8)	2.2 (0.0, 5.2)
Gogebic	2.4 (0.0, 5.6)	6.2 (0.0, 16.4)	3.2 (0.5, 5.9)	6.3 (1.7, 10.9)	14.1 (0.0, 33.7)	3.1 (0.0, 7.1)
Houghton/Keweenaw	0.5 (0.0, 1.1)	5.3 (0.7, 9.9)	2.3 (0.1, 4.5)	8.8 (2.4, 15.2)	1.8 (0.2, 3.3)	8.6 (0.0, 18.7)
Iron	6.8 (0.0, 14.1)	7.1 (0.0, 18.0)	4.0 (0.0, 8.2)	18.4 (6.5, 30.4)	2.7 (0.0, 5.8)	4.3 (0.7, 7.9)
Luce	2.5 (0.0, 5.9)	2.9 (0.3, 5.5)	8.2 (0.4, 16.1)	6.3 (1.0, 11.5)	5.2 (0.0, 12.9)	7.0 (0.0, 14.7)
Mackinac	1.7 (0.0, 3.5)	1.6 (0.0, 3.4)	8.2 (0.0, 23.0)	4,5 (0.8, 8.1)	0.2 (0.0, 0.6)	2.4 (0.0, 4.8)
Marquette	1.1 (0.0, 3.2)	4.9 (0.0, 11.3)	6.7 (1.1, 12.3)	4.7 (0.0, 9.5)	8.9 (2.8, 15.0)	5.2 (0.2, 10.2)
Menominee	2.7 (0.0, 6.0)	*	12.1 (0.0, 25.3)	3.3 (0.0, 6.7)	6.1 (0.1, 12.1)	4.3 (0.0, 9.0)
Ontonagon	2.1 (0.6, 3.6)	3.9 (0.5, 7.4)	5.7 (2.3, 9.2)	7.5 (2.9, 12.2)	2.6 (0.0, 5.6)	2.2 (0.0, 5.4)
Schoolcraft	*	1.4 (0.0, 3.5)	2.3 (0.0, 5.0)	7.1 (1.4, 12.8)	2.7 (0.003, 5.4)	1.5 (0.1, 2.9)

[a] Among all adults, the proportion who reported they currently use chewing tobacco, snuff, or snus, either every day or on some days.

[b] Among all adults, the proportion who reported they currently use e, cigarettes or vaping, either every day or on some days.

Table 13-34B: Other Nicotine Products by Population Group						
	Smokeless Tobacco Use (Chew)[a]			Vaping or E-Cigarette Use[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	3.8 (0.0, 7.8)	3.9 (2.1, 5.8)	5.2 (3.2, 7.3)	9.2 (5.0, 13.3)	5.0 (2.9, 7.1)	3.8 (2.1, 5.6)
Age						
18-39	7.9 (0.0, 19.2)	5.0 (0.4, 9.5)	8.9 (3.1, 14.6)	17.8 (6.7, 29.0)	9.5 (3.6, 15.4)	6.8 (1.6, 12.0)
40-65	1.9 (0.5, 3.4)	4.3 (2.0, 6.6)	3.9 (2.0, 5.7)	7.0 (4.1, 9.8)	3.2 (1.7, 4.7)	3.3 (1.6, 5.0)
65+	1.3 (0.2, 2.3)	1.9 (0.8, 3.1)	2.1 (0.9, 3.3)	1.4 (0.7, 2.1)	1.4 (0.3, 2.5)	1.0 (0.4, 1.6)
Gender						
Male	4.8 (2.3, 7.3)	7.9 (4.0, 11.8)	10.5 (6.4, 14.6)	5.3 (2.3, 8.2)	5.4 (1.7, 9.1)	5.5 (2.0, 8.9)
Female	3.4 (0.0, 9.0)	0.04 (0.0, 0.09)	0.2 (0.0, 0.4)	10.8 (5.1, 16.5)	4.6 (2.7, 6.6)	2.3 (1.2, 3.4)
Educational Attainment						
Less than 12th grade	8.5 (1.1, 16.0)	2.8 (0.07, 5.6)	9.1 (0.0, 20.0)	17.9 (3.8, 32.1)	5.3 (0.0, 12.0)	14.0 (1.3, 26.7)
High School Graduate	7.2 (0.0, 18.3)	3.4 (1.4, 5.4)	8.5 (4.2, 12.9)	13.8 (3.0, 24.6)	4.3 (1.0, 7.5)	2.1 (1.0, 3.3)
1-3 years of college	1.6 (0.2, 3.1)	2.8 (0.6, 4.9)	1.7 (0.9, 2.5)	6.4 (3.6, 9.1)	6.7 (2.8, 10.6)	4.4 (1.0, 7.7)
4-year degree or higher	1.1 (0.0, 2.5)	6.9 (0.7, 13.0)	1.6 (0.1, 3.1)	4.9 (0.8, 8.9)	3.8 (0.0, 7.6)	1.0 (0.0, 2.6)
Household Income						
Less than $25,000	7.8 (0.0, 18.1)	2.3 (0.7, 4.0)	6.9 (1.9, 12.0)	14.4 (4.2, 24.6)	12.6 (3.7, 21.4)	6.2 (1.6, 10.8)
$25,000 to $49,999	1.1 (0.0, 2.7)	2.8 (1.0, 4.5)	5.1 (1.3, 9.0)	8.0 (3.6, 12.4)	2.7 (0.8, 4.6)	3.1 (1.2, 4.9)
$50,000 or higher	1,9 (0.6, 3.1)	5.3 (1.9, 8.7)	4.2 (1.5, 7.0)	4.7 (2.5, 7.0)	2.8 (1.2, 4.5)	3.2 (0.3, 6.0)
[a] Among all adults, the proportion who reported they currently use chewing tobacco, snuff, or snus, either every day or on some days.						
[b] Among all adults, the proportion who reported they currently use e-cigarettes or vaping, either every day or on some days.						

Table 13-35A: Fruit and Vegetable Consumption by County					
	5 or More Daily Servings Fruits and Vegetables[a]				
	2024	2021	2017	2015	2012
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Michigan			14.4 (13.5, 15.3)	15.3 (14.5, 16.2)	17.8 (16.8, 19.0)
Upper Peninsula	2.0 (1.4, 2.7)	8.4 (6.6, 10.1)	10.6 (8.6, 12.5)	8.6 (8.4, 8.8) [b]	11.5 (9.5, 14.0) [b]
Alger	2.8 (0.1, 5.4)	9.7 (6.0, 13.5)	7.7 (4.3, 11.0)		
Baraga	2.8 (0.9, 4.8)	7.6 (4.1, 11.1)	6.9 (3.6, 10.2)	5.5 (5.1, 6.0)	9.5 (6.8, 13.1)
Chippewa	1.5 (0.0, 3.6)	5.0 (1.8, 8.1)	17.2 (5.8, 28.7)		
Delta	1.7 (0.0, 3.9)	4.9 (1.0, 8.8)	5.2 (2.4, 8.0)		
Dickinson	2.4 (0.0, 5.9)	12.0 (6.0, 18.1)	5.1 (2.6, 7.6)		
Gogebic	2.4 (0.0, 5.7)	18.6 (0.0, 37.3)	14.0 (7.8, 20.1)	7.3 (6.9, 7.6)	9.2 (6.5, 12.9)
Houghton/Keweenaw	4.3 (1.9, 6.6)	8.1 (3.9, 12.3)	10.7 (6.4, 15.0)	9.9 (9.7, 10.2)	13.5 (10.2, 17.7)
Iron	0.6 (0.0, 1.6)	8.6 (4.0, 13.1)	8.0 (4.6, 11.5)	10.4 (9.9, 10.2)	
Luce	1.9 (0.4, 3.4)	8.8 (4.3, 13.4)	10.1 (5.2, 15.0)		
Mackinac	2.1 (0.6, 3.5)	6.9 (3.1, 10.8)	11.4 (5.2, 17.6)		
Marquette	0.8 (0.0, 1.7)	8.9 (5.4, 12.5)	14.5 (9.3, 19.7)		
Menominee	1.5 (0.0, 3.2)	8.8 (2.9, 14.8)	6.5 (3.2, 9.8)		
Ontonagon	1.8 (0.4, 3.2)	10.0 (5.6, 14.5)	7.4 (4.7, 10.0)	4.9 (4.4, 5.3)	7.9 (6.1, 10.1)
Schoolcraft	4.3 (0.4, 8.1)	9.3 (4.9, 13.8)	9.1 (4.6, 13.6)		
[a] Among all adults, the proportion whose total reported of fruits (including juice) and vegetables averaged five or more times per day in the past 7 days.					
[b] Cumulative estimate for the counties surveyed.					

Table 13-35B: Fruit and Vegetable Consumption by Population Group			
	5 or More Daily Servings Fruits and Vegetables[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	2.0 (1.4, 2.7)	8.4 (6.6, 10.1)	10.6 (8.6, 12.5)
Age			
18-39	1.8 (0.3, 3.3)	5.2 (1.5, 8.9)	10.8 (5.6, 15.9)
40-65	1.9 (1.1, 2.8)	8.9 (6.7, 11.1)	9.6 (7.4, 11.7)
65+	2.6 (1.6, 3.6)	12.0 (9.9, 14.2)	12.1 (9.9, 14.4)
Gender			
Male	1.1 (0.5, 1.7)	6.4 (3.5, 9.3)	7.2 (4.1, 10.3)
Female	2.4 (1.5, 3.3)	10.2 (8.3, 12.2)	13.8 (11.3, 16.2)
Educational Attainment			
Less than 12th grade	0.1 (0.0, 0.4)	7.4 (0.9, 13.9)	5.3 (1.4, 9.2)
High School Graduate	1.5 (0.3, 2.7)	6.9 (3.3, 10.4)	9.2 (5.4, 12.9)
1-3 years of college	2.3 (1.1, 3.4)	7.1 (5.1, 9.2)	10.9 (7.8, 14.0)
4-year degree or higher	3.0 (1.5, 4.5)	12.7 (9.3, 16.2)	17.0 (13.1, 20.8)
Household Income			
Less than $25,000	1.4 (0.6, 2.3)	6.7 (1.4, 12.0)	8.6 (5.6, 11.5)
$25,000 to $49,999	2.4 (0.8, 4.0)	8.5 (6.1, 10.9)	9.1 (6.5, 11.7)
$50,000 or higher	2.6 (1.4, 3.7)	8.8 (6.7, 10.9)	12.8 (9.0, 16.6)

[a] Among all adults, the proportion whose total reported of fruits (including juice) and vegetables averaged five or more times per day in the past 7 days.

Table 13-36A: Physical Activity by County			
	No Leisure, time Physical Activity[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		25.8 (25.6, 25.9)	
US Weighted		24.5	
Michigan (2023)	25.3 (24.0, 26.5)	20.8 (19.6, 22.1)	23.9 (22.9, 24.9)
Upper Peninsula (MiBRFS 2021-2023)	22.4 (19.4, 25.8)	24.8 (21.3, 28.6)	
Upper Peninsula	19.8 (16.5, 23.1)	14.0 (11.2, 16.7)	14.6 (12.4, 16.8)
Alger	12.7 (6.9, 18.4)	16.2 (9.5, 22.9)	13.6 (8.5, 18.7)
Baraga	20.2 (11.8, 28.6)	14.3 (8.9, 19.8)	12.2 (6.9, 17.5)
Chippewa	23.3 (12.3, 34.3)	17.2 (7.1, 27.2)	20.8 (11.2, 30.5)
Delta	14.2 (7.2, 21.2)	10.5 (1.4, 19.6)	11.6 (7.1, 16.1)
Dickinson	17.9 (103., 25.4)	19.8 (12.2, 27.4)	14.8 (8.1, 21.5)
Gogebic	16.6 (10.6, 22.6)	16.5 (9.1, 23.8)	17.3 (11.2, 23.4)
Houghton/Keweenaw	12.0 (6.4, 17.7)	10.4 (5.3, 15.6)	9.9 (5.1, 14.7)
Iron	21.6 (11.1, 32.1)	23.1 (11.9, 34.3)	17.8 (12.3, 23.3)
Luce	22.3 (14.2, 30.5)	16.4 (10.9, 22.0)	15.9 (10.3, 21.5)
Mackinac	17.4 (9.9, 24.8)	18.0 (10.6, 25.5)	14.1 (7.9, 20.3)
Marquette	25.2 (14.4, 35.9)	9.1 (4.6, 13.7)	13.5 (7.1, 19.8)
Menominee	29.7 (16.7, 42.7)	16.0 (2.8, 29.3)	16.9 (9.4, 24.4)
Ontonagon	18.3 (12.8, 23.8)	16.7 (10.9, 22.6)	14.4 (8.1, 20.8)
Schoolcraft	22.6 (13.9, 31.3)	22.1 (11.0, 33.1)	19.8 (12.0, 27.6)

[a] Among all adults, the proportion who reported not participating in any leisure-time physical activities or exercises, such as running, biking, golf, gardening, or walking for exercise during the last month.

Table 13-36B: Physical Activity by Population Group			
	No Leisure-time Physical Activity[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	19.8 (16.5, 23.1)	14.0 (11.2, 16.7)	14.6 (12.4, 16.8)
Age			
18-39	16.4 (8.6, 24.2)	9.7 (3.4, 15.9)	7.4 (2.5, 12.4)
40-65	19.0 (14.4, 23.7)	14.1 (11.1, 17.1)	14.9 (11.8, 17.9)
65+	24.6 (21.0, 28.2)	19.7 (17.1, 22.3)	24.1 (21.1, 27.1)
Gender			
Male	22.1 (15.2, 28.9)	14.7 (9.9, 19.4)	17.0 (13.1, 20.8)
Female	18.5 (14.8, 22.2)	13.3 (10.3, 16.3)	12.3 (10.0, 14.7)
Educational Attainment			
Less than 12th grade	32.0 (17.5, 46.5)	34.8 (16.9, 52.7)	29.2 (17.5, 40.9)
High School Graduate	24.3 (17.5, 31.1)	19.5 (12.7, 26.2)	16.9 (13.6, 20.3)
1-3 years of college	17.6 (12.9, 22.2)	11.8 (7.7, 15.9)	12.9 (9.0, 16.9)
4-year degree or higher	13.1 (6.4, 19.8)	5.9 (3.8, 8.0)	3.8 (2.8, 4.9)
Household Income			
Less than $25,000	29.5 (21.6, 37.5)	18.1 (9.2, 27.0)	22.7 (17.5, 27.8)
$25,000 to $49,999	18.7 (13.7, 23.8)	15.7 (11.3, 20.1)	13.3 (10.1, 16.4)
$50,000 or higher	9.6 (7.0, 12.2)	11.1 (7.5, 14.8)	10.4 (7.0, 13.9)

[a] Among all adults, the proportion who reported not participating in any leisure, time physical activities or exercises, such as running, biking, golf, gardening, or walking for exercise during the last month.

Table 13-37A: Motor Vehicle Safety by County						
	Always Uses Seat Belt[a]			Drove Vehicle after Drinking[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Michigan (2023)	89.0 (87.9, 90.0)	89.6 (88.5, 90.6)	88.9 (88.0, 89.6)	1.4 (1.1, 1.7)	2.2 (1.7, 2.8)	3.6 (3.0, 4.3)
Upper Peninsula (MiBRFS 2021-2023)	ND	84.2 (79.1, 88.2)				
Upper Peninsula	91.0 (89.0, 93.1)	90.7 (88.2, 93.2)	86.7 (84.2, 89.3)	3.4 (2.2, 4.6)	6.9 (4.8, 8.9)	6.5 (4.5, 8.4)
Alger	85.1 (74.1, 96.1)	88.8 (83.8, 93.8)	85.4 (79.2, 91.6)	1.5 (0.0, 3.0)	2.0 (0.03, 3.9)	4.3 (1.4, 7.2)
Baraga	85.4 (78.0, 92.9)	79.4 (68.6, 90.3)	78.2 (66.0, 90.4)	9.0 (1.1, 16.9)	10.8 (2.6, 19.0)	17.1 (8.1, 26.1)
Chippewa	92.8 (87.5, 98.1)	82.3 (71.8, 92.8)	89.8 (83.3, 96.3)	1.8 (0.0, 4.2)	9.1 (0.7, 17.5)	8.3 (2.3, 14.4)
Delta	92.8 (88.0, 97.6)	95.4 (89.9, 100.0)	88.4 (83.1, 93.6)	5.3 (0.8, 9.7)	6.2 (0.0, 14.4)	7.2 (1.4, 13.0)
Dickinson	87.0 (79.6, 94.5)	94.6 (90.3, 99.0)	87.7 (81.1, 94.3)	2.5 (0.0, 5.8)	5.6 (0.0, 12.3)	5.6 (1.2, 10.0)
Gogebic	93.6 (89.6, 97.6)	96.4 (93.3, 99.6)	88.0 (81.8, 94.1)	3.3 (0.0, 6.7)	15.2 (4.0, 26.4)	4.2 (1.0, 7.4)
Houghton/Keweenaw	89.3 (82.8, 95.8)	93.2 (89.2, 97.3)	82.6 (72.1, 93.0)	3.3 (0.1, 6.4)	6.9 (0.4, 13.5)	4.9 (0.4, 9.3)
Iron	92.7 (87.1, 98.4)	82.5 (71.4, 93.7)	84.5 (75.8, 93.2)	9.2 (0.0, 18.7)	5.8 (0.0, 12.9)	8.5 (2.4, 14.6)
Luce	87.7 (81.1, 94.2)	87.8 (79.4, 96.1)	85.1 (76.9 93.3)	2.3 (0.3, 4.3)	6.3 (1.2, 11.4)	6.9 (1.9, 11.9)
Mackinac	89.0 (83.0, 95.0)	92.2 (87.3, 97.1)	89.3 (82.9, 95.7)	5.6 (0.0, 12.2)	13.5 (2.8, 24.2)	5.0 (0.2, 9.8)
Marquette	94.2 (90.1, 98.5)	91.7 (84.8, 98.5)	89.9 (84.2, 95.6)	2.4 (0.0, 4.8)	5.9 (1.8, 9.9)	4.2 (0.4, 8.0)
Menominee	86.9 (74.5, 99.3)	91.3 (86.8, 95.8)	81.8 (68.8, 94.8)	1.1 (0.0, 2.6)	3.9 (0.1, 7.8)	12.2 (0.0, 25.7)
Ontonagon	89.7 (85.6, 93.8)	88.3 (81.2, 95.3)	81.4 (73.9, 88.9)	5.1 (1.1, 9.2)	6.4 (1.4, 11.4)	4.4 (1.7, 7.1)
Schoolcraft	92.4 (87.8, 96.9)	86.4 (75.5, 97.3)	83.2 (71.2, 95.1)	7.5 (0.0, 21.4)	2.6 (0.1, 5.1)	3.1 (0.5, 5.6)

[a] Among all adults who reported driving or riding in a car or truck, the proportion who reported always using a seatbelt when driving or riding in a car or truck.

[b] Among adults who reported drinking at least one drink in the past month, the proportion who reported they drove when they had too much to drink at least once in the past month.

Table 13-37B: Motor Vehicle Safety by Population Group						
	Always Uses Seat Belt[a]			Drove Vehicle after Drinking[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Upper Peninsula	91.0 (89.0, 93.1)	90.7 (88.2, 93.2)	86.7 (84.2, 89.3)	3.4 (2.2, 4.5)	6.9 (4.8, 8.9)	6.5 (4.5, 8.4)
Age						
18-39	88.6 (83.5, 93.7)	90.0 (84.1, 95.9)	82.0 (75.2, 88.8)	4.7 (0.7, 8.6)	7.7 (2.8, 12.7)	6.3 (1.6, 11.0)
40-65	92.3 (89.7, 94.6)	89.4 (85.9, 92.9)	88.9 (86.3, 91.4)	4.2 (2.4, 6.0)	7.9 (4.7, 11.2)	7.4 (5.0, 9.8)
65+	92.4 (89.6, 95.3)	93.4 (92.0, 94.9)	88.9 (86.4, 91.4)	3.5 (1.9, 5.2)	4.0 (2.5, 5.4)	4.8 (1.9, 7.7)
Gender						
Male	88.6 (84.9, 92.4)	86.8 (81.8, 91.8)	80.9 (76.3, 85.5)	6.4 (2.9, 10.0)	9.2 (5.7, 12.7)	7.1 (4.1, 10.1)
Female	92.5 (90.1, 94.8)	94.4 (92.6, 96.2)	92.2 (89.9, 94.6)	3.0 (1.7, 4.3)	4.6 (2.3, 6.8)	5.8 (3.4, 8.2)
Educational Attainment						
Less than 12th grade	93.1 (87.0, 99.1)	85.4 (74.1, 96.7)	84.1 (75.5, 92.6)	4.0 (0.0, 11.0)	0.5 (0.0, 1.4)	7.1 (0.0, 18.1)
High School Graduate	90.6 (86.2, 95.0)	92.2 (88.7, 95.6)	84.3 (79.2, 89.3)	3.6 (1.0, 6.2)	9.4 (4.5, 14.2)	8.2 (4.1, 12.4)
1-3 years of college	91.6 (88.7, 94.5)	90.7 (87.0, 94.3)	89.3 (85.8, 92.8)	4.0 (2.0, 5.9)	4.9 (2.4, 7.4)	5.1 (2.7, 7.4)
4-year degree or higher	90.5 (86.8, 94.3)	89.0 (82.4, 95.6)	88.3 (84.6, 91.9)	5.6 (2.0, 9.2)	7.6 (3.7, 11.6)	5.8 (3.4, 8.2)
Household Income						
Less than $25,000	91.0 (87.0, 95.0)	91.0 (85.1, 96.9)	90.2 (87.1, 93.4)	2.1 (0.3, 3.9)	2.2 (0.2, 4.3)	10.0 (2.3, 17.8)
$25,000 to $49,999	89.9 (85.7, 94.2)	91.6 (88.4, 94.8)	84.7 (79.4, 90.0)	3.0 (1.3, 4.8)	9.3 (5.2, 13.3)	6.7 (3.6, 9.8)
$50,000 or higher	92.3 (90.0, 94.6)	89.9 (86.2, 93.7)	86.1 (82.0, 90.3)	7.0 (3.8, 10.3)	7.1 (4.2, 10.0)	5.5 (3.4, 7.6)

[a] Among all adults who reported driving or riding in a car or truck, the proportion who reported always using a seatbelt when driving or riding in a car or truck.

[b] Among adults who reported drinking at least one drink in the past month, the proportion who reported they drove when they had too much to drink at least once in the past month.

Table 13-38A: Hypertension Awareness by County

	Ever Told High Blood Pressure[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		40.6 (40.4, 40.7)	
US Weighted		32.52	
Michigan (2023)	37.0 (35.7, 38.3)	35.1 (33.9, 36.3)	33.1 (31.9, 34.3)
Upper Peninsula	39.6 (35.9, 43.2)	36.2 (31.5, 40.9)	40.8 (37.8, 43.9)
Alger	35.3 (26.4, 44.2)	51.4 (42.1, 60.7)	44.8 (36.5, 53.0)
Baraga	43.5 (33.4, 53.7)	48.3 (38.0, 58.5)	51.9 (40.7, 63.1)
Chippewa	50.8 (38.2, 63.3)	43.3 (31.7, 54.9)	40.6 (30.0, 51.2)
Delta	39.5 (25.3, 53.7)	24.0 (7.1, 41.0)	38.7 (29.8, 47.6)
Dickinson	41.6 (31.9, 51.3)	36.9 (28.2, 45.6)	44.2 (35.5, 52.8)
Gogebic	43.1 (34.9, 51.3)	40.7 (28.2, 53.1)	52.3 (44.1, 60.6)
Houghton/Keweenaw	32.9 (24.0, 41.8)	31.4 (21.5, 41.4)	36.4 (27.7, 45.0)
Iron	44.6 (34.9, 54.2)	39.1 (29.7, 48.6)	53.7 (45.2, 62.1)
Luce	40.9 (32.8, 49.0)	44.4 (35.2, 53.5)	47.0 (38.2, 55.8)
Mackinac	48.9 (38.6, 59.2)	44.5 (35.3, 53.6)	45.2 (32.8, 57.6)
Marquette	29.2 (20.8, 37.6)	32.9 (24.6, 41.1)	33.9 (26.1, 41.7)
Menominee	47.5 (38.4, 56.5)	36.1 (26.1, 46.2)	37.9 (28.1, 47.7)
Ontonagon	48.3 (39.9, 56.7)	56.1 (47.6, 64.7)	53.0 (46.0, 59.9)
Schoolcraft	48.8 (38.6, 59.0)	47.9 (36.2, 59.6)	55.0 (45.5, 64.6)

[a] Among all adults, the proportion who reported they were told by a doctor, nurse, or health professional they had high blood pressure (HBP). Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered not to have been diagnosed.

Table 13-38B: Hypertension Awareness by Population Group			
	Ever Told High Blood Pressure[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	39.6 (35.9, 43.2)	36.2 (31.5, 40.9)	40.8 (37.8, 43.9)
Age			
18-39	9.7 (5.5, 13.9)	7.7 (3.6, 11.7)	13.6 (8.0, 19.1)
40-65	48.4 (43.3, 53.4)	44.5 (39.9, 49.2)	45.9 (42.0, 49.9)
65+	63.7 (60.3, 67.2)	63.6 (60.2, 66.9)	68.1 (65.0, 71.2)
Gender			
Male	43.0 (36.0, 50.0)	38.7 (29.5, 47.9)	45.5 (40.1, 50.9)
Female	37.6 (33.4, 41.9)	33.7 (30.0, 37.4)	36.4 (33.1, 39.6)
Educational Attainment			
Less than 12th grade	48.1 (31.3, 65.0)	33.2 (18.6, 47.8)	56.5 (43.2, 69.7)
High School Graduate	46.8 (38.6, 55.0)	38.0 (26.9, 49.2)	44.5 (39.2, 49.8)
1-3 years of college	39.4 (33.5, 45.3)	37.7 (32.0, 43.5)	37.2 (32.3, 42.2)
4-year degree or higher	27.1 (22.5, 31.7)	32.1 (26.4, 37.8)	29.1 (25.1, 33.2)
Household Income			
Less than $25,000	46.3 (37.4, 55.2)	34.6 (18.8, 50.4)	45.1 (39.0, 51.2)
$25,000 to $49,999	39.9 (34.1, 45.6)	37.6 (31.5, 43.6)	45.4 (39.7, 51.1)
$50,000 or higher	30.9 (27.2, 34.6)	35.6 (30.9, 40.4)	34.6 (29.9, 39.3)
[a] Among all adults, the proportion who reported they were told by a doctor, nurse, or health professional they had high blood pressure (HBP). Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered not to have been diagnosed.			

Table 13-39A: Cholesterol Screening by County						
	Cholesterol Ever Checked[a]			Ever Told High Cholesterol[b]		
	2024	2021	2017	2024	2021	2017
	% (95%C.I.)	% (95%C.I.)		% (95%C.I.)	% (95%C.I.)	
US Raw		94.3 (94.2, 94.3)			36.6 (36.5, 36.8)	
US Weighted		92.2			30.9	
Michigan (2023)	92.2 (91.3, 93.0)	93.9 (93.1, 94.6)	79.2 (77.9, 80.3) [c]	35.6 (34.3, 36.9)	32.3 (31.2, 33.5)	38.2 (36.8, 39.5) [c]
Upper Peninsula	72.1 (67.4, 76.8)	77.9 (73.4, 82.4)	77.6 (74.2, 81.0)	55.3 (51.4, 59.2)	48.4 (41.4, 55.4)	50.1 (46.7, 53.5)
Alger	82.3 (71.0, 93.6)	86.7 (79.5, 93.9)	78.4 (69.4, 87.3)	44.7 (34.7, 54.8)	49.6 (39.9, 59.4)	49.0 (40.9, 57.2)
Baraga	76.3 (66.7, 85.9)	85.2 (75.6, 94.9)	69.9 (57.0, 82.8)	67.4 (56.0, 78.8)	58.5 (48.3, 68.6)	48.9 (39.3, 58.6)
Chippewa	80.6 (70.9, 90.4)	76.0 (62.5, 89.4)	67.6 (54.5, 80.6)	64.6 (51.9, 77.4)	56.0 (44.0, 68.0)	54.1 (42.9, 65.3)
Delta	61.8 (42.0, 81.6)	89.6 (80.6, 98.6)	78.6 (69.7, 87.5)	57.8 (47.7, 68.0)	35.5 (8.2, 62.8)	58.2 (48.5, 67.9)
Dickinson	84.8 (77.1, 92.6)	83.8 (76.3, 91.2)	86.4 (78.8, 93.9)	52.6 (41.9, 63.4)	55.4 (44.9, 65.9)	50.6 (41.6, 59.7)
Gogebic	75.5 (67.8, 83.1)	65.3 (47.8, 82.9)	84.1 (77.9, 90.4)	50.4 (41.1, 59.7)	61.1 (51.6, 70.6)	55.5 (46.4, 64.6)
Houghton/Keweenaw	55.0 (43.3, 66.7)	62.6 (48.5, 76.7)	71.7 (60.9, 82.6)	55.0 (45.8, 64.3)	51.2 (38.6, 63.8)	42.5 (33.2, 51.8)
Iron	83.4 (72.4, 94.4)	76.9 (64.9, 88.9)	85.8 (78.8, 82.6)	52.0, 42.3, 61.7)	54.9 (45.6, 64.2)	61.2 (53.2, 69.2)
Luce	71.2 (61.8, 80.6)	82.5 (72.3, 92.8)	83.8 (76.7, 91.0)	57.9 (49.5, 66.3)	61.1 (52.5, 69.8)	58.8 (49.2, 68.4)
Mackinac	79.4 (69.1, 89.7)	80.0 (70.2, 89.8)	83.5 (75.8, 91.3)	60.6 (49.9, 71.3)	54.1 (45.0, 63.3)	48.1 (34.3, 62.0)
Marquette	71.4 (60.7, 82.1)	73.2 (62.4, 83.9)	74.0 (64.8, 83.2)	45.2 (33.4, 57.1)	37.2 (28.0, 46.3)	44.1 (34.7, 53.4)
Menominee	80.2 (67.7, 92.7)	88.2 (80.7, 95.8)	89.1 (82.6, 95.6)	64.0 (54.1, 73.8)	57.2 (43.7, 70.7)	46.6 (34.5, 58.8)
Ontonagon	74.9 (65.2, 84.5)	83.3 (75.3, 91.3)	75.4 (67.7, 83.1)	59.4 (51.6, 67.3)	63.3 (55.1, 71.5)	56.9 (50.7, 63.1)
Schoolcraft	74.3 (64.1, 84.5)	79.8 (68.5, 91.1)	85.7 (79.0, 92.5)	54.8 (43.6, 66.0)	52.2 (39.9, 64.4)	55.2 (44.9, 65.5)

[a] Among all adults, the proportion who reported ever having their blood cholesterol checked. *Statewide estimates the proportion who reported every having their blood cholesterol checked in the past five years.*

[b] Among adults who ever had their blood cholesterol checked, the proportion who reported a doctor, nurse, or health professional told them their cholesterol level was high.

Table 13-39B: Cholesterol Screening by Population Group						
	Cholesterol Ever Checked[a]			Ever Told High Cholesterol[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	72.1 (67.4, 76.8)	77.9 (73.4, 82.4)	77.6 (74.2, 81.0)	55.3 (51.4, 59.2)	48.4 (41.4, 55.4)	50.1 (46.7, 53.5)
Age						
18-39	38.5 (28.9, 48.1)	55.9 (40.9, 70.9)	50.7 (42.2, 59.1)	29.0 (17.1, 41.0)	20.1 (7.2, 33.0)	22.1 (12.7, 31.5)
40-65	87.5 (84.4, 90.5)	86.8 (83.9, 89.7)	88.3 (85.6, 91.0)	58.1 (52.8, 63.3)	54.7 (49.8, 59.6)	52.1 (48.0, 56.3)
65+	92.2 (90.3, 94.2)	94.7 (93.6, 95.9)	95.2 (93.8, 96.6)	65.7 (61.9, 69.4)	63.0 (59.6, 66.4)	67.0 (63.9, 70.1)
Gender						
Male	75.8 (68.6, 83.1)	78.2 (70.4, 86.0)	76.8 (70.9, 82.7)	56.1 (47.8, 64.5)	48.5 (35.1, 61.9)	53.8 (48.0, 59.6)
Female	70.3 (64.4, 76.2)	77.6 (73.1, 82.1)	78.4 (74.9, 82.0)	54.6 (50.4, 58.9)	48.4 (43.8, 52.9)	46.7 (42.9, 50.5)
Educational Attainment						
Less than 12th grade	65.6 (48.8, 82.4)	72.7 (57.0, 88.4)	65.4 (51.1, 79.6)	76.6 (59.9, 93.2)	55.8 (33.4, 78.2)	69.5 (57.9, 81.1)
High School Graduate	69.6 (59.3, 79.8)	80.6 (72.8, 88.5)	75.2 (69.2, 81.2)	61.1 (54.0, 68.1)	47.3 (31.0, 63.7)	52.4 (46.8, 58.1)
1-3 years of college	73.9 (67.2, 80.6)	75.4 (68.0, 82.8)	80.7 (75.4, 86.0)	55.9 (48.5, 63.3)	53.8 (47.8, 59.8)	47.8 (41.8, 53.7)
4-year degree or higher	73.7 (66.1, 81.3)	79.8 (73.2, 86.4)	83.7 (79.5, 87.9)	42.3 (36.6, 48.1)	41.5 (34.3, 48.7)	40.2 (34.9, 45.5)
Household Income						
Less than $25,000	64.4 (53.9, 74.9)	77.8 (65.9, 89.6)	65.2 (58.2, 72.1)	60.9 (51.9, 70.0)	45.4 (19.9, 70.9)	52.8 (46.0, 59.5)
$25,000 to $49,999	75.4 (69.1, 81.6)	71.2 (62.1, 80.3)	79.4 (73.8, 85.0)	58.5 (51.6, 65.5)	53.3 (47.8, 58.8)	54.6 (48.2, 60.9)
$50,000 or higher	77.1 (72.8, 81.4)	80.6 (75.4, 85.8)	83.5 (78.1, 88.9)	47.5 (43.0, 52.1)	47.5 (41.9, 53.1)	45.5 (40.4, 50.7)
[a] Among all adults, the proportion who reported ever having their blood cholesterol checked.						
[b] Among adults who ever had their blood cholesterol checked, the proportion who reported a doctor, nurse, or health professional told them their cholesterol level was high.						

Table 13-40A: Asthma by County						
	Lifetime Asthma Prevalence[a]			Current Asthma Prevalence[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		14.1 (14.0, 14.2)			9.3 (9.2, 9.4)	
US Weighted		14.5			8.9	
Michigan (2023)	17.0 (16.0, 18.1)	15.4 (14.4, 16.6)	16.3 (15.4, 17.2)	11.0 (10.2, 11.9)	11.0 (10.1, 12.0)	10.9 (10.2, 11.7)
Upper Peninsula (MiBRFS 2021-2023)	16.6 (13.9, 19.7)	15.1 (12.1, 18.7)		12.9 (10.5, 15.8)	10.9 (8.3, 14.2)	
Upper Peninsula	20.0 (17.0, 23.0)	16.8 (13.7, 19.9)	17.8 (15.2, 20.5)	13.4 (10.8, 16.0)	10.7 (8.4, 12.9)	11.2 (9.3, 13.1)
Alger	23.6 (12.8, 34.4)	19.1 (12.3, 25.8)	18.2 (10.7, 25.7)	15.9 (5.2, 26.8)	12.4 (6.8, 18.0)	10.3 (5.1, 15.4)
Baraga	24.7 (14.5, 34.9)	19.0 (11.3, 26.7)	8.6 (4.9, 12.3)	18.5 (9.4, 27.6)	13.7 (6.5, 20.9)	6.4 (3.3, 9.6)
Chippewa	17.5 98.2, 26.7)	12.9 (5.2, 20.6)	13.2 (7.1, 19.3)	8.9 (2.2, 15.6)	5.1 (2.1, 8.1)	9.6 (4.5, 14.8)
Delta	20.3 (10.5, 30.0)	9.2 (1.5, 16.8)	15.5 (9.5, 21.6)	16.2 (7.4, 25.1)	6.1 (0.5, 11.6)	8.7 (4.2, 13.1)
Dickinson	21.3 (13.5, 29.0)	13.6 (7.6, 19.7)	17.5 (11.2, 23.7)	14.6 (8.3, 20.9)	7.9 (3.8, 11.9)	11.6 (6.5, 16.7)
Gogebic	19.5 (12.4, 26.7)	11.5 (5.5, 17.6)	15.7 (8.8, 22.6)	14.4 (7.7, 21.1)	9.2 (3.6, 14.8)	8.2 (2.8, 13.6)
Houghton/Keweenaw	19.8 (12.5, 27.2)	17.2 (9.5, 25.0)	19.9 (9.5, 30.3)	9.1 (4.3, 13.9)	13.3 (6.3, 20.3)	8.5 (4.3, 12.5)
Iron	15.2 (9.0, 21.3)	17.2 (10.0, 24.4)	17.8 (11.7, 23.9)	9.6 (4.5, 14.7)	12.2 (6.2, 18.1)	15.1 (9.3, 20.9)
Luce	18.4 (11.6, 25.2)	14.3 (8.9, 19.7)	16.7 (11.1, 22.3)	14.9 (8.8, 21.1)	9.2 (4.8, 13.7)	11.7 (7.1, 16.3)
Mackinac	17.6 (10.2, 25.1)	18.1 (10.5, 25.7)	24.6 (9.3, 39.8)	12.3 (5.6, 19.0)	9.0 (3.9, 14.1)	6.5 (2.8, 10.3)
Marquette	22.0 (12.7, 31.4)	24.9 (16.1, 33.7)	22.9 (15.3, 30.5)	15.2 (6.6, 23.8)	15.4 (8.5, 22.4)	15.8 (9.4, 22.2)
Menominee	14.9 (7.0, 22.7)	14.2 (7.2, 21.2)	12.2 (6.2, 18.3)	12.5 (4.9, 20.1)	9.5 (4.3, 14.6)	10.5 (4.6, 16.4)
Ontonagon	17.8 (11.4, 24.2)	12.0 (7.0, 16.9)	16.2 (11.9, 20.6)	12.5 (6.7, 18.4)	9.1 (4.5, 13.7)	10.2 (6.9, 13.6)
Schoolcraft	29.4 (19.4, 39.3)	36.6 (22.8, 50.4)	18.9 (11.6, 26.2)	24.1 (14.2, 33.9)	24.3 (11.0, 37.5)	15.7 (8.7, 22.8)

[a] Among all adults, the proportion who reported they were every told by a doctor, nurse, or health professional they had asthma.

[b] Among all adults, the proportion who reported they still have asthma.

Table 13-40B: Asthma by Population Group						
	Lifetime Asthma Prevalence[a]			Current Asthma Prevalence[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	20.0 (17.0, 23.0)	16.8 (13.7, 19.9)	17.8 (15.2, 20.5)	13.4 (10.8, 16.0)	10.7 (8.4, 12.9)	11.2 (9.3, 13.1)
Age						
18-39	24.4 (16.7, 32.1)	18.8 (10.5, 27.0)	19.7 (12.9, 26.5)	15.1 (8.5, 21.7)	10.0 (4.6, 15.5)	9.7 (5.3, 14.0)
40-65	19.5 (15.7, 23.3)	16.7 (13.6, 19.9)	18.4 (15.3, 21.5)	14.0 (10.7, 17.2)	11.9 (9.2, 14.6)	12.8 (10.1, 15.5)
65+	15.3 (12.9, 17.7)	13.8 (11.6, 16.0)	13.3 (11.1, 15.5)	11.2 (9.0, 13.4)	9.3 (7.5, 11.1)	9.7 (7.8, 11.5)
Gender						
Male	15.9 (9.9, 21.8)	12.3 (8.0, 16.7)	17.3 (12.6, 27.9)	10.3 (4.8, 15.9)	6.9 (4.3, 9.5)	10.1 (6.9, 13.2)
Female	21.8 (18.3, 25.4)	21.1 (17.4, 24.9)	18.4 (15.8, 21.0)	14.8 (11.8, 17.8)	14.3 (11.1, 17.5)	12.3 (10.0, 14.5)
Educational Attainment						
Less than 12th grade	31.1 (14.7, 47.5)	25.6 (10.4, 40.9)	23.4 (11.5, 35.4)	29.1 (12.7, 45.4)	23.2 (8.0, 38.4)	13.8 (7.0, 20.7)
High School Graduate	18.1 (13.0, 23.3)	14.3 (8.5, 20.0)	16.5 (12.1, 20.9)	11.3 (7.4, 15.1)	9.5 (5.0, 14.0)	9.9 (7.4, 12.4)
1-3 years of college	18.8 (14.5, 23.1)	17.2 (12.8, 21.6)	17.9 (13.8, 22.3)	13.1 (9.6, 16.6)	10.9 (7.9, 14.0)	11.9 (7.9, 15.8)
4-year degree or higher	21.5 (15.0, 28.0)	19.2 (13.7, 24.7)	17.6 (13.6, 21.6)	13.7 (7.5, 20.0)	10.6 (6.8, 14.5)	10.7 (7.5, 13.9)
Household Income						
Less than $25,000	23.9 (17.0, 30.7)	20.2 (9.8, 30.7)	21.3 (15.9, 26.7)	18.8 (12.6, 25.0)	12.2 (6.0, 18.4)	14.1 (10.5, 17.8)
$25,000 to $49,999	17.7 (13.1, 22.4)	16.0 (11.8, 20.2)	16.5 (11.1, 21.9)	11.6 (7.8, 15.3)	11.0 (7.7, 14.3)	8.5 (6.0, 11.1)
$50,000 or higher	17.9 (14.4, 21.3)	15.8 (11.9, 19.7)	16.2 (12.6, 19.9)	9.8 (7.3, 12.4)	9.8 (6.5, 13.2)	10.5 (7.3, 13.7)

[a] Among all adults, the proportion who reported they were every told by a doctor, nurse, or health professional they had asthma.

[b] Among all adults, the proportion who reported they still have asthma.

Table 13-41A: Diabetes by County					
	Ever Told Diabetes[a]				
	2024	2021	2017	2015	2012
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		13.7 (13.62, 13.82)			
US Weighted		11.1			
Michigan (2023)	12.4 (11.6, 13.3)	12.3 (11.4, 13.3)	11.2 (10.5, 11.8)	10.4 (9.7, 11.1)	10.0 (9.3, 10.7)
Upper Peninsula (MiBRFS 2021-2023)	11.8 (9.7, 14.2)	12.5 (9.8, 15.6)			
Upper Peninsula	13.5 (11.3, 15.8)	11.0 (8.9, 13.0)	11.0 (9.3, 12.7)	10.9 (10.7, 11.1) [b]	9.8 (8.0, 11.8) [b]
Alger	14.3 (8.6, 19.9)	11.4 (5.7, 17.2)	13.0 (8.0, 12.7)		
Baraga	17.6 (9.1, 26.1)	13.0 (6.3, 19.8)	12.8 (7.8, 17.8)	12.1 (11.5, 12.7)	10.0 (7.1, 13.9)
Chippewa	15.7 (7.9, 23.5)	10.2 (4.9, 15.5)	13.7 (8.0, 19.5)		
Delta	15.7 (6.7, 24.7)	0.2 (1.0, 17.5)	15.7 (7.7, 23.7)		
Dickinson	18.4 (9.5, 27.4)	10.4 (6.0, 14.9)	8.8 (4.4, 13.3)		
Gogebic	10.9 (6.6, 15.2)	14.7 (8.2, 21.1)	15.6 (9.6, 21.6)	13.5 (13.0, 13.9)	8.6 (6.3, 11.6)
Houghton/Keweenaw	10.2 (5.6, 14.8)	16.4 (8.7, 24.2)	7.9 (4.8, 11.1)	10.2 (9.9, 10.4)	9.8 (7.1, 13.5)
Iron	10.9 (6.2, 15.6)	7.4 (3.8, 11.0)	12.5 (7.6, 17.5)	10.2 (9.7, 10.7)	
Luce	15.8 (10.4, 21.3)	15.0 (9.3, 20.6)	14.3 (8.7, 19.9)		
Mackinac	15.1 (7.8, 22.4)	12.6 (5.6, 19.5)	6.2 (3.1, 9.3)		
Marquette	10.0 (4.6, 15.4)	6.0 (3.3, 8.8	8.4 (4.7, 12.1)		
Menominee	15.1 (8.4, 21.8)	12.3 (6.7, 18.0)	10.1 (5.8, 14.5)		
Ontonagon	16.2 (10.7, 21.8)	18.2 (11.7, 24.8)	15.8 (11.1, 20.4)	13.6 (12.9, 14.3)	11.9 (9.1, 15.4)
Schoolcraft	17.3 (9.9, 24.8)	22.3 (11.5, 33.1)	11.4, (7.3, 15.5)		
[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had diabetes. Adults told they had prediabetes, borderline diabetes, and women who had diabetes only during pregnancy were classified as not having been diagnosed.					
[b] Cumulative estimate for the counties surveyed.					

Table 13-41B: Diabetes by Population Group			
	Ever Told Diabetes[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	13.5 (11.3, 15.8)	11.0 (8.9, 13.0)	11.0 (9.3, 12.7)
Age			
18-39	1.9 (0.6, 3.1)	4.2 (1.0, 7.5)	1.7 (0.03, 3.4)
40-65	21.5 (16.8, 26.2)	11.6 (8.8, 14.4)	13.2 (10.2, 16.2)
65+	17.1 (14.5, 19.6)	19.3 (16.6, 22.1)	19.6 (16.9, 22.4)
Gender			
Male	18.0 (12.9, 23.2)	11.2 (7.7, 14.6)	13.4 (10.4, 16.5)
Female	11.8 (9.4, 14.2)	10.7 (8.4, 13.0)	8.7 (7.2, 10.3)
Educational Attainment			
Less than 12th grade	24.9 (9.0, 40.9)	24.4 (10.0, 38.9)	22.3 (11.3, 33.3)
High School Graduate	15.1 (10.9, 19.4)	13.9 (8.8, 19.0)	11.3 (9.0, 13.5)
1-3 years of college	14.5 (10.5, 18.6)	10.5 (7.8, 13.2)	10.3 (7.5, 13.0)
4-year degree or higher	7.5 (5.1, 9.9)	5.4 (3.8, 7.0)	5.3 (3.9, 6.6)
Household Income			
Less than $25,000	16.5 (11.4, 21.6)	16.9 (8.4, 25.3)	15.6 (12.3, 18.9)
$25,000 to $49,999	15.2 (11.2, 19.2)	10.6 (7.6, 13.6)	13.7 (9.5, 17.9)
$50,000 or higher	8.5 (6.2, 10.8)	8.2 (6.0, 10.5)	6.5 (4.7, 8.4)

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had diabetes. Adults told they had prediabetes, borderline diabetes, and women who had diabetes only during pregnancy were classified as not having been diagnosed.

Table 13-42A: Cardiovascular Disease by County						
	Ever Told Heart Attack[a]			Ever Told Heart Disease[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
US Raw		5.83 (5.8, 5.9)			5.60 (5.5, 5.7)	
US Weighted		4.2			3.9	
Michigan (2023)	4.6 (4.1, 5.1)	5.1 (4.5, 5.8)	5.0 (4.5, 5.4)	9.7 (9.1, 10.5)	5.0 (4.4, 5.7)	5.1 (4.7, 5.6)
Upper Peninsula (MiBRFS 2021-2023)	5.8 (4.5, 7.5)	7.0 (5.2, 9.2)		10.0 (8.2, 12.1)	7.4 (5.2, 10.5)	
Upper Peninsula	4.6 (3.3, 6.0)	4.4 (3.3, 5.4)	5.8 (4.4, 7.1)	9.1 (7.4, 10.8)	8.7 (7.0, 10.4)	9.6 (8.0, 11.1)
Alger	4.2 (1.7, 6.8)	7.2 (1.6, 12.7)	3.8 (1.5, 6.2)	8.6 (4.9, 12.3)	11.4 (5.5, 17.2)	10.9 (6.6, 15.2)
Baraga	4.3 (1.5, 7.3)	9.1 (2.0, 16.2)	7.2 (3.3, 11.0)	9.8 (5.7, 13.9)	11.2 (5.1, 17.4)	8.2 (4.3, 12.0)
Chippewa	6.2 (2.0, 10.4)	5.8 (1.1, 10.5)	7.3 (3.1, 11.5)	9.1 (4.2, 13.9)	11.2 (5.3, 17.2)	10.4 (5.2, 15.6)
Delta	7.5 (0.2, 14.8)	2.1 (0.1, 4.1)	9.5 (1.7, 17.2)	10.7 (2.9, 18.4)	3.9 (0.1, 7.8)	12.4 (4.6, 20.3)
Dickinson	6.0 (0.7, 11.3)	5.0 (1.9, 8.1)	5.8 (2.0, 9.6)	15.2 (7.2, 23.2)	11.9 (6.8, 17.1)	9.0 (4.7, 13.3)
Gogebic	4.4 (1.9, 6.9)	5.8 (2.7, 8.9)	7.0 2.5, 11.4	11.9 (7.5, 16.3)	11.8 (7.0, 16.7)	12.8 (7.0, 18.5)
Houghton/Keweenaw	4.1 (1.6, 6.6)	2.6 (0.6, 4.6)	3.9 (1.7, 6.1)	9.3 (4.7, 13.9)	6.4 (3.4, 9.4)	8.8 (5.1, 12.4)
Iron	5.2 (2.7, 7.8)	4.5 (1.4, 7.6)	9.3 (4.9, 13.7)	9.6 (6.0, 13.3)	15.9 (3.7, 23.1)	14.4 (9.2, 19.6)
Luce	6.7 (2.6, 10.8)	8.2 (3.9, 12.6)	8.4 (4.4, 12.5)	8.4 (4.4, 12.4)	12.6 (7.4, 17.7)	12.3 (7.3, 17.3)
Mackinac	3.4 (1.0, 5.8)	7.9 (3.8, 12.0)	3.9 (1.4, 6.4)	7.3 (2.7, 12.0)	12.2 (5.2, 19.1)	8.9 (5.1, 12.7)
Marquette	2.5 (0.07, 5.0)	3.2 (1.0, 5.3)	3.2 (1.2, 5.2)	5.0 (2.5, 7.5)	6.9 (2.9, 11.0)	7.3 (4.0, 10.6)
Menominee	1.7 (0.01, 3.3)	5.0 (2.0, 8.0)	4.8 (1.5, 8.1)	7.5 (3.5, 11.6)	7.41 (3.6, 11.2)	7.8 (3.8, 11.8)
Ontonagon	5.9 (2.6, 9.2)	7.9 (4.8, 11.0)	7.5 (4.7, 10.3)	12.4 (7.9, 16.8)	16.5 (11.5, 21.5)	12.1 (8.6, 15.5)
Schoolcraft	7.0 (2.8, 11.2)	4.8 (1.8, 7.7)	8.3 (3.4, 13.3)	12.7 (6.4, 18.9)	8.2 (4.3, 12.0)	7.8 (4.7, 11.0)
Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had …						
[a] a heart attack or myocardial infarction.						
[b] heart disease. *The Michigan estimate represents the proportion of respondents who reported ever being told they had angina or coronary heart disease. Same for UP 2018-2020 estimate.*						

Table 13-42B: Cardiovascular Disease by Population Group						
	Ever Told Heart Attack[a]			Ever Told Heart Disease[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	4.6 (3.3, 6.0)	4.4 (3.3, 5.4)	5.8 (4.4, 7.1)	9.1 (7.4, 10.8)	8.7 (7.0, 10.4)	9.6 (8.0, 11.1)
Age						
18-39	0.1 (0.0, 0.2)	0.3 (0.0, 0.9)	0.04 (0.0, 0.1)	0.6 (0.0, 1.4)	0.9 (0.0, 2.5)	0.02 (0.0, 0.07)
40-65	6.1 (2.9, 9.4)	4.4 (2.5, 6.3)	6.9 (4.2, 9.6)	10.1 (6.5, 13.7)	8.2 (5.6, 10.7)	9.8 (6.9, 12.7)
65+	8.6 (6.9, 10.3)	10.2 (8.1, 12.2)	11.8 (9.6, 13.9)	18.2 (15.7, 20.8)	20.5 (17.5, 23.5)	22.0 (19.1, 25.0)
Gender						
Male	9.4 (5.2, 13.6)	5.4 (3.5, 7.4)	9.2 (6.6, 11.8)	13.4 (9.1, 17.7)	12.2 (8.6, 15.8)	13.0 (10.0, 16.0)
Female	2.7 (1.9, 3.6)	3.4 (2.3, 4.4)	2.5 (1.8, 3.2)	7.3 (5.6, 8.9)	5.2 (3.8, 6.7)	6.2 (5.0, 7.5)
Educational Attainment						
Less than 12th grade	12.9 (0.0, 28.1)	10.1 (1.1, 19.0)	15.8 (5.1, 26.6)	20.1 (4.7, 35.5)	24.9 (10.6, 39.2)	24.0 (12.7, 32.3)
High School Graduate	6.3 (3.7, 8.9)	5.9 (3.6, 8.2)	6.1 (4.5, 7.8)	10.5 (7.3, 13.8)	10.2 (6.5, 14.0)	9.8 (7.7, 11.9)
1-3 years of college	3.4 (2.3, 4.6)	4.6 (2.7, 6.5)	4.4 (2.8, 5.9)	7.7 (5.6, 9.7)	7.7 (5.3, 10.1)	7.2 (5.1, 9.3)
4-year degree or higher	2.3 (1.1, 3.4)	1.2 (0.7, 1.7)	2.2 (1.3, 3.0)	5.9 (4.0, 7.8)	6.0 (3.8, 8.3)	4.9 (3.6, 6.3)
Household Income						
Less than $25,000	6.4 (3.1, 9.7)	7.6 (3.3, 11.8)	8.2 (5.9, 10.6)	10.5 (6.5, 14.4)	10.3 (4.9, 15.6)	12.0 (9.3, 14.8)
$25,000 to $49,999	4.3 (2.7, 5.9)	6.2 (4.1, 8.3)	7.1 (3.5, 10.7)	9.8 (7.3, 12.4)	12.1 (8.5, 15.8)	11.7 (7.8, 15.7)
$50,000 or higher	2.9 (1.4, 4.4)	2.0 (1.1, 2.9)	3.4 (2.0, 4.8)	6.4 (4.5, 8.2)	6.3 (4.5, 8.1)	6.4 (4.5, 8.3)
Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had …						
[a] a heart attack or myocardial infarction.						
[b] heart disease.						

Table 13-43A: Strokes by County			
	Ever Told Stroke[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
US Raw		4.48 (4.4, 4.5)	
US Weighted		3.4	
Michigan (2023)	3.9 (3.4, 4.4)	3.5 (3.0, 4.0)	3.5 (3.2, 3.9)
Upper Peninsula (MiBRFS 2021-2023)	2.4 (1.6, 3.5)	3.5 (2.4, 5.1)	
Upper Peninsula	3.8 (2.7, 4.9)	2.9 (2.1, 3.7)	3.2 (2.4, 4.0)
Alger	3.0 (0.9, 5.0)	3.8 (1.3, 6.4)	2.8 (0.0, 5.7)
Baraga	3.4 (0.6, 6.3)	2.6 (1.0, 4.2)	1.8 (0.1, 3.6)
Chippewa	3.1 (0.6, 5.6)	4.9 (1.5, 8.3)	4.2 (1.3, 7.2)
Delta	4.9 (1.4, 8.4)	2.3 (0.2, 4.4)	4.2 (1.3, 7.1)
Dickinson	1.7 (0.02, 3.4)	2.1 (0.8, 3.3)	1.5 (0.5, 2.5)
Gogebic	4.1 (1.0, 7.1)	2.2 (0.5, 3.8)	4.8 (0.7, 9.0)
Houghton/Keweenaw	4.5 (1.3, 7.7)	2.1 (0.3, 3.9)	1.9 (0.6, 3.2)
Iron	4.9 (2.2, 7.6)	4.4 (0.5, 8.2)	4.2 (1.7, 6.6)
Luce	3.7 (1.4, 6.1)	2.6 (0.8, 4.5)	2.3 (1.0, 3.7)
Mackinac	5.6 (0.9, 10.3)	4.8 (1.2, 8.4)	7.5 (0.0, 17.3)
Marquette	2.9 (0.0, 6.7)	1.1 (0.04, 2.1)	2.4 (0.7, 4.2)
Menominee	4.3 (0.8, 7.7)	5.6 (1.1, 10.2)	3.8 (0.8, 6.8)
Ontonagon	2.6 (1.0, 4.3)	4.9 (1.7, 8.1)	3.0 (1.5, 4.4)
Schoolcraft	6.5 (1.2, 11.8)	5.3 (1.9, 8.6)	2.7 (0.7, 4.8)
[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had a stroke.			

Table 13-42B: Strokes by Population Group			
	Ever Told Stroke[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	3.8 (2.7, 4.9)	2.9 (2.1, 3.7)	3.2 (2.4, 4.0)
Age			
18-39	0.9 (0.0,1.9)	*	1.3 (0.0, 2.8)
40-65	4.4 (2.0, 6.8)	3.0 (1.7, 4.4)	3.0 (1.9, 4.2)
65+	6.7 (4.9, 8.5)	6.8 (5.1, 8.5)	6.4 (4.6, 8.3)
Gender			
Male	2.8 (1.5, 4.1)	3.1 (1.9, 4.3)	3.8 (2.4, 5.3)
Female	4.2 (2.7, 5.7)	2.7 (1.7, 3.7)	2.6 (1.7, 3.5)
Educational Attainment			
Less than 12th grade	6.5 (1.4, 11.6)	15.1 (3.3, 26.9)	5.8 (2.1, 9.5)
High School Graduate	4.2 (1.6, 6.9)	3.3 (1.7, 4.8)	3.8 (2.2, 5.4)
1-3 years of college	4.1 (2.5, 5.6)	2.6 (1.6, 3.7)	2.5 (1.3, 3.7)
4-year degree or higher	2.2 (0.8, 3.7)	1.4 (0.7, 2.1)	1.7 (0.5, 2.8)
Household Income			
Less than $25,000	4.8 (2.2, 7.4)	4.9 (2.1, 7.7)	6.8 (4.2, 9.3)
$25,000 to $49,999	4.2 (2.6, 5.9)	3.1 (1.7, 4.5)	32. (1.9, 4.6)
$50,000 or higher	2.1 (0.9, 3.3)	1.9 (1.0, 2.8)	1.3 (0.4, 2.2)
[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had a stroke.			

Table 13-44A: Cancer by County						
	Ever Told Skin Cancer[a]			Ever Told Any Other Cancer Type[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
US Raw		9.99 (9.9, 10.1)			10.2 (10.1, 10.3)	
US Weighted		6.4			7.1	
Michigan (2023)	5.3 (4.8, 5.8)	6.2 (5.6, 6.8)	5.8 (5.4, 6.3)	9.3 (8.6, 10.0)	7.6 (6.9, 8.3)	8.3 (7.8, 8.9)
Upper Peninsula (MiBRFS 2021-2023)						
Upper Peninsula	7.7 (6.4, 9.0)	9.3 (7.5, 11.0)	6.3 (5.4, 7.3)	10.8 (8.8, 12.8)	8.9 (7.3, 10.6)	8.4 (7.2, 9.6)
Alger	9.7 (5.8, 14.1)	10.9 (6.8, 15.0)	6.1 (3.0, 7.5)	8.3 (4.6, 12.0)	12.0 (7.4, 16.7)	9.1 (4.6, 13.5)
Baraga	5.6 (2.6, 8.7)	9.1 (5.1, 13.0)	4.6 (2.0, 7.1)	7.3 (3.6, 11.1)	9.3 (4.3, 14.4)	11.0 (4.1, 17.8)
Chippewa	5.7 (2.7, 8.9)	7.0 (3.3, 10.8)	5.0 (2.1, 7.9)	12.7 (5.5, 19.8)	11.4 (5.6, 17.1)	7.1 (3.6, 10.7)
Delta	5.6 (2.6, 8.6)	10.7 (1.7, 19.7)	6.5 (3.1, 9.9)	9.0 (4.7, 13.4)	7.6 (1.4, 13.7)	9.4 (5.0, 13.8)
Dickinson	12.3 (5.9, 18.9)	8.9 (5.0, 12.9)	8.2 (4.5, 11.9	15.9 (7.8, 24.0)	10.3 (5.6, 15.0)	6.3 (3.7, 9.0)
Gogebic	7.6 (4.0, 11.3)	6.4 (2.9, 10.0)	6.7 3.5, 9.9)	8.8 (5.0, 12.6)	9.9 (5.4, 14.3)	6.5 (2.5, 10.5)
Houghton/Keweenaw	5.7 (2.5, 8.8)	7.0 (2.7, 11.2)	5.0 (2.6, 7.5)	6.2 (3.3, 9.0)	9.1 (4.5, 13.7)	6.9 (4.1, 9.7)
Iron	11.1 (6.9, 15.2)	7.3 (4.0, 10.7)	10.0 (6.5, 13.5)	11.9 (7.3, 16.4)	13.7 (8.5, 18.9)	10.4 (6.1, 14.7)
Luce	10.1 (5.4, 14.8)	10.9 (6.2, 15.6)	6.9 (3.8, 10.0)	12.6 (8.0, 17.2)	11.5 (6.8, 16.2)	6.6 (4.0, 9.2)
Mackinac	9.3 (4.9, 13.6)	19.1 (13.3, 24.8)	11.4 (6.6, 16.2)	10.7 (5.3, 16.1)	8.4 (5.2, 11.7)	9.4 (5.3, 13.5)
Marquette	7.3 (3.7, 10.9)	8.2 (5.0, 11.5)	4.7 (2.5, 6.9)	12.0 (5.3, 18.8)	5.1 (3.3, 9.0)	7.7 (4.6, 10.9)
Menominee	10.4 (5.8, 15.0)	11.4 (6.2, 16.7)	7.0 (3.6, 10.4)	12.0 (6.4, 17.5)	8.2 (3.6, 12.8)	10.3 (5.9, 14.8)
Ontonagon	8.9 (5.9, 12.0)	9.0 (5.6, 12.5)	9.0 (6.3, 11.7)	12.1 (7.8, 16.5)	11.7 (7.5, 15.9)	14.6 (10.4, 18.8)
Schoolcraft	8.4 (4.5, 12.3)	18.8 (7.5, 30.1)	10.1 (6.0, 14.2)	14.8 (8.9, 20.7)	9.5 (5.3, 13.8)	12.6 (7.5, 17.7)

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had skin cancer.

[b] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had had a form of cancer other than skin cancer.

Table 13-44B: Cancer by Population Group						
	Ever Told Skin Cancer[a]			Ever Told Any Other Cancer Type[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	7.7 (6.4, 9.0)	9.3 (7.5, 11.0)	6.3 (5.4, 7.3)	10.8 (8.8, 12.8)	8.9 (7.3, 10.6)	8.4 (7.2, 9.6)
Age						
18-39	0.6 (0.0, 1.4)	0.7 (0.0, 2.0)	0.5 (0.0, 1.1)	3.2 (1.8, 6.9)	0.8 (0.0, 2.0)	1.5 (0.3, 2.8)
40-65	6.6 (4.2, 9.0)	8.9 (6.1, 11.6)	5.4 (3.9, 6.9)	11.4 (8.3, 14.5)	9.4 (6.8, 12.0)	8.0 (6.1, 9.9)
65+	18.1 (15.6, 20.7)	22.0 (19.2, 24.9)	16.4 (14.0, 18.9)	19.9 (16.6, 23.1)	19.5 (16.9, 22.2)	18.4 (15.9, 20.9)
Gender						
Male	8.1 (5.9, 10.3)	11.0 (7.6, 14.4)	7.4 (5.8, 9.1)	7.6 (5.5, 9.8)	8.0 (5.5, 10.5)	7.7 (5.8, 9.6)
Female	7.4 (5.8, 9.0)	7.6 (6.1, 9.1)	5.2 (4.2, 6.2)	11.6 (9.1, 14.2)	9.7 (7.8, 11.7)	9.0 (7.5, 10.5)
Educational Attainment						
Less than 12th grade	5.3 (1.0, 9.6)	4.0 (0.0, 8.1)	5.0 (1.3, 8.8)	8.6 (2.7, 14.4)	22.3 (8.5, 36.2)	6.3 (2.9, 9.7)
High School Graduate	6.1 (4.0, 8.2)	9.2 (5.9, 12.5)	5.9 (4.4, 7.5)	13.0 (8.2, 17.7)	10.2 (6.5, 13.9)	8.6 (6.8, 10.5)
1-3 years of college	7.9 (5.5, 10.3)	8.7 (5.9, 11.5)	6.1 (4.4, 7.7)	10.4 (7.8, 13.1)	8.4 (6.1, 10.7)	8.6 (6.3, 10.9)
4-year degree or higher	9.7 (7.1, 12.2)	11.1 (8.1, 14.1)	8.6 (6.6, 10.7)	8.9 (6.3, 11.6)	6.3 (4.6, 8.0)	7.5 (5.7, 9.2)
Household Income						
Less than $25,000	6.1 (3.5, 8.7)	5.1 (2.4, 7.7)	4.3 (2.9, 5.6)	9.4 (6.2, 12.6)	8.7 (4.1, 13.2)	9.8 (7.4, 12.2)
$25,000 to $49,999	8.7 (6.6, 10.8)	12.4 (9.4, 15.5)	7.0 (5.2, 8.8)	14.3 (9.5, 19.2)	13.7 (10.1, 17.3)	9.1 (7.0, 11.1)
$50,000 or higher	7.8 (6.1, 9.4)	9.5 (7.0, 11.9)	6.9 (5.3, 8.6)	9.1 (6.8, 11.5)	6.6 (4.9, 8.3)	6.9 (5.0, 8.7)

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had skin cancer.

[b] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had had a form of cancer other than skin cancer.

Table 13-45A: Chronic Pulmonary Disease by County					
	Ever Told COPD, CLRD, or Chronic Bronchitis[a]				
	2024	2021	2017	2015	2012
		% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		8.47 (8.4-8.6)			
US Weighted		6.6			
Michigan (2023)	8.6 (7.9, 9.4)	8.3 (7.6-9.2)	8.9 (8.3-9.6)	8.8 (8.1-9.6)	8.0 (7.3-8.7)
Upper Peninsula (MiBRFS 2021-2023)	8.1 (6.3, 10.4)	8.7 (6.6-11.4)			
Upper Peninsula	9.1 (7.5, 10.7)	8.0 (6.4, 9.7)	7.7 (6.5-8.9)	7.7 (7.5-7.9) [b]	7.2 (5.7-9.2) [b]
Alger	7.2 (3.7, 10.8)	8.6 (4.8, 12.3)	11.7 (6.5-16.8)		
Baraga	6.4 (3.1, 9.8)	8.4 (4.1, 12.7)	7.1 (3.6-10.5)	12.6 (11.9-13.2)	5.1 (3.2-8.1)
Chippewa	10.2 (5.7, 14.7)	16.0 (8.1, 23.8)	7.3 (3.5-11.0)		
Delta	7.6 (3.0, 12.1)	3.7 (0.6, 6.8)	6.9 (3.0-10.8)		
Dickinson	9.6 (3.2, 16.0)	5.9 (1.0, 10.9)	8.5 (4.2-12.7)		
Gogebic	8.9 (4.4, 13.4)	8.4 (3.8, 13.0)	8.0 (3.5-12.6)	5.6 (5.2-5.9)	8.2 (5.5-12.1)
Houghton/Keweenaw	8.0 (3.5, 12.6)	6.9 (2.5, 11.2)	5.5 (3.1-7.8)	6.9 (6.7-7.1)	7.3 (4.9-10.6)
Iron	10.8 (6.6, 15.0)	14.6 (7.9, 21.3)	17.8 (11.8-23.9)	9.4 (8.9-9.8)	
Luce	14.5 (8.2, 20.8)	12.5 (7.8, 17.2)	10.9 (5.0-16.7)		
Mackinac	8.9 (3.7, 14.1)	13.1 (6.1, 20.2)	9.1 (5.1-13.1)		
Marquette	7.3 (2.7, 11.9)	4.6 (2.4, 6.9)	5.2 (2.6-7.8)		
Menominee	13.3 (7.5, 19.0)	8.8 (4.7, 12.9)	10.9 (5.2-16.7)		
Ontonagon	11.2 (6.4, 16.0)	7.3 (3.6, 11.0)	8.9 (5.9-12.0)	10.0 (9.3-1.06)	7.3 (5.4-9.7)
Schoolcraft	15.0 (8.6, 21.5)	11.0 (5.9, 16.0)	10.6 (5.9-15.2)		

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had chronic obstructive pulmonary disease *COPD), chronic lower respiratory disease (CLRD), or chronic bronchitis.

[b] Cumulative estimate for the counties surveyed.

Table 13-45B: Chronic Pulmonary Disease by Population Group			
	Ever Told COPD, CLRD, or Chronic Bronchitis[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	9.1 (7.5, 10.7)	8.0 (6.4, 9.7)	7.7 (6.5, 8.9)
Age			
18-39	0.6 (0.0, 1.4)	0.6 (0.0, 1.6)	1.0 (0.0, 2.2)
40-65	11.0 (7.8, 14.1)	10.0 (7.0, 13.0)	8.2 (6.4, 10.1)
65+	17.1 (14.1, 20.1)	15.4 (12.9, 17.9)	15.8 (13.1, 18.4)
Gender			
Male	9.8 (6.6, 13.1)	9.0 (6.0, 12.0)	8.2 (6.2, 10.1)
Female	8.5 (6.7, 10.3)	7.0 (5.3, 8.7)	7.3 (5.9, 8.7)
Educational Attainment			
Less than 12th grade	14.9 (6.8, 23.0)	28.0 (11.9, 44.1)	18.6 (10.6, 26.6)
High School Graduate	11.2 (7.9, 14.5)	11.6 (7.3, 15.8)	8.2 (6.4, 10.0)
1-3 years of college	10.3 (7.1, 13.5)	6.6 (4.6, 8.6)	6.3 (4.7, 7.9)
4-year degree or higher	3.0 (1.4, 4.7)	2.4 (1.3, 3.4)	2.4 (1.6, 3.3)
Household Income			
Less than $25,000	14.2 (10.3, 18.1)	13.3 (6.5, 20.1)	14.0 (10.8, 17.2)
$25,000 to $49,999	9.4 (6.3, 12.6)	9.7 (6.9, 12.6)	9.0 (6.8, 11.3)
$50,000 or higher	2.7 (1.7, 3.7)	4.8 (3.0, 6.6)	3.0 (1.8, 4.2)

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had chronic obstructive pulmonary disease *COPD), chronic lower respiratory disease (CLRD), or chronic bronchitis.

Table 13-46A: Activity Limited by Arthritis by County			
	Activity Limited by Arthritis[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		41.4 (41.1, 41.6)	
US Weighted		42.0	
Michigan			
Upper Peninsula	36.6 (33.3, 40.0)	31.0 (26.8, 35.3)	32.6 (29.7, 35.4)
Alger	46.4 (35.5, 57.2)	37.3 (28.7, 45.9)	39.4 (31.7, 47.1)
Baraga	36.8 (26.7, 46.8)	31.1 (22.5, 39.7)	29.2 (21.0, 37.4)
Chippewa	47.2 (34.8, 59.8)	36.7 (25.4, 47.9)	41.0 (30.1, 52.0)
Delta	36.4 (26.6, 46.2)	22.7 (6.2, 39.1)	35.8 (26.5, 45.1)
Dickinson	42.2 (32.4, 52.4)	38.9 (29.3, 48.5)	37.5 (28.9, 46.0)
Gogebic	47.6 (39.2, 56.0)	42.9 (32.7, 53.0)	30.6 (23.4, 37.8)
Houghton/Keweenaw	23.8 (16.8, 30.9)	29.0 (19.2, 38.7)	25.5 (18.6, 32.4)
Iron	39.6 (30.5, 48.7)	34.3 (25.3, 43.4)	37.8 (30.1, 45.6)
Luce	50.0 (41.2, 58.7)	44.0 (34.8, 53.2)	41.5 (32.6, 50.3)
Mackinac	45.0 (34.8, 55.3)	33.0 (25.2, 40.8)	40.6 (28.0, 53.3)
Marquette	28.9 (19.9, 37.9)	24.6 (17.9, 31.3)	26.8 (20.0, 33.6)
Menominee	38.2 (28.0, 48.4)	33.5 (23.5, 43.6)	26.5 (16.7, 36.4)
Ontonagon	45.9 (37.6, 54.1)	43.1 (34.8, 51.5)	33.0 (27.4, 38.7)
Schoolcraft	38.8 (29.1, 48.6)	33.1 (23.9, 42.3)	40.0 (31.0, 49.1)

[a] Among all adults, the proportion who reported they were limited in their usual activities because of arthritis or joint symptoms.

[b] Among all adults the proportion who reported being told by a doctor that they have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia.

Table 13-46B: Activity Limited by Arthritis by Population Group			
	Activity Limited by Arthritis[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	36.6 (33.3, 40.0)	31.0 (26.8, 35.3)	32.6 (29.7, 35.4)
Age			
18-39	15.8 (10.2, 21.4)	12.4 (6.3, 18.5)	15.2 (9.5, 21.0)
40-65	45.9 (40.8, 51.0)	37.3 (32.9, 41.7)	38.4 (34.5, 42.2)
65+	47.3 (43.6, 50.1)	47.2 (43.8, 50.6)	45.4 (42.0, 48.7)
Gender			
Male	39.5 (32.5, 46.5)	31.4 (23.5, 39.4)	32.0 (27.3, 36.7)
Female	34.8 (31.2, 38.5)	30.6 (27.1, 34.1)	33.1 (29.8, 36.4)
Educational Attainment			
Less than 12th grade	48.8 (31.9, 65.7)	48.8 (31.4, 66.3)	52.5 (39.4, 68.7)
High School Graduate	41.5 (35.3, 47.7)	34.4 (24.0, 44.8)	35.4 (30.5, 40.3)
1-3 years of college	38.8 (32.9, 44.8)	30.8 (25.8, 35.7)	29.9 (25.5, 34.3)
4-year degree or higher	23.7 (18.5, 28.9)	24.5 (19.1, 29.9)	18.4 (15.2, 21.6)
Household Income			
Less than $25,000	45.5 (37.9, 53.1)	38.2 (20.7, 55.7)	44.4 (38.2, 50.6)
$25,000 to $49,999	38.7 (32.7, 44.7)	37.7 (31.3, 44.1)	39.0 (33.2, 44.7)
$50,000 or higher	24.9 (21.4, 28.4)	24.3 (20.3, 28.4)	21.4 (17.9, 24.9)
[a] Among all adults, the proportion who reported they were limited in their usual activities because of arthritis or joint symptoms.			

Table 13-47A: Influenza Vaccination by County						
	Had a Flu Shot past 12 Months (age 18+) [a]			Had a Flu Shot Past 12 Months (Age 65+) [b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		49.3 (49.2, 49.5)			57.3 (57.0, 57.5)	
US Weighted		42.4			53.6	
Michigan (2023)	ND	ND	36.4 (35.3, 37.5)	64.2 (62.1, 66.2)	71.5 (69.4, 73.9)	56.1 (54.1, 58.0)
Upper Peninsula (MiBRFS 2021-2023)				67.1 (60.8, 72.9)	56.2 (49.4, 64.6)	
Upper Peninsula	46.0 (42.0, 50.0)	61.3 (56.0, 66.6)	51.9 (48.6, 55.3)	66.5 (63.1, 69.9)	80.3 (77.6, 83.0)	76.9 (74.2, 79.7)
Alger	53.3 (42.7, 64.0)	62.2 (53.2, 71.2)	55.6 (47.3, 63.8)	73.8 (65.4, 82.2)	79.3 (71.4, 87.3)	67.5 (58.5, 76.6)
Baraga	46.5 (35.8, 57.2)	49.8 (39.5, 60.1)	45.1 (34.1, 56.1)	55.9 (46.2, 65.7)	77.9 (70.1, 85.7)	67.5 (58.5, 76.6)
Chippewa	38.5 (26.9, 50.2)	47.7 (35.6, 59.7)	48.4 (36.6, 60.2)	58.5 (46.4, 70.5)	73.9 (61.9, 85.9)	81.5 (74.1, 89.0)
Delta	42.3 (27.5, 56.8)	76.6 (59.8, 93.5)	45.9 (36.7, 55.0)	70.9 (61.0, 80.8)	86.0 (79.2, 92.8)	69.2 (58.1, 80.4)
Dickinson	47.1 (37.2, 57.1)	62.8 (53.2, 72.4)	60.6 (52.0, 69.3)	60.6 (49.3, 71.9)	84.5 (77.8, 91.2)	82.5 (74.7, 90.3)
Gogebic	47.1 (38.8, 55.5)	53.2 (38.3, 68.0)	53.1 (44.8, 61.4)	64.9 (56.8, 72.9)	78.2 (70.1, 86.3)	71.2 (62.2, 80.1)
Houghton/Keweenaw	36.5 (27.4, 45.6)	55.9 (43.1, 68.8)	49.4 (39.3, 59.4)	56.4 (45.1, 67.8)	79.3 (70.5, 88.1)	78.2 (70.9, 85.6)
Iron	46.2 (36.3, 56.1)	51.5 (41.1, 62.0)	56.0 (47.6, 64.4)	64.9 (57.3, 72.6)	75.3 (68.0, 82.7)	74.8 (66.9, 82.6)
Luce	44.0 (35.6, 52.4)	64.5 (54.0, 74.9)	54.8 (45.6, 63.9)	65.7 (56.1, 75.3)	81.6 (73.2, 90.0)	76.3 (67.9, 84.8)
Mackinac	46.5 (36.2, 56.8)	62.5 (52.7, 72.3)	55.6 (43.7, 67.5)	54.4 (40.8, 68.0)	79.7 (72.0, 87.3)	78.4 (70.0, 86.8)
Marquette	57.0 (46.0, 68.1)	65.8 (55.2, 76.4)	57.2 (48.0, 66.3)	78.5 (69.2, 87.9)	85.7 (79.6, 91.9)	82.2 (74.0, 90.4)
Menominee	46.7 (36.0, 57.4)	57.8 (46.3, 69.3)	45.4 (34.1, 56.7)	69.6 (59.3, 79.9)	73.7 (64.1, 83.2)	78.5 (70.5, 86.6)
Ontonagon	38.4 (30.9, 45.8)	61.7 (53.0, 70.3)	47.2 (40.6, 53.8)	62.9 (55.9, 70.0)	73.2 (66.9, 79.4)	73.2 (67.5, 78.9)
Schoolcraft	51.0 (40.7, 61.3)	65.9 (54.4, 77.3)	47.0 (37.4, 56.6)	61.2 (48.7, 73.7)	82.6 (75.3, 89.9)	66.9 (57.7, 76.1)
[a] Among all adults, the proportion who reported they had a seasonal flu shot in the past 12 months.						
[b] Among adults aged 65 years and older, the proportion who reported they had a seasonal flu shot in the past 12 months.						

Table 13-47B: Vaccination by Population Group						
	Had a Flu Shot past 12 Months (age 18+) [a]			Had a Flu Shot Past 12 Months (Age 65+) [b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	46.0 (42.0, 50.0)	61.3 (56.0, 66.6)	51.9 (48.6)	66.5 (63.1, 69.9)	80.3 (77.6, 83.0)	76.9 (74.2, 79.7)
Age						
18-39	30.8 (22.1, 39.5)	54.9 (39.8, 70.1)	39.2 (30.9, 47.5)	—	—	—
40-65	45.3 (40.3, 50.3)	55.0 (50.4, 59.5)	48.3 (44.3, 52.2)	—	—	—
65+	66.5 (63.1, 69.9)	80.3 (77.6, 83.0)	76.9 (74.2, 79.7)	66.5 (63.1, 69.9)	80.3 (77.6, 83.0)	76.9 (74.2, 79.7)
Gender						
Male	45.2 (37.7, 52.6)	60.1 (50.3, 70.0)	52.8 (47.1, 58.4)	62.3 (56.8, 67.9)	81.3 (77.1, 85.4)	78.0 (73.6, 82.4)
Female	45.8 (41.0, 50.6)	62.4 (57.9, 66.9)	51.2 (47.5, 54.8)	66.9 (62.8, 71.0)	79.5 (76.2, 82.9)	75.9 (72.5, 79.2)
Educational Attainment						
Less than 12th grade	30.4 (17.0, 43.7)	47.3 (30.0, 64.7)	53.0 (39.5, 66.5)	56.9 (38.9, 75.0)	69.7 (51.1, 88.3)	76.5 (65.3, 87.6)
High School Graduate	45.0 (36.9, 53.1)	64.4 (53.4, 75.4)	51.8 (46.2, 57.4)	66.6 (61.1, 72.1)	81.8 (78.1, 85.5)	76.1 (72.3, 79.9)
1-3 years of college	46.4 (39.8, 53.0)	55.8 (49.2, 62.3)	48.7 (43.0, 54.4)	63.0 (57.3, 68.8)	76.8 (71.4, 82.2)	78.0 (73.2, 82.3)
4-year degree or higher	49.7 (43.0, 56.3)	68.2 (61.0, 75.3)	59.8 (54.8, 64.9)	76.2 (71.2, 81.3)	86.2 (83.0, 89.5)	78.1 (73.8, 82.3)
Household Income						
Less than $25,000	39.3 (30.9, 47.6)	62.8 (45.5, 80.0)	47.9 (41.5, 54.3)	58.4 (51.9, 64.9)	73.0 (67.6, 78.4)	72.9 (66.8, 79.0)
$25,000 to $49,999	48.8 (42.4, 55.3)	51.4 (44.0, 58.8)	50.7 (44.8, 56.6)	68.6 (63.3, 73.9)	79.2 (74.7, 83.7)	76.7 (72.7, 80.7)
$50,000 or higher	50.4 (46.0, 54.7)	65.3 (60.1, 70.5)	55.0 (49.6, 60.4)	76.3 (72.2, 80.4)	86.0 (81.8, 90.3)	80.5 (75.7, 85.3)
[a] Among all adults, the proportion who reported they had a seasonal flu shot in the past 12 months.						
[b] Among adults aged 65 years and older, the proportion who reported they had a seasonal flu shot in the past 12 months.						

Table 13-48A: Pneumococcal Vaccination by County			
	Ever Had a Pneumonia Vaccine[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
US Raw		63.0 (62.8, 63.2)	
US Weighted		58.1	
Michigan (2023)	71.9 (69.9, 73.9)	71.8 (69.4, 74.2)	71.8 (70.0, 73.6)
Upper Peninsula (MiBRFS 2021-2023)	74.8 (68.6, 80.2)		
Upper Peninsula	69.3 (66.0, 72.6)	77.2 (74.5, 79.9)	77.9 (74.8, 80.9)
Alger	75.4 (66.5, 84.3)	77.3 (68.7, 86.0)	72.3 (63.4, 81.1)
Baraga	61.8 (52.3, 71.3)	77.5 (69.3, 85.6)	72.3 (63.4, 81.1)
Chippewa	67.5 (55.4, 79.7)	84.1 (76.5, 91.7)	73.1 (63.1, 83.1)
Delta	67.3 (57.1, 77.4)	81.6 (74.0, 89.1)	73.0 (61.4, 84.6)
Dickinson	74.9 (65.2, 84.7)	74.6 (65.7, 83.6)	82.0 (73.8, 90.1)
Gogebic	65.8 (57.7, 73.9)	71.7 (63.0, 80.4)	73.2 (64.6, 81.9)
Houghton/Keweenaw	64.6 (53.5, 75.8)	79.6 (71.6, 87.7)	84.8 (78.7, 91.0)
Iron	69.7 (62.5, 76.9)	72.9 (65.2, 80.5)	80.0 (73.7, 86.3)
Luce	70.7 (61.9, 79.4)	71.4 (62.0, 82.9)	82.6 (74.9, 90.3)
Mackinac	64.6 (51.5, 77.7)	83.2 (76.6, 89.7)	80.9 (72.9, 89.0)
Marquette	75.9 (66.4, 85.3)	72.6 (63.6, 81.5)	74.8 (61.2, 85.4)
Menominee	69.9 (59.6, 80.1)	71.9 (61.7, 82.1)	87.6 (81.1, 94.1)
Ontonagon	68.1 (61.2, 74.9)	79.1 (73.3, 84.9)	75.7 (69.2, 80.1)
Schoolcraft	55.4 (42.2, 68.5)	81.9 (74.5, 89.3)	76.0 (67.5, 84.4)
[a] Among adults aged 65 years and older, the proportion who reported they had a pneumonia or pneumococcal vaccine.			

Table 13-48B: Pneumococcal Vaccination by Population Group			
	Ever Had a Pneumonia Vaccine[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	69.3 (66.0, 72.6)	77.2 (74.5, 79.9)	77.9 (74.8, 80.9)
Age			
18-39		—	—
40-65		—	—
65+	69.3 (66.0, 72.6)	77.2 (74.5, 79.9)	77.9 (74.8, 80.9)
Gender			
Male	70.7 (66.7, 74.7)	78.3 (74.4, 82.2)	75.3 (70.2, 80.4)
Female	63.7 (58.2, 69.1)	76.3 (72.6, 80.0)	80.4 (77.0, 83.8)
Educational Attainment			
Less than 12th grade	58.1 (40.1, 76.1)	66.4 (49.2, 83.7)	73.4 (61.7, 85.2)
High School Graduate	66.0 (60.2, 71.8)	80.0 (75.9, 84.0)	79.6 (75.7, 83.4)
1-3 years of college	69.5 (64.4, 74.7)	75.8 (70.8, 80.7)	76.0 (69.9, 82.2)
4-year degree or higher	79.9 (75.3, 84.4)	76.8 (71.9, 81.8)	82.1 (78.2, 85.9)
Household Income			
Less than $25,000	59.2 (52.8, 65.7)	74.1 (68.7, 79.4)	74.9 (68.5, 81.2)
$25,000 to $49,999	73.5 (68.5, 78.4)	78.7 (74.5, 82.8)	80.1 (76.2, 84.0)
$50,000 or higher	78.7 (74.8, 82.6)	79.0 (74.5, 83.5)	78.7 (72.4, 85.1)
[a] Among adults aged 65 years and older, the proportion who reported they had a pneumonia or pneumococcal vaccine.			

Table 13-49A: Depression or Anxiety by County						
	Ever Told Depressive Disorder[a]			Ever Told Anxiety Disorder[b]		
	2024	2021	2017	2024	2021	2017
	% (95% C.I.)	% (95% C.I.)			% (95% C.I.)	
US Raw		18.9 (18.8, 19.0)				
US Weighted		18.7				
Michigan (2023)	24.1 (23.0, 25.3)	19.5 (18.3, 20.8)	22.0 (21.1, 23.0)			
Upper Peninsula (MiBRFS 2021-2023)	24.1 (20.9, 27.6)	21.4 (18.0, 25.1)				
Upper Peninsula	38.4 (33.9, 42.8)	25.9 (21.8, 29.9)	25.6 (22.5, 28.7)	38.0 (34.2, 41.9)	22.9 (19.0, 26.7)	21.3 (18.4, 24.3)
Alger	37.4 (26.1, 48.7)	23.8 (16.8, 30.7)	27.7 (20.2, 35.2)	29.6 (18.1, 41.2)	20.3 (13.7, 26.9)	24.2 (14.1, 28.3)
Baraga	32.4 (21.8, 43.0)	21.9 (13.5, 30.3)	27.5 (15.9, 39.1)	26.9 (16.3, 37.5)	18.4 (10.5, 26.4)	18.6 (11.3, 25.8)
Chippewa	42.6 (29.5, 55.6)	30.7 (18.6, 42.8)	30.0 (19.6, 40.4)	44.7 (31.7, 57.7)	25.5 (14.5, 36.5)	22.9 (12.9, 32.9)
Delta	41.7 (23.0, 60.4)	16.3 (3.7, 28.8)	24.6 (16.8, 32.4)	31.9 (22.3, 41.4)	16.6 (2.9, 30.4)	26.6 (18.4, 34.9)
Dickinson	34.6 (24.9, 44.3)	26.9 (18.2, 35.6)	26.6 (18.7, 34.4)	36.7 (26.8, 46.5)	24.3 (15.8, 32.8)	19.2 (12.2, 26.2)
Gogebic	32.5 (24.5, 40.6)	25.7 (16.1, 35.2)	23.3 (16.1, 30.5)	30.1 (22.1, 38.1)	21.9 (12.7, 31.0)	23.0 (15.6, 30.3)
Houghton/Keweenaw	31.7 (22.3, 41.2)	33.5 (20.2, 46.7)	27.6 (16.8, 38.4)	40.0 (28.3, 51.6)	31.7 (18.3, 45.1)	17.8 (10.2, 25.4)
Iron	35.9 (24.7, 47.1)	20.1 (12.6, 27.7)	20.7 (14.8, 26.6)	35.6 (24.2, 46.9)	18.9 (11.6, 26.2)	18.1 (12.2, 24.1)
Luce	40.5 (31.7, 49.1)	29.9 (20.0, 39.8)	24.4 (17.1, 31.8)	35.0 (26.4, 43.5)	23.2 (13.4, 33.1)	24.6 (16.5, 32.8)
Mackinac	30.5 (21.2, 39.8)	21.0 (13.6, 28.4)	27.1 (16.1, 38.0)	34.1 (24.4, 43.8)	16.6 (9.7, 23.6)	20.8 (10.1, 31.4)
Marquette	44.9 (33.7, 56.0)	27.0 (19.3, 34.6)	27.2 (18.1, 36.3)	44.7 (33.5, 55.9)	21.1 (14.0, 28.2)	23.7 (14.8, 32.6)
Menominee	40.6 (28.8, 52.4)	27.2 (17.3, 37.0)	17.2 (10.0, 24.3)	40.0 (28.0, 52.0)	26.8 (17.1, 36.4)	15.0 (10.8, 19.2)
Ontonagon	25.7 (18.9, 32.6)	18.2 (12.1, 24.2)	17.9 (13.5, 22.3)	26.3 (19.1, 33.4)	17.5 (11.6, 23.5)	15.0 (10.8, 19.2)
Schoolcraft	30.7 (21.9, 39.4)	28.6 (18.1, 39.1)	23.2 (15.6, 30.9)	27.5 (19.0, 35.9)	28.3 (17.2, 39.4)	29.4 (17.8, 41.0)

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had a depressive disorder including depression, major depression, dysthymic, or minor depression.

[b] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had an anxiety disorder including generalized anxiety disorder, panic disorder, social anxiety disorder, or a specific phobia. *This question was not part of the statewide BFRS.*

[c] Cumulative estimate for the counties surveyed.

Table 13-49B: Depression or Anxiety by Population Group						
	Ever Told Depressive Disorder[a]			Ever Told Anxiety Disorder[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	38.4 (33.9, 42.8)	25.9 (21.8, 29.9)	25.6 (22.5, 28.7)	38.0 (34.2, 41.9)	22.9 (19.0, 26.7)	21.3 (18.4, 24.3)
Age						
18-39	53.1 (42.8, 63.3)	28.6 (17.6, 39.7)	36.5 (28.2, 44.8)	60.3 (51.7, 68.9)	30.6 (19.1, 42.2)	32.5 (24.7, 40.1)
40-65	37.4 (32.5, 42.4)	28.7 (24.7, 32.7)	21.9 (19.0, 24.8)	34.5 (29.7, 39.3)	22.7 (19.0, 26.4)	18.6 (15.7, 21.4)
65+	21.2 (18.3, 24.1)	17.5 (14.8, 20.2)	17.7 (15.0, 20.4)	16.5 (14.0, 19.1)	12.0 (10.0, 14.0)	11.0 (9.2, 12.9)
Gender						
Male	24.6 (17.9, 31.3)	16.6 (10.8, 22.3)	21.0 (15.7, 26.3)	22.7 (16.0, 29.5)	14.7 (9.0, 20.4)	15.2 (10.6, 19.8)
Female	44.3 (39.1, 49.6)	34.9 (30.6, 39.2)	30.0 (26.4, 33.5)	44.9 (40.5, 49.3)	30.7 (26.6, 34.9)	27.2 (23.6, 30.8)
Educational Attainment						
Less than 12th grade	49.6 (32.4, 66.8)	35.0 (18.7, 51.3)	43.1 (29.5, 56.6)	44.3 (27.0, 61.7)	31.4 (15.7, 47.2)	29.5 (17.0, 42.0)
High School Graduate	42.8 (33.5, 52.2)	22.8 (15.1, 30.5)	26.1 (20.5, 31.5)	40.7 (33.7, 47.7)	18.5 (11.8, 25.3)	20.4 (15.4, 25.3)
1-3 years of college	35.6 (29.6, 41.7)	31.8 (25.5, 38.0)	23.7 (19.1, 28.3)	37.2 (30.5, 43.9)	25.9 (19.9, 31.9)	22.2 (17.4, 27.0)
4-year degree or higher	34.0 (26.9, 41.0)	21.5 (16.1, 26.8)	19.3 (15.3, 23.2)	34.7 (27.7, 41.8)	24.6 (18.1, 31.1)	17.4 (12.9, 21.8)
Household Income						
Less than $25,000	49.7 (40,3, 59.0)	32.4 (17.4, 47.4)	37.6 (31.2, 44.1)	45.3 (37.2, 53.4)	27.6 (14.5, 40.7)	28.4 (22.6, 34.3)
$25,000 to $49,999	36.0 (29.3, 42.7)	24.6 (18.8, 30.4)	25.1 (19.5, 30.8)	38.0 (31.1, 45.0)	18.1 (13.6, 22.5)	20.8 (15.8, 25.8)
$50,000 or higher	28.8 (24.7, 33.0)	23.9 (19.0, 28.9)	19.7 (14.9, 24.5)	31.1 (26.8, 35.5)	23.2 (18.0, 28.4)	18.1 (13.3, 22.9)

[a] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had a depressive disorder including depression, major depression, dysthymic, or minor depression.

[b] Among all adults, the proportion who reported they were ever told by a doctor, nurse, or health professional they had an anxiety disorder including generalized anxiety disorder, panic disorder, social anxiety disorder, or a specific phobia.

Table 13-50A: Mental Health Care Access by County						
	Medication for Mood Past 12 Months[a]			Counseling Past 12 Months[b]		
	2024	2021	2017	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Michigan[c]						
Upper Peninsula	34.3 (29.8, 38.8)	26.6 (22.4, 30.8)	24.0 (20.9, 27.1)	24.0 (20.9, 27.1)	10.7 (7.7, 13.6)	7.6 (5.7, 9.6)
Alger	30.3 (19.4, 41.3)	27.7 (19.7, 35.8)	25.0 (17.9, 32.2)	12.9 (1.9, 23.9)	8.0 (3.7, 12.3)	13.6 (7.0, 20.3)
Baraga	18.7 (10.2, 27.3)	15.7 (9.7, 21.6)	18.7 (11.4, 26.1)	12.2 (4.6, 19.7)	3.8 (0.7, 7.0)	2.8 (0.7, 4.9)
Chippewa	43.9 (30.8, 57.0)	33.1 (20.9, 45.3)	24.2 (14.5 33.8)	22.4 (9.5, 35.3)	13.6 (4.7, 22.6)	4.2 (0.3, 8.1)
Delta	46.7 (29.1, 64.3)	21.7 (5.3, 38.2)	31.5 (21.3, 41.4)	14.2 (5.8, 22.5)	8.9 (0.0, 18.6)	6.5 (2.4, 10.7)
Dickinson	31.3 (22.4, 40.2)	27.4 (18.7, 36.1)	21.9 (14.8, 29.0)	14.1 (7.2, 20.9)	10.2 (4.8, 15.6)	10.3 (3.9, 16.7)
Gogebic	28.0 (20.4, 35.6)	23.3 (13.8, 32.9)	23.7 (16.4, 31.0)	13.2 (5.2, 16.4)	12.3 (5.0, 19.7)	6.0 (1.7, 10.3)
Houghton/Keweenaw	25.4 (17.3, 33.5)	34.7 (21.3, 48.1)	24.9 (14.3, 35.6)	23.6 (11.5, 35.8)	23.9 (9.8, 37.9)	9.9 (0.0, 20.0)
Iron	38.8 (27.8, 49.9)	16.3 (10.0, 22.5)	18.7 (12.9, 24.4)	12.8 (5.0, 20.7)	5.5 (1.5, 9.6)	6.8 (1.0, 12.6)
Luce	36.4 (27.9, 44.9)	31.8 (21.8, 41.7)	25.7 (18.2, 33.2)	14.6 (7.3, 22.0)	11.0 (1.3, 20.7)	7.8 (3.3, 12.2)
Mackinac	32.2 (22.5, 41.8)	17.6 (11.6, 23.6)	23.3 (12.9, 33.8)	10.9 (3.9, 17.9)	8.5 (1.7, 15.2)	10.1 (0.1, 20.1)
Marquette	35.7 (24.4, 47.1)	25.3 (17.8, 32.8)	25.2 (16.7, 33.7)	20.8 (11.3, 30.2)	7.1 (3.9, 10.3)	9.7 (5.2, 14.2)
Menominee	26.5 (17.1, 36.0)	29.1 (19.6, 38.5)	16.8 (10.8, 22.8)	16.3 (8.4, 24.3)	6.0 (0.5, 11.5)	4.5 (1.4, 7.7)
Ontonagon	25.7 (18.7, 32.8)	20.2 (13.8, 26.6)	19.8 (15.3, 24.3)	8.7 (4.0, 13.3)	4.2 (0.8, 7.5)	2.6 (1.0, 4.1)
Schoolcraft	26.5 (18.2, 34.8)	27.1 (16.2, 38.0)	18.0 (11.4, 24.6)	12.8 (6.5, 19.1)	7.9 (3.6, 12.1)	4.0 (1.1, 6.8)

[a] Among all adults, the proportion who reported they took medication to help with mood, emotions, or mental health in the past 12 months.

[b] Among all adults, the proportion who reported they had received counseling or other non-medication treatment from a mental health professional the past 12 months.

[c] Questions not asked on Michigan BRFS.

Table 13-50B: Mental Health Care Access by Population Group						
	Medication for Mood Past 12 Months[a]			Counseling Past 12 Months[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	34.3 (29.8, 38.8)	26.6 (22.4, 30.8)	24.0 (20.9, 27.1)	17.4 (14.0, 20.9)	10.7 (7.7, 13.6)	7.6 (5.7, 9.6)
Age						
18-39	46.6 (35.9, 57.3)	28.7 (17.3, 40.1)	29.6 (21.7, 37.6)	34.4 (24.9, 43.9)	16.9 (8.5, 25.3)	12.9 (7.5, 18.3)
40-65	32.1 (27.0, 37.2)	29.2 (25.1, 33.3)	24.0 (20.5, 27.4)	11.7 (8.7, 14.7)	9.7 (7.2, 12.3)	6.2 (4.4, 8.0)
65+	21.7 (18.9, 24.5)	19.9 (17.1, 22.6)	16.3 (14.0, 18.6)	4.7 (3.0, 6.3)	3.3 (2.0, 4.6)	3.2 (2.1, 4.3)
Gender						
Male	24.3 (17.0, 31.5)	17.4 (11.3, 23.5)	17.7 (12.6, 22.8)	13.7 (7.6, 19.7)	8.0 (3.3, 12.8)	6.5 (3.2, 9.9)
Female	38.7 (33.2, 44.1)	35.3 (31.0, 39.6)	30.0 (26.4, 33.6)	19.1 (14.8, 23.3)	13.2 (9.9, 16.4)	8.7 (6.7, 10.8)
Educational Attainment						
Less than 12th grade	44.5 (26.7, 62.3)	32.4 (16.3, 48.4)	39.1 (25.4, 52.7)	17.0 (2.1, 31.9)	15.5 (2.4, 28.5)	4.3 (0.0, 8.7)
High School Graduate	40.7 (31.1, 50.2)	24.9 (16.5, 33.3)	26.7 (21.1, 32.4)	13.9 (8.3, 19.5)	8.2 (3.7, 12.7)	9.3 (5.1, 13.5)
1-3 years of college	31.7 (25.7, 37.7)	29.9 (23.7, 36.1)	19.6 (15.7, 23.5)	15.9 (10.0, 21.8)	11.5 (6.1, 16.9)	5.5 (3.8, 7.3)
4-year degree or higher	27.0 (20.3, 33.8)	24.8 (18.3, 31.2)	19.1 (15.1, 23.0)	24.6 (17.4, 31.8)	12.7 (7.6, 17.9)	10.8 (6.6, 15.0)
Household Income						
Less than $25,000	46.4 (36.7, 56.0)	30.0 (15.9, 44.2)	32.1 (26.2, 34.9)	18.6 (11.3, 25.9)	14.7 (6.7, 22.6)	11.2 (7.6, 14.9)
$25,000 to $49,999	30.0 (23.8, 36.2)	21.9 (16.4, 27.4)	28.6 (22.2, 34.9)	18.1 (11.8, 24.5)	3.7 (2.2, 5.1)	9.7 (4.4, 15.0)
$50,000 or higher	25.3 (21.3, 29.3)	27.7 (22.4, 33.0)	17.3 (12.9, 21.6)	16.2 (12.3, 20.0)	12.4 (7.7, 17.2)	4.5 (2.8, 6.3)
[a] Among all adults, the proportion who reported they took medication to help with mood, emotions, or mental health in the past 12 months.						
[b] Among all adults, the proportion who reported they had received counseling or other non-medication treatment from a mental health professional the past 12 months.						

Table 13-51A: Suicide Crisis Line Usage by County			
	Contacted Crisis Line Past 12 Months[a]		
	2024	2021	2017
	% (95%CI)	% (95%CI)	% (95%CI)
Michigan[b]			
Upper Peninsula	3.7 (2.0, 5.4)	1.7 (0.8, 2.5)	1.2 (0.5, 1.9)
Alger	2.6 (0.0, 6.7)	3.1 (0.0, 7.8)	1.1 (0.0, 2.5)
Baraga	3.6 (0.0, 9.4)	1.6 (0.0, 4.2)	0.5 (0.06, 1.0)
Chippewa	2.6 (0.0, 5.5)	*	0.8 (0.0, 1.6)
Delta	7.0 (0.0, 14.7)	2.8 (0.0, 7.5)	0.6 (0.0, 1.3)
Dickinson	2.1 (0.0, 4.9)	2.8 (0.3, 5.2)	2.6 (0.0, 5.3)
Gogebic	0.4 (0.0, 1.3)	*	0.9 (0.0, 2.1)
Houghton/Keweenaw	4.3 (0.2, 8.3)	1.4 (0.0, 3.0)	0.4 (0.0, 1.1)
Iron	1.3 (0.0, 3.3)	1.8 (0.0, 4.3)	02 (0.0, 0.7)
Luce	3.4 (0.0, 5.4)	1.9 (0.1, 3.6)	1.0 (0.0, 2.6)
Mackinac	2.3 (0.0, 6.4)	1.2 (0.0, 2.5)	8.4 (0.0, 23.2)
Marquette	4.4 (0.0, 9.3)	2.2 (0.5, 3.9)	0.4 (0.0, 1.2)
Menominee	2.2 (0.0, 4.9)	0.3 (0.0, 0.7)	2.0 (0.0, 4.4)
Ontonagon	3.6 (0.0, 7.6)	0.5 (0.0, 1.4)	1.4 (0.1, 2.7)
Schoolcraft	3.8 (0.1, 7.5)	2.6 (0.3, 4.9)	1.9 (0.0, 4.4)
[a] Among all adults, the proportion who reported they called or texted a crisis line one or more times in the past 12 months.			
[b] Questions not asked on Michigan BRFS.			

Table 13-51B: Suicide Crisis Line Usage by Population Group			
	Contacted Crisis Line Past 12 Months[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	3.7 (2.0, 5.4)	1.7 (0.8, 2.5)	1.2 (0.5, 1.9)
Age			
18-39	3.8 (0.6, 7.1)	2.4 (0.2, 4.6)	1.2 (0.0, 3.1)
40-65	5.3 (2.1, 8.5)	1.5 (0.7, 2.2)	1.6 (0.7, 2.5)
65+	1.0 (0.2, 1.7)	1.0 (0.4, 1.5)	0.5 (0.2, 0.9)
Gender			
Male	3.1 (0.0, 6.6)	1.7 (0.2, 3.1)	1.5 (0.1, 2.9)
Female	4.0 (2.0, 5.9)	1.6 (0.8, 2.5)	0.9 (0.4, 1.4)
Educational Attainment			
Less than 12th grade	20.8 (1.6, 40.0)	2.6 (0.0, 6.5)	0.9 (0.0, 2.2)
High School Graduate	1.3 (0.3, 2.2)	1.8 (0.0, 3.7)	1.5 (0.0, 3.2)
1-3 years of college	5.2 (2.3, 8.1)	1.7 (0.6, 2.8)	1.2 (0.4, 2.0)
4-year degree or higher	1.1 (0.1, 2.1)	1.3 (0.5, 2.1)	0.6 (0.009, 1.2)
Household Income			
Less than $25,000	6.7 (2.4, 11.0)	5.4 (1.3, 9.4)	1.5 (0.6, 2.5)
$25,000 to $49,999	2.5 (0.9, 4.2)	0.5 (0.1, 0.8)	2.1 (0.0, 4.4)
$50,000 or higher	1.1 (0.2, 2.0)	0.6 (0.2, 1.0)	0.5 (0.002, 1.0)
[a] Among all adults, the proportion who reported they called or texted a crisis line one or more times in the past 12 months.			

Table 13-52A: Mental Health Care Barriers by County						
	Delayed or Not Received Counseling in Past 12 Months Due to Cost[a]			Delayed or Not Received Counseling in Past 12 Months Due to Lack of Transportation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Michigan[c]						
Upper Peninsula	12.3 (9.3, 15.3)	4.8 (3.1, 6.5)	6.9 (4.2, 9.6)	11.7 (9.2, 14.2)	1.1 (0.5, 1.7)	0.9 (0.4, 1.4)
Alger	14.3 (3.1, 25.5)	3.4 (0.9, 5.8)	4.4 (0.4, 8.4)	15.1 (3.9, 26.2)	0.9 (0.0, 2.3)	2.4 (0.0, 5.9)
Baraga	4.2 (0.6, 7.8)	6.0 (1.1, 11.0)	0.9 (0.1, 1.7)	7.7 (1.0, 14.4)	1.8 (0.0, 4.3)	0.4 (0.04, 0.7)
Chippewa	6.4 (1.6, 11.3)	4.2 (0.0, 12.1)	7.9 (0.0, 16.8)	9.7 (0.9, 18.5)	0.9 (0.0, 2.7)	1.9 (0.0, 5.0)
Delta	12.7 (4.4, 21.1)	2.2 (0.0, 4.6)	5.4 (0.0, 11.4)	10.3 (3.0, 17.6)	0.3 (0.0, 0.7)	0.9 (0.05, 1.7)
Dickinson	13.7 (5.4, 22.0)	6.5 (1.4, 11.5)	4.3 (0.2, 8.4)	9.7 (2.6, 16.8)	0.2 (0.0, 0.6)	0.7 (0.0, 1.4)
Gogebic	4.3 (0.7, 7.9)	2.9 (0.3, 5.4)	3.0 (0.0, 6.1)	5.2 (1.4, 9.0)	0.07 (0.0, 0.2)	0.30 (0.0, 0.9)
Houghton/Keweenaw	17.5 (5.5, 29.5)	8.5 (1.7, 15.3)	11.0 (0.5, 21.5)	16.2 (8.8, 23.6)	2.0 (0.0, 5.1)	0.9 (0.0, 2.1)
Iron	14.7 (3.7, 25.6)	1.0 (0.0, 2.3)	4.2 (0.8, 7.5)	15.8 (4.5, 27.0)	2.5 (0.0, 5.6)	0.7 (0.0, 1.4)
Luce	9.4 (2.9, 15.8)	3.1 (0.7, 5.4)	7.2 (1.6, 12.7)	13.9 (6.6, 21.2)	1.0 (0.0, 2.2)	2.7 (0.0, 7.0)
Mackinac	7.2 (1.6, 12.7)	7.3 (1.6, 13.0)	4.3 (0.5, 8.2)	10.1 (3.6, 16.7)	0.9 (0.0, 2.2)	1.0 (0.0, 2.4)
Marquette	17.2 (8.7, 25.8)	5.6 (2.3, 8.9)	11.6 (3.6, 19.7)	12.8 (5.9, 19.7)	1.4 (0.0, 3.0)	0.4 (0.0, 1.3)
Menominee	6.4 (0.8, 12.0)	4.4 (0.0, 9.2)	1.2 (0.0, 2.6)	11.2 (4.4, 18.0)	1.7 (0.0, 3.8)	1.2 (0.0, 3.5)
Ontonagon	8.6 (3.4, 13.8)	2.4 (0.0, 5.3)	2.8 (1.1, 4.5)	9.0 (3.8, 14.3)	0.9 (0.0, 1.9)	1.0 (0.1, 1.9)
Schoolcraft	7.3 (2.8, 11.8)	2.4 (0.5, 4.2)	2.5 (0.1, 4.9)	10.7 (2.2, 19.2)	*	0.9 (0.0, 2.1)

[a] Among all adults, the proportion who reported they delayed or did not receive needed counseling in the past 12 months due to cost.

[b] Among all adults, the proportion who reported they delayed or did not receive needed counseling in the past 12 months due to a lack of transportation.

[c] These questions are not part of the statewide BRFS.

Table 13-52B: Mental Health Care Barriers by Population Group						
	Delayed or Not Received Counseling in Past 12 Months Due to Cost[a]			Delayed or Not Received Counseling in Past 12 Months Due to Lack of Transportation[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	12.3 (9.3, 15.3)	4.8 (3.1, 6.5)	6.9 (4.2, 9.6)	11.7 (9.2, 14.2)	1.1 (0.5, 1.7)	0.9 (0.4, 1.4)
Age						
18-39	22.9 (14.7, 31.0)	8.3 (3.4, 13.1)	15.4 (7.8, 23.0)	21.0 (14.1, 27.6)	1.0 (0.0, 2.2)	0.7 (0.0, 1.4)
40-65	10.1 (6.9, 13.4)	4.1 (2.7, 5.6)	3.7 (2.1, 5.2)	9.6 (6.7, 12.6)	1.7 (0.5, 2.8)	1.5 (0.5, 2.5)
65+	2.2 (1.2, 3.3)	1.0 (0.5, 1.5)	0.8 (0.3, 1.3)	3.0 (1.8, 4.2)	0.2 (0.0, 0.5)	0.3 (0.02, 0.7)
Gender						
Male	6.5 (2.7, 10.4)	2.5 (0.9, 4.2)	8.6 (3.5, 13.7)	8.5 (3.9, 13.1)	0.8 (0.1, 1.5)	0.3 (0.0, 0.6)
Female	14.9 (10.9, 18.8)	7.0 (4.2, 9.7)	5.3 (3.5, 7.1)	13.2 (10.1, 1.2)	1.3 (0.4, 2.3)	1.6 (0.6, 2.5)
Educational Attainment						
Less than 12th grade	10.9 (0.0, 21.9)	1.0 (0.0, 2.3)	4.0 (0.0, 9.5)	19.6 (2.8, 36.4)	6.4 (0.0, 14.9)	3.2 (0.0, 7.5)
High School Graduate	9.3 (4.6, 14.0)	3.5 (1.1, 5.9)	9.0 (3.6, 14.5)	7.5 (4.1, 11.0)	1.3 (0.2, 2.4)	0.7 (0.1, 1.2)
1-3 years of college	16.6 (10.4, 22.8)	5.9 (2.5, 9.3)	6.8 (2.7, 10.8)	14.3 (9.6, 19.1)	1.0 (0.0, 2.1)	1.0 (0.3, 1.8)
4-year degree or higher	11.3 (6.3, 16.2)	5.9 (2.9, 8.8)	2.8 (1.4, 4.1)	12.2 (8.0, 16.5)	0.3 (0.0, 0.5)	0.2 (0.0, 0.4)
Household Income						
Less than $25,000	14.1 (7.7, 20.5)	3.5 (1.0, 5.9)	7.6 (3.1, 12.0)	13.7 (8.4, 19.0)	3.0 (0.8, 5.1)	3.3 (1.4, 5.3)
$25,000 to $49,999	14.0 (8.2, 19.7)	8.4 (3.6, 13.1)	9.0 (3.2, 14.8)	11.9 (7.3, 16.5)	0.7 (0.0, 1.8)	0.3 (0.0, 0.7)
$50,000 or higher	9.1 (6.1, 12.1)	3.8 (1.9, 5.8)	5.3 (1.2, 9.3)	9.6 (6.7, 12.5)	0.4 (0.0, 1.1)	0.04 (0.0, 0.1)
[a] Among all adults, the proportion who reported they delayed or did not receive needed counseling in the past 12 months due to cost.						
[b] Among all adults, the proportion who reported they delayed or did not receive needed counseling in the past 12 months due to a lack of transportation.						

Table 53A: Alcohol Consumption by County						
	Heavy Drinking[a]			Binging Drinking[b]		
	2024	2021	2017	2024	2021	2017
		% (95% C.I.)			% (95% C.I.)	
US Raw		5.57 (5.50, 5.64)			12.4 (12.3, 12.5)	
US Weighted		5.87			15.28	
Michigan (2023)	5.8 (5.1, 6.5)	6.8 (6.0, 7.6)	6.9 (6.3, 7.5)	15.2 (14.1, 16.2)	17.4 (16.3, 18.7)	19.0 (18.1, 20.0)
Upper Peninsula (MiBRFS 2021-2023)	7.5 (5.6, 9.9)	9.8 (7.4, 13.0)		18.9 (15.7, 22.4)	23.5 (19.8, 27.6)	
Upper Peninsula	11.2 (9.1, 13.3)	16.2 (12.9, 19.5)	14.0 (11.7, 16.3)	20.8 (16.4, 25.3)	15.8 (12.3, 19.3)	12.9 (10.7, 15.2)
Alger	7.6 (3.6, 11.6)	17.0 (9.9, 24.0)	14.8 (9.6, 20.1)	17.3 (2.5, 32.1)	13.6 (6.7, 20.5)	15.6 (8.3, 22.9)
Baraga	14.4 (7.8, 21.0)	16.1 (8.8, 23.4)	18.3 (10.5, 26.1)	31.4 (15.8, 47.0)	11.0 (5.1, 17.0)	19.9 (10.9, 28.8)
Chippewa	6.4 (2.6, 10.1)	21.3 (9.5, 33.1)	16.1 (7.0, 25.3)	11.7 (2.9, 20.5)	13.3 (5.1, 21.5)	13.5 (5.1, 21.8)
Delta	11.9 (5.5, 18.3)	9.7 (1.9, 17.5)	10.4 (5.5, 15.2)	14.0 (6.9, 21.2)	14.8 (1.8, 27.7)	10.6 (5.2, 16.1)
Dickinson	9.1 (3.8, 14.4)	13.4 (6.2, 20.6)	9.1 (4.8, 13.4)	16.0 (6.9, 25.1)	13.5 (5.9, 21.1)	11.4 (5.6, 17.1)
Gogebic	10.8 (5.9, 15.8)	9.1 (4.6, 13.5)	15.2 (8.4, 13.4)	18.7 (9.4, 27.9)	7.9 (3.3, 12.6)	9.2 (5.1, 13.2)
Houghton/Keweenaw	11.4 (5.0, 17.8)	17.7 (9.5, 26.0)	12.5 (6.9, 18.1)	34.2 (16.8, 51.6)	14.5 (6.8, 22.2)	11.4 (5.6, 17.1)
Iron	19.9 (11.4, 28.4)	11.4 (5.0, 17.9)	19.2 (10.1, 28.2)	22.9 (11.4, 34.3)	14.3 (2.7, 25.9)	20.5 (11.1, 29.9)
Luce	10.4 (4.7, 16.1)	12.8 (7.5, 18.2)	14.4 (7.9, 21.0)	21.9 (11.0, 32.8)	14.2 (6.0, 22.3)	19.7 (10.3, 29.1)
Mackinac	19.2 (11.8, 26.7)	16.7 (9.4, 24.1)	13.6 (6.7, 20.5)	13.3 (5.7, 20.9)	14.7 (7.3, 22.2)	14.5 (7.5, 21.4)
Marquette	12.0 (5.6, 18.4)	20.1 (11.5, 28.7)	14.5 (8.6, 20.4)	24.3 (12.2, 36.4)	23.2 (13.0, 33.5)	11.9 (5.9, 17.8)
Menominee	10.7 (4.9, 15.6)	13.2 (7.1, 19.3)	18.3 (6.8, 29.8)	17.8 (9.1, 26.5)	10.4 (4.5, 16.4)	16.0 (4.6, 27.4)
Ontonagon	11.0 (6.2, 15.7)	15.3 (9.7, 20.8)	20.6 (13.0, 28.1)	25.5 (10.4, 40.7)	14.7 (8.8, 20.7)	13.8 (6.5, 21.1)
Schoolcraft	7.4 (3.1, 11.6)	27.6 (12.5, 42.6)	8.0 (4.0, 12.1)	14.2 (0.7, 27.8)	28.1 (13.0, 43.2)	12.7 (6.3, 19.1)

[a] Among all adults, the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women for the past month.

[b] Among all adults, the proportion who reported consuming five or more drinks per occasion for men or more than four or more drinks per occasion for women for the past month.

In the local survey, rather than use the phrase “per occasion” a time interval of 2 hours was used. This definition of binge drinking comes from http://www.cdc/alcohol/fact, sheets/binge, drinking.htm. The difference in question phrasing may account for some differences in the observed estimates between the local and state survey.

Table 13-53B: Alcohol Consumption by Population Group						
	Heavy Drinking[a]			Binging Drinking[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	11.2 (9.1, 13.3)	16.2 (12.9, 19.5)	14.0 (11.7, 16.3)	20.8 (16.4, 25.3)	15.8 (12.3, 19.3)	12.9 (10.7, 15.2)
Age						
18-39	10.5 (5.8, 15.2)	16.2 (8.1, 24.2)	10.8 (5.8, 15.9)	32.2 (21.3, 43.2)	21.5 (11.9, 31.2)	17.0 (11.0, 22.9)
40-65	13.1 (10.0, 16.2)	20.2 (16.3, 24.1)	18.3 (15.0, 21.5)	18.3 (13.8, 22.7)	18.2 (14.2, 22.1)	13.5 (10.9, 16.2)
65+	9.0 (7.1, 10.9)	10.1 (8.3, 11.9)	10.5 (8.1, 12.9)	7.8 (5.6, 9.9)	4.2 (3.1, 5.3)	6.3 (4.5, 8.1)
Gender						
Male	12.8 (8.7, 17.0)	16.5 (11.0, 22.0)	15.7 (11.9, 19.4)	20.1 (14.0, 26.2)	20.4 (13.7, 27.1)	15.6 (11.7, 19.5)
Female	10.5 (8.2, 12.9)	15.9 (12.3, 19.6)	12.4 (9.9, 14.9)	21.3 (15.4, 27.2)	11.4 (8.2, 14.6)	10.4 (7.9, 12.9)
Educational Attainment						
Less than 12th grade	6.0 (0.2, 11.7)	10.7 (1.5, 19.9)	20.1 (7.9, 32.4)	8.0 (0.7, 15.4)	9.6 (0.4, 18.8)	1.42 (3.5, 24.8)
High School Graduate	10.3 (6.6, 13.9)	10.7 (6.6, 14.8)	15.2 (11.2, 19.2)	22.3 (13.9, 30.7)	10.4 (5.9, 15.0)	12.5 (9.0, 15.9)
1-3 years of college	14.7 (10.5, 18.9)	20.3 (14.6, 26.1)	11.6 (8.7, 14.6)	24.3 (15.2, 33.4)	17.4 (12.1, 22.6)	13.0 (9.1 17.0)
4-year degree or higher	8.9 (5.8, 11.9)	19.9 (13.4, 26.5)	13.3 (9.9, 16.7)	17.3 (11.8, 22.8)	22.9 (14.5, 31.3)	13.5 (9.2, 17.8)
Household Income						
Less than $25,000	11.8 (7.4, 16.3)	11.4 (4.6, 18.2)	12.8 (8.5, 17.0)	26.3 (15.6, 37.0)	10.9 (3.9, 18.0)	12.2 (7.9, 16.5)
$25,000 to $49,999	10.3 (7.0, 13.7)	10.9 (8.0, 13.7)	14.0 (10.0, 18.0)	20.5 (12.5, 28.5)	6.3 (4.0, 8.5)	12.6 (8.2, 17.0)
$50,000 or higher	11.1 (8.5, 13.6)	21.1 (16.3, 26.0)	15.0 (11.3, 18.8)	16.3 (12.4, 20.2)	23.0 (17.7, 28.3)	14.3 (10.7, 17.8)
[a] Among all adults, the proportion who reported consuming an average of more than two alcoholic drinks per day for men or more than one per day for women for the past month.						
[b] Among all adults, the proportion who reported consuming five or more drinks per occasion for men or more than four or more drinks per occasion for women for the past month.						
In the local survey, rather than use the phrase “per occasion” a time interval of 2 hours was used. This definition of binge drinking comes from http://www.cdc/alcohol/fact, sheets/binge, drinking.htm. The difference in question phrasing may account for some differences in the observed estimates between the local and state survey.						

Table 13-54A: Drug Use by County

	Ever Used Over-the-Counter or Synthetic Drugs[a]			Ever Used Prescription Drugs to Get High[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Michigan			4.4 (3.4, 5.7)			4.7 (3.7, 6.1)
Upper Peninsula	8.0 (5.5, 10.3)	3.0 (1.6, 4.3)	2.6 (1.2, 3.9)	7.0 (4.9, 9.0)	4.6 (2.9, 6.3)	3.3 (1.9, 4.7)
Alger	8.2 (0, 19.1)	5.5 (1.3, 9.8)	2.8 (0.0, 6.1)	9.0 (0, 19.8)	4.3 (0.7, 7.9)	1.7 (0.0, 3.5)
Baraga	15.1 (4.9, 25.3)	3.6 (0.0, 8.2)	7.2 (0.0, 14.5)	12.6 (3.5, 21.7)	6.2 (0.8, 11.6)	4.4 (1.4, 7.4)
Chippewa	11.9 (1.4, 22.4)	5.3 (0.0, 12.4)	3.6 (0.0, 8.6)	8.7 (0.0, 18.0)	8.5 (0.5, 16.5)	5.0 (0.0, 10.3)
Delta	9.3 (1.9, 16.7)	0.3 (0.0, 0.7)	1.6 (0.0, 3.6)	6.6 (1.2, 12.1)	0.1 (0.0, 0.3)	0.5 (0.0, 1.3)
Dickinson	5.1 (0.0, 11.0)	2.3 (0.0, 4.9)	3.1 (0.0, 7.0)	8.2 (2.5, 14.0)	3.2 (0.0, 7.7)	0.2 (0.0, 0.7)
Gogebic	4.0 (0.0, 7.9)	4.6 (0.0, 10.5)	4.7 (0.0, 9.5)	3.9 (0.0, 7.7)	4.1 (0.0, 8.3)	2.7 (0.0, 6.1)
Houghton/Keweenaw	6.9 (1.6, 12.2)	2.2 (0.0, 5.1)	0.4 (0.0, 1.1)	5.8 (1.9, 9.7)	7.5 (1.4, 13.5)	1.8 (0.0, 4.0)
Iron	6.7 (0.1, 13.3)	1.7 (0.0, 4.2)	0	9.0 (3.0, 14.9)	7.2 (1.4, 13.1)	6.1 (0.0, 12.5)
Luce	6.9 (1.5, 12.2)	5.4 (0.0, 13.0)	2.3 (0.0, 4.6)	5.6 (0.0, 11.2)	5.3 (0.0, 13.1)	1.2 (0.0, 2.4)
Mackinac	3.2 (0.0, 6.9)	4.0 (0.9, 7.1)	5.8 (0.0, 15.5)	5.4 (0.0, 10.9)	2.1 (0.0, 4.4)	6.8 (0.0, 16.5)
Marquette	8.8 (2.7, 14.9)	4.1 (0.7, 7.4)	3.7 (0.0, 8.3)	6.7 (1.1, 12.4)	4.2 (0.4, 8.0)	5.8 (0.9, 10.7)
Menominee	8.8 (2.3, 15.4)	0.8 (0.0, 2.5)	0.06 (0.0, 0.2)	7.3 (1.4, 13.2)	3.5 (0.0, 7.2)	2.5 (0.0, 5.6)
Ontonagon	2.9 (0.6, 5.3)	2.3 (0.0, 4.8)	1.1 (0.04, 2.2)	4.6 (1.6, 7.7)	3.1 (0.3, 5.9)	1.5 (0.4, 2.6)
Schoolcraft	3.7 (0.0, 7.5)	2.4 (0.1, 4.6)	0.4 (0.0, 0.9)	4.0 (0.3, 7.7)	7.6 (0.0, 17.9)	1.8 (0.0, 4.2)

[a] Among all adults, the proportion who reported ever using over the counter or synthetic/designer drugs such as K2/Spice, Salvia, Bath Salts, or synthetic cannabinoids for the purpose of getting high.

[b] Among all adults, the proportion who reported ever using prescription drugs not prescribed to them for the purpose of getting high.

Table 13-54B: Drug Use by Population Group						
	Ever Used Over, the, Counter or Synthetic Drugs[a]			Ever Used Prescription Drugs to Get High[b]		
	2024	2021	2017	2024	2021	2017
		% (95% CI)	% (95% CI)		% (95% CI)	% (95% CI)
Upper Peninsula	8.0 (5.5, 10.3)	5.5 (1.3, 9.8)	2.6 (1.2, 3.9)	7.0 (4.9, 9.0)	4.3 (0.7, 7.9)	3.3 (1.9, 4.7)
Age						
18-39	16.2 (9.8, 22.6)	5.0 (1.4, 8.6)	6.1 (2.1, 10.2)	14.3 (8.5, 20.1)	8.4 (3.5, 13.2)	6.9 (2.8, 11.1)
40-65	4.8 (2.5, 7.2)	2.5 (1.2, 3.9)	1.2 (0.5, 1.9)	4.1 (2.5, 5.7)	3.6 (1.9, 5.4)	2.1 (1.2, 2.9)
65+	1.7 (0.9, 2.5)	0.8 (0.3, 1.4)	0.1 (0.007, 0.2)	1.7 (1.0, 2.4)	0.8 (0.4, 1.2)	0.5 (0.5, 1.1)
Gender						
Male	10.9 (6.1, 15.6)	2.8 (0.7, 4.9)	3.7 (1.1, 6.2)	8.4 (4.4, 12.5)	6.4 (3.1, 9.7)	4.6 (2.0, 7.2)
Female	7.0 (4.3, 9.6)	3.1 (1.5, 4.7)	1.5 (0.4, 2.6)	6.5 (4.1, 8.8)	2.8 (1.5, 4.1)	2.0 (0.8, 3.3)
Educational Attainment						
Less than 12th grade	19.0 (2.7, 35.4)	5.0 (0.0, 11.7)	1.6 (0.0, 3.8)	16.1 (1.0, 31.1)	7.7 (0.09, 15.4)	1.1 (0.0, 2.3)
High School Graduate	8.8 (4.5, 13.1)	2.1 (0.7, 3.6)	2.6 (0.4, 4.7)	5.4 (2.4, 8.3)	2.6 (0.9, 4.2)	3.0 (0.8, 5.2)
1-3 years of college	6.8 (3.6, 10.5)	2.4 (0.5, 4.3)	3.2 (0.4, 6.0)	7.0 (3.6, 10.5)	5.3 (2.3, 8.2)	4.4 (1.5, 7.4)
4-year degree or higher	5.7 (2.2, 9.2)	4.9 (0.9, 8.8)	1.6 (0.0, 3.1)	6.9 (3.3, 10.6)	6.5 (1.8, 11.1)	2.6 (0.5, 4.8)
Household Income						
Less than $25,000	10.0 (5.2, 14.8)	5.7 (0.9, 10.5)	2.7 (0.6, 4.7)	7.1 (3.3, 10.9)	10.1 (3.1, 17.1)	4.4 (2.0, 6.7)
$25,000 to $49,999	5.5 (1.5, 9.5)	1.9 (0.4, 3.3)	3.0 (0.3, 5.7)	7.4 (3.1, 11.7)	3.4 (1.3, 5.6)	4.0 (1.2, 6.9)
$50,000 or higher	8.0 (4.8, 11.1)	2.3 (0.9, 3.8)	2.4 (0.06, 4.7)	6.6 (4.1, 9.1)	2.8 (1.1, 4.5)	2.3 (0.05, 4.6)
[a] Among all adults, the proportion who reported ever using over the counter or synthetic/designer drugs such as K2/Spice, Salvia, Bath Salts, or synthetic cannabinoids for the purpose of getting high.						
[b] Among all adults, the proportion who reported ever using prescription drugs not prescribed to them for the purpose of getting high.						
[c] Among all adults, the proportion who reported ever injecting or snorting drugs for the purpose of getting high.						

Table 13-55A: Injected/Snorted Drug Use by County			
	Ever Injected or Snorted to Get High[c]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Michigan			2.0 (1.4, 2.7)
Upper Peninsula	7.1 (5.3, 8.8)	7.7 (5.4, 10.0)	5.5 (3.7, 7.3)
Alger	9.7 (0.0, 20.6)	8.7 (3.8, 13.7)	4.9 (1.9, 7.9)
Baraga	14.2 (5.0, 23.5)	6.7 (1.5, 11.9)	4.0 (1.1, 6.8)
Chippewa	2.4 (0.0, 5.1)	8.5 (0.9, 16.1)	5.6 (0.4, 10.8)
Delta	10.3 (3.3, 17.3)	5.0 (0.0, 11.1)	2.2 (0.2, 4.3)
Dickinson	9.8 (2.4, 17.2)	6.0 (1.0, 11.1)	3.5 (0.0, 7.2)
Gogebic	5.6 (1.3, 9.9)	4.3 (0.3, 8.4)	2.3 (0.3, 4.4)
Houghton/Keweenaw	6.0 (2.1, 10.0)	6.5 (0.6, 12.5)	2.2 (0.5, 3.8)
Iron	5.5 (1.8, 9.2)	13.7 (5.9, 21.4)	7.1 (3.0, 11.4)
Luce	6.7 (0.9, 12.5)	6.6 (0.0, 14.5)	2.2 (0.4, 4.1)
Mackinac	6.1 (0.6, 11.7)	8.5 (1.6, 15.3)	9.9 (0.0, 19.9)
Marquette	6.2 (1.3, 11.0)	10.7 (3.7, 17.6)	10.0 (3.3, 16.7)
Menominee	8.3 (2.2, 14.3)	6.3 (1.5, 11.0)	4.4 (1.1, 7.8)
Ontonagon	7.4 (3.7, 11.1)	7.5 (3.2, 11.8)	3.2 (1.0, 5.3)
Schoolcraft	5.7 (0.8, 10.5)	8.8 (0.0, 19.2)	10.1 (0.0, 21.9)

[a] Among all adults, the proportion who reported ever injecting or snorting drugs for the purpose of getting high. *Statewide estimate is the proportion who reported ever injecting drugs for the purpose of getting high.*

Table 13-55B: Drug Use by Population Group			
	Ever Injected or Snorted to Get High[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	7.1 (5.3, 8.8)	8.7 (3.8, 13.7)	5.5 (3.7, 7.3)
Age			
18-39	11.0 (6.5, 15.6)	10.8 (4.6, 16.9)	7.2 (2.3, 12.2)
40-65	6.7 (4.2, 9.1)	8.2 (5.5, 10.9)	6.0 (4.1, 7.9)
65+	2.5 (1.5, 3.5)	2.9 (1.6, 4.2)	2.1 (1.0, 3.1)
Gender			
Male	10.3 (6.7, 14.0)	11.1 (6.6, 15.5)	8.2 (4.7, 11.6)
Female	5.8 (3.8, 7.9)	4.4 (2.4, 6.5)	3.0 (1.7, 4.2)
Educational Attainment			
Less than 12th grade	25.6 (8.6, 42.6)	16.9 (0.0, 35.9)	7.3 (0.0, 18.2)
High School Graduate	3.9 (2.0, 5.9)	6.5 (3.0, 10.0)	4.4 (2.1, 6.7)
1-3 years of college	6.9 (4.2, 9.6)	9.8 (5.5, 14.1)	7.1 (3.7, 10.5)
4-year degree or higher	7.1 (4.2, 9.9)	5.8 (1.9, 9.7)	3.7 (2.0 5.4)
Household Income			
Less than $25,000	7.0 (3.6, 10.4)	11.7 (3.7, 19.8)	7.2 (2.8, 11.6)
$25,000 to $49,999	6.6 (3.5, 9.7)	6.5 (3.1, 9.9)	5.7 (2.7, 8.6)
$50,000 or higher	7.8 (4.9, 10.7)	6.8 (4.0, 9.5)	4.7 (2.0, 7.4)
[a] Among all adults, the proportion who reported ever injecting or snorting drugs for the purpose of getting high.			

Table 13-56A: Marijuana Use by County						
	Used Marijuana in Past 30 days[a]			Used Marijuana 10 or More Times in Past 30 days[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
US Raw		8.9 (8.8, 9.1)				
US Weighted		13.3				
Michigan[c]						
Upper Peninsula	23.1 (19.3, 27.0)	17.0 (13.8, 20.3)	7.7 (6.1, 9.3)	14.3 (11.1, 17.4)	11.0 (8.4, 13.6)	4.7 (3.4, 5.9)
Alger	20.6 (9.6, 31.7)	22.0 (15.2, 28.9)	8.5 (4.0 13.1)	18.1 (6.9, 29.2)	17.4 (11.2, 23.7)	5.2 (1.5, 8.8)
Baraga	27.1 (17.5, 36.7)	14.2 (8.1, 20.4)	17.8 (8.0, 27.7)	15.3 (8.5, 22.0)	9.9 (4.3, 15.4)	7.7 (0.9, 14.4)
Chippewa	24.2 (13.1, 35.2)	23.9 (13.0, 34.8)	8.5 (2.7, 14.3)	15.8 (6.3, 25.3)	16.9 (7.3, 26.6)	5.5 (0.2, 10.8)
Delta	20.1 (9.1, 31.1)	14.0 (2.1, 25.9)	6.1 (2.3, 9.8)	15.4 (5.1, 25.6)	9.0 (0.5, 17.5)	3.2 (0.4, 6.1)
Dickinson	18.4 (9.2, 27.6)	14.6 (5.6, 23.7)	6.0 (1.5, 10.6)	14.9 (5.9, 23.9)	9.6 (0.8, 18.4)	5.2 (0.8, 9.6)
Gogebic	18.2 (11.4, 25.0)	15.0 (6.9, 23.0)	7.0 (1.8, 12.1)	15.3 (8.9, 21.8)	10.3 (3.2, 17.3)	5.2 (0.3, 10.1)
Houghton/Keweenaw	19.8 (12.1, 27.4)	12.2 (5.4, 19.0)	4.7 (1.5, 7.8)	11.4 (5.8, 17.0)	7.9 (2.3, 13.5)	3.4 (0.5, 4.6)
Iron	30.3 (18.9, 41.7)	14.4 (8.0, 20.8)	11.8 (4.9, 18.6)	25.9 (14.5, 37.4)	8.5 (3.9, 13.0)	8.6 (2.3, 14.8)
Luce	15.6 (9.4, 21.8)	17.0 (8.5, 25.6)	5.6 (1.4, 14.1)	11.2 (6.0, 16.3)	13.7 (5.2, 22.1)	4.8 (1.6, 8.0)
Mackinac	13.5 (7.5, 19.6)	19.2 (10.0, 28.4)	7.0 (1.3, 12.8)	10.8 (5.2, 16.4)	11.3 (4.4, 18.3)	1.3 (0.01, 2.6)
Marquette	33.4 (21.0, 45.7)	19.8 (12.0, 27.7)	9.3 (4.4, 14.1)	14.5 (4.0, 24.9)	11.9 (5.8, 17.9)	4.8 (1.6, 8.0)
Menominee	16.2 (9.0, 23.3)	15.6 (8.2, 23.0)	6.7 (1.7, 11.8)	7.7 (3.5, 12.0)	8.4 (2.6, 14.3)	4.4 (0.0, 9.1)
Ontonagon	23.1 (13.5, 32.7)	15.1 (9.0, 21.1)	6.8 (3.5, 10.0)	16.9 (7.4, 26.4)	8.6 (4.2, 13.0)	4.2 (1.8, 6.7)
Schoolcraft	20.7 (12.3, 29.2)	15.9 (5.2, 26.7)	9.2 (3.7, 14.8)	14.5 (6.8, 22.1)	11.0 (0.5, 21.4)	7.6 (2.2, 13.1)

[a] Among all adults, the proportion who reported using marijuana, hashish, marijuana wax, or marijuana, infused edibles in the past month.

[b] Among all adults, the proportion who reported using marijuana, hashish, marijuana wax, or marijuana, infused edibles 10 or more times in the past month.

[c] Questions not asked in Michigan BRFS.

Table 13-56B: Marijuana Use by Population Group						
	Used Marijuana in Past 30 days[a]			Used Marijuana 10 or More Times in Past 30 days[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	23.1 (19.3, 27.0)	17.0 (13.8, 20.3)	7.7 (6.1, 9.3)	14.3 (11.1, 17.4)	11.0 (8.4, 13.6)	4.7 (3.4, 5.9)
Age						
18-39	32.3 (22.6, 42.0)	21.2 (12.3, 30.0)	9.0 (4.9, 13.2)	16.3 (8.7, 23.9)	13.7 (7.0, 20.3)	6.3 (3.0, 9.6)
40-65	24.7 (19.9. 29.4)	19.9 (16.0, 23.8)	9.3 (7.3, 11.3)	18.5 (14.1, 22.8)	12.9 (9.6, 16.1)	5.1 (3.6, 6.6)
65+	9.4 (7.3, 11,6)	6.8 (5.1, 8.5)	3.0 (1.7, 4.3)	5.6 (4.3, 6.9)	4.3 (2.8, 5.8)	1.6 (0.6, 2.6)
Gender						
Male	32.7 (24.4, 41.0)	20.9 (14.6, 27.3)	8.7 (6.3, 11.0)	21.9 (14.1, 29.7)	14.5 (9.5, 19.4)	5.2 (3.2, 7.2)
Female	19.1 (15.0, 23.2)	13.3 (10.3, 16.3)	6.8 (4.6, 9.1)	11.2 (8.3, 14.2)	7.7 (5.3, 10.0)	4.1 (2.6, 5.7)
Educational Attainment						
Less than 12th grade	36.5 (17.7, 55.3)	24.7 (6.2, 43.2)	12.3 (5.7, 18.9)	30.3 (11.1, 49.5)	22.8 (4.1, 41.5)	9.1 (3.2, 15.0)
High School Graduate	22.7 (15.7, 29.7)	14.5 (8.8, 20.2)	8.0 (5.3, 10.7)	12.5 (8.1, 16.8)	9.7 (5.3, 14.0)	4.6 (2.3, 7.0)
1-3 years of college	23.6 (17.0, 30.3)	19.4 (14.2, 24.7)	7.6 (4.7, 10.4)	17.8 (11.2, 24.3)	12.4 (8.4, 16.5)	4.6 (2.7, 6.4)
4-year degree or higher	20.6 (14.0, 27.1)	17.0 (11.5, 22.5)	5.1 (3.1, 7.0)	8.7 (5.0, 12.4)	9.8 (4.8, 14.7)	2.6 (1.3, 3.9)
Household Income						
Less than $25,000	33.6 (24.8, 42.4)	24.7 (12.2, 37.1)	15.2 (10.8, 19.6)	22.6 (15.0, 30.2)	18.0 (8.5, 27.5)	9.6 (6.4, 12.8)
$25,000 to $49,999	19.6 (13.8, 25.3)	13.9 (9.5, 18.4)	6.7 (3.7, 9.7)	10.9 (7.2, 14.7)	9.0 (5.4, 12.7)	4.4 (1.6, 7.1)
$50,000 or higher	15.5 (12.1, 18.9)	15.4 (11.5, 19.4)	4.5 (2.8, 6.3)	8.3 (5.7, 10.9)	9.0 (5.7, 12.3)	2.3 (1.0, 3.6)
[a] Among all adults, the proportion who reported using marijuana, hashish, marijuana wax, or marijuana, infused edibles in the past month.						
[b] Among all adults, the proportion who reported using marijuana, hashish, marijuana wax, or marijuana, infused edibles 10 or more times in the past month.						

Table 13-57A: Substance Abuse Treatment by County			
	Alcohol or Other Drug Treatment Past 12 Months[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Michigan[b]			
Upper Peninsula	1.9 (0.7, 3.2)	0.8 (0.3, 1.3)	1.4 (0.5, 2.4)
Alger	7.1 (0.0, 18.1)	2.1 (0.0, 5.0)	<1.0
Baraga	3.1 (0.0, 8.9)	*	<1.0
Chippewa	0.8 (0.0, 2.5)	0.5 (0.0, 1.5)	<1.0
Delta	3.0 (0.01, 6.0)	0.4 (0.0, 0.9)	<1.0
Dickinson	*	1.9 (0.0, 4.5)	2.3 (0.0, 6.9)
Gogebic	2.1 (0.0, 5.3)	0.3 (0.0, 0.8)	0
Houghton/Keweenaw	3.7 (0.0, 7.8)	3.0 (0.0, 6.2)	<1.0
Iron	*	*	0
Luce	0.2 (0.0, 0.7)	*	<1.0
Mackinac	2.2 (0.0, 7.3)	1.3 (0.0, 3.8)	5.4 (0.1, 5.4)
Marquette	2.4 (0.0, 6.6)	*	3.8 (0.6, 7.1)
Menominee	5.7 (0.2, 11.1)	*	0
Ontonagon	0.7 (0.0, 2.2)	0.1 (0.0, 0.4)	1.3 (0.1, 2.6)
Schoolcraft	1.5 (0.0, 4.3)	0.7 (0.0, 1.6)	<1.0
[a] Among all adults, the proportion who reported receiving voluntary or court-ordered substance abuse treatment services in **the past year** for either alcohol or drug addiction or problem behaviors associated with alcohol or drug use.			
[b] These questions are not part of the statewide BRFS.			

Table 57B: Substance Abuse Treatment by Population Group			
	Alcohol or Other Drug Treatment Past 12 Months[a]		
	2024	2021	2017
		% (95% CI)	% (95% CI)
Upper Peninsula	2.5 (1.2, 3.9)	0.8 (0.3, 1.3)	1.4 (0.5, 2.4)
Age			
18-39	5.4 (1.8, 9.1)	1.0 (0.0, 2.1)	3.8 (0.9, 6.6)
40-65	1.3 (0.3, 2.2)	1.0 (0.3, 1.8)	<1.0
65+	0.8 (0.1, 1.6)	0.2 (0.02, 0.3)	<1.0
Gender			
Male	1.3 (0.0, 2.9)	0.7 (0.1, 1.3)	2.0 (0.4, 3.7)
Female	3.1 (1.4, 4.8)	0.8 (0.1, 1.6)	<1.0
Educational Attainment			
Less than 12th grade	12.9 (0.0, 27.6)	0.3 (0.0, 0.8)	0
High School Graduate	2.6 (0.5, 4.6)	0.3 (0.0, 0.8)	2.1 (0.1, 4.1)
1-3 years of college	2.0 (0.6, 3.5)	1.6 (0.3, 2.9)	1.4 (0.1, 2.8)
4-year degree or higher	0.8 (0.0, 2.0	0.3 (0.003, 0.7)	<1.0
Household Income			
Less than $25,000	4.3 (1.1, 7.4)	1.8 (0.2, 3.4)	4.0 (1.0, 7.0)
$25,000 to $49,999	2.3 (0.5, 4.1)	0.5 (0.0, 1.0)	1.2 (0.0, 3.1)
$50,000 or higher	1.0 (0.0, 2.0)	0.5 (0.0, 1.2)	<1.0
Among all adults, the proportion who reported receiving voluntary or court, ordered substance abuse treatment services in **the past year** for either alcohol or drug addiction or problem behaviors associated with alcohol or drug use.			

Table 58A: Substance Abuse Treatment Barriers by County	
	Any Barriers to Receiving Substance Use Treatment in the Past 12 Months
	2024
	% (95% CI)
Michigan[a]	
Upper Peninsula	1.9 (0.7, 3.2)
Alger	5.8 (0.0, 16.7)
Baraga	1.7 (0.0, 3.7)
Chippewa	0.2 (0.0, 0.5)
Delta	*
Dickinson	0.7 (0.0, 2.1)
Gogebic	0.5 (0.0, 1.3)
Houghton/Keweenaw	2.7 (0.0, 6.4)
Iron	1.3 (0.0, 3.3)
Luce	1.1 (0.0, 3.4)
Mackinac	4.4 (0.0, 12.8)
Marquette	3.1 (0.0, 7.5)
Menominee	4.5 (0.0, 9.1)
Ontonagon	*
Schoolcraft	0.8 (0.0, 1.8)
[a] This question is not part of the statewide BRFS.	

Table 13-58B: Substance Abuse Treatment Barriers by Population Group	
	Any Barriers to Receiving Substance Use Treatment in the Past 12 Months
	2024
	% (95% CI)
Upper Peninsula	1.9 (0.7, 3.2)
Age	
18-39	3.9 (0.5, 7.4)
40-65	1.2 (0.2, 2.1)
65+	0.6 (0.07, 1.2)
Gender	
Male	0.9 (0.0, 2.4)
Female	2.4 (0.8, 4.0)
Educational Attainment	
Less than 12th grade	11.8 (0.0, 26.5)
High School Graduate	1.5 (0.0, 3.1)
1-3 years of college	1.1 (0.0, 2.4)
4-year degree or higher	1.4 (0.1, 2.8)
Household Income	
Less than $25,000	3.2 (0.3, 6.2)
$25,000 to $49,999	2.0 (0.1, 3.9)
$50,000 or higher	0.6 (0.02, 1.2)

Table 13-59A: Hepatitis C Testing by County						
	Ever Tested for Hepatitis C[a]					
	2024		2021		2017	
	%	95% CI	%	95% CI	%	95% CI
Michigan					29.2	(27.2-31.3)
Upper Peninsula	21.1	(17.8, 24.4)	15.3	(12.7, 17.9)	18.2	(15.7-20.6)
Alger	22.2	(11.4, 33.0)	17.5	(11.6, 23.4)	17.5	(11.0-24.1)
Baraga	23.8	(13.4, 34.1)	14.9	(8.1, 21.8)	26.4	(14.2-38.6)
Chippewa	16.9	(9.2, 24.5)	15.3	(8.5, 22.1)	25.1	(15.3-34.9)
Delta	14.5	(5.5, 23.6)	8.8	(1.6, 16.1)	10.1	(6.0-14.1)
Dickinson	22.7	(13.6, 31.8)	13.4	(7.0, 19.9)	19.4	(12.2-26.5)
Gogebic	25.8	(18.5, 33.0)	17.2	(5.9, 28.6)	14.9	(9.2-20.5)
Houghton/Keweenaw	26.4	(14.7, 38.1)	13.7	(7.1, 20.3)	14.8	(9.6-19.9)
Iron	18.3	(11.9, 24.8)	17.1	(10.3, 23.9)	22.2	(15.7-28.8)
Luce	27.4	(20.0, 34.8)	16.4	(10.6, 22.3)	21.5	(14.3-28.6)
Mackinac	12.9	(7.5, 18.2)	22.1	(13.9, 30.3)	30.5	(15.6-45.4)
Marquette	21.9	(12.6, 31.1)	16.7	(10.7, 22.7)	20.2	(13.2-27.3)
Menominee	26.3	(16.8, 35.9)	20.1	(11.6, 28.6)	12.3	(6.8-17.9)
Ontonagon	20.3	(14.2, 26.3)	14.6	(9.0, 20.2)	11.8	(8.4-15.2)
Schoolcraft	17.7	(10.6, 24.8)	25.1	(14.2, 36.0)	16.9	(10.0-23.9)
[a] Among all adults, the proportion who reported ever being tested for Hepatitis C.						

Table 13-59B: Hepatitis C Testing by Population Group			
	Ever Tested for Hepatitis C[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula		15.3 (12.7, 17.9)	18.2 (15.7, 20.6)
Age			
18-39	20.0 (12.0, 28.1)	9.3 (4.7, 13.9)	19.0 (12.8, 25.2)
40-65	24.4 (20.0, 28.8)	19.5 (16.0, 23.1)	20.4 (17.5, 23.4)
65+	17.8 (15.1, 20.6)	17.5 (14.6, 20.4)	12.9 (10.7, 15.2)
Gender			
Male	21.2 (15.8, 26.5)	15.3 (10.9, 19.8)	19.0 (15.1, 22.9)
Female	21.2 (17.1, 25.4)	15.3 (12.5, 18.2)	17.4 (14.4, 20.4)
Educational Attainment			
Less than 12th grade	35.4 (17.0, 53.8)	22.0 (7.5, 36.5)	23.0 (9.6, 36.3)
High School Graduate	17.1 (11.6, 22.6)	14.0 (9.0, 19.0)	15.1 (11.4, 18.8)
1-3 years of college	22.9 (17.0, 28.8)	16.4 (12.5, 20.2)	19.1 (15.3, 23.0)
4-year degree or higher	21.1 (16.0, 26.2)	15.7 (11.5, 19.8)	21.4 (17.2, 25.5)
Household Income			
Less than $25,000	25.4 (17.7, 33.1)	15.7 (7.7, 23.8)	21.5 (15.5, 27.6)
$25,000 to $49,999	17.9 (13.4, 22.4)	14.4 (10.6, 18.2)	20.4 (15.6, 25.2)
$50,000 or higher	19.5 (16.2, 22.8)	15.7 (12.5, 18.9)	15.5 (12.6, 18.4)

[a] Among all adults, the proportion who reported ever being tested for Hepatitis C.

Table 13-60A: Breast Cancer Screening, Women Age 40+ by County						
	Ever Had a Mammogram[a]			Had Mammogram in Past 2 Years[b]		
	2024	2021	2017	2024	2021	2017
		% (95% CI)	% (95% CI)		% (95% CI)	% (95% CI)
US Raw		80.1 (78.8, 81.5)			78.6 (77.0, 80.1)	
US Weighted		68.2			77.2	
Michigan (2023)	ND	92.8 (91.3, 94.1)	92.7 (91.6, 93.6)		72.7 (70.5, 74.7)	74.0 (72.4, 75.5)
Upper Peninsula (MiBRFS 2021-2023)	ND				73.7 (63.1, 82.2)	
Upper Peninsula	94.4 (92.7, 96.2)	94.4 (92.6, 96.3)	95.5 (93.9, 97.0)	76.9 (73.6, 80.2)	79.6 (76.6, 82.6)	80.3 (77.6, 82.6)
Alger	98.1 (95.7, 100.0)	95.7 (92.1, 99.3)	97.3 (94.5, 100.0)	86.1 (80.0, 92.1)	76.1 (67.3, 84.9)	81.4 (74.6, 88.1)
Baraga	81.7 (69.3, 94.2)	84.7 (76.8, 92.7)	95.9 (92.6, 99.3)	70.3 (57.2, 83.5)	67.0 (57.3, 76.8)	76.9 (68.1, 85.6)
Chippewa	96.2 (91.8, 100.0)	96.9 (91.9, 100.0)	96.4 (92.6, 100.0)	81.4 (72.0, 90.9)	85.2 (73.6, 96.7)	81.5 (72.8, 90.2)
Delta	92.7 (85.8, 99.6)	91.6 (84.4, 98.9)	95.3 (91.2, 99.4)	82.3 (73.5, 91.0)	76.5 (67.7, 85.3)	79.0 (71.2, 86.8)
Dickinson	98.3 (95.7, 100.0)	97.3 (94.3, 100.0)	96.3 (93.4, 99.2)	87.8 (80.6, 95.0)	89.4 (84.0, 94.8)	77.8 (68.1, 87.5)
Gogebic	94.0 (87.3, 100.0)	92.5 (80.4, 100.0)	96.2 (92.8, 99.5)	81.0 (72.3, 89.6)	75.6 (62.3, 88.9)	80.6 (72.9, 88.2)
Houghton/Keweenaw	92.6 (86.8, 98.5)	91.0 (84.1, 97.9)	93.9 (89.9, 97.8)	61.9 (49.9, 73.8)	71.5 (60.7, 82.4)	76.5 (69.0, 84.0)
Iron	97.1 (94.3, 99.9)	96.0 (92.2, 99.8)	95.2 (91.6, 98.8)	75.5 (67.0, 84.0)	81.9 (74.7, 89.0)	80.2 (73.9, 86.5)
Luce	95.1 (91.4, 98.8)	92.5 (87.4, 97.7)	97.3 (95.1, 99.5)	83.8 (77.7, 89.9)	82.4 (75.1, 89.8)	77.3 (65.7, 88.9)
Mackinac	92.7 (83.4, 100.0)	96.7 (92.4, 100.0)	97.7 (94.6, 100.0)	83.3 (72.6, 93.9)	83.7 (76.1, 91.2)	85.3 (77.9, 92.6)
Marquette	94.7 (90.2, 99.3)	98.2 (96.0, 100.0)	94.5 (88.6, 100.0)	76.0 (65.7, 86.4)	84.9 (78.0, 91.7)	82.9 (74.9, 90.9)
Menominee	94.0 (88.8, 99.2)	91.1 (82.4, 99.7)	96.0 (92.6, 99.3)	66.1 (55.0, 77.3)	68.8 (55.5, 82.1)	80.2 (72.1, 88.3)
Ontonagon	96.7 (94.0, 99.3)	94.1 (89.8, 98.4)	94.5 (90.9, 98.0)	73.3 (66.1, 80.5)	75.1 (68.1, 82.0)	81.2 (75.8, 86.5)
Schoolcraft	93.7 (85.6, 100.0)	95.7 (91.1, 100.0)	94.7 (88.1, 100.0)	76.6 (65.5, 87.8)	80.9 (72.8, 89.1)	80.8 (72.4, 89.3)

[a] Among women aged 40 years and older, the proportion who reported ever having a mammogram.

[b] Among women aged 40 years and older, the proportion who reported having a mammogram in the past two years.

Table 13-60B: Breast Cancer Screening, Women Age 40+ by Population Group						
	Ever Had a Mammogram[a]			Had Mammogram in Past 2 Years[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	94.4 (92.7, 96.2)	94.4 (92.6, 96.3)	95.5 (93.9, 97.0)	76.9 (73.6, 80.2)	79.6 (76.6, 82.6)	80.3 (77.6, 82.9)
Age						
18-39	—	—	—	—	—	—
40-65	93.0 (90.3, 95.6)	92.0 (89.1, 95.0)	94.2 (91.9, 96.4)	76.9 (71.9, 81.9)	80.8 (76.4, 85.2)	81.3 (77.7, 84.8)
65+	96.7 (94.8, 98.5)	98.4 (97.6, 99.1)	98.1 (97.2, 99.0)	76.9 (73.3, 80.4)	56.4 (74.2, 81.1)	78.3 (74.9, 81.6)
Gender						
Male	—	—	—	—	—	—
Female	94.4 (92.7, 96.2)	94.4 (92.6, 96.3)	95.4 (93.9, 97.0)	76.9 (73.6, 80.2)	79.6 (76.6, 82.6)	80.3 (77.6, 82.9)
Educational Attainment						
Less than 12th grade	86.3 (71.0, 100.0)	92.0 (83.7, 100.0)	86.8 (79.3, 99.7)	63.0 (40.7, 85.3)	73.4 (52.9, 94.0)	62.4 (46.9, 78.0)
High School Graduate	96.3 (94.2, 98.4)	93.8 (90.4, 97.2)	96.1 (94.3, 97.9)	74.1 (68.2, 80.1)	77.4 (72.6, 82.3)	80.0 (76.3, 83.8)
1-3 years of college	93.2 (89.8, 96.6)	95.3 (92.5, 98.2)	97.0 (95.6, 98.4)	77.2 (71.6, 82.8)	79.6 (74.2, 85.0)	83.8 (80.1, 86.9)
4-year degree or higher	95.0 (92.2, 97.7)	95.7 (93.4, 98.1)	94.4 (91.7, 97.1)	84.3 (80.0, 88.6)	86.2 (82.1, 90.3)	82.6 (78.2, 86.9)
Household Income						
Less than $25,000	94.3 (91.0, 97.7)	94.2 (91.1, 97.3)	92.0 (87.3, 96.7)	72.0 (65.0,79.0)	72.1 (65.6, 78.6)	71.3 (65.7, 77.0)
$25,000 to $49,999	96.0 (93.5, 98.3)	96.8 (94.7, 99.0)	97.2 (95.5, 98.8)	77.0 (71.1, 82.7)	77.8 (72.8, 82.8)	81.7 (77.3, 86.0)
$50,000 or higher	93.3 (90.1, 96.4)	93.6 (90.5, 96.7)	96.3 (94.5, 98.1)	82.5 (78.1, 86.8)	83.6 (79.1, 88.2)	84.8 (80.8, 88.8)
[a] Among women aged 40 years and older, the proportion who reported ever having a mammogram.						
[b] Among women aged 40 years and older, the proportion who reported having a mammogram in the past two years.						

Table 13-61A: Cervical Cancer Screening, Women Age 18+ by County						
	Ever Had Pap Test[a]			Pap test Past 3 Years[b]		
	2024	2021	2017	2024	2021	2017
		% (95% CI)	% (95% CI)		% (95% CI)	% (95% CI)
US Raw		92.26 (91.3, 93.2)			64.56 (62.8, 66.3)	
US Weighted		72.29			89.49	
Michigan (2023)	ND	89.3 (87.4, 90.9)	88.1 (86.6, 89.6)		68.7 (66.4, 70.9)	72.5 (70.7, 74.3)
Upper Peninsula (MiBRFS 2021-2023)	ND				75.7 (59.9, 86.7)	
Upper Peninsula	91.6 (87.1, 96.0)	91.6 (86.5, 96.6)	96.3 (94.6, 97.7)	61.6 (56.5, 66.8)	67.8 (62.5, 73.0)	75.5 (71.8, 79.2)
Alger	92.4 (79.2, 100.0)	87.8 (68.1, 100.0)	98.5 (96.8, 100.0)	53.8 (35.0, 72.7)	60.7 (43.2, 78.2)	67.6 (54.3, 80.9)
Baraga	88.6 (80.4, 96.8)	97.4 (94.5, 100.0)	85.4 (64.2, 100.0)	50.6 (33.3, 67.8)	69.8 (57.6, 82.1)	51.7 (29.8, 73.6)
Chippewa	96.6 (92.0, 100.0)	85.4 (67.9, 100.0)	93.7 (88.1, 99.3)	67.9 (53.3, 82.4)	63.7 (44.0, 83.3)	63.9 (47.6, 80.2)
Delta	96.9 (91.8, 100.0)	100.0	98.4 (96.5, 100.0)	65.8 (51.0, 80.6)	63.4 (50.1, 76.6)	85.7 (78.3, 93.0)
Dickinson	95.7 (89.9, 100.0)	98.1 (95.9, 100.0)	94.4 (87.3, 100.0)	67.4 (55.5, 79.4)	87.2 (80.8, 93.7)	68.5 (55.7, 79.9)
Gogebic	97.9 (96.0, 99.8)	98.3 (96.2, 100.0)	98.3 (96.9, 99.8)	65.2 (55.2, 75.1)	72.3 (58.7, 85.8)	68.7 (57.5, 79.9)
Houghton/Keweenaw	78.7 (60.9, 96.6)	86.1 (67.1, 100.0)	94.9 (90.0, 99.8)	52.0 (37.0, 67.0)	61.2 (44.1, 78.3)	76.3 (67.1, 85.4)
Iron	93.2 (85.8, 100.0)	93.3 (84.1, 100.0)	89.2 (79.2, 99.3)	64.1 (50.3, 78.0)	63.7 (50.9, 76.4)	60.7 (46.9, 74.6)
Luce	94.2 (86.7, 100.0)	90.1 (75.7, 100.0)	94.6 (86.2, 100.0)	61.4 (48.6, 74.2)	74.5 (58.8, 90.3)	71.2 (58.2, 84.1)
Mackinac	96.4 (91.6, 100.0)	97.8 (94.6, 100.0)	95.0 (87.2, 100.0)	64.8 (51.7, 77.9)	71.9 (61.1, 82.6)	76.5 (64.7, 88.3)
Marquette	90.1 (78.1, 100.0)	87.4 (73.3, 100.0)	99.1 (98.0, 100.0)	64.9 (50.0, 80.0)	69.5 (55.9, 83.3)	86.0 (78.7 93.2)
Menominee	97.1 (92.3, 100.0)	97.1 (92.7, 100.0)	98.9 (97.3, 100.0)	58.0 (42.7, 73.4)	68.6 (54.9, 82.4)	78.3 (68.1, 88.4)
Ontonagon	93.8 (88.4, 99.2)	93.6 (87.1, 100.0)	95.8 (93.5, 98.2)	54.3 (42.6, 66.0)	62.6 (49.9, 75.3)	67.5 (59.4, 75.6)
Schoolcraft	91.4 (82.0, 100.0)	92.4 (85.7, 99.1)	94.8 (90.8, 98.8)	56.9 (42.7, 71.1)	65.2 (53.9, 76.4)	67.0 (55.1, 79.0)

[a] Among adult women reported they had not had a hysterectomy, the proportion who reported ever having a Pap test.

[b] Among adult women reported they had not had a hysterectomy, the proportion who reported having a Pap test within the last three years.

Table 13-61B: Cervical Cancer Screening, Women Age 18+ by Population Group						
	Ever Had Pap Test[a]			Pap test Past 3 Years[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	91.6 (87.1, 96.0)	91.6 (86.5, 96.6)	96.3 (94.9, 97.7)	61.6 (56.5, 66.8)	67.8 (62.5, 73.0)	75.5 (71.8, 79.2)
Age						
18-39	82.8 (72.6, 93.0)	83.1 (71.8, 94.5)	92.7 (88.7, 96.8)	69.8 (59.0, 80.7)	71.9 (60.5, 83.4)	80.7 (73.4, 88.1)
40-65	98.9 (97.9, 99.9)	98.0 (96.3, 99.6)	99.1 (98.5, 99.6)	68.5 (62.1, 74.9)	78.6 (73.0, 84.3)	80.2 (75.6, 84.8)
65+	95.8 (93.8, 97.8)	96.5 (94.4, 98.5)	95.8 (93.7, 97.9)	31.5 (26.4, 36.6)	37.0 (31.8, 42.2)	53.4 (47.8, 59.0)
Gender						
Male	—	—	—	—	—	—
Female	91.6 (87.1, 96.0)	91.6 (86.5, 96.6)	96.3 (94.9, 97.7)	61.6 (56.5, 66.8)	67.8 (62.5, 73.0)	75.5 (71.8, 79.2)
Educational Attainment						
Less than 12th grade	97.4 (93.3, 100.0)	94.4 (88.2, 100.0)	89.9 (81.4, 98.4)	56.7 (33.0, 80.5)	67.1 (47.4, 86.8)	49.9 (29.9, 70.9)
High School Graduate	93.2 (88.5, 97.9)	89.4 (79.6, 99.2)	95.6 (93.0, 98.1)	60.0 (51.0, 68.9)	64.0 (54.1, 74.0)	72.7 (67.1, 78.4)
1-3 years of college	86.6 (74.8, 98.5)	90.0 (80.7, 99.2)	97.7 (96.2, 99.2)	57.7 (47.8, 67.6)	66.9 (57.6, 76.3)	79.7 (74.8, 84.7)
4-year degree or higher	94.5 (90.1, 99.0)	96.8 (93.6, 100.0)	99.1 (98.2, 100.0)	70.2 (62.3, 78.2)	74.9 (68.3, 81.4)	87.5 (83.9, 91.1)
Household Income						
Less than $25,000	83.0 (71.6, 94.3)	84.3 (68.9, 99.7)	90.2 (85.7, 94.8)	49.6 (38.4, 60.9)	52.3 (39.5, 65.1)	63.3 (53.9, 72.7)
$25,000 to $49,999	94.4 (90.4, 98.5)	90.8 (81.0, 100.0)	98.1 (96.6, 99.5)	59.3 (50.1, 68.4)	64.5 (55.1, 73.8)	75.8 (70.2, 81.5)
$50,000 or higher	97.9 (95.9,99.9)	94.0 (88.0, 100.0)	99.1 (98.3, 99.9)	76.5 (72.0, 81.0)	74.9 (67.9, 81.9)	84.1 (79.8, 88.5)
[a] Among adult women reported they had not had a hysterectomy, the proportion who reported ever having a Pap test.						
[b] Among adult women reported they had not had a hysterectomy, the proportion who reported having a Pap test within the last three years.						

Table 13-62A: Prostate Cancer Screening, Men Age 50+ by County						
	Ever Discussed Prostate Cancer Screening with Provider[a]			Ever Had PSA Test[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Michigan (2023)	ND	53.8 (50.7, 56.3)		ND	57.2 (54.1, 60.3)	68.0 (65.8, 70.0)
Upper Peninsula	60.5 (52.5, 68.6)	63.1 (58.0, 68.1)	68.6 (63.5, 73.6)	64.7 (57.1, 72.3)	66.1 (60.8, 71.5)	72.1 (67.1, 77.2)
Alger	55.3 (36.7, 74.0)	64.4 (49.6, 79.3)	66.0 (51.6, 80.4)	62.1 (43.2, 80.9)	67.4 (53.1, 81.7)	63.3 (51.3, 81.4)
Baraga	65.5 (47.2, 83.9)	63.0 (47.6, 78.3)	68.1 (54.9, 81.3)	59.6 (41.9, 77.2)	58.8(41.1, 76.5)	63.4 (49.1, 77.8)
Chippewa	44.5 (17.1, 71.9)	53.1 (34.2, 72.0)	80.0 (68.5, 91.5)	65.0 (38.0, 92.0)	67.2 (48.6, 85.7)	67.8 (53.7, 82.0)
Delta	44.7 (18.8, 70.7)	71.9 (50.4, 93.5)	58.1 (39.4, 76.7)	49.5 (21.6, 77.4)	76.0 (53.8, 98.2)	71.1 (51.0, 91.2)
Dickinson	79.9 (66.0, 93.7)	63.9 (48.1, 79.8)	70.7 (54.4, 86.9)	88.2 (78.1, 98.3)	65.6 (48.5, 82.8)	81.6 (66.7, 96.5)
Gogebic	57.6 (44.1, 71.1)	66.7 (54.6, 78.9)	60.9 (46.6, 75.1)	64.4 (51.0, 77.7)	65.6 (51.6, 79.6)	61.4 (47.2, 75.7)
Houghton/Keweenaw	62.3 (41.1, 83.2)	43.8 (27.7, 59.9)	67.9 (56.3, 79.6)	57.8 (37.6, 78.1)	49.8 (32.3, 67.3)	72.0 (60.1, 83.9)
Iron	67.5 (53.7, 81.2)	70.5 (57.9, 83.0)	76.7 (65.6, 87.7)	79.2 (67.0, 91.4)	70.3 (55.1, 85.5)	75.9 (64.4, 87.5)
Luce	74.9 (62.8, 87.0)	73.4 (61.8, 85.1)	65. (50.4, 81.3)	68.8 (55.5, 82.2)	77.4 (66.1, 88.6)	69.2 (54.0, 84.4)
Mackinac	64.3 (46.6, 82.0)	79.3 (68.9, 89.6)	67.8 (54.2, 81.3)	72.1 (58.0, 86.2)	70.7 (57.6, 83.7)	68.1 (54.6, 81.6)
Marquette	63.0 (44.8, 81.2)	66.1 (52.5, 79.7)	73.1 (59.0, 87.2)	57.1 (38.3, 76.0)	67.9 (51.9, 83.9)	79.3 (65.6, 93.0)
Menominee	74.4 (57.4, 91.4)	66.1 (52.7, 79.4)	65.6 (52.2, 79.1)	79.0 (64.7, 93.2)	59.6 (44.8, 74.4)	65.2 (50.6, 79.7)
Ontonagon	69.7 (58.5, 80.9)	65.5 (53.0, 77.9)	61.8 (51., 71.8)	66.4 (52.0, 80.9)	75.7 (63.6, 87.8)	76.8 (68.1, 85.4)
Schoolcraft	74.0 (57.6, 90.3)	69.1 (56.2, 82.0)	66.4 (52.9, 79.8)	75.1 (60.0, 90.4)	77.7 (65.0, 90.3)	63.2 (48.3, 78.0)

[a] Among men aged 50 years or older, the proportion who reported ever discussing prostate screening test with their health care provider. *Statewide data for 2017 is not reported due to significant differences in the wording of the question.*

[b] Among men aged 50 years or older, the proportion who reported ever having a PSA (prostate screening antigen) test.

[c] Data collected in 2010

[d] Cumulative estimate for the counties surveyed.

Table 62B: Prostate Cancer Screening, Men Age 50+ by Population Group						
	Ever Discussed Prostate Cancer Screening with Provider[a]			Ever Had PSA Test[b]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	60.5 (52.6, 68.6)	63.1 (58.0, 68.1)	68.6 (63.5, 73.6)	64.7 (57.1, 72.3)	66.1 (60.8, 71.5)	72.1 (67.1, 77.2)
Age						
18-39	—	—	—	—	—	—
40-65	54.4 (41.5, 67.4)	60.2 (52.0, 68.5)	67.3 (59.8, 74.7)	57.2 (44.5, 69.8)	53.6 (44.7, 62.5)	65.6 (58.1, 73.2)
65+	68.3 (62.7, 73.9)	66.3 (60.9, 71.7)	70.7 (65.6, 75.7)	74.0 (68.7, 79.3	80.9 (76.6, 85.2)	82.5 (78.0, 87.0)
Gender						
Male	60.5 (52.6, 68.6)	63.1 (58.0, 68.1)	68.6 (63.5, 73.6)	64.7 (57.1, 72.3)	66.1 (60.8, 71.5)	72.1 (67.1, 77.2)
Female	—	—	—	—	—	—
Educational Attainment						
Less than 12th grade	38.4 (2.8, 74.4)	50.9 (21.2, 80.5)	54.0 (31.5, 76.5)	36.1 (4.1, 68.2)	38.8 (8.9, 68.6)	52.8 (30.2, 75.4)
High School Graduate	56.1 (43.4, 68.7)	57.7 (49.3, 66.0)	63.9 (56.6, 71.2)	60.2 (47.6, 72.8)	60.1 (51.1, 69.1)	68.5 (61.2, 75.8)
1-3 years of college	63.2 (49.0, 77.5)	63.9 (54.6, 73.2)	73.7 (65.8, 81.6)	69.7 (58.2, 81.2)	67.9 (58.4, 77.5)	78.2 (70.6, 85.7)
4-year degree or higher	69.1 (57.6, 80.7)	73.9 (66.5, 81.2)	81.5 (74.9, 88.1)	72.9 (61.9, 84.0)	78.1 (69.2, 87.0)	83.7 (78.0, 89.4)
Household Income						
Less than $25,000	39.4 (25.4, 53.5)	53.6 (42.8, 64.5)	53.0 (44.3, 61.8)	44.8 (29.3, 60.4)	55.5 (44.3, 66.7)	51.2 (42.5, 60.0)
$25,000 to $49,999	66.5 (55.5, 77.5)	56.0 (47.2, 64.8)	64.0 (54.6, 73.5)	68.2 (56.0, 80.3)	65.0 (55.4, 74.7)	73.3 (63.7, 83.0)
$50,000 or higher	77.6 (70.6, 84.6)	70.1 (62.5, 77.8)	79.5 (72.1, 87.0)	77.6 (76.7, 88.9)	70.0 (61.9, 78.1)	80.8 (73.2, 88.4)

[a] Among men aged 50 years or older, the proportion who reported ever discussing prostate screening test with their health care provider.

[b] Among men aged 50 years or older, the proportion who reported ever having a PSA (prostate screening antigen) test.

Table 63A: Colorectal Cancer Screening, Age 50+ by County						
	Appropriately Timed Colorectal Cancer Screening[a]					
	2024		2021		2017	
	%	95% CI	%	95% CI	%	95%CI
Michigan (2023)	ND		75.6	(73.9, 77.3)	69.7	(68.3, 71.0)
Upper Peninsula (MiBRFS 2021-2023)	ND		78.7	(70.2, 85.3)		
Upper Peninsula	72.3	(69.0, 75.7)	78.6	(76.1, 81.2)	74.6	(71.7, 77.5)
Alger	70	(59.1, 80.9)	73.2	(64.1, 82.3)	68.2	(60.4, 75.9)
Baraga	65.5	(54.3, 76.7)	68.0	(59.0, 76.9)	68.9	(59.8, 78.1)
Chippewa	75.7	(65.6, 85.8)	81.9	(72.7, 91.2)	83.6	(76.0, 91.2)
Delta	63.2	(50.4, 76.1)	81.8	(74.3, 89.3)	69.9	(54.4, 81.3)
Dickinson	85.7	(79.0, 92.4)	76.4	(68.3, 84.4)	72.2	(63.1, 81.5)
Gogebic	66.5	(58.7, 74.3)	69.8	(61.1, 78.4)	63.0	(53.7, 72.3)
Houghton/Keweenaw	70	(59.2, 80.8)	75.8	(68.2, 83.4)	75.7	(68.7, 82.8)
Iron	68.9	(61.2, 76.7)	76.3	(67.7, 84.8)	78.9	(72.6, 85.2)
Luce	80.8	(74.9, 86.8)	80.0	(73.6, 86.3)	78.9	(72.6, 85.2)
Mackinac	73.1	(63.7, 82.5)	79.0	(71.1, 87.0)	75.1	(65.9, 84.4)
Marquette	75.2	(65.9, 84.6)	83.2	(76.5, 89.8)	79.2	(71.4, 87.1)
Menominee	73.5	(65.4, 81.6)	77.7	(69.3, 86.1)	77.6	(69.8, 85.5)
Ontonagon	66.7	(59.1, 74.3)	78.6	(73.0, 84.2)	66.7	(60.2, 73.1)
Schoolcraft	72.7	(63.0, 82.3)	75.6	(68.4, 82.9)	68.9	(59.5, 78.2)

[a] Among adults aged 50 years and older, the proportion who reported having a blood stool test within the past two years, a sigmoidoscopy in the past five years, or a colonoscopy in the past 10 years. *Statewide estimate in 2017 includes a blood stool test within the past year, a sigmoidoscopy in the past five years, or a colonoscopy in the past 10 years.*

Table 13-63B: Colorectal Cancer Screening, Age 50+ by Population Group			
		Appropriately Timed Colorectal Cancer Screening[a]	
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	72.3 (69.0, 75.7)	78.6 (76.1, 81.2)	74.6 (71.5, 77.5)
Age			
18-39	—	—	—
40-65	71.7 (67.5, 76.0)	78.2 (74.1, 82.2)	70.0 (65.8, 74.2)
65+	71.0 (68.4, 73.6)	79.2 (76.7, 81.8)	82.4 (79.7, 85.1)
Gender			
Male	71.3 (66.7, 75.9)	80.8 (77.2, 84.3)	72.7 (67.8 77.7)
Female	71.6 (68.6, 74.7)	76.8 (73.3, 80.3)	76.3 (77.3, 79.4)
Educational Attainment			
Less than 12th grade	55.9 (41.1, 70.6)	59.2 (43.0, 75.3)	60.5 (45.5, 75.4)
High School Graduate	70.4 (66.2, 74.5)	76.6 (72.3, 80.8)	72.0 (67.8, 76.2)
1-3 years of college	71.9 (67.6, 76.2)	78.3 (73.8, 82.8)	78.7 (74.5, 82.7)
4-year degree or higher	77.8 (74.1, 81.5)	87.1 (83.9, 90.3)	83.1 (78.9, 87.3)
Household Income			
Less than $25,000	63.4 (58.2, 68.6)	70.2 (64.9, 75.4)	64.6 (59.5, 69.8)
$25,000 to $49,999	72.9 (68.8, 76.9)	77.8 (73.7, 81.8)	72.8 (67.1, 78.5)
$50,000 or higher	79.8 (76.3, 83.3)	82.9 (79.0, 86.8)	81.0 (76.7, 85.2)

[a] Among adults aged 50 years and older, the proportion who reported having a blood stool test within the past two years, a sigmoidoscopy in the past five years, or a colonoscopy in the past 10 years.

Table 13-64: Changes in UPCHIPS Findings, 2017 through 2024				
	2021 to 2024	2017 through 2024 Trend[a]	2017 to 2021	2017 versus 2024[b]
Question	adjOR[c] (95%CI)	adjOR[c] (95%CI)	adjOR[c] (95%CI)	adjOR[c] (95%CI)
General health (fair or poor)	1.03 (0.90, 1.18)	1.07 (1.01, 1.14)	1.10 (0.98, 1.25)	1.15 (1.01, 1.30)
Physical health (fair or poor)	1.09 (0.96, 1.23)	1.11 (1.05, 1.18)	1.14 (1.01, 1.29)	1.23 (1.10, 1.39)
Mental health (fair or poor)	1.11 (0.97, 1.28)	1.22 (1.15, 1.31)	1.34, (1.17, 1.53)	1.50 (1.32, 1.71)
Any activity limitations	1.16 (0.99, 1.35)	1.10 (1.02, 1.18)	1.06 (0.96, 1.17)	1.21 (1.05, 1.40)
Use special health equipment	1.16 (1.01, 1.32)	1.13 (1.06, 1.20)	1.09 (0.96, 1.24)	1.29 (1.13, 1.46)
Lack of medical insurance	1.44 (1.11, 1.88)	1.10 (0.98, 1.24)	0.86 (0.67, 1.10)	1.23 (0.98, 1.55)
No personal health care provider	1.07 (0.90, 1.28)	1.02 (0.94, 1.11)	0.99 (0.75, 1.17)	1.04 (0.89, 1.22)
Cost as a barrier to health care	1.31 (1.08, 1.59)	0.92 (0.85, 1.00)	0.68 (0.57, 0.81)	0.88 (0.75, 1.04)
Transportation as barrier to health care	1.32 (1.05, 1.65)	1.27 (1.15, 1.41)	1.22 (0.98, 1.52)	1.64 (1.33, 2.02)
No routine checkup in past 12 months	0.77 (0.67, 0.88)	0.88 (0.83, 0.93)	0.97 (0.87, 1.10)	0.76 (0.67, 0.86)
More than 12 months since last dental visit	0.98 (0.87, 1.10)	1.07 (1.02, 1.13)	1.16 (1.04, 1.28)	1.15 (1.03, 1.28)
No dental insurance	0.29 (0.26, 0.32)	0.81 (0.78, 0.85)	2.01 (1.84., 2.21)	0.58 (0.53, 0.64)
Cost a barrier to dental care	1.07 (0.91, 1.24)	0.91 (0.85, 0.97)	0.79 (0.69, 0.91)	0.84 (0.74, 0.97)
Transportation barrier to dental care	1.53 (1.16, 2.02)	1.30 (1.14, 1.48)	1.12 (0.85, 1.47)	1.70 (1.32, 2.19)
Lack of dental care available	1.80 (1.55, 2.10)	1.74 (1.61, 1.88)	1.67 (1.42, 1.97)	3.03 (2.60, 3.54)
Overweight	1.01 (0.91, 1.12)	0.99 (0.94, 1.04)	0.96 (0.87, 1.06)	0.98 (0.89, 1.08)
Obese	1.05 (0.95, 1.17)	1.02 (0.98, 1.07)	0.99 (0.90, 1.09)	1.05 (0.96, 1.16)
Ever smoked ≥ 100 cigarettes	0.98 (0.89, 1.08)	0.99 (0.95, 1.05)	1.01 (0.92, 1.11)	1.00 (0.91, 1.10)
Vaping of e-cigarette use	1.58 (1.18, 2.13)	1.52 (1.31, 1.75)	1.40 (1.02, 1.92)	2.31 (1.73, 3.07)
Smokeless tobacco use	0.86 (0.60, 1.24)	0.97 (0.82, 1.15)	1.10 (0.79, 1.51)	0.91 (0.64, 1.28)
Five or more fruits and vegetables servings per day	0.24 (0.19, 0.30)	0.55 (0.50, .060)	0.90 (0.78, 1.04)	0.22 (0.17, 0.27)
No leisure-time physical activity	1.02 (0.89, 1.16)	1.09 (1.03, 1.16)	1.16 (1.02, 1.31)	1.19 (1.05, 1.35)
Always wear a seatbelt	0.96 (0.81, 1.15)	1.12 (1.04, 1.22)	1.29 (1.10, 1.51)	1.23 (1.05, 1.44)
Drink and drive	1.16 (0.86, 1.55)	1.04 (0.91, 1.20)	0.97 (0.75, 1.23)	1.12 (0.85, 1.48)
Told have high blood pressure	1.02 (0.92, 1.14)	0.95 (0.91, 1.00)	0.89 (0.81, 0.98)	0.92 (0.83, 1.01)

Table 13-64: Changes in UPCHIPS Findings, 2017 through 2024 [Continued]				
	2021 to 2024	2017 through 2024 Trend[a]	2017 to 2021	2017 versus 2024[b]
Question	adjOR[c] (95%CI)	adjOR[c] (95%CI)	adjOR[c] (95%CI)	adjOR[c] (95%CI)
Checked cholesterol level	0.82 (0.70, 0.97)	0.84 (0.78, 0.90)	0.86 (0.74, 0.99)	0.69 (0.59, 0.80)
Told have elevated cholesterol	1.09 (0.98, 1.21)	1.07 (1.02, 1.12)	1.05 (0.96, 1.16)	1.14 (1.03, 1.27)
Ever had asthma	1.02 (0.90, 1.16)	1.08 (1.02, 1.15)	1.13 (1.00, 1.28)	1.17 (1.04, 1.33)
Currently have asthma	0.99 (0.847, 1.16)	1.08 (1.01, 1.16)	1.15 (0.99, 1.33)	1.16 (1.01, 1.35)
Ever told diabetes	1.06 (0.93, 1.22)	1.07 (0.99, 1.14)	1.07 (0.94, 1.22)	1.14 (0.99, 1.29)
Ever told heart attack	1.01 (0.83, 1.22)	1.00 (0.92, 1.10)	1.01 (0.84, 1.20)	0.99 (0.83, 1.19)
Ever told heart disease	1.03 (0.89, 1.19)	1.03 (0.97, 1.10)	1.05 (0.92, 1.20)	1.05 (0.91, 1.20)
Ever told stroke	0.91 (0.73, 1.15)	1.09 (0.98, 1.21)	1.28 (1.03, 1.58)	1.20 (0.95, 1.49)
Ever told skin cancer	0.87 (0.76, 1.01)	1.04 (0.97, 1.11)	1.23 (1.07, 1.41)	1.05 (0.91, 1.21)
Ever told cancer	0.97 (0.84, 1.11)	0.99 (0.93, 1.06)	1.00(0.88, 1.14)	0.98 (0.86, 1.12)
Ever told COPD	0.97 (0.83, 1.14)	1.04 (0.97, 1.12)	1.10 (0.95, 1.27)	1.10 (0.94, 1.27)
Activities limited by arthritis	1.03 (0.93, 1.14)	1.08 (1.03, 1.13)	1.13 (1.03, 1.24)	1.15 (1.05, 1.27)
Ever told Alzheimer's or dementia	2.19 (1.22, 3.94)	1.18 (0.91, 1.52)	0.65 (0.37, 1.17)	1.44 (0.89, 2.32)
Long-term care recommended	1.02 (0.56, 1.87)	0.54 (0.65, 1.12)	0.73 (0.43. 1.23)	0.74 (0.44, 1.27)
Influenza vaccine past 12 months (all adults)	0.57 (0.51, 0.63)	0.89 (0.84, 0.94)	1.33 (1.20, 1.46)	0.76 (0.69, 0.84)
Influenza vaccine past 12 months (65+)	0.54 (0.47, 0.63)	0.80 (0.75, 0.86)	1.18 (1.02,1.36)	0.64 (0.56, 0.74)
Pneumococcal vaccine ever (65+)	0.65 (0.56, 0.75)	0.76 (0.71, 0.81)	0.90 (0.78, 1.04)	0.57 (0.49, 0.65)
Told depressive disorder	1.12 (0.99, 1.26)	1.17 (1.11, 1.24)	1.22 (1.09, 1.36)	1.37 (1.23, 1.53)
Told anxiety disorder	1.26 (1.11, 1.43)	1.30 (1.22, 1.38)	1.33 (1.18, 1.50)	1.68 (1.49, 1.89)
Crisis line call in past 12 months	1.11 (0.76, 1.62)	1.37 (1.14, 1.65)	1.64 (1.12, 2.42)	1.90 (1.30, 2.78)
Medications for mental illness past 12 months	0.99 (0.89, 1.12)	1.12 (1.06, 1.18)	1.25 (1.12, 1.39)	1.28 (1.13, 1.40)
Counseling for mental illness past 12 months	1.23 (1.01, 1.48)	1.34 (1.22, 1.47)	1.46 (1.19, 1.75)	1.80 (1.50, 2.16)
Cost barrier to mental health care	1.49 (1.16, 1.91)	1.43 (1.27, 1.61)	1.38 (1.07, 1.79)	2.04 (1.61, 2.59)
Transportation barrier to mental health care	3.45 (2.89, 4.12)	8.38 (6.01, 11.7)	1.26 (0.78, 2.01)	7.56 (5.16, 11.09)

Table 13-64: Changes in UPCHIPS Findings, 2017 through 2024 [Continued]				
	2021 to 2024	2017 through 2024 Trend[a]	2017 to 2021	2017 versus 2024[b]
Question	adjOR[c] (95%CI)	adjOR[c] (95%CI)	adjOR[c] (95%CI)	adjOR[c] (95%CI)
Any alcohol in past 30 days	0.82 (0.74, 0.91)	0.88 (0.84, 0.93)	0.95 (0.86, 1.05)	0.78 (0.70, 0.85)
Heavy drinking	0.78 (0.67, 0.90)	0.92 (0.86, 0.98)	1.06 (0.93, 1.21)	0.82 (0.71, 0.95)
Binge drinking	1.16 (0.86, 1.55)	1.04 (0.91, 1.20)	1.43 (1.21, 1.68)	1.12 (0.85, 1.48)
Ever used OTC or synthetic drugs to get high	1.92 (1.39, 2.64)	1.97 (1.66, 2.33)	2.04 (1.38, 3.00)	3.96 (2.80, 5.59)
Ever used prescription drugs to get high	1.58 (1.19, 2.11)	1.64 (1.43, 1.90)	1.71 (1.25, 2.35)	2.70 (2.02, 3.61)
Ever injected or snorted drugs to get high	1.07 (0.85, 1.34)	1.31 (1.18, 1.47)	1.56 (1.24, 1.96)	1.75 (1.39, 2.19)
Marijuana use in past 30 days	1.20 (1.04, 1.39)	1.81 (1.67, 1.95)	2.93 (2.48, 3.46)	3.50 (2.97, 4.12)
Substance abuse treatment in past 12 months	1.32 (0.75, 2.31)	1.57 (1.19, 2.07)	1.85 (0.99, 3.44)	2.46 (1.38, 4.36)
Ever tested for hepatitis C	1.31 (1.16, 1.48)	1.51 (1.09, 1.22)	1.02 (0.91, 1.16)	1.33, (1.18, 1.49)
Ever had a mammogram (40+)	0.97(0.72, 1.32)	0.85 (0.73, 0.98)	0.72 (0.54, 0.97)	0.73 (0.54, 0.98)
Mammogram in past 2 years (40+)	1.01 (0.86, 1.17)	0.95 (0.88, 1.02)	0.89 (0.77, 1.03)	0.90 (0.78, 1.04)
Ever had a PAP smear	0.80 (0.60, 1.08)	0.71 (0.61, 0.82)	0.61 (0.45, 0.83)	0.49 (0.67, 0.66)
Prostate cancer screening discussed (50+)	0.93 (0.77, 1.12)	0.88 (0.81, 0.97)	0.84 (0.70, 0.99)	0.78 (0.65, 0.94)
Ever had a PSA test (50+)	0.88 (0.72, 1.08)	0.77 (0.70, 0.85)	0.67 (0.55, 0.82)	0.58 (048, 0.71)
Ever had a fecal occult test (50+)	0.96 (0.86, 1.08)	0.92 (0.87, 0.97)	0.88 (0.80, 0.98)	0.86 (0.77, 0.95)
Ever had a colonoscopy (50+)	0.97 (0.84, 1.13)	1.10 (1.03, 1.18)	1.22 (1.07, 1.39)	1.20 (14.05. 1.37)
[a] Trend analysis of the change in odds of a positive answer from each survey to the next, i.e., from 2017 to 2021 or from 2021 to 2024. The change in odds from 2017 to 2024 would be double this value.				
[b] Odd ratio of positive answer comparing 2024 data to 2017 data.				
[c] Odds ratio adjusted for age, sex, education level, income level, and county of residence.				

14 COMMUNITY HEALTH ISSUES AND PRIORITIES

14.1 Introduction

The Patient Protection and Affordable Care Act (ACA) mandates tax-exempt hospitals conduct a community health needs assessment at least every three years and report on findings, including community health issues and priorities for health improvement. Data from such assessments can help hospitals, community health partners, and local health departments understand the needs of communities and underserved populations and work to address those needs. In addition to gathering prevalence estimates of individual health conditions and behaviors, most models for community health needs assessments also ask survey respondents or other stakeholders to identify health related needs of their communities. Sixteen health issues consistently identified as important by Upper Peninsula residents from a variety of data sources, including from local agency surveys of clients and providers, and several recent-year hospital and local health department led focus group meetings, were chosen for 2017 and 2021 surveys. Respondents to the 2017 and the 2021 Upper Peninsula Community Health Issues and Priorities Surveys (UPCHIPS) were asked to rank their perceptions of each of these community health issues using a 4-point Likert-type scale. Respondents were asked to focus on the health of their community, not their individual or family health needs. Respondents to the 2024 UPCHIPS were asked to rank a slightly abbreviated (14 items) list of the same priorities.

14.2 Local Survey Methodology

14.2.1 Sample

Details of the sample selection can be found in §13.2.1. Briefly, 1,700 household addresses from each county in the Upper Peninsula (Keweenaw and Houghton Counties were combined in one population frame) were randomly selected to receive a mailed survey packet. A single adult from each household was asked to complete the survey.

14.2.2 Survey Design

The survey design is detailed in §13.2.2. The final page of the 10-page 2024 UPCHIPS asked respondents about 14 community health issues.

14.2.3 Response Rate

Details of the response rate can be found in §13.2.3. Surveys were included in the analysis if they were largely complete and had the necessary demographic data for weighting.

14.2.4 Data Analysis

Data analysis methods are detailed in §13.2.4. Due to variability in response rates to individual questions, not all estimates are based on the same total sample size.

14.2.5 Results

The demographics of those who completed the surveys are presented in §13.2.5.1 and **Tables 13-2** through **13-16**. Respondents were asked to rank each of fourteen community health issues on a Likert-type scale with four options. The complete set of rankings appears on the pages that follow. The first set of tables (**Tables 14-1A** through **14-10B**) are presented as a two-page spread for each community health issue or set of issues. The left page of each two-page spread contains the results for an issue or set of issues for the Upper Peninsula and by county. The right page of each two-page spread contains the results for the same issue or set of issues for the Upper Peninsula region combined, organized by population characteristic. The results listed represent the proportion of the population that identified the issue as "Very important – should be a priority."

The second set of tables (**Tables 14-11** through **14-25**) show a single page for each county and the Upper Peninsula region. Each page shows all 14 community health issues and the weighted proportions for each of the four response options: "Not an issue or of very little importance," "Fairly unimportant," "Fairly important," and "Very important – should be a priority."

The results of multifactorial analyses of the impact of demographic factors on survey responses are shown in **Table 14-26**. The changes in community health issues and priorities, expressed as odds ratios, between the three surveys are shown in **Table 14-27**.

14.3 Summary of Findings

Among the 14 community issues, nine had an increase in the percentage of respondents who considered the issue to be "very important," two had a minimal increase, while three had a decrease in the percentage. The rebound in the perceived importance in these issues may be a rebound following the dip during the COVID-19 pandemic.

- ***Health insurance is expensive or has high costs for co-pays and deductibles:*** Ranking this issue as "very important" dropped from 71.1% in 2017 to 58.4% in 2021 and rose back to 64.8% across the region. This issue continued to be ranked the highest priority (**Tables 14-1A** and **14-1B**). Despite having fewer people without health insurance (see §13.3.3), out-of-pocket medical expenses continue to be viewed as substantial.

- ***Access to dental care:*** With the percentage those reporting a lack of dentists and transportation as barriers to dental care increasing and the percentage who received dental care in the past year decreasing, those who identified the shortage of dentists or affordable dental care as "very important" increased from 32.8% in 2021 to 51.7% in 2024, driving it from the 9th ranked issue to the third most important issue.

- ***Drug abuse:*** Eighth-ranked region wide at 41.8% (down from 48.7% in the 2021 survey and 57.4% in the 2017 survey) (**Tables 14-6A** and **14-6B**). Alcohol abuse was ranked 12th in importance and tobacco use ranked 14th.

- ***Shortage of mental health programs and services:*** This priority went from 37.5% of respondents in the 2017 survey identifying it as "very important" to 47.5% in the 2021 survey to 58.0% in the current survey (**Tables 14-2A** and **14-2B**). This surge of interest moves this issue from being sixth-ranked to fourth-ranked to second-ranked. From 2017 through 2024 there has been an increase in those diagnosed with mental illness and those receiving treatment (medication and counseling) for mental illness. This increase in demand for services may have brought attention to the shortages of these services we have in this region.

- **Personal context impacts priorities:** For each of the listed priorities, those who identified as female were significantly more likely to consider the priority to be "very important – should be a priority" than those identifying as male (**Table 14-22**). Likewise, when adjusting for age, sex, education level, income level, and county of residence, those meeting the criteria as a "heavy drinker" were also less likely to consider alcohol abuse "very important" (2017: adjOR=0.65, 95%CI: 0.54, 0.78; 2021: adjOR=0.67, 95%CI: 0.54, 0.84; 2024: adjOR=0.64, 95%CI: 0.49, 0.82), and those fitting the definition of obese were less likely to consider childhood obesity "very important" (2017: adjOR=0.86, 95%CI: 0.76, 0.98; 2021: adjOR=0.95, 95%CI: 0.82, 1.11; 2024: adjOR=0.86, 95%CI: 0.74, 1.01). So, it is not surprising that those who ate at least 5 daily servings of fruits and vegetables were more likely to consider year-round access to fresh produce to be "very important" (2017: adjOR=1.32, 95%CI: 1.09, 1.61; 2021: adjOR=1.22, 95%CI: 0.97, 1.54; 2024: 1.15, 95%CI: 0.76, 1.75). The power of this association in the 2024 survey may be limited by only 3.00% of respondents reporting eating 5 or more daily servings of fruits and vegetables. Those who had been told they had a depressive disorder or an anxiety disorder were more likely to consider the shortage of mental health services and treatment to be very important (depressive disorder: 2017: adjOR=1.63, 95%CI: 1.41, 1.89; 2021: adjOR=1.60, 95%CI: 1.35, 1.89; 2024: adjOR=1.58, 95%CI: 1.33, 1.88; anxiety disorder: 2017: adjOR=1.76, 95%CI: 1.50, 2.07; 2021: adjOR=1.52, 95%CI: 1.26, 1.83; 2024: adjOR=1.74, 95%CI: 1.44, 2.09).

14.4 Issue Ranking – Upper Peninsula Wide

Figure 14-1 illustrates the relative ranking of the 14 community health issues in order according to the perceptions of survey respondents from the 2017, 2021, and 2024 surveys. The numbers correspond to rates of those among the weighted sample who answered "very important – should be a priority" for each community health issue. Of the 14 priorities, three showed a decrease in the percentage who answered "very important – should be a priority" and there was some shuffling of the order. The most notable surges were concern regarding the shortage of dental care from 32.8% in 2021 to 51.7% in 2024 and concerns surrounding mental health programs and services going from 37.5% to 47.5% to 58.0% of the respondents considering the issue to be "very important" in subsequent surveys.

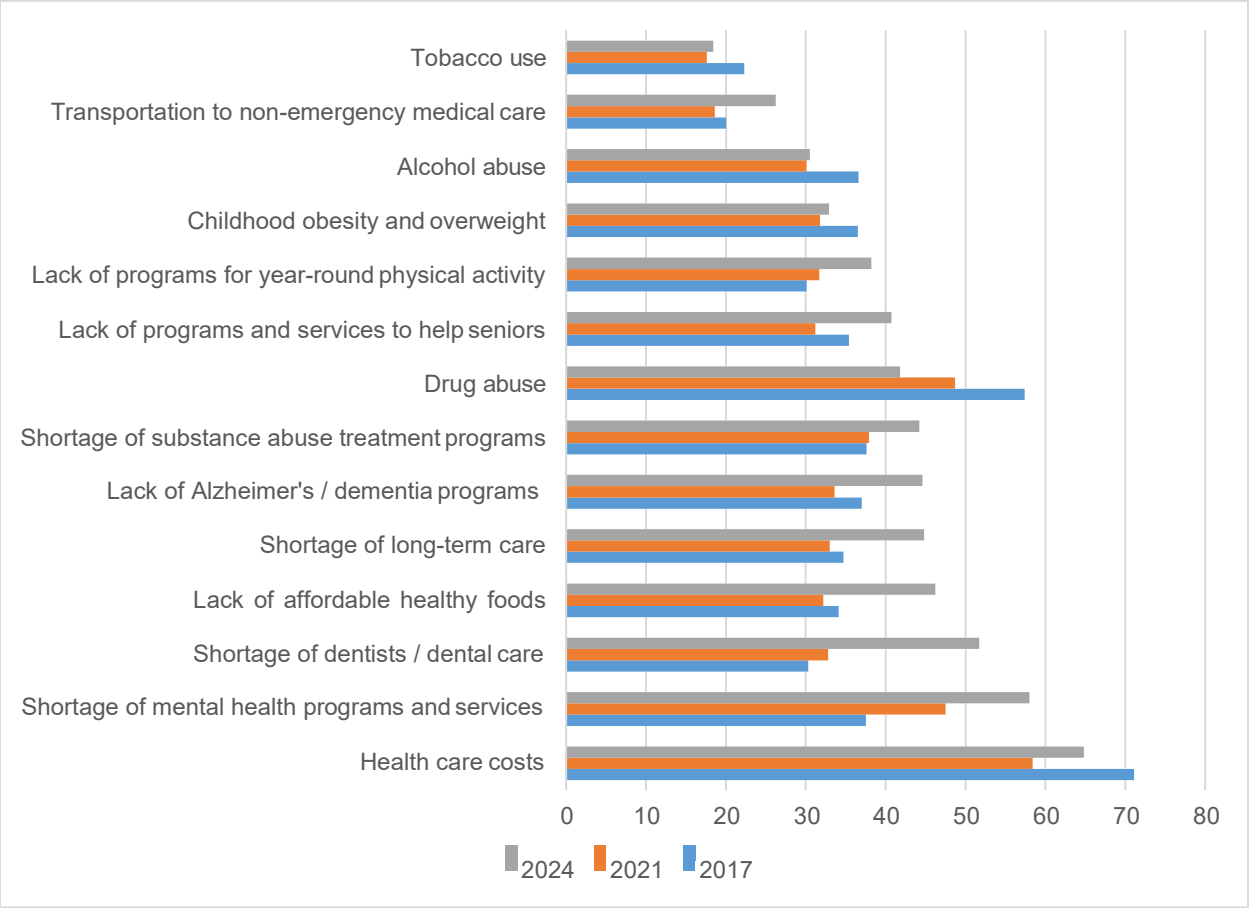


Figure 14-1: Issue ranking – Upper Peninsula, 2017, 2021, 2024.

14.5 Priority Tables

Table 14-1A: Economic Factors by County			
	Health Insurance is Expensive or Has High Costs for Co-pays and Deductibles[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	64.8 (60.2, 69.5)	58.4 (51.6, 65.2)	71.1 (67.9, 74.3)
Alger	73.2 (64.7, 81.7)	71.9 (64.2, 79.6)	68.7 (60.7, 76.7)
Baraga	63.9 (53.4, 74.5)	53.6 (42.9, 64.2)	73.9 (64.2, 83.6)
Chippewa	67.5 (54.4, 80.5)	66.2 (55.2, 77.1)	60.2 (47.6, 72.8)
Delta	59.5 (40.1, 78.9)	41.4 (13.0, 69.9)	74.1 (65.0, 83.2)
Dickinson	77.7 (69.6, 85.8)	56.2 (46.4, 66.1)	75.5 (68.3, 82.7)
Gogebic	67.7 (59.4, 76.0)	59.3 (45.8, 72.8)	64.0 (55.8, 72.2)
Houghton/Keweenaw	60.4 (48.3, 72.5)	65.9 (54.1, 77.7)	80.2 (74.0, 86.4)
Iron	71.2 (62.1, 80.3)	61.1 (51.3, 71.0)	76.2 (69.6, 82.8)
Luce	60.2 (51.3, 69.0)	55.1 (45.1, 65.1)	69.6 (60.7, 78.5)
Mackinac	65.1 (55.5, 74.7)	59.8 (51.1, 68.6)	74.2 (63.5, 84.9)
Marquette	59.4 (47.6, 71.1)	59.2 (48.6, 69.9)	66.4 (57.6, 75.2)
Menominee	72.8 (64.8, 80.9)	64.0 (53.4, 74.6)	74.7 (62.8, 86.5)
Ontonagon	65.3 (55.9, 74.6)	54.5 (45.5, 63.5)	71.0 (65.2, 76.8)
Schoolcraft	65.5 (55.3, 75.6)	60.2 (48.5, 71.8)	78.8 (72.0, 85.7)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-1B: Economic Factors by Population Groups			
	Health Insurance is Expensive or Has High Costs for Co-pays and Deductibles[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Age			
18-39	49.2 (38.8, 59.7)	48.7 (32.3, 65.1)	61.0 (52.7, 69.4)
40-65	75.2 (70.9, 80.0)	64.5 (60.2, 68.9)	78.3 (75.0, 81.6)
65+	68.6 (65.0, 72.3)	62.1 (58.8, 65.4)	71.6 (68.6, 74.6)
Gender			
Male	56.4 (48.5, 64.3)	50.3 (38.7, 61.9)	68.8 (63.4, 74.1)
Female	68.9 (63.0, 74.7)	66.5 (62.7, 70.3)	73.4 (69.7, 77.0)
Educational Attainment			
Less than 12th grade	61.0 (43.1, 79.0)	55.4 (37.0, 73.8)	68.8 (55.2, 82.3)
High School Graduate	67.2 (57.0, 77.4)	61.1 (44.1, 78.2)	74.3 (69.0, 79.6)
1-3 years of college	66.0 (58.9, 73.4)	64.1 (58.3, 70.0)	71.6 (66.0, 77.1)
4-year degree or higher	60.5 (53.5, 67.5)	48.2 (40.9, 55.4)	62.9 (57.6, 68.1)
Household Income			
Less than $25,000	56.9 (46.8, 67.0)	52.0 (28.4, 75.6)	65.2 (58.2, 72.2)
$25,000 to $49,999	70.4 (63.8, 77.0)	60.4 (52.6, 68.1)	76.5 (71.8, 81.2)
$50,000 or higher	67.7 (63.6, 71.8)	60.2 (55.0, 65.5)	70.8 (65.7, 76.0)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-2A: Mental Health Care Access by County						
	Shortage of Mental Health Programs and Services, or Lack of Affordable Mental Health Care[a]			Shortage of Substance Abuse Programs and Services, or Lack of Affordable Care[a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	58.0 (53.7, 62.3)	47.5 (41.5, 53.4)	37.5 (34.3, 40.6)	44.2 (40.2, 48.2)	37.9 (32.8, 43.1)	37.6 (34.4, 40.8)
Alger	47.9 (37.1, 58.7)	45.7 (36.2, 55.2)	37.7 (29.8, 45.6)	49.5 (38.5, 60.5)	40.8 (31.3, 50.2)	34.3 (26.9, 4.16)
Baraga	52.1 (41.4, 62.8)	43.5 (33.4, 53.5)	32.9 (23.2, 42.4)	44.5 (33.9, 55.1)	42.2 (32.2, 52.3)	36.0 (26.0, 46.1)
Chippewa	57.7 (44.9, 70.5)	48.8 (36.8, 60.9)	33.0 (22.3, 43.8)	37.2 (25.8, 48.6)	44.3 (32.1, 56.4)	29.0 (19.3, 38.8)
Delta	45.9 (30.0, 61.9)	36.4 (11.0, 61.7)	40.2 (31.2, 49.2)	38.6 (24.5, 52.6)	29.5 (8.4, 50.7)	43.6 (34.3, 52.8)
Dickinson	68.6 (59.6, 77.6)	53.0 (43.2, 62.8)	36.8 (28.7, 44.8)	50.9 (40.7, 61.1)	40.5 (31.2, 49.8)	37.4 (28.9, 46.0)
Gogebic	56.9 (48.7, 65.1)	45.0 (31.1, 58.9)	41.8 (33.6, 50.0)	50.1 (41.7, 58.6)	36.1 (24.2, 48.0)	46.4 (38.1, 54.7)
Houghton/Keweenaw	60.2 (48.2, 72.1)	64.9 (53.3, 76.5)	38.0 (28.7, 47.3)	43.6 (33.0, 54.2)	49.7 (36.8, 62.5)	35.6 (25.2, 45.9)
Iron	58.0 (48.5, 67.5)	43.5 (32.8, 54.2)	39.1 (29.9, 48.2)	42.6 (32.7, 52.5)	39.3 (28.5, 50.1)	44.6 (35.6, 53.6)
Luce	59.2 (50.6, 67.7)	46.4 (36.6, 56.1)	42.5 (33.9, 51.2)	42.7 (33.9, 51.4)	38.9 (29.4, 48.4)	35.5 (27.5, 43.5)
Mackinac	59.1 (49.3, 69.0)	41.5 (32.3, 50.6)	31.6 (21.8, 41.4)	49.1 (38.6, 59.6)	37.1 (27.9, 46.2)	33.7 (23.5, 43.9)
Marquette	66.4 (56.7, 76.1)	51.2 (40.9, 61.6)	38.8 (30.1, 47.6)	48.9 (37.7, 60.0)	33.5 (24.7, 42.2)	37.5 (28.7, 46.3)
Menominee	53.7 (42.5,65.0)	37.2 (26.8, 47.7)	32.3 (21.6, 43.0)	42.9 (32.5, 53.2)	36.6 (26.0, 47.2)	36.1 (24.9, 47.3)
Ontonagon	53.2 (44.4, 62.0)	46.0 (37.3, 54.6)	39.1 (32.0, 46.1)	41.6 (33.3, 50.0)	41.5 (32.9, 50.1)	39.5 (32.5, 46.6)
Schoolcraft	43.0 (32.7, 53.3)	31.2 (22.4, 40.0)	45.7 (35.4, 56.1)	35.5 (26.4, 44.6)	28.0 (19.7, 36.3)	45.2 (34.8, 55.5)

[a] The proportion of respondents who indicated that the community health issue was "very important — should be a priority." The other choices were "fairly important", "fairly important," "fairly unimportant," and "not an issue, or of very little importance."

Table 14-2B: Mental Health Care Access by Population Groups						
	Shortage of Mental Health Programs and Services, or Lack of Affordable Mental Health Care[a]			Shortage of Substance Abuse Programs and Services, or Lack of Affordable Care[a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age						
18-39	59.9 (48.7, 71.0)	47.1 (31.0, 63.1)	35.4 (27.6, 43.1)	38.9 (29.3, 46.6)	34.3 (21.4, 47.2)	35.7 (27.7, 43.7)
40-65	62.6 (57.6, 67.6)	52.4 (47.8, 57.0)	39.7 (35.9, 43.5)	49.1 (44.1, 54.2)	42.2 (37.6, 46.8)	38.6 (34.8, 42.4)
65+	48.7 (45.0, 52.4)	40.2 (36.9, 43.6)	35.2 (32.0, 38.4)	43.1 (39.4, 46.8)	36.2 (32.9, 39.4)	37.7 (34.4, 41.0)
Gender						
Male	45.2 (37.6, 52.9)	34.8 (25.7, 43.8)	28.9 (24.0, 33.9)	33.6 (26.2, 41.1)	27.5 (19.8, 35.3)	30.2 (25.0, 35.4)
Female	63.7 (58.2, 69.2)	60.1 (56.1, 64.2)	45.7 (42.0, 49.3)	48.9 (43.9, 53.9)	48.4 (44.1, 52.7)	44.7 (41.0, 48.3)
Educational Attainment						
Less than 12th grade	50.2 (33.0, 67.3)	52.2 (34.3, 70.1)	39.4 (27.0, 51.8)	39.9 (23.8, 55.9)	43.2 (26.5, 59.9)	37.5 (25.7, 49.3)
High School Graduate	55.3 (46.3, 64.4)	39.3 (27.5, 51.2)	33.4 (28.8, 38.0)	44.0 (35.9, 52.1)	32.2 (22.3, 42.1)	35.5 (30.4, 40.6)
1-3 years of college	59.0 (52.3, 65.7)	51.2 (45.0, 57.4)	42.3 (36.6, 48.1)	45.0 (38.3, 51.6)	41.7 (35.3, 48.2)	41.7 (35.9, 47.5)
4-year degree or higher	62.5 (56.2, 68.8)	55.7 (48.4, 63.1)	34.8 (30.0, 39.6)	44.3 (37.8, 50.8)	42.0 (34.8, 49.1)	32.4 (27.8, 37.0)
Household Income						
Less than $25,000	51.0 (41.6, 60.5)	39.3 (21.1, 57.6)	39.0 (32.8, 45.1)	40.2 (31.5, 48.9)	32.3 (16.9, 47.7)	40.5 (34.4, 46.6)
$25,000 to $49,999	60.1 (53.8, 66.4)	46.7 (39.3, 54.0)	36.9 (31.3, 42.6)	48.4 (42.0, 54.9)	38.7 (31.8, 45.6)	37.9 (31.8, 44.0)
$50,000 or higher	63.9 (59.8, 68.1)	51.6 (46.1, 57.0)	36.1 (31.2, 41.0)	44.5 (40.2, 48.9)	39.8 (34.5, 45.2)	35.0 (30.1, 39.9)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-3A: Dental Care Access by County			
	Shortage of Dentists or Lack of Affordable Dental Care[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	51.7 (47.4, 55.9)	32.8 (28.1, 37.4)	30.3 (27.3, 33.3)
Alger	49.7 (38.7, 60.7)	31.4 (22.7, 40.2)	24.9 (18.4, 31.4)
Baraga	57.1 (46.9, 67.4)	23.6 (16.3, 30.8)	33.3 (21.8, 44.8)
Chippewa	75.8 (62.9, 88.8)	59.8 (45.4, 71.3)	24.7 (16.2, 33.3)
Delta	38.0 (24.1, 52.0)	17.2 (4.4, 29.9)	29.6 (20.9, 38.2)
Dickinson	54.9 (45.1, 64.7)	33.5 (23.7, 43.2)	31.6 (23.6, 39.5)
Gogebic	68.0 (60.7, 75.4)	50.8 (36.1, 65.5)	32.7 (24.8, 40.6)
Houghton/Keweenaw	57.6 (46.0, 67.2)	44.7 (31.5, 57.9)	26.6 (18.5, 34.7)
Iron	44.7 (34.3, 55.1)	32.8 (24.1, 41.5)	36.1 (28.2, 43.9)
Luce	63.7 (55.4, 72.0)	39.7 (29.5, 49.8)	26.9 (19.9, 33.8)
Mackinac	71.1 (62.8,79.3)	29.8 (22.2, 37.4)	36.8 (23.7, 49.9)
Marquette	38.4 (28.6, 48.2)	22.4 (15.8, 28.9)	31.6 (23.0, 40.2)
Menominee	41.6 (31.0, 52.3)	23.2 (14.6, 31.8)	32.7 (21.8, 43.5)
Ontonagon	53.2 (44.4, 62.1)	36.2 (28.4, 44.1)	32.3 (25.4, 39.2)
Schoolcraft	59.6 (49.6,69.7)	28.1 (19.7, 36.4)	34.1 (25.4, 42.8)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-3B: Dental Care Access by Population Groups			
	Shortage of Dentists or Lack of Affordable Dental Care[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Age			
18-39	45.6 (35.6, 55.7)	26.2 (15.4, 37.0)	25.4 (18.2, 32.5)
40-65	57.3 (52.2, 62.3)	35.4 (30.9, 39.8)	32.6 (28.8, 36.4)
65+	50.6 (46.9, 54.3)	37.6 (34.3, 40.9)	32.3 (29.1, 35.4)
Gender			
Male	42.3 (35.1, 49.5)	22.4 (15.8, 29.0)	22.7 (18.2, 27.2)
Female	56.0 (50.6, 61.3)	43.1 (38.9, 47.4)	37.7 (34.0, 41.4)
Educational Attainment			
Less than 12th grade	64.8 (47.0, 82.6)	42.2 (25.3, 59.0)	54.4 (41.3, 67.6)
High School Graduate	53.7 (44.7, 62.7)	34.8 (24.1, 45.4)	30.6 (26.1, 35.2)
1-3 years of college	50.8 (44.0, 57.5)	37.3 (30.9, 43.6)	30.2 (25.0, 35.4)
4-year degree or higher	46.7 (40.1, 53.3)	22.8 (17.8, 27.8)	15.0 (11.7, 18.3)
Household Income			
Less than $25,000	47.0 (38.0, 56.0)	35.7 (19.0, 52.4)	41.9 (35.6, 48.2)
$25,000 to $49,999	57.6 (51.1, 64.1)	36.6 (30.0, 43.2)	32.6 (26.8, 38.4)
$50,000 or higher	51.5 (47.1, 55.8)	29.5 (24.4, 34.7)	21.1 (17.1, 25.0)

[a] The proportion of respondents who indicated that the community health issue was "very important — should be a priority." The other choices were "fairly important", "fairly important," "fairly unimportant," and "not an issue, or of very little importance."

Table 14-4A: Transportation to Care by County			
	Transportation to Non-Emergency Medical Care[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	26.2 (23.0,29.3)	18.6 (15.4, 21.7)	20.0 (17.4, 22.7)
Alger	24.2 (16.6, 31.8)	24.6 (17.4, 31.9)	20.4 (14.4, 26.5)
Baraga	35.6 (25.1, 46.2)	16.4 (10.8, 22.1)	24.2 (13.6, 34.8)
Chippewa	35.4 (23.7, 47.1)	23.6 (14.0, 33.1)	20.8 (11.4, 30.3)
Delta	19.8 (10.7, 29.0)	13.6 (2.6, 24.7)	18.4 (12.6, 24.3)
Dickinson	30.0 (20.8, 39.3)	28.7 (19.0, 38.3)	20.1 (13.2, 27.0)
Gogebic	30.4 (22.2, 38.6)	15.7 (9.2, 22.1)	22.5 (15.5, 29.5)
Houghton/Keweenaw	27.0 (18.2, 35.7)	19.1 (11.2, 26.9)	18.0 (11.8, 24.2)
Iron	33.6 (22.5, 44.7)	23.6 (16.0, 31.2)	20.5 (14.7, 26.2)
Luce	27.3 (18.8, 35.9)	16.2 (10.6, 21.9)	22.0 (14.8, 29.3)
Mackinac	26.9 (18.4, 35.5)	21.2 (15.0, 27.4)	20.6 (13.5, 27.7)
Marquette	18.6 (11.1, 26.0)	14.9 (8.3, 21.6)	17.6 (10.3, 24.9)
Menominee	26.8 (17.0, 36.5)	16.1(9.1, 23.0)	25.3 (12.4, 38.2)
Ontonagon	45.0 (36.5, 53.5)	23.0 (17.0, 29.0)	27.5 (20.6, 34.4)
Schoolcraft	22.3 (14.1, 30.5)	16.2 (10.1, 22.3)	20.0 (13.9, 26.0)
[a] The proportion of respondents who indicated that the community health issue was "very important — should be a priority." The other choices were "fairly important", "fairly important," "fairly unimportant," and "not an issue, or of very little importance."			

Table 14-4B: Transportation to Care by Population Groups			
	Transportation to Non-Emergency Medical Care[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Age			
18-39	20.6 (14.1, 27.1)	12.5 (5.9, 19.1)	17.4 (10.8, 24.0)
40-65	29.9 (25.2, 34.6)	20.1 (16.5, 23.7)	19.8 (16.7, 22.8)
65+	27.1 (23.8, 30.3)	24.4 (21.5, 27.2)	23.2 (20.5, 25.9)
Gender			
Male	16.9 (12.3, 21.5)	14.0 (9.3, 18.8)	17.7 (13.3, 22.1)
Female	29.8 (25.8, 33.8)	23.1 (19.7, 26.4)	22.3 (19.4, 25.2)
Educational Attainment			
Less than 12th grade	44.6 (27.8, 61.3)	39.0 (22.4, 55.6)	34.9 (21.3, 48.6)
High School Graduate	30.4 (23.7, 37.2)	19.1 (12.6, 25.7)	23.8 (19.3, 28.2)
1-3 years of college	21.4 (17.1, 25.7)	19.8 (14.9, 24.6)	16.2 (12.4, 20.0)
4-year degree or higher	21.6 (16.8, 26.5)		9.1 (6.6, 11.7)
Household Income			
Less than $25,000	29.6 (22.8, 36.4)	26.5 (13.7, 39.4)	33.6 (27.3, 39.8)
$25,000 to $49,999	26.0 (20.3, 31.8)	21.7 (16.0, 27.4)	17.1 (12.7, 21.5)
$50,000 or higher	21.8 (18.1, 25.4)	13.1 (10.0, 16.3)	13.8 (10.3, 17.3)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-5A: Tobacco Use by County			
	Tobacco Use[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	18.4 (15.7, 21.1)	17.6 (14.8, 20.4)	22.6 (20.3, 25.0)
Alger	14.7 (9.2, 20.1)	21.7 (15.1, 28.4)	23.7 (17.3, 30.0)
Baraga	22.8 (13.7, 31.9)	26.2 (16.2, 36.2)	39.1 (27.9, 50.2)
Chippewa	24.0 (13.3, 34.7)	22.6 (13.9, 31.3)	29.2 (19.2, 39.2)
Delta	13.9 (7.1, 20.7)	12.9 (2.7, 23.0)	24.5 (16.6, 32.4)
Dickinson	17.3 (10.5, 24.1)	16.0 (10.4, 21.6)	21.7 (15.4, 28.0)
Gogebic	24.5 (17.1, 31.8)	19.8 (11.9, 27.7)	25.7 (18.6, 32.8)
Houghton/Keweenaw	17.0 (10.7, 23.3)	19.5 (12.1, 26.9)	16.9 (10.5, 23.2)
Iron	17.2 (11.2, 23.2)	20.7 (13.9, 27.5)	28.8 (21.4, 35.2)
Luce	18.4 (11.0, 25.8)	26.7 (18.6, 34.9)	33.1 (24.6, 41.6)
Mackinac	22.2 (14.2, 30.3)	14.8 (10.0, 19.5)	22.1 (14.1, 30.2)
Marquette	19.1 (11.0, 27.1)	13.2 (7.9, 18.4)	18.3 (12.9, 23.8)
Menominee	13.0 (6.8, 19.2)	17.9 (10.2, 25.6)	18.5 (11.9, 25.1)
Ontonagon	23.8 (16.7, 30.9)	30.7 (21.5, 39.9)	24.9 (19.8, 30.0)
Schoolcraft	20.9 (11.7, 30.1)	21.8 (14.5, 29.2)	24.1 (17.3, 31.0)
[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”			

Table 14-5B: Tobacco Use by Population Groups			
	Tobacco Use[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Age			
18-39	10.5 (5.3, 15.7)	7.9 (3.8, 11.9)	13.9 (8.7, 19.2)
40-65	19.8 (15.8, 23.8)	20.4 (16.6, 24.2)	23.7 (20.7, 26.8)
65+	26.3 (22.7, 29.9)	26.9 (23.9, 29.8)	32.5 (29.3, 35.7)
Gender			
Male	16.3 (11.6, 21.0)	12.9 (9.0, 16.8)	20.1 (16.3, 23.9)
Female	18.7 (15.5, 21.9)	22.4 (19.2, 25.5)	25.1 (22.2, 27.9)
Educational Attainment			
Less than 12th grade	11.7 (3.5, 20.0)	19.9 (7.8, 32.1)	23.5 (14.8, 32.3)
High School Graduate	22.9 (16.9, 28.9)	18.8 (12.5, 25.2)	24.5 (20.4, 28.6)
1-3 years of college	17.2 (13.0, 21.4)	17.9 (14.0, 21.7)	21.9 (17.8, 25.9)
4-year degree or higher	15.1 (11.2, 18.9)	15.3 (11.7, 19.0)	18.4 (14.8, 21.9)
Household Income			
Less than $25,000	17.9 (12.9, 22.9)	18.3 (9.1, 27.5)	30.5 (24.9, 36.2)
$25,000 to $49,999	21.6 (15.8, 27.4)	21.2 (16.7, 25.6)	22.8 (18.6, 27.0)
$50,000 or higher	15.6 (12.6, 18.5)	15.4 (12.3, 18.6)	17.8 (14.7, 20.9)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-6A: Substance Abuse by County						
	Alcohol Abuse[a]			Drug Abuse[a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	30.5 (27.2, 33.9)	30.1 (25.8, 34.4)	36.6 (33.5, 39.6)	41.8 (38.0,45.7)	48.7 (42.6, 54.7)	57.4 (54.0, 60.8)
Alger	26.7 (18.9, 34.5)	33.4 (25.0, 41.8)	39.4 (31.6, 47.2)	44.6 (33.5, 55.6)	47.6 (37.9, 57.3)	55.2 (46.9, 63.6)
Baraga	41.0 (30.3, 51.6)	44.3 (33.6, 55.0)	49.8 (38.9, 60.8)	63.8 (53.8, 79.8)	72.9 (64.6, 81.2)	79.3 (71.6, 86.9)
Chippewa	33.4 (22.1, 44.7)	32.7 (22.3, 43.2)	40.6 (29.6, 51.6)	39.1 (27.3, 50.8)	57.1 (45.5, 68.7)	49.6 (37.8, 61.3)
Delta	18.8 (10.6, 26.9)	22.6 (6.1, 39.2)	42.5 (33.0, 52.1)	37.1 (23.6, 50.6)	38.0 (11.5, 64.5)	64.2 (54.7, 73.7
Dickinson	33.8 (24.3, 43.3)	31.6 (23.2, 40.0)	34.4 (26.3, 42.6)	39.8 (29.9, 49.6)	56.0 (46.2, 65.8)	54.6 (45.7, 63.4)
Gogebic	39.5 (31.2, 47.9)	32.9 (21.8, 43.9)	41.6 (33.5, 49.8)	48.6 (40.2, 57.0)	41.3 (28.3, 54.4)	63.0 (55.1, 71.0)
Houghton/Keweenaw	38.5 (28.3, 48.7	44.9 (31.9, 57.9)	30.8 (22.8, 38.9)	44.1 (33.4, 54.8)	53.8 (41.2, 66.4)	44.9 (35.3, 54.5)
Iron	28.4 (20.4, 36.5)	34.8 (25.9, 43.7)	38.6 (30.6, 46.6)	43.1 (33.1, 53.1)	50.8 (40.5, 61.1)	68.3 (60.9, 75.7)
Luce	32.6 (23.8, 41.4)	39.6 (30.0, 49.2)	41.9 (33.1, 50.7)	54.6 (45.9, 63.2)	61.2 (52.1, 70.4)	57.8 (48.5, 67.0)
Mackinac	40.9 (30.1, 51.6)	32.4 (24.6, 40.2)	48.5 (36.0, 61.1)	51.2 (40.8, 61.7)	40.7 (32.1, 49.2)	64.1 (53.9, 74.4)
Marquette	25.9 (17.2, 34.6)	21.6 (15.2, 28.0)	29.5 (22.1, 36.9)	36.9 (27.0, 46.8)	40.6 (31.4, 49.7)	56.9 (47.6, 66.2)
Menominee	29.4 (20.2, 38.5)	25.4 (16.8, 34.1)	35.6 (24.1, 47.1)	47.1 (36.2, 58.1)	54.8 (43.2, 66.4)	60.0 (48.7, 71.3)
Ontonagon	38.4 (30.2, 46.6)	40.6 (31.6, 49.6)	35.7 (29.8, 41.6)	41.0 (32.6, 49.3)	55.6 (47.2, 64.0)	60.3 (53.7, 66.8)
Schoolcraft	28.8 (19.2, 38.4)	29.6 (20.9, 38.2)	40.0 (29.6, 50.5)	40.5 (30.2, 50.9)	55.3 (43.2, 67.3)	64.0 (54.7, 73.2)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-6B: Substance Abuse by Population Groups						
	Alcohol Abuse[a]			Drug Abuse[a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age						
18-39	23.6 (16.4, 30.8)	21.2 (11.8, 30.6)	28.1 (21.0, 35.3)	29.4 (21.5, 37.3)	41.0 (26.3, 55.8)	52.7 (44.2, 61.2)
40-65	31.2 (26.6, 35.9)	32.1 (28.0, 36.3)	38.4 (34.6, 42.2)	46.3 (41.3, 51.4)	50.7 (46.1, 55.3)	57.4 (53.4, 61.3)
65+	38.0 (34.5, 41.5)	38.7 (35.5, 42.0)	44.3 (41.0, 47.7)	50.0 (46.3, 53.8)	55.7 (52.3, 59.2)	63.8 (60.5, 67.1)
Gender						
Male	24.8 (19.2, 30.4)	21.0 (14.7, 27.3)	33.0 (28.0, 38.0)	36.8 (30.1, 43.4)	39.2 (29.5, 48.9)	53.3 (47.6, 59.0)
Female	33.0 (28.8,37.2)	39.1 (35.0, 43.1)	40.0 (36.5, 43.5)	44.2 (39.4, 49.0)	58.1 (53.9, 62.4)	61.3 (57.6, 65.0)
Educational Attainment						
Less than 12th grade	27.1 (13.6, 40.5)	43.0 (25.0, 61.0)	35.2 (23.7, 46.7)	34.4 (19.7, 49.1)	55.1 (38.0, 72.2)	51.4 (38.0, 64.8)
High School Graduate	35.0 (27.8, 42.2)	28.5 (19.5, 37.4)	38.0 (32.8, 43.1)	46.4 (38.1, 54.8)	46.6 (33.0, 60.1)	57.0 (51.2, 62.9)
1-3 years of college	28.7 (23.4, 34.0)	32.1 (26.2, 38.1)	37.2 (32.0, 42.5)	41.1 (34.9, 47.3)	50.4 (44.0, 56.7)	61.0 (55.4, 66.7)
4-year degree or higher	27.2 (22.1, 32.4)	28.0 (22.7, 33.4)	31.6 (27.1, 36.0)	37.3 (31.4, 43.1)	50.0 (43.0, 56.9)	52.9 (47.6, 58.2)
Household Income						
Less than $25,000	30.0 (23.1, 36.9)	28.6 (14.9, 42.3)	39.4 (33.3, 45.5)	36.6 (28.8, 44.3)	36.8 (19.6, 54.0)	57.4 (50.9, 63.9)
$25,000 to $49,999	35.5 (29.3, 41.7)	35.7 (29.5, 41.8)	38.9 (33.3, 44.4)	47.2 (40.7, 53.7)	52.1 (44.6, 59.5)	59.3 (53.3, 65.3)
$50,000 or higher	26.4 (22.8, 30.0)	27.9 (23.2, 32.6)	32.6 (28.0, 37.2)	41.5 (37.2, 45.7)	52.3 (47.0, 57.7)	55.7 (50.2, 61.3)

[a] The proportion of respondents who indicated that the community health issue was "very important — should be a priority." The other choices were "fairly important", "fairly important," "fairly unimportant," and "not an issue, or of very little importance."

Table 14-7A: Childhood Obesity by County			
	Childhood Obesity and Overweight{a}		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	32.9 (29.4, 36.3)	31.8 (27.3, 36.3)	36.5 (33.4, 39.5)
Alger	33.7 (24.9, 42.5)	37.6 (28.4, 46.8)	31.8 (24.7, 38.8)
Baraga	52.2 (41.5, 62.9)	35.1 (25.5, 44.6)	40.1 (29.9, 50.2)
Chippewa	28.6 (18.9, 38.4)	34.7 (23.2, 46.3)	38.5 (27.2, 49.9)
Delta	31.0 (18.7, 43.3)	26.2 (7.5, 44.9)	39.1 (29.8, 48.4)
Dickinson	38.6 (28.6, 48.6)	38.5 (28.6, 48.3)	43.3 (34.3, 52.3)
Gogebic	34.5 (26.3, 42.6)	23.0 (14.2, 31.7)	37.5 (29.5, 45.6)
Houghton/Keweenaw	30.5 (21.7, 39.3)	34.2 (22.4, 46.0)	28.0 (20.2, 35.7)
Iron	33.4 (22.7, 44.1)	32.5 (23.6, 41.4)	38.6 (30.5, 46.6)
Luce	32.5 (23.9, 41.0)	31.7 (22.5, 40.9)	43.5 (34.7, 52.4)
Mackinac	40.0 (29.6, 50.3)	29.4 (21.7, 37.1)	47.2 (34.5, 59.9)
Marquette	34.7 (24.9, 44.5)	32.7 (23.6, 41.7)	34.4 (26.3, 42.4)
Menominee	25.6 (16.9, 34.3)	27.2 (17.6, 36.7)	31.2 (21.9, 40.6)
Ontonagon	39.9 (30.6, 49.2)	32.1 (23.7, 40.4)	34.4 (28.2, 40.7)
Schoolcraft	26.0 (17.8, 34.2)	31.9 (22.7, 41.2)	45.1 (34.7, 55.4)

{a} The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-7B: Childhood Obesity by Population Groups			
	Childhood Obesity and Overweight{a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Age			
18-39	23.7 (16.6, 30.9)	21.1 (11.8, 30.4)	30.2 (22.8, 37.5)
40-65	38.2 (33.3, 43.2)	37.4 (32.8, 41.9)	40.0 (36.2, 43.9)
65+	37.1 (33.6, 40.6)	37.8 (34.5, 41.1)	37.9 (34.7, 41.2)
Gender			
Male	24.7 (19.6, 29.8)	23.8 (17.1, 30.4)	33.4 (28.3, 38.4)
Female	36.4 (32.0, 40.9)	39.6 (35.3, 44.0)	39.4 (35.9, 43.0)
Educational Attainment			
Less than 12th grade	42.9 (25.5, 60.4)	45.4 (27.4, 63.3)	45.8 (32.5, 59.2)
High School Graduate	35.5 (28.3, 42.7)	29.1 (19.9, 38.3)	37.6 (32.5, 42.7)
1-3 years of college	29.6 (24.5, 34.7)	33.8 (27.9, 39.8)	34.2 (29.0, 39.4)
4-year degree or higher	31.5 (25.8, 37.2)	31.7 (25.0, 38.3)	33.0 (28.4, 37.6)
Household Income			
Less than $25,000	30.7 (23.6, 37.8)	27.4 (14.1, 40.8)	39.0 (32.8, 45.2)
$25,000 to $49,999	35.6 (29.4, 41.7)	36.3 (29.6, 43.0)	41.9 (36.0, 47.8)
$50,000 or higher	32.3 (28.2, 36.3)	31.7 (26.9, 36.5)	31.2 (26.8, 35.6)

{a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-8A: Healthy Food and Physical Activity by County						
	Lack of Affordable Healthy Foods, Including Year-around Fresh Fruits and Vegetables{a}			Lack of Affordable Facilities or Programs for Year-round Physical Activity or Recreation{a}		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	46.2 (42.1, 50.4)	32.2 (27.5, 37.0)	34.1 (30.9, 37.4)	38.2 (34.2,42.2)	31.7 (27.0, 36.5)	30.1 (27.1, 33.2)
Alger	49.7 (38.8, 60.6)	36.3 (27.3, 45.3)	35.0 (27.0, 42.9)	33.9 (24.5, 43.2)	29.4 (20.8, 38.1)	24.0 (17.1, 30.9)
Baraga	53.6 (43.1, 64.2)	29.6 (20.9, 38.3)	37.5 (26.8, 48.2)	47.5 (36.9, 58.2)	25.4 (18.0, 32.8)	26.2 (17.4, 34.9)
Chippewa	45.9 (33.6, 58.2)	38.2 (26.2, 50.2)	33.4 (22.3, 44.5)	40.2 (27.9, 52.4)	44.0 (31.7, 56.2)	33.7 (23.2, 44.1)
Delta	34.7 (21.5, 47.8)	13.3 (3.3, 23.3)	30.2 (21.4, 39.0)	27.4 (16.0, 38.9)	15.8 (3.7, 27.8)	30.6 (21.1, 40.2)
Dickinson	51.0 (40.9, 61.2)	32.5 (22.9, 42.2)	29.1 (21.4, 36.6)	42.0 (31.7, 52.3)	32.3 (22.2, 42.4)	28.0 (23.0, 34.7)
Gogebic	47.0 (38.6, 47.5)	41.0 (25.4, 56.7)	29.3 (21.8, 36.8)	39.2 (30.8, 47.5)	45.4 (30.0, 60.8)	34.2 (26.1, 42.3)
Houghton/Keweenaw	54.7 (43.8, 65.7)	48.2 (34.9, 61.5)	34.5 (25.4, 43.6)	44.0 (33.0, 55.0)	42.2 (28.9, 55.5)	27.4 (19.0, 35.9)
Iron	52.8 (42.7, 63.0)	44.1 (33.3, 54.8)	34.3 (26.8, 41.7)	49.3 (38.9, 59.7)	37.7 (27.0, 48.3)	32.7 (24.9, 40.6)
Luce	55.0 (46.5, 63.5)	38.8 (28.7, 48.9)	39.6 (30.8, 48.4)	42.3 (33.4, 51.3)	37.7 (28.1, 47.2)	39.6 (30.8, 48.4)
Mackinac	43.9 (33.7, 54.1)	30.6 (22.7, 38.6)	42.6 (29.6, 55.5)	36.8 (26.9, 46.6)	34.5 (25.5, 43.5)	34.7 (21.4, 48.1)
Marquette	48.2 (37.1, 59.4)	29.0 (20.1, 38.0)	33.1 (24.3, 41.9)	39.7 (28.0, 51.4)	26.5 (17.6, 35.4)	29.1 (20.8, 37.5)
Menominee	36.6 (26.5, 46.6)	28.1 (18.3, 37.9)	39.3 (27.0, 51.6)	31.3 (21.8, 40.9)	29.5 (19.5, 39.6)	25.7 (17.0, 34.3)
Ontonagon	48.9 (40.2, 57.6)	38.6 (29.9, 47.2)	38.3 (32.1, 44.6)	40.1 (31.7, 48.3)	37.5 (29.2, 45.7)	30.8 (24.0, 37.5)
Schoolcraft	37.5 (27.9, 47.1)	33.9 (24.3, 43.5)	47.1 (36.8, 57.4)	29.0 (20.2, 37.8)	33.0 (23.5, 42.5)	41.0 (31.4, 50.6)

{a} The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-8B: Healthy Food and Physical Activity by Population Groups						
	Lack of Affordable Healthy Foods, Including Year-around Fresh Fruits and Vegetables{a]			Lack of Affordable Facilities or Programs for Year-round Physical Activity or Recreation{a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age						
18-39	47.1 (36.7, 57.5)	33.6 (20.9, 46.3)	37.2 (29.1, 45.3)	41.1 (31.0, 51.2)	38.3 (24.4, 52.3)	34.2 (26.5, 41.9)
40-65	50.0 (44.9, 55.1)	32.5 (28.3, 36.7)	34.3 (30.5, 38.1)	42.1 (37.1, 47.1)	28.5 (24.5, 32.5)	29.9 (26.3, 33.5)
65+	39.3 (35.7, 42.9)	29.6 (26.5, 32.6)	28.7 (25.7, 31.7)	28.2 (24.9, 31.5)	27.7 (24.8, 30.7)	24.3 (21.6, 27.0)
Gender						
Male	30.7 (23.4, 38.0)	21.9 (15.1, 28.7)	26.3 (21.1, 31.6)	32.7 ((24.4, 41.1)	24.6 (17.1, 32.0)	23.6 (18.7, 28.6)
Female	53.0 (47.8, 58.1)	42.5 (38.0, 46.9)	41.7 (38.0, 45.4)	40.6 (35.9, 45.4)	38.9 (34.6, 43.3)	36.5 (33.0, 40.0)
Educational Attainment						
Less than 12th grade	46.5 (29.7, 63.4)	47.6 (30.4, 64.9)	54.5 (41.3, 67.7)	44.5 (27.3, 61.8)	23.5 (11.3, 35.7)	41.5 (27.6, 55.5)
High School Graduate	46.8 (38.3, 55.2)	32.0 (21.8, 42.2)	36.8 (31.4, 42.2)	34.5 (27.2, 47.8)	30.7 (20.9, 40.6)	28.8 (24.5, 33.1)
1-3 years of college	49.5 (42.8, 56.3)	36.1 (29.4, 42.8)	30.5 (25.4, 35.6)	41.9 (35.1, 48.7)	35.3 (28.7, 41.9)	31.7 (26.3, 37.2)
4-year degree or higher	41.3 (34.9, 47.7)	25.4 (20.1, 30.8)	23.1 (18.9, 27.2)	36.7 (29.6, 43.8)	30.3 (23.7, 36.8)	22.6 (18.4, 26.8)
Household Income						
Less than $25,000	47.0 (37.8, 56.3)	36.4 (19.5, 53.3)	45.3 (38.9, 51.8)	39.0 (30.0, 47.9)	31.1 (16.1, 46.1)	38.7 (32.5, 44.9)
$25,000 to $49,999	47.6 (41.1, 54.1)	33.0 (26.2, 39.8)	35.7 (30.0, 41.5)	40.7 (34.3, 47.1)	32.6 (25.6, 39.7)	33.0 (27.2, 39.1)
$50,000 or higher	43.5 (39.1, 48.0)	29.9 (24.6, 35.3)	25.9 (21.0, 30.7)	34.6 (30.3, 38.8)	31.7 (26.3, 37.0)	23.0 (19.0, 27.1)

{a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-9A: Elder Services by County						
	Lack of Programs and Services to Help Maintain Their Health and Independence[a]			Shortage of Long-term Care (Nursing Home Beds) or Lack of Affordable Long-term Care Services[a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	40.7 (36.7, 44.6)	31.2 (26.7, 35.7)	35.4 (32.3, 38.4)	44.8 (40.8, 48.8)	33.0 (28.4, 37.7)	34.7 (31.7, 37.7)
Alger	39.6 (30.0, 49.3)	44.4 (34.8, 54.0)	36.2 (28.6, 43.7)	45.2 (34.1, 56.3)	39.1 (29.9, 48.3)	37.9 (30.3, 45.5)
Baraga	53.6 (43.0, 64.1)	29.8 (21.5, 38.0)	36.4 (26.9, 45.8)	60.3 (50.1, 70.5)	33.3 (24.7, 41.9)	37.3 (27.7, 46.9)
Chippewa	30.3 (20.6, 39.9)	40.7 (29.0, 52.5)	35.5 (25.5, 45.9)	41.9 (29.9, 53.8)	47.1 (35.2, 59.1)	30.7 (21.3, 40.0)
Delta	37.1 (23.3, 50.9)	16.9 (4.6, 29.2)	38.6 (29.0, 48.1)	42.4 (27.3, 57.4)	19.9 (5.6, 34.1)	34.6 (26.1, 43.2)
Dickinson	48.5 (38.4, 58.7)	37.7 (27.8, 47.5)	35.7 (27.1, 44.3)	54.4 (44.3, 64.6)	38.6 (28.7, 48.4)	36.7 (28.2, 45.3)
Gogebic	45.0 (36.7, 53.3)	42.9 (27.5, 58.3)	38.0 (29.9, 46.0)	47.3 (38.9, 55.7)	39.9 (24.3, 55.6)	36.4 (28.5, 44.3)
Houghton/Keweenaw	42.1 (31.2, 53.0)	36.3 (23.0, 49.6)	32.9 (24.1, 41.7)	44.2 (33.5, 54.8)	38.4 (25.2, 51.6)	34.1 (25.3, 40.9)
Iron	43.9 (33.6, 54.2)	39.7 (29.1, 50.2)	38.4 (30.4, 46.4)	43.6 (33.1, 54.2)	23.5 (16.1, 30.9)	33.1 (25.3, 40.9)
Luce	46.6 (37.7, 55.5)	39.2 (29.7, 48.8)	33.4 (25.5, 41.3)	39.9 (31.4, 48.5)	39.3 (29.7, 49.0)	34.9 (26.8, 43.0)
Mackinac	44.8 (34.6, 55.0)	35.9 (27.1, 44.6)	39.5 (26.5, 52.5)	56.9 (46.3, 67.5)	38.7 (29.8, 47.5)	31.5 (21.7, 41.4)
Marquette	39.4 (28.2, 50.7)	22.1 (15.7, 28.5)	32.7 (24.7, 40.8)	42.0 (31.1, 52.8)	28.0 (20.3, 35.6)	37.9 (29.2, 46.6)
Menominee	42.1 (30.4, 53.8)	30.8 (21.0, 40.6)	34.1 (24.7, 40.8)	39.4 (29.3, 49.5)	28.0 (18.9, 37.1)	25.1 (17.2, 33.0)
Ontonagon	54.0 (45.5, 62.5)	44.0 (35.7, 52.3)	40.6 (33.6, 47.7)	68.1 (58.5, 77.7)	50.9 (42.1, 59.6)	48.9 (42.0, 55.7)
Schoolcraft	33.2 (24.3, 42.1)	33.9 (24.3, 43.4)	37.0 (28.4, 45.7	33.4 (24.5, 42.3)	26.4 (18.5, 34.4)	36.4 (27.9, 45.0)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-9B: Elder Services by Population Groups						
	Lack of Programs and Services to Help Maintain Their Health and Independence[a]			Shortage of Long-term Care (Nursing Home Beds) or Lack of Affordable Long-term Care Services[a]		
	2024	2021	2017	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Age						
18-39	31.1 (21.6, 40.6)	20.9 (11.4, 30.4)	26.2 (19.3, 33.1)	31.8 (23.0, 40.6)	21.1 (11.4, 30.8)	23.6 (16.8, 3.05)
40-65	44.7 (39.7, 49.7)	34.6 (30.3, 38.9)	39.8 (35.8, 43.7)	49.1 (44.1, 54.2)	35.8 (31.3, 40.3)	38.5 (34.7, 42.3)
65+	46.2 (42.5, 49.9)	40.4 (37.1, 43.8)	39.3 (36.0, 42.5)	54.2 (50.5, 58.0)	45.1 (41.7, 48.6)	42.0 (38.7, 45.3)
Gender						
Male	30.9 (23.4, 38.5)	23.1 (16.3, 29.8)	29.0 (24.2, 33.8)	36.5 (29.1, 43.9)	26.8 (19.4, 34.3)	30.1 (25.3, 34.8)
Female	44.8 (40.0, 49.7)	39.3 (35.1, 43.4)	41.5 (38.0, 45.1)	48.4 (43.4, 53.4)	39.2 (35.1, 43.3)	39.2 (35.7, 42.7)
Educational Attainment						
Less than 12th grade	52.1 (35.0, 69.2)	50.1 (32.5, 67.7)	45.3 (31.9 58.7)	41.5 (25.3, 57.8)	40.8 (24.5, 57.1)	46.7 (33.6, 60.3)
High School Graduate	44.4 (36.2, 52.6)	35.9 (25.0, 46.9)	37.6 (32.7, 42.6)	46.1 (37.9, 54.3)	38.3 (26.7, 49.9)	38.5 (33.6, 43.5)
1-3 years of college	39.2 (32.7, 45.7)	32.9 (26.7, 39.0)	36.4 (31.0, 41.7)	47.3 (40.6, 54.0)	35.4 (29.2, 41.6)	33.4 (28.2, 38.5)
4-year degree or higher	34.1 (27.8, 40.6)	19.9 (15.3, 24.4)	20.1 (16.5, 23.8)	39.7 (33.5, 45.9)	21.2 (16.2, 26.2)	19.5 15.9, 23.2
Household Income						
Less than $25,000	44.5 (35.5, 53.6)	37.3 (20.1, 54.4)	45.3 (39.1, 51.6)	40.4 (31.9, 48.9)	37.3 (19.9, 54.6)	42.1 (35.9, 48.3)
$25,000 to $49,999	43.1 (36.9, 49.4)	33.7 (27.4, 40.1)	40.6 (34.7, 46.5)	50.1 (43.6,56.6)	38.1 (31.4, 44.8)	39.7 (34.0, 45.3)
$50,000 or higher	32.7 (28.7, 36.6)	26.9 (22.1, 31.7)	25.6 (21.5, 29.7)	43.9 (39.6, 48.3)	28.3 (23.3, 33.2)	26.3 (22.1, 30.5)

[a] The proportion of respondents who indicated that the community health issue was “very important — should be a priority.” The other choices were “fairly important”, “fairly important,” “fairly unimportant,” and “not an issue, or of very little importance.”

Table 14-10A: Dementia Services by County			
	Lack of Programs and Housing for People with Alzheimer's Disease or Dementia[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Upper Peninsula	44.6 (40.6, 48.7)	33.6 (28.8, 38.3)	37.0 (33.9, 40.0)
Alger	44.6 (33.6, 55.7)	39.1 (29.9, 48.2)	42.1 (34.0, 50.3)
Baraga	57.0 (46.5, 67.6)	36.3 (27.4, 45.2)	40.7 (30.7, 50.7)
Chippewa	45.8 (33.4, 58.2)	52.3 (40.4, 64.3)	35.7 (25.7, 45.6)
Delta	41.3 (26.5, 56.0)	20.8 (5.6, 36.0)	33.9 (25.4, 42.4)
Dickinson	57.9 (48.0, 67.8)	41.7 (31.8, 51.7)	36.2 (27.8, 44.6)
Gogebic	49.8 (41.2, 58.3)	42.1 (26.6, 57.6)	43.4 (35.3, 51.6)
Houghton/Keweenaw	41.2 (30.9, 51.6)	38.2 (24.9, 51.4)	34.2 (25.4, 43.0)
Iron	43.0 (32.5, 53.5)	27.1 (19.2, 35.1)	35.7 (27.7, 43.7)
Luce	42.9 (34.2, 51.7)	47.4 (37.5, 57.3)	43.4 (34.6, 52.2)
Mackinac	58.4 (47.8, 68.9)	32.3 (24.5, 40.2)	43.8 (30.9, 56.7)
Marquette	41.4 (30.4, 52.3)	23.9 (17.0, 30.7)	34.4 (26.1, 42.8)
Menominee	35.5 (25.7, 45.3)	26.5 (17.2, 35.7)	41.2 (29.9, 52.5)
Ontonagon	60.1 (50.9, 69.4)	49.3 (40.7, 58.0)	47.3 (40.4, 54.1)
Schoolcraft	40.5 (30.7, 50.4)	37.0 (27.0, 46.9)	39.4 (30.4, 48.4)

[a] The proportion of respondents who indicated that the community health issue was "very important — should be a priority." The other choices were "fairly important", "fairly important," "fairly unimportant," and "not an issue, or of very little importance."

Table 14-10B: Dementia Care by Population Groups			
	Lack of Programs and Housing for People with Alzheimer's Disease or Dementia[a]		
	2024	2021	2017
	% (95% CI)	% (95% CI)	% (95% CI)
Age			
18-39	35.4 (26.1, 44.7)	22.1 (12.0, 32.1)	25.9 (18.7, 33.0)
40-65	47.4 (42.3, 52.4)	37.2 (32.8, 41.6)	39.5 (35.7, 43.2)
65+	51.6 (47.8, 55.3)	43.5 (40.1, 46.9)	46.9 (43.5, 50.2)
Gender			
Male	36.7 (29.2, 44.1)	25.3 (18.2, 32.4)	32.4 (27.5, 37.3)
Female	48.0 (43.0, 52.9)	41.8 (37.5, 46.0)	41.4 (37.8, 44.9)
Educational Attainment			
Less than 12th grade	46.6 (29.7, 63.4)	42.2 (25.8, 58.7)	51.8 (38.3, 65.4)
High School Graduate	48.1 (39.6, 56.6)	39.6 (27.7, 51.6)	41.6 (36.4, 46.8)
1-3 years of college	45.3 (38.7, 52.0)	35.8 (29.6, 42.0)	33.8 (28.7, 38.8)
4-year degree or higher	37.7 (31.5, 43.8)	20.3 (15.8, 24.9)	22.4 (18.6, 26.1)
Household Income			
Less than $25,000	40.3 (31.8, 48.8)	36.8 (19.4, 54.2)	43.7 (37.4, 50.0)
$25,000 to $49,999	48.6 (42.1, 55.1)	38.2 (31.6, 44.9)	42.8 (37.1, 48.6)
$50,000 or higher	44.8 (40.4, 49.2)	29.5 (24.5, 34.5)	28.5 (24.2, 32.7)

[a] The proportion of respondents who indicated that the community health issue was "very important — should be a priority." The other choices were "fairly important", "fairly important," "fairly unimportant," and "not an issue, or of very little importance."

Table 14-11: Community Health Issues and Priorities — Upper Peninsula				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	2.8 (2.0, 3.6) [3.0, 3.1]	3.2 (1.4, 5.0) [6.1, 3.2]	29.2 (24.4, 34.0) [32.5, 22.6]	64.8 (60.2, 69.5) [58.4, 71.1]
Shortage of mental health programs and services, or lack of affordable mental health care	7.1 (4.9, 9.3) [6.9, 6.6]	6.5 (4.1, 8.8) [8.5, 13.9]	28.5 (24.3, 32.7) [37.2, 42.1]	58.0 (53.7, 62.3) [47.5, 37.5]
Shortage of substance abuse treatment programs and services/lack of affordable care	9.2 (6.8, 11.5) [12.2, 6.6]	8.9 (6.6, 11.3) [13.3, 14.5]	37.7 (33.3, 42.0) [36.5, 41.4]	44.2 (40.2, 48.2) [37.9, 37.6]
Shortage of dentists, or lack of affordable dental care	5.1 (3.8, 6.4) [11.2, 11.7]	10.8 (7.8, 13.8) [19.7, 20.3]	32.5 (27.9, 37.0) [36.4, 37.7]	51.7 (47.4, 55.9) [32.8, 30.3]
Transportation to non-emergency medical care	11.9 (9.5, 14.4) [18.1, 12.8]	16.3 (13.3, 19.3) [23.2, 27.1]	45.6 (41.3, 49.9) [40.2, 40.0]	26.2 (23.0, 29.3) [18.6, 20.0]
Tobacco use	18.9 (16.1, 21.8) [22.8, 15.2]	24.6 (20.9, 28.4) [25.7, 24.0]	38.1 (33.7, 42.4) [33.9, 38.2]	18.4 (15.7, 21.1) [17.6, 22.6]
Alcohol abuse	14.9 (12.0, 17.8) [15.8, 9.9]	11.2 (9.2, 13.3) [19.0, 13.4]	43.3 (39.0, 47.7) [35.1, 40.2]	30.5 (27.2, 33.9) [30.1, 36.6]
Drug abuse	12.8 (10.4, 15.2) [14.9, 7.8]	5.6 (4.1, 7.1) [9.3, 6.6]	39.7 (35.1, 44.3) [27.1, 28.2]	41.8 (38.0, 45.7) [48.7, 57.4]
Childhood obesity	9.8 (7.4, 12.3) [13.7, 7.2]	12.4 (9.8, 15.0) [13.4, 16.8]	44.9 (40.6, 49.2) [41.1, 39.5]	32.9 (29.4, 36.3) [31.87, 36.5]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	8.1 (6.0, 10.1) [16.1, 11.1]	9.5 (7.7, 11.3) [18.1, 18.6]	36.2 (31.8, 40.5) [33.6, 36.1]	46.2 (42.1, 50.4) [32.2, 34.1]
Lack of affordable facilities or programs for year-round physical activity or recreation	9.5 (7.4, 11.6) [12.2, 13.3]	15.1 (12.8, 17.4) [19.4, 20.4]	37.2 (32.9, 41.6) [36.6, 36.2]	38.2 (34.2, 42.2) [31.7, 30.1]
Lack of programs and services to help seniors maintain their health and independence	6.9 (4.9, 8.9) [11.8, 7.9]	11.2 (8.5, 13.8) [17.9, 16.4]	41.3 (37.0, 45.5) [39.1, 40.4]	40.7 (36.7, 44.6) [31.2, 35.4]
Shortage of long-term care (nursing home beds)/lack of affordable services	6.3 (4.7, 8.0) [14.1, 8.8]	12.2 (9.2, 15.2) [17.7, 17.6]	36.7 (32.2, 41.1) [35.1,38.9]	44.8 (40.8, 48.8) [32.0, 34.7]
Lack of programs and housing for people with Alzheimer's Disease and dementia	7.8 (5.7, 10.0) [13.6, 7.1]	12.0 (9.0, 15.0) [15.0, 15.9]	35.5 (31.2, 39.8) [37.9, 40.1]	44.6 (40.6, 48.7) [33.6, 37.0]

Table 14-12: Community Health Issues and Priorities — Alger County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	1.8 (0.1, 3.42) [3.3, 2.1]	2.2 (0.0, 5.0) [3.4, 3.3]	22.9 (14.9, 30.9) [21.4, 25.9]	73.2 (64.7, 81.7) [71.9, 68.7]
Shortage of mental health programs and services, or lack of affordable mental health care	7.7 (0.5, 14.8) [4.7, 7.7]	10.7 (0.0, 21.8) [10.4, 17.1]	33.7 (23.9, 43.6) [39.2, 37.5]	47.9 (37.1, 58.7) [45.7, 37.7]
Shortage of substance abuse treatment programs and services/lack of affordable care	9.8 (2.2, 17.4) [8.1, 7.1]	8.6 (0.6, 16.6) [9.0, 17.6]	32.1 (23.2, 41.0) [42.2, 41.1]	49.5 (38.5, 60.5) [40.8, 34.3]
Shortage of dentists, or lack of affordable dental care	2.0 (2.4, 7.7) [11.7, 14.9]	9.2 (3.3, 15.2) [9.8, 23.4]	36.1 (26.0, 46.2) [47.0, 36.8]	49.7 (38.7, 60.7) [31.4, 24.9]
Transportation to non-emergency medical care	15.8 (5.9, 25.6) [11.9, 17.1]	26.8 (14.8, 38.8) [21.0, 27.1]	33.2 (24.2, 42.2) [42.5, 35.4]	24.2 (16.6, 31.9) [24.6, 20.4]
Tobacco use	22.8 (12.5, 33.1) [12.5, 12.6]	22.3 (13.8, 30.8) [28.5, 24.6]	40.2 (29.2, 51.3) [37.2, 39.2]	14.7 (9.2, 20.1) [21.7, 23.7]
Alcohol abuse	18.3 (8.0, 28.5) [8.9, 10.3]	14.9 (7.8, 22.0) [21.2, 12.9]	40.1 (28.9, 51.3) [36.4, 37.3]	26.7, 18.9, 34.5) [33.4, 39.4]
Drug abuse	16.1 (6.0, 26.1) [8.7, 5.6]	8.0 (2.3, 13.7) [11.4, 8.5]	31.4 (22.1, 40.6) [32.2, 30.6]	44.6 (33.4, 55.6) [47.6, 55.2]
Childhood obesity	18.5 (8.0, 29.0) [7.5, 4.8]	11.1 (5.5, 16.7) [18.5, 16.6]	36.6 (25.3, 47.9) [36.4, 46.8]	33.7 (24.9, 42.5) [37.6, 31.8]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	7.6 (0.3, 14.9) [8.8, 8.0]	11.7 (0.3, 23.1) [17.2, 13.3]	31.0 (21.2, 40.7) [37.6, 43.7]	49.7 (38.8, 60.6) [36.3, 35.0]
Lack of affordable facilities or programs for year-round physical activity or recreation	16.7 (4.3, 29.2) [10.5, 10.7]	17.0 (9.4, 24.7) [20.2, 25.9]	32.3 (22.7, 42.0) [39.9, 39.4]	33.9 (24.5, 43.3) [29.4, 24.0]
Lack of programs and services to help seniors maintain their health and independence	10.7 (2.4, 19.0) [4.6, 6.6]	12.9 (1.9, 24.0) [9.6, 16.6]	36.8 (26.4, 47.1) [41.5, 40.6]	39.6 (30.0, 49.3) [44.4, 36.2]
Shortage of long-term care (nursing home beds)/lack of affordable services	12.2 (3.8, 20.6) [6.5, 5.5]	9.0 (3.7, 14.4) [12.2, 20.5]	33.5 (23.6, 43.5) [42.1, 36.1]	45.2 (34.1, 56.3) [39.1, 37.9]
Lack of programs and housing for people with Alzheimer's Disease and dementia	11.7 (3.3, 10.1) [5.9, 4.7]	6.4 (2.1, 10.7) [9.5, 18.2]	37.3 (27.1, 47.5) [45.5, 35.0]	44.6 (33.6, 55.7) [39.1, 42.1]

Table 14-13: Community Health Issues and Priorities — Baraga County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	5.0 (0.1, 10.0) [3.9, 8.1]	0.4 (0.0, 1.0) [7.6, 0.5]	30.6 (20.4, 40.9) [34.8, 17.5]	63.9 (53.4, 74.4) [53.6, 73.9]
Shortage of mental health programs and services, or lack of affordable mental health care	7.1 (1.8, 12.3) [3.3, 9.3]	2.9 (0.7, 5.0) [11.1, 13.7]	38.0 (27.2, 48.8) [42.2, 44.2]	52.1 (41.4, 48.8) [43.5, 32.8]
Shortage of substance abuse treatment programs and services/lack of affordable care	9.3 (3.7, 14.8) [3.7, 7.2]	4.1 (1.2, 7.0) [8.8, 10.1]	42.2, 31.6, 52.8) [45.3, 46.7]	44.5 (33.9, 55.1) [42.2, 36.0]
Shortage of dentists, or lack of affordable dental care	5.8 (2.8, 8.9) [17.4, 11.8]	5.5 (2.3, 8.6) [23.5, 24.2]	31.6 (21.9, 41.3) [35.5, 30.8]	57.1 (46.9, 67.4) [23.6,33.3]
Transportation to non-emergency medical care	11.3 (5.1, 17.5) [12.4, 10.4]	10.8 (4.4, 17.2) [22.7, 27.9]	42.3 (31.9, 52.6) [48.4, 37.5]	35.6 (25.1, 46.2) [16.4, 24.2]
Tobacco use	16.2 (8.6, 23.8) [16.0, 10.3]	22.5 (12.3, 32.7) [20.1, 18.8]	38.5 (28.4, 48.6) [37.6, 31.8]	22.8 (13.7, 31.9) [26.2, 39.1]
Alcohol abuse	12.9 (6.2, 19.5) [7.1, 3.7]	5.6 (2.0, 9.2) [10.5, 12.5]	40.6 (29.8, 51.3) [38.0, 33.9]	41.0 (30.3, 51.6) [44.3, 49.8]
Drug abuse	13.2 (6.2, 20.1) [5.6, 3.6]	2.8 (0.0, 5.7) [2.1, 3.8]	20.3 (12.3, 28.3) [19.4, 13.3]	63.8 (53.8, 73.8) [72.9, 79.3]
Childhood obesity	9.5 (3.7, 15.3) [2.9, 3.5]	6.7 (2.4, 10.9) [14.7, 17.7]	31.6 (22.3, 40.9) [47.4, 38.7]	52.2 (41.5, 62.9) [35.1, 40.1]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	9.5 (3.6, 15.4) [11.3, 9.2]	10.3 (3.6, 16.9) [15.6, 12.7]	26.6 (17.7, 35.4) [43.5, 40.6]	53.6 (43.1, 64.2) [29.6, 37.5]
Lack of affordable facilities or programs for year-round physical activity or recreation	16.2 (8.3, 24.0) [14.1, 4.8]	7.0 (3.5, 10.6) [13.7, 17.5]	29.2 (19.6, 38.8) [46.8, 51.6]	47.5 (36.9, 58.2) [25.4, 26.1]
Lack of programs and services to help seniors maintain their health and independence	7.2 (1.6, 12.9) [8.9, 4.6]	9.7 (3.8, 15.7) [15.6, 18.0]	29.5 (20.1, 38.8) [45.7, 41.0]	53.6 (43.0, 64.1) [29.8, 36.4]
Shortage of long-term care (nursing home beds)/lack of affordable services	5.9 (0.6, 11.1) [9.6, 8.7]	8.3 (1.7, 14.9) [14.7, 8.2]	25.5 (17.3, 33.8) [42.4, 45.8]	60.3 (50.1, 70.5) [33.3, 37.3]
Lack of programs and housing for people with Alzheimer's Disease and dementia	6.9 (0.9, 13.0) [8.6, 5.8]	9.6 (3.0, 16.1) [10.3, 13.9]	26.5 (17.3, 35.6) [44.8, 39.5]	57.0 (46.5, 67.6) [36.3, 40.7]

Table 14-14: Community Health Issues and Priorities — Chippewa County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	2.8 (0.4, 5.2) [1.5, 10.0]	5.5 (0.0, 13.2) [9.1, 4.3]	24.2 (11.8, 36.6) [23.2, 25.4]	67.5 (54.4, 80.5) [66.2, 60.2]
Shortage of mental health programs and services, or lack of affordable mental health care	17.9 (4.5, 31.3) [8.9, 9.2]	5.0 (1.2, 8.7) [9.7, 14.7]	19.5 (11.6, 27.4) [32.5, 43.2]	57.7 (44.9, 70.5) [48.8, 33.0]
Shortage of substance abuse treatment programs and services/lack of affordable care	24.2 (10.5, 37.8) [7.5, 10.5]	2.6 (0.6, 4.5) [10.9, 13.2]	36.1 (24.4, 47.8) [37.4, 47.2]	37.2 (25.8, 48.6) [44.3, 29.0]
Shortage of dentists, or lack of affordable dental care	1.3 (0.1, 2.4) [3.2, 17.9]	0.7 (0.0, 1.6) [10.4, 23.7]	22.2 (9.1, 35.2) [26.5, 33.7]	75.8 (62.9, 88.8) [59.8, 24.7]
Transportation to non-emergency medical care	18.6 (5.3, 31.9) [7.4, 15.6]	8.7 (4.3, 13.0) [24.3, 28.0]	37.3 (25.2, 49.4) [44.7, 35.6]	35.4 (23.7, 47.1) [23.6, 20.8]
Tobacco use	21.7 (9.3, 34.1) [15.0, 12.8]	22.1 (11.5, 32.7) [29.5, 24.5]	32.2 (21.3, 43.2) [32.9, 33.4]	24.0 (13.3, 34.7) [22.6, 29.2]
Alcohol abuse	26.0 (12.5, 39.5) [3.0, 10.3]	7.9 (2.6, 13.2) [22.8, 19.8]	32.7 (21.7, 43.7) [41.5, 29.3]	33.4 (22.1, 44.7) [32.7, 40.6]
Drug abuse	21.5 (9.2, 33.8) [2.7, 10.3]	5.9 (1.8, 10.1) [10.3, 14.4]	33.5 (21.3, 45.7) [29.8, 25.7]	39.1 (27.3, 50.8) [57.1, 49.6]
Childhood obesity	9.6 (3.3, 15.8) [7.8, 11.1]	10.0 (2.8, 17.2) [22.2, 20.1]	51.8 (39.4, 64.3) [35.3, 30.2]	28.6 (18.9, 38.4) [34.7, 38.5]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	19.30 (5.8, 32.3) [7.4, 17.0]	6.3 (2.0, 10.6) [17.7, 21.4]	28.7 (18.0, 39.5) [36.6, 28.2]	45.9 (33.6, 58.2) [38.2, 33.4]
Lack of affordable facilities or programs for year-round physical activity or recreation	15.5 (3.9, 27.1) [6.0, 20.3]	10.8 (5.8, 15.9) [21.2, 23.2]	33.5 (21.9, 45.2) [28.8, 22.9]	40.2 (27.9, 52.4) [44.0, 33.7]
Lack of programs and services to help seniors maintain their health and independence	14.5 (2.8, 26.2) [4.5, 16.7]	4.8 (1.4, 8.4) [10.3, 18.0]	50.4 (37.7, 63.0) [44.5, 29.8]	30.3 (20.6, 39.9) [40.7, 35.5]
Shortage of long-term care (nursing home beds)/lack of affordable services	7.4 (1.8, 13.0) [5.3, 12.5]	14.0 (0.8, 27.3) [15.4, 23.0]	36.7 (24.9, 48.6) [32.1, 33.8]	41.9 (29.9, 53.8) [47.1, 30.7]
Lack of programs and housing for people with Alzheimer's Disease and dementia	16.6 (4.3, 28.9) [4.2, 12.7]	6.5 (0.0, 15.1) [11.8, 14.7]	31.1 (20.2, 41.9) [31.6, 37.0]	45.8 (33.4, 58.2) [52.3, 35.7]

Table 14-15: Community Health Issues and Priorities — Delta County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	2.9 (0.0, 5.8) [2.0, 1.7]	0.3 (0.0, 0.8) [5.3, 1.0]	37.3 (17.0, 57.5) [51.4, 23.2]	59.5 (40.1, 78.9) [41.4, 74.1]
Shortage of mental health programs and services, or lack of affordable mental health care	7.8 (0.0, 15.8) [2.4, 4.4]	4.5 (1.1, 7.9) [3.7, 12.1]	41.8 (22.9, 60.6) [57.5, 43.3]	45.9 (30.0, 61.9) [36.4, 40.2]
Shortage of substance abuse treatment programs and services/lack of affordable care	7.6 (0.2, 15.1) [35.9, 6.9]	8.7 (3.2, 14.2) [8.2, 9.7]	45.1 (26.9, 63.3) [26.3, 40.8]	38.6 (24.5, 52.6) [29.5, 43.6]
Shortage of dentists, or lack of affordable dental care	5.9 (1.9, 9.9) [6.6, 14.8]	15.4 (7.7, 23.1) [18.8, 15.2]	40.7 (21.4, 60.0) [57.4, 40.5]	38.0 (24.1, 52.0) [17.2, 29.6]
Transportation to non-emergency medical care	15.3 (5.9, 24.6) [40.7, 13.4]	15.7 (8.3, 23.2) [16.0, 31.2]	49.2 (32.0, 66.4) [29.7, 36.9]	19.8 (10.7, 29.0) [13.6, 18.4]
Tobacco use	22.2 (11.6, 32.8) [47.2, 19.7]	21.2 (11.8, 30.6) [15.6, 21.1]	42.7 (24.0, 61.5) [24.4, 34.7]	13.9 (7.1, 20.7) [12.9, 24.5]
Alcohol abuse	19.9 (9.6, 30.3) [4.7, 11.9]	11.8 (5.5, 18.1) [11.9, 12.3]	49.5 (32.3, 66.6) [24.7, 33.3]	18.8 (10.6, 26.9) [22.6, 42.5]
Drug abuse	15.7 (6.6, 24.9) [40.0, 9.6]	6.0 (0.7, 11.3) [3.5, 5.0]	41.1 (21.9, 60.4) [18.5, 21.2]	37.1 (23.6, 50.6) [38.0, 64.2]
Childhood obesity	10.9 (2.6, 19.2) [36.0, 9.5]	10.9 (5.0, 16.9) [5.0, 12.1]	47.1 (29.2, 65.1) [32.8, 39.3]	31.0 (18.7, 43.3) [26.2, 39.1]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	6.7 (1.9, 11.5) [41.6, 9.9]	10.1 (5.2, 15.0) [14.5, 18.3]	48.6 (31.3, 66.0) [30.6, 41.6]	34.7 (21.5, 47.8) [13.3, 30.2]
Lack of affordable facilities or programs for year-round physical activity or recreation	9.4 (1.7, 17.0) [8.7, 12.9]	15.2 (8.0, 22.4) [19.2, 16.7]	48.0 (30.5, 65.4) [56.4, 39.8]	27.4 (16.0, 38.9) [15.8, 30.6]
Lack of programs and services to help seniors maintain their health and independence	7.3 (0.0, 14.8) [37.9, 7.2]	10.0 (4.0, 16.0) [19.5, 14.9]	45.6 (27.4, 63.7) [25.7, 39.4]	37.1 (23.3, 50.9) [16.9, 38.6]
Shortage of long-term care (nursing home beds)/lack of affordable services	8.2 (0.4, 16.0) [40.1, 6.4]	9.2 (3.7, 14.7) [14.8, 21.2]	40.2 (21.0, 59.5) [25.3, 37.8]	42.4 (27.3, 57.4) [19.9, 34.6]
Lack of programs and housing for people with Alzheimer's Disease and dementia	8.4 (0.6, 16.2) [39.5, 6.7]	7.45 (2.5, 12.4) [14.8, 20.1]	42.9 (24.2, 61.5) [24.8, 39.4]	41.3 (26.4, 56.0) [20.8, 33.9]

Table 14-16: Community Health Issues and Priorities — Dickinson County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	2.1 (0.1, 4.1) [1.9, 5.9]	0.9 (0.0, 2.0) [4.9, 4.7]	19.3 (11.4, 27.2) [37.0, 14.0]	77.7 (69.6, 85.8) [56.2, 75.5]
Shortage of mental health programs and services, or lack of affordable mental health care	3.0 (0.3, 5.7) [5.3, 6.7]	4.2 (0.6, 7.9) [8.0, 17.7]	24.2 (15.8, 32.5) [33.7, 38.8]	68.6 (59.6, 77.6) [53.0, 36.8]
Shortage of substance abuse treatment programs and services/lack of affordable care	5.5 (1.8, 9.1) [9.7, 9.3]	7.4 (2.1, 12.7) [14.3, 16.4]	36.2 (26.2, 46.1) [35.5, 36.8]	50.9 (40.7, 61.1) [40.5, 37.4]
Shortage of dentists, or lack of affordable dental care	5.4 (1.4, 9.4) [15.8, 11.8]	11.2 (5.1, 17.3) [19.1, 20.1]	28.5 (20.5, 36.6) [31.6, 36.5]	54.9 (45.1, 64.7) [33.5, 31.6]
Transportation to non-emergency medical care	9.1 (4.0, 14.3) [16.3, 15.8]	17.0 (9.2, 24.9) [25.3, 22.1]	43.8 (33.7, 53.9) [29.8,41.9]	30.0 (20.8, 39.3) [28.7, 20.1]
Tobacco use	16.4 (8.7, 21.2) [7.6, 17.8]	27.4 (17.6, 37.2) [24.6, 18.0]	38.9 (29.0, 48.7) [41.8, 42.5]	17.3 (10.5, 24.1) [16.0, 21.7]
Alcohol abuse	10.5 (5.1, 15.9) [14.1, 11.0]	11.3 (4.1, 18.5) [15.4, 11.2]	44.4 (34.3, 54.5) [38.9, 43.5]	33.8 (24.3, 43.3) [31.6, 34.4]
Drug abuse	9.7 (4.3, 15.0) [8.6, 8.4]	2.6 (0.6, 4.5) [8.5, 5.3]	48.0 (37.6, 58.3) [26.9, 31.8]	39.8 (29.9, 49.6) [56.0, 54.6]
Childhood obesity	7.3 (2.4, 12.2) [8.1, 4.6]	8.5 (2.8, 14.1) [12.4, 14.8]	45.7 (35.6, 55.8) [41.0, 37.3]	35.6 (28.6, 48.6) [38.5, 43.3]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	6.1 (1.0, 11.3) [11.2, 13.3]	8.3 (3.8, 12.9) [19.8, 20.8]	34.5 (25.4, 43.7) [36.4, 36.8]	51.0 (40.9, 61.2) [32.5, 29.1]
Lack of affordable facilities or programs for year-round physical activity or recreation	5.9 (1.3, 10.5) [14.3,13.3]	18.2 (10.7, 25.8) [22.8, 25.0]	33.9 (24.7, 43.0) [30.6, 33.8]	42.0 (31.7, 52.3) [32.3, 28.0]
Lack of programs and services to help seniors maintain their health and independence	1.6 (0.0, 3.4) [14.2, 5.9]	12.7 (5.7, 19.7) [14.9, 21.8]	37.1 (27.4, 46.8) [33.3, 36.5]	48.5 (38.4, 58.7) [37.7, 35.7]
Shortage of long-term care (nursing home beds)/lack of affordable services	3.7 (0.0, 7.7) [13.4,11.8]	11.3 (4.9, 17.6) [12.0, 17.8]	30.7 (21.1, 40.2) [36.0, 33.6]	54.4 (44.3, 64.6) [38.6, 36.7]
Lack of programs and housing for people with Alzheimer's Disease and dementia	1.5 (0.0, 3.1) [11.3, 7.5]	14.8 (7.1, 22.4) [9.2, 18.7]	25.8 (17.6, 34.1) [37.8, 37.5]	57.9 (48.0, 67.8) [41.7, 36.2]

Table 14-17: Community Health Issues and Priorities — Gogebic County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	6.1 (1.1, 11.0) [1.8, 1.5]	6.3 (0.6, 12.0) [10.8, 4.6]	20.0 (13.7, 26.3) [28.1, 29.8]	67.7 (59.4, 76.0) [59.3, 64.0]
Shortage of mental health programs and services/lack of affordable mental health care	6.7 (3.5, 10.0) [15.7,14.7]	4.0 (1.4, 6.6) [9.1, 10.5]	32.3 (24.5, 40.2) [30.2, 33.0]	56.9 (48.7, 65.1) [45.0, 41.8]
Shortage of substance abuse treatment programs and services, or lack of affordable care	8.0 (3.1, 12.9) [15.3,11.1]	10.1 (5.4, 14.7) [9.2,10.7]	31.8 (24.0, 39.6) [39.4, 31.8]	50.2 (41.7, 58.6) [36.1, 46.4]
Shortage of dentists, or lack of affordable dental care	4.8 (0.9, 8.7) [15.2, 13.1]	1.7 (0.3, 3.1) [11.7,16.9]	25.4 (18.8, 32.1) [22.2, 37.3]	68.0 (60.7, 75.4) [50.8, 32.7]
Transportation to non-emergency medical care	14.8 (8.8, 20.8) [27.4, 15.3]	15.9 (9.5, 22.3) [17.5,19.8]	38.9 (31.1, 46.7) [39.5, 42.4]	30.4 (22.2, 38.6) [15.7, 22.5]
Tobacco use	24.0 (17.0, 30.9) [32.0, 17.1]	21.1 (13.6, 28.7) [23.7, 19.2]	30.4 (23.0, 37.9) [24.5, 38.1]	24.5 (17.2, 31.8) [19.8, 25.7]
Alcohol abuse	16.8 (10.6,23.0) [20.0, 10.4]	6.2 (3.2, 9.3) [18.0, 11.1]	37.4 (29.2, 45.6) [29.1, 36.8]	39.5 (31.2, 47.9) [32.9, 41.6]
Drug abuse	16.1 (10.0, 22.2) [19.0, 8.4]	6.7 (2.3, 10.8) [5.4, 5.0]	28.6 (21.3, 36.0) [34.3, 23.6]	48.6 (40.2, 57.0) [41.3, 63.0]
Childhood obesity	14.0 (8.1, 19.9) [16.9, 5.5]	12.9 (6.8, 18.9) [9.5, 10.0]	38.7 (30.7, 46.6) [50.7, 47.0]	34.4 (26.3, 42.6) [23.0, 37.5]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	14.2 (7.9, 20.6) [13.4, 11.9]	9.2 (5.4, 12.9) [12.9, 18.6]	29.6 (21.9, 37.2) [32.6, 40.2]	47.0 (38.6, 55.5) [41.0, 29.3]
Lack of affordable facilities or programs for year-round physical activity or recreation	14.2 (8.0, 20.4) [10.3, 10.8]	14.4 (8.6, 20.3) [11.0, 15.2]	32.2 (24.8, 39.7) [33.4, 39.8]	39.2 (30.8, 47.5) [45.4, 34.2]
Lack of programs and services to help seniors maintain their health and independence	8.6 (3.8, 13.4) [11.6, 11.2]	10.8 (5.0, 16.6) [11.5, 13.6]	35.6 (27.5, 43.6) [34.0, 37.3]	45.0 (*36.7, 53.3) [42.9, 38.0]
Shortage of long-term care (nursing home beds)/lack of affordable services	9.9 (4.4, 15.4) [14.2, 12.4]	11.7 (6.3, 17.0) [12.2, 17.1]	31.1 (23.2, 39.0) [33.7, 34.1]	47.3 (38.9, 55.7) [40.0, 36.4]
Lack of programs and housing for people with Alzheimer's Disease and dementia	9.4 (3.8, 14.9) [12.3, 8.0]	15.4 (8.7, 22.2) [14.5, 10.8]	25.4 (18.6, 32.1) [31.1, 37.8]	49.8 (41.4, 58.3) [42.1, 43.4]

Table 14-18: Community Health Issues and Priorities — Houghton/Keweenaw Counties				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	2.7 (0.0, 5.3) [6.7, 1.3]	2.3 (0.6, 4.1) [6.7, 0.9]	34.6 (22.0, 47.2) [20.7, 17.6]	60.4 (48.3, 72.5) [65.9, 80.2]
Shortage of mental health programs and services, or lack of affordable mental health care	2.3 (0.7, 4.0) [9.7, 6.8]	11.6 (0.0, 23.9) [4.1, 8.9]	25.9 (16.3, 35.5) [21.3, 46.3]	60.2 (48.2, 72.1) [64.9, 38.0]
Shortage of substance abuse treatment programs and services/lack of affordable care	5.9 (2.5, 9.3) [6.4, 6.4]	9.7 (1.3, 18.1) [15.5, 16.9]	40.8 (29.3, 52.4) [24.7, 41.1]	43.6 (33.0, 54.2) [46.5, 35.6]
Shortage of dentists, or lack of affordable dental care	2.0 (0.3, 3.6) [5.1, 7.6]	5.7 (1.2, 10.1) [18.8, 27.4]	34.8 (22.9, 46.7) [31.4, 38.3]	57.6 (46.0, 69.2) [44.7, 26.6]
Transportation to non-emergency medical care	11.6 (5.8, 17.4) [13.0, 10.4]	24.8 (11.6, 38.1) [20.0, 31.2]	36.6 (27.1, 46.2) [47.9, 40.4]	27.0 (18.2, 35.7) [19.1,18.0]
Tobacco use	16.7 (10.2, 23.2) [17.7, 14.5]	19.3 (11.6, 27.0) [19.2, 35.6]	47.0 (35.5, 58.5) [43.6, 33.0]	17.0 (10.7, 23.3) [19.5, 16.9]
Alcohol abuse	11.0 (5.7, 16.9) [8.5, 9.5]	12.3 (6.2, 18.5) [12.3, 12.5]	38.2 (26.2, 50.2) [34.3, 47.2]	38.5 (28.3, 48.7) [44.9, 30.8]
Drug abuse	11.3 (5.7, 16.9) [7.54, 8.9]	4.5 (0.9, 8.1) [8.3, 7.8]	40.1 (28.1, 52.2) [30.4, 38.3]	44.1 (33.4, 54.8) [53.8, 44.9]
Childhood obesity	6.1 (2.7, 9.4) [14.3, 7.8]	21.5 (9.3, 33.6) [7.9, 27.5]	42.0 (31.1, 52.8) [43.5, 36.8]	30.5 (21.7, 39.3) [34.2, 28.0]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	3.6 (1.3, 6.0) [13.0, 12.5]	10.6 (5.0, 16.3) [11.7, 20.1]	31.0 (20.9, 41.0) [27.1, 32.9]	54.7 (43.8, 65.7) [48.2, 34.5]
Lack of affordable facilities or programs for year-round physical activity or recreation	7.1 (3.0, 11.2) [13.6, 17.8]	11.2 (6.4, 16.0) [12.9, 26.4]	37.7 (26.0, 49.4) [31.3, 28.4]	44.0 (33.0, 55.0) [42.2, 27.4]
Lack of programs and services to help seniors maintain their health and independence	5.5 (1.3, 9.8) [6.0, 7.5]	19.3 (7.0, 31.7) [16.8, 15.0]	33.0 (23.8, 42.2) [40.9, 44.6]	42.1 (31.1, 53.0) [36.3, 32.9]
Shortage of long-term care (nursing home beds)/lack of affordable services	5.8 (0.9, 10.7) [10.0, 6.4]	18.6 (6.3, 30.8) [15.0, 24.0]	31.4 (21.4, 41.5) [36.6, 35.5]	44.2 (33.5, 54.8) [38.4, 34.1]
Lack of programs and housing for people with Alzheimer's Disease and dementia	7.5 (2.2, 12.8) [10.4, 6.3]	20.9 (8.7, 33.1) [13.8, 21.1]	30.4 (20.5, 40.2) [37.7, 38.4]	41.2 (30.9, 5136)[38.2, 34.2]

Table 14-19: Community Health Issues and Priorities — Iron County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [202, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	3.9 (0.7, 7.1) [4.6, 3.7]	4.7 (1.2, 8.1) [2.3, 1.8]	20.3 (11.9, 28.6) [31.9, 18.3]	71.2 (62.1, 80.3) [61.1, 76.2]
Shortage of mental health programs and services, or lack of affordable mental health care	7.1 (3.3, 10.8) [5.7, 8.3]	8.2 (3.7, 12.8) [13.8, 13.9]	26.7 (19.4, 34.0) [37.0, 38.7]	58.0 (48.5, 67.5) [43.5, 39.1]
Shortage of substance abuse treatment programs and services/lack of affordable care	11.4 (4.9, 17.9) [6.3, 8.2]	10.3 (5.4, 15.2) [13.1, 10.9]	35.8 (24.9, 46.7) [41.3, 36.2]	42.6 (32.7, 52.5) [39.3, 44.6]
Shortage of dentists, or lack of affordable dental care	10.9 (3.8, 18.0) [14.5, 11.8]	12.6(6.5, 18.7) [23.3, 11.9]	31.8 (22.4, 41.1) [29.4, 40.2]	44.7 (34.3, 55.1) [32.8, 36.1]
Transportation to non-emergency medical care	8.7 (4.6, 12.8) [13.1, 14.6]	18.7 (11.4, 26.0) [24.8, 22.2]	39.1 (29.5, 48.7) [38.5, 42.8]	33.6 (22.5, 44.7) [23.6, 20.5]
Tobacco use	24.1 (16.8, 31.4) [17.8, 13.9]	23.6 (14.5, 32.7) [26.8, 21.3]	35.1 (24.1, 46.2) [34.8, 36.0]	17.2 (11.2, 23.2) [20.7, 28.8]
Alcohol abuse	15.3 (9.3, 21.3) [12.4, 9.6]	14.7 (8.2, 21.3) [19.5, 12.0]	41.6 (30.6, 52.5) [33.3, 39.7]	28.4 (20.4, 36.5) [34.8, 38.6]
Drug abuse	16.5 (10.2, 22.8) [12.3, 7.9]	5.6 (2.0, 9.5) [8.2, 17.4]	24.8 (23.6,45.9) [28.8, 16.4]	43.1 (33.1, 53.1) [50.8, 68.3]
Childhood obesity	14.2 (7.9, 20.6) [4.8, 4.2]	15.1 (7.3, 22.9) [18.0, 14.1]	37.2 (27.6, 46.9) [44.7, 43.1]	33.4 (22.7, 44.1) [32.5, 38.6]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	11.1 (6.3, 15.9) [7.5, 9.7]	8.2 (4.6, 11.8) [12.2, 16.5]	27.9 (19.3, 36.5) [36.2, 39.6]	52.8 (42.7, 63.0) [44.1, 34.3]
Lack of affordable facilities or programs for year-round physical activity or recreation	8.9 (4.5, 13.3) [8.4, 10.6]	19.8 (12.1, 27.5) [15.1, 18.4]	22.0 (15.3, 28.6) [38.9, 38.3]	49.3 (38.9, 59.7) [37.7, 32.7]
Lack of programs and services to help seniors maintain their health and independence	9.0 (2.7, 15.3) [7.1, 5.1]	12.2 (6.0, 18.4) [14.8, 14.7]	34.9 (25.2, 44.5) [38.4, 41.9]	43.9 (33.6, 54.2) [39.7, 38.4]
Shortage of long-term care (nursing home beds)/lack of affordable services	11.3 (4.7, 18.0) [11.3, 13.0]	14.2 (6.4, 21.9) [20.6, 19.5]	30.9 (22.4, 39.4) [44.6, 34.4]	43.6 (33.1, 54.2) [23.5, 33.1]
Lack of programs and housing for people with Alzheimer's Disease and dementia	11.9 (5.3, 18.6) [9.6, 7.4]	11.4 (5.2, 17.6) [18.4, 17.4]	33.7 (24.4, 42.9) [44.9, 39.5]	43.0 (32.5, 53.5) [27.1, 35.7]

Table 14-20: Community Health Issues and Priorities — Luce County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	8.0 (1.3, 14.7) [1.5, 3.8]	5.4 (1.2, 9.7) [1.9, 2.0]	26.4 (18.9, 33.8) [41.5. 24.5]	60.2 (51.3, 69.0) [55.1, 69.6]
Shortage of mental health programs and services, or lack of affordable mental health care	7.2 (3.1, 11.3) [7.0, 8.2]	5.2 (1.3, 9.2) [8.7, 11.0]	28.4 (20.6, 36.3) [37.9, 38.2]	59.2 (50.6, 67.7) [46.4, 42.5]
Shortage of substance abuse treatment programs and services/lack of affordable care	6.9 (3.3, 10.4) [13.1, 8.9]	11.6 (4.7, 18.4) [11.8, 11.3]	38.9 (30.4, 47.4) [36.1, 44.3]	42.7 (33.9, 51.4) [38.9, 35.5]
Shortage of dentists, or lack of affordable dental care	5.3 (2.6, 8.1) [6.1, 15.3]	6.7 (1.6, 11.9) [12.4, 19.6]	24.2 (17.0, 31.5) [41.8, 38.2]	63.7 (55.4, 72.0) [39.7, 26.9]
Transportation to non-emergency medical care	9.1 (5.2, 13.0) [21.4, 13.0]	20.4 (13.2, 27.6) [19.2, 26.7]	43.1 (34.5, 51.8) [43.1, 38.2]	27.3 (18.8, 35.9) [16.2, 22.0]
Tobacco use	23.8 (16.1, 31.4) [18.5, 14.7]	23.9 (15.6, 32.3) [22.1, 19.7]	34.0 (26.4, 41.5) [22.1, 32.5]	18.4 (11.0, 25.8) [26.7, 33.1]
Alcohol abuse	16.4 (9.8, 23.1) [14.5, 9.6]	11.4 (5.1, 17.6) [12.5, 17.3]	39.6 (31.5, 47.8) [33.4, 31.2]	32.6 (23.8, 41.4) [39.6, 41.9]
Drug abuse	14.7 (8.3, 21.2) [10.8, 6.5]	4.8 (1.4, 8.2) [7.6, 7.3]	26.0 (19.0, 33.0) [20.4, 28.4]	54.6 (45.9, 63.2) [61.2, 57.8]
Childhood obesity	11.3 (4.5, 18.0) [10.5, 5.8]	16.3 (9.3, 23.3) [13.0, 19.9]	40.0 (31.8, 48.2) [44.8, 30.7]	32.5 (23.9, 41.0) [31.7, 43.5]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	7.3 (2.2, 12.3) [7.3, 11.0]	8.2 (3.8, 12.6) [16.2, 18.4]	29.6 (22.7, 36.6) [37.8, 30.9]	55.0 (46.5, 63.5) [38.87, 39.6]
Lack of affordable facilities or programs for year-round physical activity or recreation	5.6 (2.6, 8.7) [7.3, 9.7]	11.8 (7.4, 16.1) [17.3. 21.3]	40.3 (31.6, 48.9) [37.7, 29.3]	42.3 (33.4, 51.3) [37.7, 39.6]
Lack of programs and services to help seniors maintain their health and independence	6.0 (2.6, 9.3) [4.9, 6.3]	7.3 (3.9, 10.7) [16.2, 15.3]	40.1 (31.5, 48.7) [39.6, 44.9]	46.6 (37.7, 55.5) [39.2, 33.4]
Shortage of long-term care (nursing home beds)/lack of affordable services	9.9 (3.8, 15.9) [11.3, 7.5]	6.4 (3.1, 9.7) [10.3, 15.6]	43.8 (35.0, 52.6) [39.1, 42.0]	39.9 (31.4, 48.5) [39.3, 34.9]
Lack of programs and housing for people with Alzheimer's Disease and dementia	8.0 (3.4, 12.5) [7.3, 7.5]	7.2 (3.6, 10.9) [9.2, 12.9]	41.9 (32.9, 50.8) [36.1, 36.2]	42.9 (34.2, 51.7) [47.4, 43.4]

Table 14-21: Community Health Issues and Priorities — Mackinac County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	6.3 (2.0, 10.6) [3.0, 0.5]	4.7 (0.0, 10.0) [3.7, 6.8]	23.9 (15.8, 32.0) [33.5, 18.5]	65.1 (55.5, 74.7) [59.8, 74.2]
Shortage of mental health programs and services, or lack of affordable mental health care	6.1 (2.9, 9.3) [4.8, 11.0]	5.2 (0.7, 9.8) [13.8, 13.9]	29.6 (20.6, 38.5) [39.9, 43.4]	59.1 (49.3, 69.0) [41.5, 31.6]
Shortage of substance abuse treatment programs and services/lack of affordable care	7.0 (2.7, 11.4) [7.8, 12.0]	9.1 (3.9, 14.2) [12.5, 11.6]	34.8 (25.4, 44.2) [42.6, 42.7]	49.1 (38.6, 59.6) [37.1, 33.7]
Shortage of dentists, or lack of affordable dental care	5.8 (1.4, 10.1) [9.9, 8.8]	4.6 (1.5, 7.6) [21.9, 22.6]	18.6 (11.9, 25.3) [38.4, 31.8]	71.1 (62.8, 79.3) [29.8, 36.8]
Transportation to non-emergency medical care	11.4 (5.4, 17.4) [10.9, 10.6]	9.5 (5.0, 14.0) [27.0, 36.9]	52.2 (41.9, 62.5) [41.0, 32.0]	26.9 (18.4. 35.5) [21.2, 20.6]
Tobacco use	17.0 (9.5, 24.5) [11.8, 10.6]	25.6 (15.8, 35.4) [27.6, 24.8]	35.1 (25.0, 45.2) [45.9, 42.4]	22.2 (14.2, 30.3) [14.8, 22.1]
Alcohol abuse	13.9 (6.9, 20.9) [8.3, 7.3]	9.9 (4.9, 15.0) [15.7, 9.6]	35.3 (25.5, 45.1) [43.5, 34.5]	40.9 (30.1, 51.6) [32.4, 48.5]
Drug abuse	13.2 (6.3, 20.1) [8.0, 4.6]	7.6 (2.38, 12.4) [10.5, 5.9]	28.0 (18.8, 37.2) [40.8, 25.4]	51.2 (40.8, 61.7) [40.7, 64.1]
Childhood obesity	8.4 (3.0, 13.8) [6.6, 5.0]	11.3 (5.2, 17.4) [15.8, 9.3]	40.3 (30.1, 50.6) [48.2, 38.6]	40.0 (29.6, 50.3) [29.4, 47.2]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	8.3 (3.0, 13.7) [5.9, 6.6]	5.2 (2.0, 8.5) [25.2, 13.1]	42.5 (31.8, 53.2) [38.3, 37.8]	43.9 (33.7, 54.1) [38.3, 42.6]
Lack of affordable facilities or programs for year-round physical activity or recreation	5.1 (2.5, 7.7) [9.8, 8.5]	12.1 (6.5, 17.8) [19.7, 17.2]	46.0 (35.4, 56.7) [36.0, 39.5]	36.8 (26.9, 46.6) [34.5, 34.7]
Lack of programs and services to help seniors maintain their health and independence	4.7 (2.2, 7.3) [4.2, 3.8]	4.6 (2.0, 7.2) [16.9, 14.9]	44.8 (35.2, 56.5) [43.1, 41.7]	44.8 (34.6, 55.0) [35.9, 39.5]
Shortage of long-term care (nursing home beds)/lack of affordable services	5.9 (1.3, 10.4) [9.1, 12.7]	5.0 (1.1, 9.0) [15.7, 15.7]	32.2 (21.7, 42.8) [36.6, 40.1]	56.9 (46.3, 67.5) [38.7, 31.5]
Lack of programs and housing for people with Alzheimer's Disease and dementia	6.0 (1.4, 10.6) [8.0, 9.4]	4.0 (1.6, 6.4) [13.8, 11.7]	31.6 (21.0, 42.2) [45.9, 35.1]	58.4 (47.8, 68.9) [32.3, 43.8]

Table 14-22: Community Health Issues and Priorities — Marquette County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	0.3 (0.0, 0.7) [2.6, 1.4]	5.4 (0.0, 12.4) [5.9, 3.3]	34.9 (23.2, 46.6) [32.2, 28.9]	59.4 (47.6, 71.1) [59.2, 66.4]
Shortage of mental health programs and services, or lack of affordable mental health care	5.6(1.7, 9.4) [6.6, 2.7]	4.1 (0.6, 7.6) [5.9, 14.7]	24.0 (15.2, 32.7) [36.3, 43.8]	66.4 (56.7, 76.1) [51.2, 38.8]
Shortage of substance abuse treatment programs and services/lack of affordable care	6.2 (2.1, 10.2) [7.1, 1.7]	9.7 (3.0, 16.5) [16.4, 18.0]	35.2 (24.8, 45.7) [43.0, 42.8]	48.9 (37.7, 60.0) [33.5, 37.5]
Shortage of dentists, or lack of affordable dental care	5.8 (1.2, 10.4) [18.5, 7.7]	19.0 (8.0, 30.1) [23.0, 20.5]	36.8 (25.9, 47.7) [36.1, 40.2]	38.4 (28.6, 48.2) [22.4, 31.6]
Transportation to non-emergency medical care	5.7 (2.2, 9.2) [15.5, 11.0]	17.6 (9.8, 25.4) [22.8, 29.2]	58.2 (47.7, 68.6) [46.8, 42.2]	18.6 (11.1, 26.0) [14.9, 17.6]
Tobacco use	9.6 (4.9, 14.3) [21.4, 13.4]	34.5 (22.3, 46.6) [31.8, 24.2]	36.8 (27.0, 46.7) [33.7, 44.1]	19.1 (11.0, 27.1) [13.2, 18.3]
Alcohol abuse	9.0 (1.4, 16.6) [15.2, 9.8]	11.3 (5.2, 17.5) [26.4, 10.7]	53.8 (42.9, 64.7) [26.9, 50.0]	25.9 (17.2, 34.6)
Drug abuse	5.1 (2.0, 8.2) [17.1, 6.9]	5.9 (1.3, (10.5) [14.7, 4.4]	52.0 (41.1, 63.0) [27.6, 31.8]	36.9 (27.0, 46.8) [40.6, 56.9]
Childhood obesity	9.4 (1.0, 17.8) [10.7, 7.7]	9.7 (4.8, 14.7) [15.2, 16.1]	46.1 (35.0, 57.2) [41.5, 41.8]	34.7 (24.9, 44.5) [32.7, 34.4]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	4.2 (1.4, 7.0) [13.4, 10.4]	10.6 (4.8, 16.4) [19.8, 20.0]	37.0 (26.3, 47.6) [37.7, 36.5]	48.2 (37.1, 59.4) [29.0, 33.1]
Lack of affordable facilities or programs for year-round physical activity or recreation	7.7 (3.9, 11.4) [17.4, 13.8]	18.6 (10.9, 26.4) [22.2, 19.8]	34.0 (24.2, 43.8) [33.9, 37.2]	29.7 (28.0, 51.4) [26.5, 29.1]
Lack of programs and services to help seniors maintain their health and independence	3.8 (1.0, 6.6) [7.3, 6.4]	9.4 (3.3, 15.5) [22.9, 15.4]	47.3 (36.3, 58.4) [47.7, 45.4]	39.4 (28.2, 50.7) [22.1, 32.7]
Shortage of long-term care (nursing home beds)/lack of affordable services	2.3 (0.0, 4.6) [9.0, 7.4]	12.9 (5.7, 20.1) [24.9, 12.6]	42.8 (31.7, 54.0) [38.1, 42.1]	42.0 (31.1, 52.8) [28.0, 37.9]
Lack of programs and housing for people with Alzheimer's Disease and dementia	3.8 (0.6, 7.1) [11.2, 6.0]	11.8 (4.5, 19.0) [16.1, 11.2]	43.0 (32.1, 53.9) [48.9, 48.4]	41.4 (30.4, 52.3) [23.9, 34.4]

Table 14-23: Community Health Issues and Priorities — Menominee County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	1.6 (0.0, 3.4) [2.9, 0.7]	1.4 (0.2, 2.6) [6.9, 6.4]	24.2 (16.4, 31.9) [26.2, 18.3]	72.8 (64.8, 80.9) [64.0, 74.7]
Shortage of mental health programs and services, or lack of affordable mental health care	5.1 (2.1, 8.1) [7.6, 6.8]	10.0 (0.0, 22.6) [21.8, 20.4]	31.1 (21.7, 40.5) [33.4, 40.5]	53.7 (42.5, 65.0) [37.2, 32.3]
Shortage of substance abuse treatment programs and services/lack of affordable care	5.1 (2.2, 8.0) [6.4, 4.5]	14.2 (1.7, 26.8) [21.7, 15.9]	37.8 (27.6, 47.9) [35.4, 43.5]	42.9 (32.5, 53.2) [36.6, 36.1]
Shortage of dentists, or lack of affordable dental care	6.5 (2.9, 10.0) [11.9, 13.4]	16.8 (4.3, 29.3) [36.4,17.7]	35.1 (25.9, 44.3) [28.5, 36.2]	41.6 (31.0, 52.3) [23.2, 32.7]
Transportation to non-emergency medical care	13.8 (8.1, 19.5) [11.5, 10.4]	11.5 (6.0, 17.0) [43.2, 19.1]	48.0 (36.9, 59.1) [29.2, 45.2]	26.8 (17.0, 36.5) [16.1, 25.3]
Tobacco use	26.3 (14.3, 38.4) [15.2, 20.1]	22.4 (14.8, 29.9) [38.1, 24.1]	38.3 (28.1, 48.6) [28.8, 37.3]	13.0 (6.8, 19.2) [17.9, 18.5]
Alcohol abuse	9.6 (4.9, 14.3) [9.3, 7.3]	14.3 (8.4, 20.1) [26.2, 21.5]	46.8 (35.5, 58.1) [39.1, 35.5]	29.4 (20.2, 38.5) [25.4, 35.6]
Drug abuse	9.9 (5.2, 14.6) [8.5, 4.6]	8.0 (3.7, 12.2) [10.1, 5.4]	35.0 (22.7, 47.4) [26.6, 30.0]	47.1 (36.2, 58.1) [54.8, 60.0]
Childhood obesity	9.4 (4.6, 14.1) [8.8, 3.5]	12.2 (6.2, 18.2) [18.3, 18.9]	52.9 (41.9, 63.8) [45.7, 46.4]	25.6 (16.9, 34.3) [27.2,31.2]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	9.6 (4.8, 14.5) [18.5, 8.3]	9.6 (5.3, 14.0) [31.2, 17.2]	44.2 (32.7, 55.6) [22.2. 35.3]	36.6 (26.5, 46.6) [28.1, 39.3]
Lack of affordable facilities or programs for year-round physical activity or recreation	7.8 (3.9, 11.7) [18.2, 8.2]	15.5 (9.6, 21.4) [25.1, 16.4]	45.4 (34.0, 56.8) [27.1, 49.8]	31.3 (21.8, 40.9) [29.5, 25.7]
Lack of programs and services to help seniors maintain their health and independence	7.0 (3.3, 10.6) [6.1, 5.9]	14.1 (7.5, 20.6) [26.1, 20.8]	36.9 (27.2, 46.6) [37.0, 39.2]	42.1 (30.4, 53.8) [30.8, 34.1]
Shortage of long-term care (nursing home beds)/lack of affordable services	7.0 (3.2, 10.8) [11.5, 6.9]	10.6 (5.0, 16.2) [26.2, 14.5]	42.9 (31.3, 54.6) [34.2, 53.5]	39.4 (29.3, 49.5) [28.0, 25.1]
Lack of programs and housing for people with Alzheimer's Disease and dementia	7.9 (3.7, 12.0) [9.4, 4.1]	16.2 (3.6, 28.8) [27.0, 19.4]	40.4 (30.1, 50.6) [37.2, 35.3]	35.5 (25.7, 45.3) [26.5, 41.2]

Table 14-24: Community Health Issues and Priorities — Ontonagon County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	4.1 (2.0, 6.3) [6.6, 2.0]	1.7 (0.4, 2.9) [2.2, 1.7]	28.9 (19.3, 38.5) [36.7,25.2]	65.3 (55.9, 74.6) [54.4, 71.0]
Shortage of mental health programs and services, or lack of affordable mental health care	6.7 (4.0, 9.3) [9.9, 10.9]	9.0 (4.8, 13.3) [6.2, 11.3]	31.1 (21.9, 40.3) [37.9, 38.7]	53.2 (44.4, 62.0) [46.0, 39.1]
Shortage of substance abuse treatment programs and services/lack of affordable care	12.9 (7.5, 18.3) [11.6, 10.1]	9.7 (5.3, 14.2) [10.2, 12.4]	35.8 (26.7, 44.8) [36.7, 37.9]	41.6 (33.3, 50.0) [41.5, 39.5]
Shortage of dentists, or lack of affordable dental care	5.2 (1.9, 8.4) [9.1, 13.9]	5.3 (2.7, 7.8) [9.4, 14.6]	36.3 (27.2, 45.4) [45.3, 39.3]	53.2 (44.4, 62.1) [36.2, 32.3]
Transportation to non-emergency medical care	8.3 (5.1, 11.6) [11.1, 15.5]	11.6 (6.2, 17.1) [16.8, 17.7]	35.0 (25.9, 44.1) [49.1, 39.4]	45.0 (36.5, 53.5) [23.0, 27.5]
Tobacco use	22.7 (16.3, 29.1) [21.4, 20.9]	20.5 (14.0, 27.1) [22.2, 21.1]	32.9 (23.9, 42.0) [25.6, 33.0]	23.8 (16.7, 30.9) [30.7. 24.9]
Alcohol abuse	17.1 (11.2, 23.1) [12.2, 19.4]	11.5 (7.0, 16.0) [15.3, 13.4]	33.0 (23.8, 42.1) [31.9, 31.5]	38.4 (30.2, 46.6) [40.6, 35.7]
Drug abuse	18.3 (11.9, 24.6) [11.0, 12.8]	7.3 (4.2, 10.4) [8.4, 7.2]	33.5 (24.1, 42.8) [25.0, 19.8]	41.0 (32.6, 49.3) [55.6, 60.3]
Childhood obesity	12.9 (7.1, 18.7) [8.6, 10.2]	14.7 (9.2, 20.3) [15.3, 12.6]	32.4 (25.5, 39.4) [44.1, 42.8]	39.9 (30.6, 49.2) [32.1, 34.4]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	5.9 (3.2, 8.6) [11.6, 11.2]	13.4 (7.6, 19.2) [16.5, 14.9]	31.9 (22.6, 41.1) [33.3, 35.6]	48.9 (40.2, 57.6) [38.6, 38.3]
Lack of affordable facilities or programs for year-round physical activity or recreation	11.8 (6.8, 16.8) [8.7, 12.7]	12.1 (8.2, 15.9) [15.5, 16.9]	36.0 (27.0, 45.1) [38.3, 39.6]	40.1, 31.7, 48.4) [37.5, 30.8]
Lack of programs and services to help seniors maintain their health and independence	7.1 (2.6, 11.7) [7.8, 6.3]	7.8 (3.6, 12.0) [13.6, 15.7]	31.1 (24.0, 38.2) [34.5, 37.4]	54.0, (45.5, 62.5) [44.0, 40.6]
Shortage of long-term care (nursing home beds)/lack of affordable services	4.6 (0.6, 8.6) [7.9, 7.0]	6.5 (2.5, 10.6) [6.3, 12.9]	20.8 (11.1, 30.4) [34.9, 31.2]	68.1 (58.5, 77.7) [50.9, 48.9]
Lack of programs and housing for people with Alzheimer's Disease and dementia	5.6 (1.5, 9.8) [5.0, 5.6]	9.0 (4.5, 13.4) [12.3, 12.6]	25.2 (15.8, 34.7) [33.4, 34.5]	60.1 (50.9, 69.4) [49.3, 47.3]

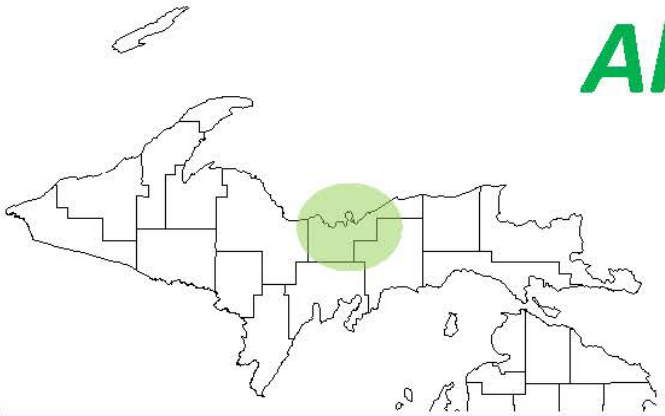
Table 14-25: Community Health Issues and Priorities — Schoolcraft County				
Community Health Issues	Not an issue, or of very little importance	Fairly unimportant	Fairly important	Very important — should be a priority
	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]	% (95%CI) [2021, 2017 value]
Health insurance is expensive or has high costs for co-pays and deductibles	10.9 (4.2, 17.7) [1.3, 2.5]	1.4 (0.3, 2.5) [5.4, 4.0]	22.1 (12.8, 31.4) [33.2, 14.6]	65.5 (55.3, 75.8) [60.2, 78.8]
Shortage of mental health programs and services, or lack of affordable mental health care	15.6 (8.1, 23.0) [9.9, 4.8]	12.0 (5.0, 19.0) [16.6, 9.4]	29.4 (19.4, 39.4) [42.3, 40.0]	43.0 (32.7, 53.3) [31.2, 45.7]
Shortage of substance abuse treatment programs and services/lack of affordable care	19.3 (10.5, 28.1) [11.1, 9.7]	13.3 (4.7, 21.8) [8.1, 11.7]	31.9 (21.8, 42.0) [52.8, 33.4]	35.5 (26.4, 44.6) [28.0, 45.2]
Shortage of dentists, or lack of affordable dental care	13.6 (6.1, 21.1) [13.4, 13.3]	5.7 (0.9, 10.5) [24.2, 13.3]	21.1 (13.7, 28.4) [34.3, 39.3]	59.6 (49.6, 69.7) [28.1, 34.1]
Transportation to non-emergency medical care	22.7 (12.4, 33.1) [18.5, 15.5]	11.4 (7.0, 15.8) [27.3, 21.5]	43.6 (33.2, 54.0) [38.0, 43.1]	22.3 (14.1, 30.5) [16.2, 20.0]
Tobacco use	38.7 (27.8, 49.5) [18.0, 10.5]	17.2 (10.7, 23.8) [22.7, 18.3]	23.2 (15.9, 30.5) [37.5, 47.2]	20.9 (11.7, 30.1) [21.9, 24.1]
Alcohol abuse	32.1 (21.3, 42.9) [16.6, 6.6]	13.2 (5.8, 20.6) [20.5, 10.7]	25.8 (18.3, 33.3) [33.8, 42.6]	28.8 (19.2, 38.42) [29.6, 40.0]
Drug abuse	27.6 (18.2, 37.0) [7.9, 5.3]	2.7 (0.4, 4.9) [12.1, 4.5]	29.2 (19.4, 39.0) [24.7, 26.2]	40.5 (30.2, 50.9) [55.3, 64.0]
Childhood obesity	14.8 (7.9, 21.7) [4.7, 7.8]	15.1 (6.9, 23.3) [11.3, 8.9]	44.1 (33.3, 55.0) [52.1, 38.2]	26.0 (17.8, 34.2) [31.9, 45.1]
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	10.4 (4.2, 16.6) [6.8, 5.2]	12.0 (5.5, 18.4) [27.2, 13.7]	40.2 (29.3, 51.0) [32.1, 34.0]	37.5 (27.9, 47.1) [33.9, 47.1]
Lack of affordable facilities or programs for year-round physical activity or recreation	12.8 (6.7, 18.9) [5.6, 6.4]	22.0 (11.0, 33.1) [22.0, 15.2]	36.2 (26.5, 46.0) [39.5, 37.4]	29.0 (20.2, 37.8) [33.0, 41.0]
Lack of programs and services to help seniors maintain their health and independence	14.4 (6.5, 22.3) [3.2, 10.0]	13.2 (4.9, 21.5) [29.1, 10.2]	39.3 (28.9, 49.7) [33.8, 42.8]	33.2 (24.3, 42.1) [33.9, 37.0]
Shortage of long-term care (nursing home beds)/lack of affordable services	13.8 (6.1, 21.5) [5.4, 10.2]	12.2 (3.9, 20.5) [25.2, 13.0]	40.6 (30.3, 51.0) [43.0, 40.4]	33.4 (24.5, 42.3) [26.4, 36.4]
Lack of programs and housing for people with Alzheimer's Disease and dementia	13.5 (5.9, 21.2) [2.9, 4.7]	11.5 (3.2, 19.9) [26.4, 14.1]	34.4 (24.5, 44.3) [33.7, 41.8]	40.5 (30.7, 50.4) [37.0, 39.4]

Table 14-26: Demographic Factors Impact on Priorities, 2017, 2021, 2024					
Priority	Education Level	Income Level	Age	Sex[a]	County of Residence
Year	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)	χ^2_{13} p-value
Health insurance is expensive or has high costs for co-pays and deductibles					
2017	0.84 (0.78, 0.91)	0.95 (0.87, 1.04)	1.000 (0.996, 1.005)	1.40 (1.23, 1.59)	12.1, .5155
2021	0.82 (0.75, 0.90)	0.90 (0.81, 0.99)	0.996 (0.991, 1.001)	1.44 (1.25, 1.66)	21.5, .0633
2024	0.87 (0.79, 0.96)	1.06 (0.96, 1.17)	1.000 (0.995, 1.005)	1.89 (1.63, 2.21)	12.3, .5018
Drug use					
2017	0.98 (0.91, 1.05)	1.10 (1.01, 1.20)	1.009 (1.005, 1.013)	1.36 (1.21, 1.55)	58.6, <.0001
2021	0.99 (0.91, 1.08)	1.04 (0.95, 1.15)	1.008 (1.003, 1.013)	1.67 (1.45, 1.93)	45.9, <.0001
2024	0.99 (0.91, 1.07)	1.11 (1.02, 1.22)	1.002 (0.998, 1.007)	1.53 (1.33, 1.76)	33.4, .0015
Transportation to non-emergency medical care					
2017	0.77 (0.70, 0.84)	0.70 (0.63, 0.77)	1.007 (1.002, 1.012)	1.63 (1.40, 1.91)	23.2, .0391
2021	0.88 (0.79, 0.98)	0.68 (0.61, 0.76)	1.009 (1.003, 1.016)	1.87 (1.56, 2.24)	20.2, .0894
2024	0.92 (0.85, 0.99)	0.84 (0.77, 0.92)	0.998 (0.993, 1.002)	1.90 (1.66, 2.19)	43.8, <.0001
Tobacco use					
2017	0.91 (0.84, 0.99)	0.87 (0.79, 0.95)	1.015 (1.011, 1.020)	1.22 (1.07, 1.40)	29.2, .0061
2021	0.98 (0.88, 1.08)	0.92 (0.82, 1.03)	1.017 (1.011, 1.023)	1.52 (1.28, 1.80)	14.8, .3189
2024	0.99 (0.91, 1.07)	1.10 (0.01, 1.21)	1.004 (1.000, 1.009) *	1.51 (1.32, 1.73)	28.5, <.0001
Lack of programs and services to help seniors maintain their health and independence					
2017	0.80 (0.75, 0.87)	0.84 (0.76, 0.93)	1.003 (0.998, 1.007)	1.70 (1.49, 1.94)	11.3, .5828
2021	0.84 (0.77, 0.92)	0.76 (0.68, 0.83)	1.007 (1.001, 1.012)	1.85 (1.59, 2.16)	23.5, .0357
2024	0.85 (0.78, 0.92)	0.93 (0.85, 1.02)	1.004 (1.000, 1.008) †	1.86 (1.62, 2.14)	34.9, .0009
Shortage of long-term care (nursing home beds)/lack of affordable services					
2017	0.77 (0.71, 0.83)	0.81 (0.75, 0.89)	1.012 (1.007, 1.016)	1.51 (1.33, 1.72)	13.4, <.0001
2021	0.81 (0.74, 0.89)	0.84 (0.76, 0.93)	1.015 (1.010, 1.020)	1.55 (1.34, 1.80)	45.3, <.0001
2024	0.87 (0.80, 0.95)	1.08 (0.98, 1.19)	1.012 (1.007, 1.016)	1.68 (1.46, 1.94)	114.9, <.0001

Table 14-26: Demographic Factors Impact on Priorities, 2017, 2021, 2024					
Priority	Education Level	Income Level	Age	Sex[a]	County of Residence
Year	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)	χ^2_{13} p-value
Shortage of substance abuse treatment programs and services/lack of affordable care					
2017	0.93 (0.86, 1.01)	0.95 (0.88, 1.04)	1.000 (0.996, 1.004)	2.07 (1.82, 2.35)	15.8, .2593
2021	1.01 (0.92, 1.10)	0.93 (0.84, 1.03)	0.993 (0.989, 0.998)	2.30 (1.97, 2.68)	11.7, .5486
2024	0.97 (0.89, 1.06)	1.23 (1.03, 1.23)	0.995 (0.990, 0.999)	2.42 (2.10. 2.78)	21.6, .0626
Shortage of mental health programs and services, or lack of affordable mental health care					
2017	0.96 (0.89, 1.04)	0.98 (0.90, 1.06)	0.993 (0.989, 0.997)	2.04 (1.79, 2.33)	14.8, .3183
2021	1.01 (0.93, 1.11)	0.98 (0.89, 1.08)	0.982 (0.978, 0.987)	2.53 (2.18, 2.94)	25.1, .0224
2024	1.04 (0.96, 1.14)	1.21 (1.10, 1.33)	0.981 (0.976, 0.985)	2.81 (2.43, 3.25)	29.9, .0048
Lack of programs and housing for people with Alzheimer's Disease and dementia					
2017	0.79 (0.74, 0.85)	0.82 (0.76, 0.90)	1.016 (1.012, 1.020)	1.57 (1.38, 1.78)	32.3, .0022
2021	0.77 (0.71, 0.84)	0.88 (0.79, 0.97)	1.013 (1.008, 1.018)	1.67 (1.44, 1.94)	43.7, <.0001
2024	0.79 (0.72, 0.86)	1.15 (1.05, 1.26)	1.012 (1.008, 1.016)	1.82 (1.58, 2.10)	70.9, <.0001
Alcohol use					
2017	1.03 (0.96, 1.11)	0.97 (0.90, 1.06)	1.013 (1.009, 1.017)	1.68 (1.48, 1.90)	40.4, .0001
2021	1.07 (0.98, 1.18)	0.91 (0.83, 1.01)	1.015 (1.010,1.020)	1.88 (1.62, 2.19)	18.2, .1515
2024	1.06 (0.97, 1.15)	1.06 (0.97, 1.16)	1.003 (0.999, 1.007)	1.68 (1.46, 1.92)	28.4, .0081
Childhood obesity					
2017	0.96 (0.89, 1.03)	0.95 (0.88, 1.03)	1.004 (1.000, 1.008)	1.26 (1.11, 1.43)	26.7, .0137
2021	1.02 (0.93, 1.11)	0.97 (0.87, 1.07)	1.009 (1.003, 1.014)	1.49 (1.28, 1.73)	12.4, .4974
2024	0.96 (0.88, 1.04)	1.13 (1.03, 1.24)	1.005 (1.001, 1.009)	1.52 (1.33, 1.75)	28.0, .0090
Lack of affordable healthy foods, including year-round fresh fruits and vegetables					
2017	0.81 (0.75, 0.88)	0.69 (0.63, 0.76)	0.981 (0.977, 0.985)	1.89 (1.64, 2.17)	33.0, .0017
2021	0.89 (0.81, 0.98)	0.72 (0.65, 0.80)	0.986 (0.981, 0.991)	2.17 (1.84, 2.55)	18.7, .1318
2024	0.88 (0.81, 0.96)	0.85 (0.78, 0.96)	0.981 (0.977, 0.986)	2.49 (2.17, 2.86)	50.0, <.0001

Table 14-26: Demographic Factors Impact on Priorities, 2017, 2021, 2024					
Priority	Education Level	Income Level	Age	Sex[a]	County of Residence
Year	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)	adjOR (95%CI)	χ^2_{13}, p-value
Shortage of dentists, or lack of affordable dental care					
2017	0.81 (0.75, 0.88)	0.64 (0.59, 0.70)	0.998 (0.994, 1.003)	1.77 (1.54, 2.04)	15.8, .2652
2021	0.81 (0.73, 0.88)	0.73 (0.66, 0.81)	0.995 (0.990, 1.000)	1.98 (1.69, 2.32)	118.7, <.0001
2024	0.88 (0.80,0.96)	0.88 (0.80, 0.97)	0.985 (0.980, 0.989)	1.86 (1.61, 2.14)	153.4, <.0001
Lack of affordable facilities or programs for year-round physical activity or recreation					
2017	0.92 (0.85, 0.99)	0.73 (0.67, 0.80)	0.981 (0.977, 0.985)	1.83 (1.58, 2.11)	36.9, .0004
2021	0.96 (0.88, 1.06)	0.89 (0.80, 0.98)	0.985 (0.90, 0.990)	1.95 (1.66, 2.29)	32.7, .0019
2024	0.93 (0.85, 1.01)	0.96 (0.88, 1.05)	0.985 (0.978, 0.987)	2.01 (1.75, 2.30)	33.4, .0015
[a] male = 0, female 1					
* p = .0423					
† p = .0717					

Table 14-27: Changes in Community Health Issues and Priorities[a]			
Community Health Issues	Changes from 2021 survey to 2024 survey	Changes from 2017 to 2024 survey	Trend from 2017 survey through 2024 survey[b]
Health insurance is expensive or has high costs for co-pays and deductibles	1.32 (1.19, 1.46)	0.79 (0.72, 0.88)	0.88 (0.84, 0.92)
Shortage of mental health programs and services, or lack of affordable mental health care	1.29 (1.17, 1.43)	1.77 (1.61, 1.94)	1.34 (1.28, 1.40)
Shortage of substance abuse treatment programs and services/lack of affordable care	1.13 (1.02, 1.25)	1.17 (1.06, 1.28)	1.08 (1.03, 1.13)
Shortage of dentists, or lack of affordable dental care	1.91 (1.72, 2.11)	2.62 (2.38, 2.89)	1.61 (1.54, 1.70)
Transportation to non-emergency medical care	1.18 (1.05, 1.32)	1.36 (1.22, 1.52)	1.67 (1.11, 1.23)
Tobacco use	0.80 (0.71, 0.90)	0.66 (0.59, 0.73)	0.81 (0.77, 0.86)
Alcohol abuse	0.81 (0.74, 0.90)	0.70 (0.63, 0.76)	0.83 (0.80, 0.87)
Drug abuse	0.74 (0.67, 0.82)	0.53 (0.48, 0.58)	0.73 (0.69, 0.76)
Childhood obesity	0.95 (0.86, 1.05)	0.85 (0.77, 0.94)	0.92 (0.88, 0.97)
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	1.41 (1.27, 1.56)	1.54 (1.40, 1.70)	1.24 (1.18, 1.30)
Lack of affordable facilities or programs for year-round physical activity or recreation	1.01 (0.91, 1.12)	1.22 (1.10, 1.34)	1.10 (1.05, 1.16)
Lack of programs and services to help seniors maintain their health and independence	1.17 (1.06, 1.30)	1.25 (1.14, 1.38)	1.12 (1.07, 1.17)
Shortage of long-term care (nursing home beds)/lack of affordable services	1.58 (1.43, 1.75)	1.65 (1.50, 1.81)	1.28 (1.22, 1.34)
Lack of programs and housing for people with Alzheimer's Disease and dementia	1.37 (1.24, 1.52)	1.29 (1.17, 1.41)	1.13 (1.08, 1.18)
[a] Odds ratios in changes in those who identified issues as "very important"			
[b] Odds ratios are each interval (from 2017 to 2021 and 2021 to 2024)			



Alger County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Alger County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-11.2% (9,862 to 8,757)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	20.7%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	11.3%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	6.4%	14.7%
Birth Rate per 1,000 population (2022)[4*]	6.1	7.2*
Percent Change in Birth Rates from 2012 to 2022	+4.0%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1232.9	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	757.0	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Alger County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	13.0%	19.0%
Unable to Access Healthcare Due to Cost	4.4%	9.2%
No Routine Checkup in Past 12 Months	11.9%	18.4%
No Dental Care Past 12 Months	31.4%	NA
Obese (Body Mass Index 30.0 or Greater)	33.8%	35.4%
Current Cigarette Smoker	14.1%	13.6%
Former Smoker	29.2%	26.9%
5+ Daily Servings of Fruits and Vegetables	2.8%	NA
Ever Diagnosed With Diabetes	14.3%	12.4%
Ever Diagnosed With Heart Disease	8.6%	9.1%
Ever Diagnosed With Depressive Disorder	37.4 %	24.1%
Took Medication for Mood Past 12 Months	30.3%	NA
Heavy Alcohol Drinker	7.6%	5.8%
Binge Alcohol Drinker	17.3%	15.2%
Used Marijuana Past 30 days	20.6%	NA
Ever Used Prescription Drugs to Get High	9.0%	NA
Had Flu Shot in Past 12 Months, Age 65+	73.8%	64.2%
Colorectal Cancer Screening[6], Age 50+	70.0%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

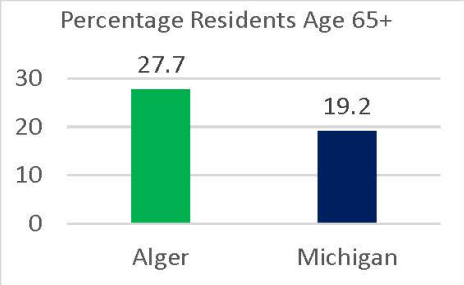
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

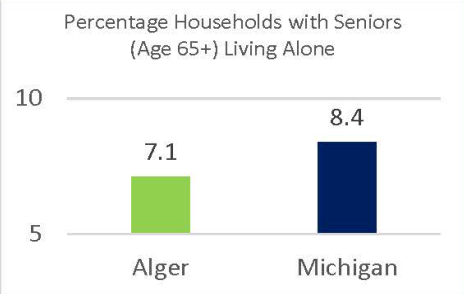
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Alger County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	73.2%
Drug abuse	44.6%
Shortage of mental health programs and services, or lack of affordable mental health care	47.9%
Lack of programs and services to help seniors maintain their health and independence	39.6%
Shortage of substance abuse treatment programs and services	49.5%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	45.2%
Lack of housing and programs for people with Alzheimer's Disease and dementia	44.6%
Childhood obesity	33.7%
Shortage of dentists, or lack of affordable dental care	49.7%

Senior Spotlight[3]



Alger County has a higher proportion of seniors than the state and nation, at more than one-fourth. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-14 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

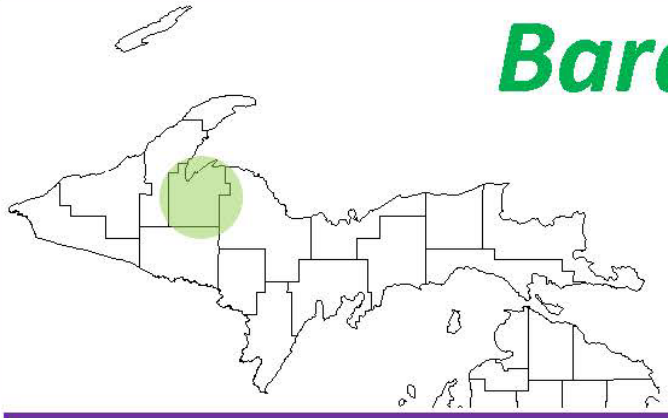
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Baraga County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Baraga County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-4.99% (8,746 to 8,310)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	15.6%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	14.2%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	17.6%	14.7%
Birth Rate per 1,000 population (2022)[4*]	9.4	7.2*
Percent Change in Birth Rates from 2012 to 2022	+1.7%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1440.3	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	973.0	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Baraga County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	20.6%	19.0%
Unable to Access Healthcare Due to Cost	14.8%	9.2%
No Routine Checkup in Past 12 Months	13.4%	18.4%
No Dental Care Past 12 Months	31.9%	NA
Obese (Body Mass Index 30.0 or Greater)	43.0%	35.4%
Current Cigarette Smoker	22.3%	13.6%
Former Smoker	34.5%	26.9%
5+ Daily Servings of Fruits and Vegetables	2.8%	NA
Ever Diagnosed With Diabetes	17.6%	12.4%
Ever Diagnosed With Heart Disease	9.8%	9.1%
Ever Diagnosed With Depressive Disorder	32.4%	24.1%
Took Medication for Mood Past 12 Months	18.7%	NA
Heavy Alcohol Drinker	14.4%	5.8%
Binge Alcohol Drinker	31.4%	15.2%
Used Marijuana Past 30 days	27.1%	NA
Ever Used Prescription Drugs to Get High	12.6%	NA
Had Flu Shot in Past 12 Months, Age 65+	55.9%	64.2%
Colorectal Cancer Screening[6], Age 50+	65.5%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

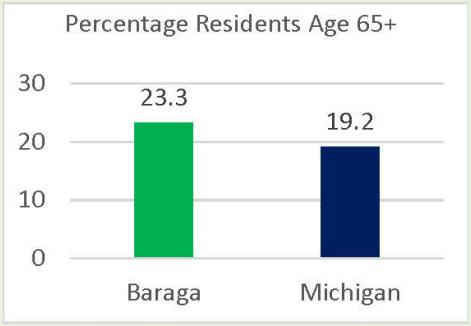
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

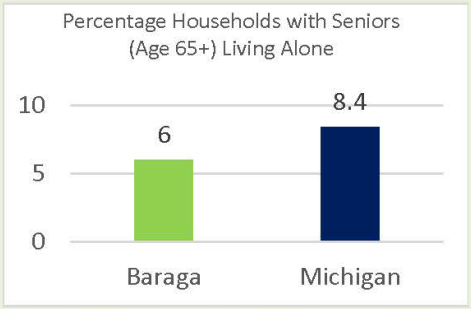
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Baraga County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Drug Abuse	63.8%
Health Insurance is expensive or has high costs for co-pays and deductibles	63.9%
Alcohol abuse	41.0%
Shortage of mental health program and services	52.1%
Shortage of substance abuse treatment programs and services	44.5%
Lack of housing and programs for people with Alzheimer's Disease and dementia	57.0%
Childhood obesity and overweight	52.2%
Shortage of long-term care (nursing beds) or lack of affordable long-term care and services	60.3%
Shortage of dentists, or lack of affordable dental care	57.1%
Lack of affordable facilities or programs for year-round physical activity or recreation	47.5%

Senior Spotlight[3]



Baraga County has a larger proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-17 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Chippewa County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Chippewa County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-5.91% (38,543 to 36,264)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	22.9%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	13.4%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	19.4%	14.7%
Birth Rate per 1,000 population (2022)[4*]	7.7	7.2*
Percent Change in Birth Rates from 2012 to 2022	-14.0%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1220.0	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	900.5	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Chippewa County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	21.4%	19.0%
Unable to Access Healthcare Due to Cost	11.4%	9.2%
No Routine Checkup in Past 12 Months	23.9%	18.4%
No Dental Care Past 12 Months	43.5%	NA
Obese (Body Mass Index 30.0 or Greater)	55.0%	35.4%
Current Cigarette Smoker	15.8%	13.6%
Former Smoker	36.8%	26.9%
5+ Daily Servings of Fruits and Vegetables	1.5%	NA
Ever Diagnosed With Diabetes	15.7%	12.4%
Ever Diagnosed With Heart Disease	9.1%	9.1%
Ever Diagnosed With Depressive Disorder	42.6%	24.1%
Took Medication for Mood Past 12 Months	43.9%	NA
Heavy Alcohol Drinker	6.4%	5.8%
Binge Alcohol Drinker	11.7%	15.2%
Used Marijuana Past 30 days	24.2%	NA
Ever Used Prescription Drugs to Get High	8.7%	NA
Had Flu Shot in Past 12 Months, Age 65+	58.5%	64.2%
Colorectal Cancer Screening[6], Age 50+	75.7%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

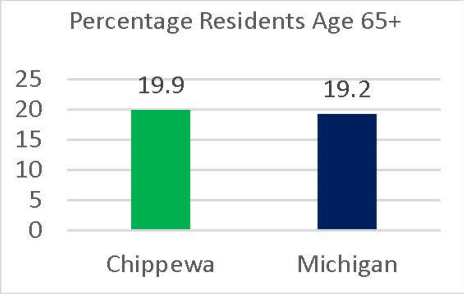
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

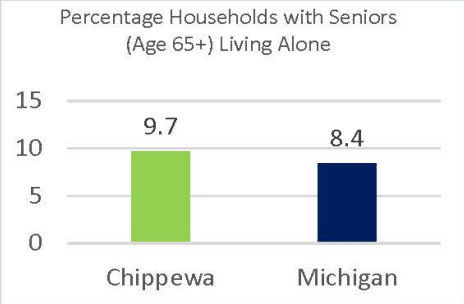
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Chippewa County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	67.5%
Short of dentists, or lack of affordable dental care	75.8%
Drug abuse	39.1%
Lack of housing and programs for people with Alzheimer's Disease and dementia	45.8%
Shortage of mental health programs and services	57.7%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	41.9%
Shortage of substance abuse treatment programs and services	37.2%
Lack of affordable facilities or programs for year-round physical activity or recreation	40.2%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	45.9%

Senior Spotlight[3]



Chippewa County has a similar proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-10 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

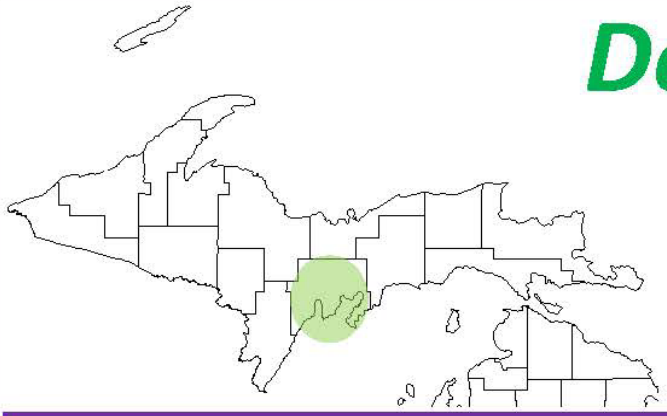
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Delta County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Delta County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-4.49% (38,520 to 36,790)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	19.7%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	12.5%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	16.9%	14.7%
Birth Rate per 1,000 population (2022)[4*]	7.0	7.2*
Percent Change in Birth Rates from 2012 to 2022	-28.9%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1200.3	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	669.7	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Delta County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	19.2%	19.0%
Unable to Access Healthcare Due to Cost	14.3%	9.2%
No Routine Checkup in Past 12 Months	23.3%	18.4%
No Dental Care Past 12 Months	47.6%	NA
Obese (Body Mass Index 30.0 or Greater)	41.5%	35.4%
Current Cigarette Smoker	35.1%	13.6%
Former Smoker	27.6%	26.9%
5+ Daily Servings of Fruits and Vegetables	1.7%	NA
Ever Diagnosed With Diabetes	15.7%	12.4%
Ever Diagnosed With Heart Disease	10.7%	9.1%
Ever Diagnosed With Depressive Disorder	41.7%	24.1%
Took Medication for Mood Past 12 Months	46.7%	NA
Heavy Alcohol Drinker	11.9%	5.8%
Binge Alcohol Drinker	14.0%	15.2%
Used Marijuana Past 30 days	20.1%	NA
Ever Used Prescription Drugs to Get High	6.6%	NA
Had Flu Shot in Past 12 Months, Age 65+	70.9%	64.2%
Colorectal Cancer Screening[6], Age 50+	63.2%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

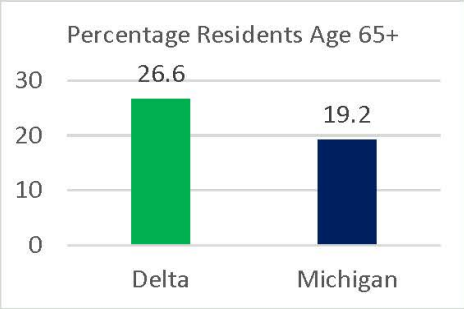
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

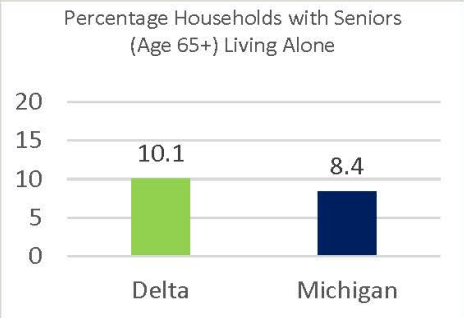
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Delta County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	59.5%
Drug abuse	37.1%
Shortage of mental health programs and services, or lack of affordable mental health care	45.9%
Shortage of substance abuse treatment programs and services, or lack of affordable care	38.6%
Childhood obesity	31.0%
Alcohol abuse	18.8%
Lack of programs and housing for people with Alzheimer's Disease and dementia	41.3%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	42.4%
Shortage of dentists, or lack of affordable dental care	38.0%

Senior Spotlight[3]



Delta County has a much larger proportion of seniors than the state and nation, at nearly 27 percent. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-10 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

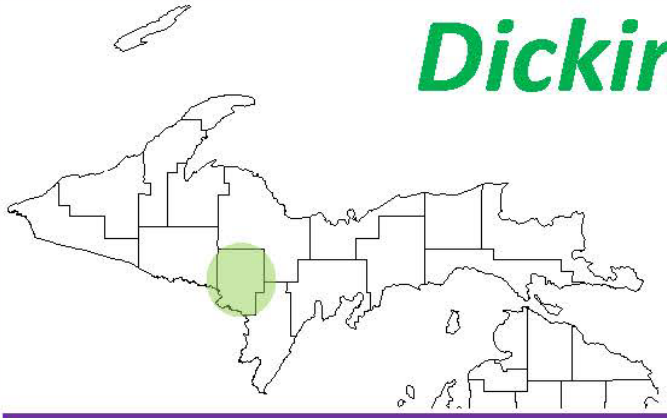
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Dickinson County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Dickinson County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-5.42% (27,472 to 25,982)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	23.9%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	13.0%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	10.4%	14.7%
Birth Rate per 1,000 population (2022)[4*]	7.3	7.2*
Percent Change in Birth Rates from 2012 to 2022	-23.5%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1074.5	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	663.1	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Dickinson County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	21.7%	19.0%
Unable to Access Healthcare Due to Cost	14.4%	9.2%
No Routine Checkup in Past 12 Months	11.6%	18.4%
No Dental Care Past 12 Months	25.9%	NA
Obese (Body Mass Index 30.0 or Greater)	40.8%	35.4%
Current Cigarette Smoker	17.1%	13.6%
Former Smoker	27.7%	26.9%
5+ Daily Servings of Fruits and Vegetables	2.4%	NA
Ever Diagnosed With Diabetes	18.4%	12.4%
Ever Diagnosed With Heart Disease	15.2%	9.1%
Ever Diagnosed With Depressive Disorder	34.6%	24.1%
Took Medication for Mood Past 12 Months	31.1%	NA
Heavy Alcohol Drinker	9.1%	5.8%
Binge Alcohol Drinker	16.0%	15.2%
Used Marijuana Past 30 days	18.4%	NA
Ever Used Prescription Drugs to Get High	8.2%	NA
Had Flu Shot in Past 12 Months, Age 65+	60.6%	64.2%
Colorectal Cancer Screening[6], Age 50+	85.7%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

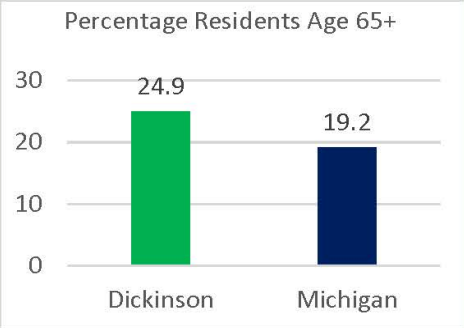
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

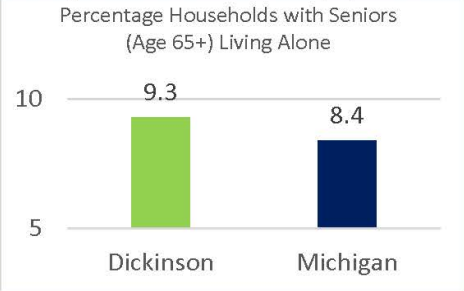
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Dickinson County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	77.7%
Drug Abuse	39.8%
Shortage of mental health programs and services, or lack of affordable mental health care	68.6%
Lack of housing and programs for people with Alzheimer's Disease and dementia	57.9%
Shortage of substance abuse treatment programs and services, or lack of affordable care	50.9%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	54.4%
Childhood obesity	35.6%
Lack of programs and services to help seniors maintain their health and independence	48.5%

Senior Spotlight[3]



Dickinson County has a much higher proportion of seniors than the state and nation, at nearly 25 percent. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-11 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Gogebic County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Gogebic County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-18.1% (17,370 - 14,224)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	22.4%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	16.8%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	14.1%	14.7%
Birth Rate per 1,000 population (2022)[4*]	5.2	7.2*
Percent Change in Birth Rates from 2012 to 2022	-29.1%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1278.8	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	712.7	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Gogebic County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	24.7%	19.0%
Unable to Access Healthcare Due to Cost	13.2%	9.2%
No Routine Checkup in Past 12 Months	24.0%	18.4%
No Dental Care Past 12 Months	36.7%	NA
Obese (Body Mass Index 30.0 or Greater)	36.0%	35.4%
Current Cigarette Smoker	15.9%	13.6%
Former Smoker	40.2%	26.9%
5+ Daily Servings of Fruits and Vegetables	2.4%	NA
Ever Diagnosed With Diabetes	10.9%	12.4%
Ever Diagnosed With Heart Disease	11.9%	9.1%
Ever Diagnosed With Depressive Disorder	32.5%	24.1%
Took Medication for Mood Past 12 Months	28.0%	NA
Heavy Alcohol Drinker	10.8%	5.8%
Binge Alcohol Drinker	18.7%	15.2%
Used Marijuana Past 30 days	18.2%	NA
Ever Used Prescription Drugs to Get High	3.9%	NA
Had Flu Shot in Past 12 Months, Age 65+	64.9%	64.2%
Colorectal Cancer Screening[6], Age 50+	66.5%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

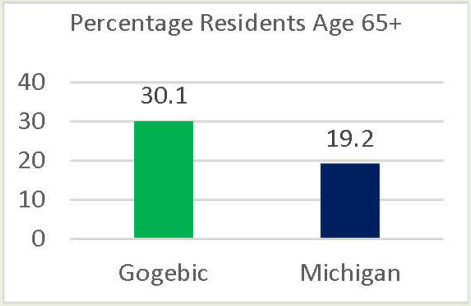
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

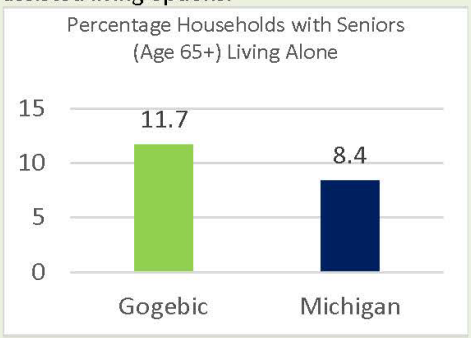
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Gogebic County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	67.7%
Shortage of dentists, or lack of affordable dental care	68.0%
Lack of affordable facilities or programs for year-round physical activity or recreation	39.2%
Shortage of mental health programs and services	56.9%
Lack of programs and services to help seniors maintain their health and independence	45.0%
Lack of housing and programs for people with Alzheimer's Disease and dementia	49.8%
Drug Abuse	48.6%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	47.0%
Shortage of substance abuse treatment programs and services, or lack of affordable care	50.2%

Senior Spotlight[3]



Gogebic County has a much higher proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



More than 1-in-8 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

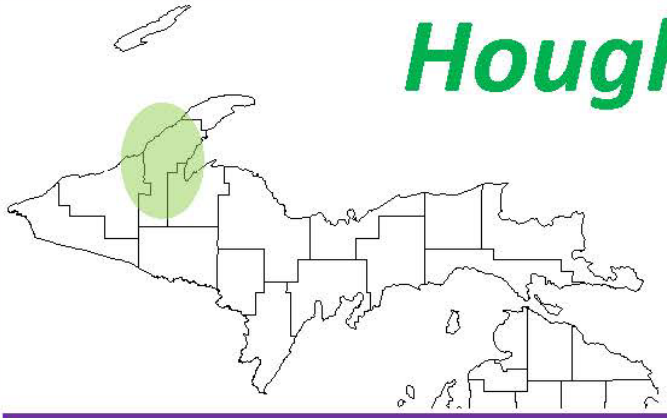
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Houghton County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Houghton County	Michigan
Percentage Population Change Year 2000 to 2023[3]	4.4% (36,016 to 37,599)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	35.8%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	14.4%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	12.2%	14.7%
Birth Rate per 1,000 population (2022)[4*]	10.1	7.2*
Percent Change in Birth Rates from 2012 to 2022	-4.3%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	985.8	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	794.4	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Houghton and Keweenaw counties (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	13.8%	19.0%
Unable to Access Healthcare Due to Cost	16.6%	9.2%
No Routine Checkup in Past 12 Months	38.1%	18.4%
No Dental Care Past 12 Months	36.1%	NA
Obese (Body Mass Index 30.0 or Greater)	31.2%	35.4%
Current Cigarette Smoker	19.4%	13.6%
Former Smoker	22.4%	26.9%
5+ Daily Servings of Fruits and Vegetables	4.3%	NA
Ever Diagnosed With Diabetes	10.2%	12.4%
Ever Diagnosed With Heart Disease	9.3%	9.1%
Ever Diagnosed With Depressive Disorder	31.7%	24.1%
Took Medication for Mood Past 12 Months	25.4%	NA
Heavy Alcohol Drinker	11.4%	5.8%
Binge Alcohol Drinker	34.2%	15.2%
Used Marijuana Past 30 days	19.8%	NA
Ever Used Prescription Drugs to Get High	5.8%	NA
Had Flu Shot in Past 12 Months, Age 65+	56.4%	64.2%
Colorectal Cancer Screening[6], Age 50+	70.0%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

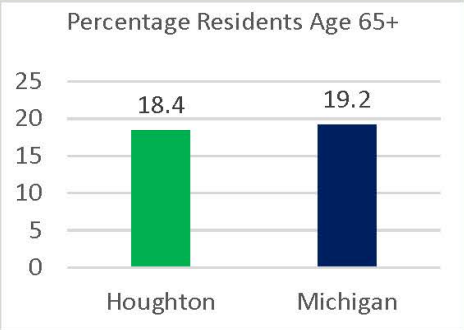
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

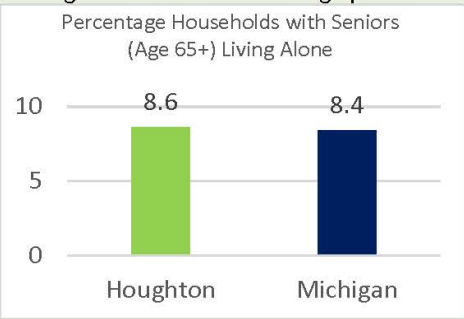
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Houghton and Keweenaw counties. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	60.4%
Shortage of mental health programs and services, or lack of affordable mental health care	60.2%
Drug abuse	44.1%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	54.7%
Shortage of substance abuse treatment programs and services, or lack of affordable care	43.6%
Alcohol abuse	38.5%
Shortage of dentists, or lack of affordable dental care	57.6%
Lack of affordable facilities or programs for year-round physical activity or recreation	44.0%
Shortage of long-term care (nursing home beds)/lack of affordable services	44.2%

Senior Spotlight[3]



Houghton County has a similar proportion of seniors than the state and nation because of their college students. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



More than 1-in-11 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

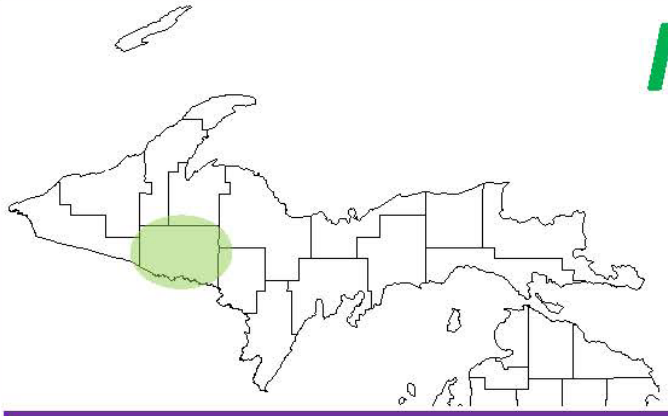
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Iron County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Iron County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-10.6% (13,138 to 11,740)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	19.9%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	12.8%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	21.9%	14.7%
Birth Rate per 1,000 population (2022)[4*]	6.5	7.2*
Percent Change in Birth Rates from 2012 to 2022	-17.8%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1566.7	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	776.4	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Iron County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	18.9%	19.0%
Unable to Access Healthcare Due to Cost	11.1%	9.2%
No Routine Checkup in Past 12 Months	24.4%	18.4%
No Dental Care Past 12 Months	41.8%	NA
Obese (Body Mass Index 30.0 or Greater)	34.1%	35.4%
Current Cigarette Smoker	17.8%	13.6%
Former Smoker	37.8%	26.9%
5+ Daily Servings of Fruits and Vegetables	0.6%	NA
Ever Diagnosed With Diabetes	10.9%	12.4%
Ever Diagnosed With Heart Disease	9.6%	9.1%
Ever Diagnosed With Depressive Disorder	35.9%	24.1%
Took Medication for Mood Past 12 Months	38.8%	NA
Heavy Alcohol Drinker	19.9%	5.8%
Binge Alcohol Drinker	22.9%	15.2%
Used Marijuana Past 30 days	30.3%	NA
Ever Used Prescription Drugs to Get High	9.0%	NA
Had Flu Shot in Past 12 Months, Age 65+	64.9%	64.2%
Colorectal Cancer Screening[6], Age 50+	68.9%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

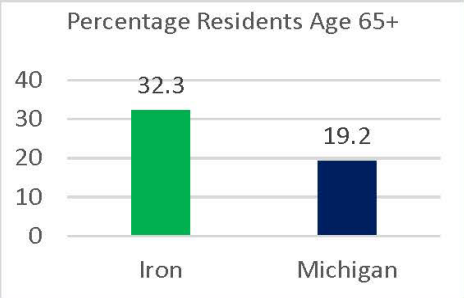
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

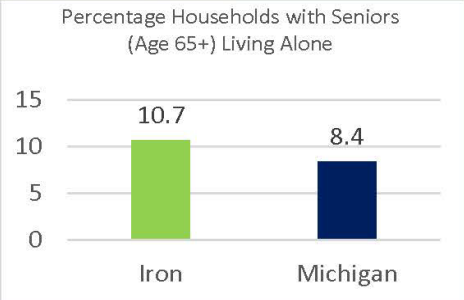
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Iron County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	71.2%
Drug abuse	43.1%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	52.8%
Shortage of mental health programs and services, or lack of affordable mental health care	58.0%
Lack of programs and services to help seniors maintain their health and independence	43.9%
Shortage of substance abuse treatment programs and services, or lack of affordable care	42.6%
Lack of affordable facilities or programs for year-round physical activity or recreation	49.3%
Alcohol abuse	28.4%
Shortage of dentists, or lack, or affordable dental care	44.7%

Senior Spotlight[3]



Iron County has nearly a 70% higher proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-9 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

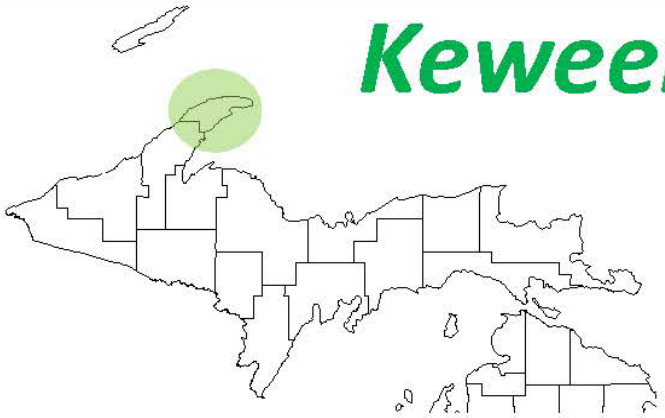
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Keweenaw County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Keweenaw County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-5.6% (2,301 to 2,172)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	38.3%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	10.4%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	14.9%	14.7%
Birth Rate per 1,000 population (2022)[4*]	7.9	7.2*
Percent Change in Birth Rates from 2012 to 2022	-0.5%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1205.4	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	519.8	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Houghton and Keweenaw counties (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	13.8%	19.0%
Unable to Access Healthcare Due to Cost	16.6%	9.2%
No Routine Checkup in Past 12 Months	38.1%	18.4%
No Dental Care Past 12 Months	36.1%	NA
Obese (Body Mass Index 30.0 or Greater)	31.2%	35.4%
Current Cigarette Smoker	19.4%	13.6%
Former Smoker	22.4%	26.9%
5+ Daily Servings of Fruits and Vegetables	4.3%	NA
Ever Diagnosed With Diabetes	10.2%	12.4%
Ever Diagnosed With Heart Disease	9.3%	9.1%
Ever Diagnosed With Depressive Disorder	31.7%	24.1%
Took Medication for Mood Past 12 Months	25.4%	NA
Heavy Alcohol Drinker	11.4%	5.8%
Binge Alcohol Drinker	34.2%	15.2%
Used Marijuana Past 30 days	19.8%	NA
Ever Used Prescription Drugs to Get High	5.8%	NA
Had Flu Shot in Past 12 Months, Age 65+	56.4%	64.2%
Colorectal Cancer Screening[6], Age 50+	70.0%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

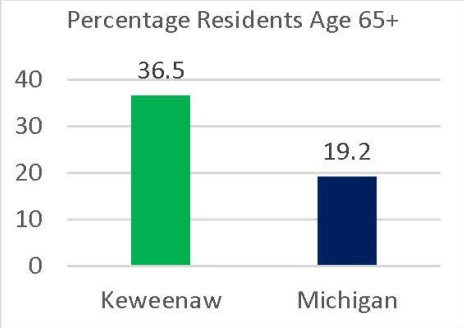
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

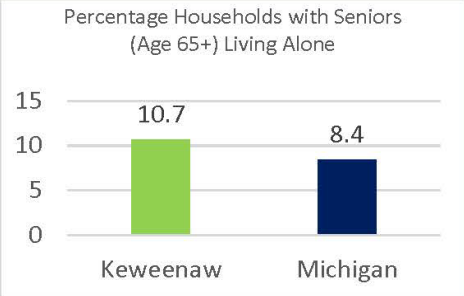
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Houghton and Keweenaw counties. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	60.4%
Shortage of mental health programs and services, or lack of affordable mental health care	60.2%
Drug abuse	44.1%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	54.7%
Shortage of substance abuse treatment programs and services, or lack of affordable care	43.6%
Alcohol abuse	38.5%
Shortage of dentists, or lack of affordable dental care	57.6%
Lack of affordable facilities or programs for year-round physical activity or recreation	44.0%
Shortage of substance abuse treatment programs and services/lack of affordable care	43.6%

Senior Spotlight[3]



Keweenaw County has almost twice the proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



Over 1-in-9 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

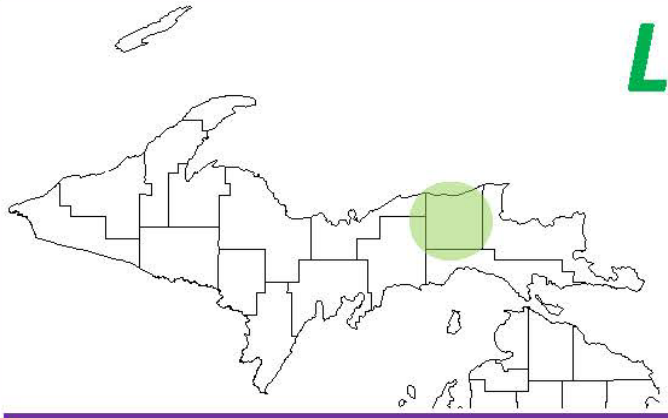
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Luce County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Luce County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-8.39% (7,024 to 6,435)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	17.3%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	16.1%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	21.3%	14.7%
Birth Rate per 1,000 population (2022)[4*]	7.4	7.2*
Percent Change in Birth Rates from 2012 to 2022	-13.3%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1942.7	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	1034.1	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Luce County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	28.7%	19.0%
Unable to Access Healthcare Due to Cost	13.7%	9.2%
No Routine Checkup in Past 12 Months	21.4%	18.4%
No Dental Care Past 12 Months	48.7%	NA
Obese (Body Mass Index 30.0 or Greater)	47.2%	35.4%
Current Cigarette Smoker	24.8%	13.6%
Former Smoker	31.8%	26.9%
5+ Daily Servings of Fruits and Vegetables	1.9%	NA
Ever Diagnosed With Diabetes	15.8%	12.4%
Ever Diagnosed With Heart Disease	8.4%	9.1%
Ever Diagnosed With Depressive Disorder	40.5%	24.1%
Took Medication for Mood Past 12 Months	36.4%	NA
Heavy Alcohol Drinker	10.4%	5.8%
Binge Alcohol Drinker	21.9%	15.2%
Used Marijuana Past 30 days	15.6%	NA
Ever Used Prescription Drugs to Get High	5.6%	NA
Had Flu Shot in Past 12 Months, Age 65+	65.7%	64.2%
Colorectal Cancer Screening[6], Age 50+	80.8%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

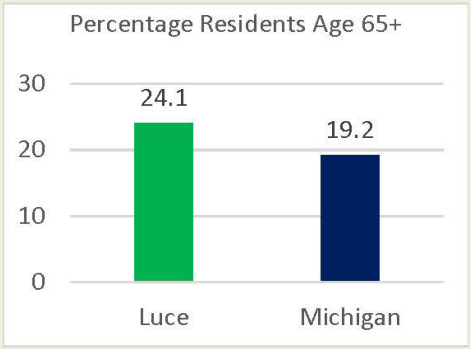
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

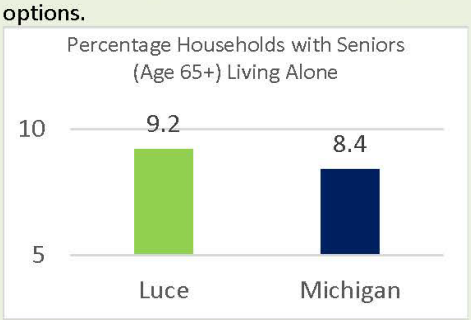
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Luce County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Drug abuse	54.6%
Health Insurance is expensive or has high costs for co-pays and deductibles	60.2%
Lack of housing and programs for people with Alzheimer's Disease and dementia	42.9%
Shortage of mental health programs and services, or lack of affordable mental health care	59.2%
Short of dentists, or lack of affordable dental care	63.7%
Alcohol abuse	32.6%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	39.9%
Lack of affordable healthy foods, including fresh fruits and vegetables	55.0%
Lack of programs and services to keep seniors maintain their health and independence	46.6%

Senior Spotlight[3]



Luce County has a larger proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-11 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

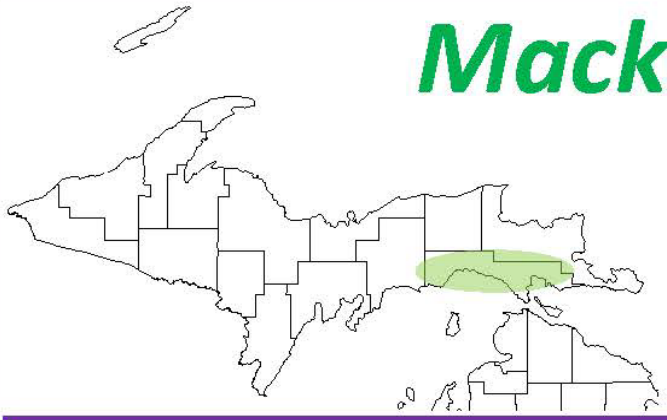
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Mackinac County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Mackinac County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-9.14% (11,943 to 10,851)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	25.7%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	14.3%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	21.4%	14.7%
Birth Rate per 1,000 population (2022)[4*]	8.0	7.2*
Percent Change in Birth Rates from 2012 to 2022	+27.8%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1611.3	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	837.0	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Mackinac County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	16.7%	19.0%
Unable to Access Healthcare Due to Cost	9.1%	9.2%
No Routine Checkup in Past 12 Months	17.2%	18.4%
No Dental Care Past 12 Months	33.4%	NA
Obese (Body Mass Index 30.0 or Greater)	37.6%	35.4%
Current Cigarette Smoker	21.6%	13.6%
Former Smoker	32.0%	26.9%
5+ Daily Servings of Fruits and Vegetables	2.1%	NA
Ever Diagnosed With Diabetes	15.1%	12.4%
Ever Diagnosed With Heart Disease	3.4%	9.1%
Ever Diagnosed With Depressive Disorder	30.5%	24.1%
Took Medication for Mood Past 12 Months	32.2%	NA
Heavy Alcohol Drinker	19.2%	5.8%
Binge Alcohol Drinker	13.3%	15.2%
Used Marijuana Past 30 days	13.5%	NA
Ever Used Prescription Drugs to Get High	5.4%	NA
Had Flu Shot in Past 12 Months, Age 65+	54.4%	64.2%
Colorectal Cancer Screening[6], Age 50+	73.1%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

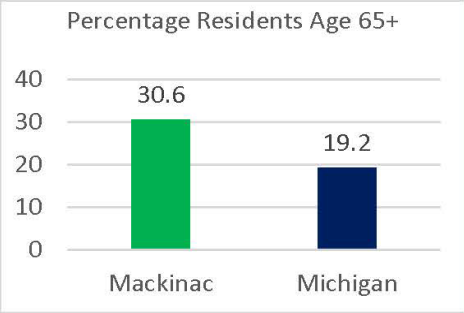
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

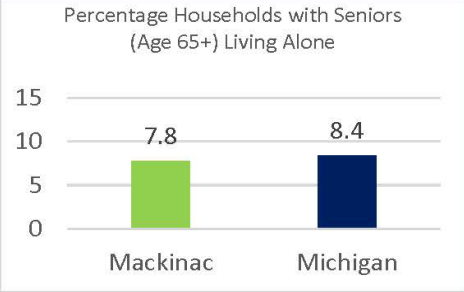
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Mackinac County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	65.1%
Shortage of mental health programs and services	59.1%
Drug abuse	51.2%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	56.9%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	43.9%
Shortage of substance abuse treatment programs and services	49.1%
Lack of programs and services to help seniors maintain their health and independence	44.8%
Alcohol abuse	40.9%
Shortage of dentists, or lack of affordable dental care	71.1%

Senior Spotlight[3]



Mackinac County has a higher proportion of seniors than the state and nation: over 30 percent. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-13 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Marquette County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Marquette County	Michigan
Percentage Population Change Year 2000 to 2023[3]	3.7% (64,634 to 66,999)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	34.7%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	11.4%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	13.1%	14.7%
Birth Rate per 1,000 population (2022)[4*]	7.7	7.2*
Percent Change in Birth Rates from 2012 to 2022	-24.6%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1023.0	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	736.8	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Marquette County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	15.4%	19.0%
Unable to Access Healthcare Due to Cost	9.6%	9.2%
No Routine Checkup in Past 12 Months	16.5%	18.4%
No Dental Care Past 12 Months	28.5%	NA
Obese (Body Mass Index 30.0 or Greater)	37.0%	35.4%
Current Cigarette Smoker	14.8%	13.6%
Former Smoker	25.9%	26.9%
5+ Daily Servings of Fruits and Vegetables	0.8%	NA
Ever Diagnosed With Diabetes	10.0%	12.4%
Ever Diagnosed With Heart Disease	5.0%	9.1%
Ever Diagnosed With Depressive Disorder	44.9%	24.1%
Took Medication for Mood Past 12 Months	35.7%	NA
Heavy Alcohol Drinker	12.0%	5.8%
Binge Alcohol Drinker	24.3%	15.2%
Used Marijuana Past 30 days	33.4%	NA
Ever Used Prescription Drugs to Get High	6.7%	NA
Had Flu Shot in Past 12 Months, Age 65+	78.5%	64.2%
Colorectal Cancer Screening[6], Age 50+	75.2%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

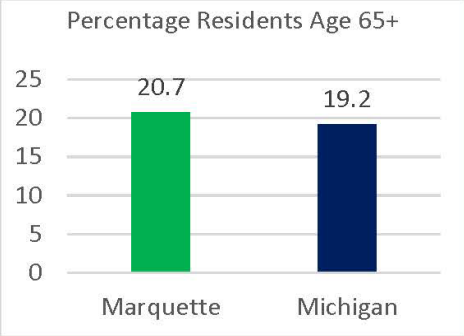
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

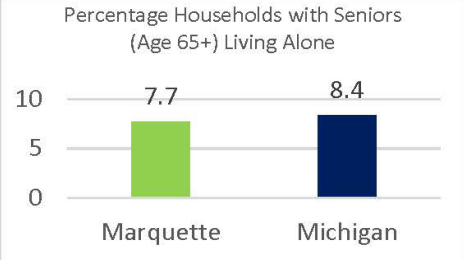
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Marquette County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	59.4%
Shortage of mental health programs and services, or lack of affordable mental health care	66.4%
Drug abuse	36.9%
Shortage of substance abuse treatment programs and services, or lack of affordable care	48.9%
Childhood obesity	34.7%
Lack of affordable healthy foods, including yea-round fresh fruits and vegetables	48.2%
Shortage of long-term care (nursing beds) or lack of affordable long-term care and services	42.0%
Lack of affordable facilities or programs for year-round physical activity or recreation	29.7%
Shortage of dentists, or lack of affordable dental care	38.4%

Senior Spotlight[3]



Marquette County has a slightly larger proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



Almost 1-in-13 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

(3) U.S. Census and American Community Survey counts and estimates.

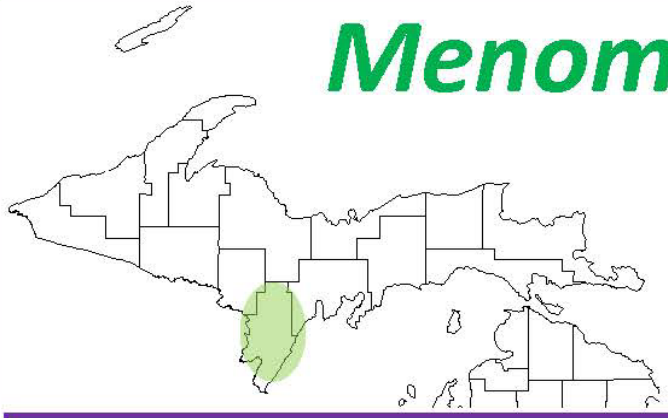
(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.

Menominee County



2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Menominee County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-9.4% (25,326 to 22,945)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	16.7%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	12.2%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	10.9%	14.7%
Birth Rate per 1,000 population (2022)[4*]	3.0	7.2*
Percent Change in Birth Rates from 2012 to 2022	-63.4%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	799.8	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	454.3	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Menominee County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	21.1%	19.0%
Unable to Access Healthcare Due to Cost	13.0%	9.2%
No Routine Checkup in Past 12 Months	21.6%	18.4%
No Dental Care Past 12 Months	39.5%	NA
Obese (Body Mass Index 30.0 or Greater)	51.5%	35.4%
Current Cigarette Smoker	20.2%	13.6%
Former Smoker	28.6%	26.9%
5+ Daily Servings of Fruits and Vegetables	1.5%	NA
Ever Diagnosed With Diabetes	15.1%	12.4%
Ever Diagnosed With Heart Disease	7.5%	9.1%
Ever Diagnosed With Depressive Disorder	40.6%	24.1%
Took Medication for Mood Past 12 Months	26.5%	NA
Heavy Alcohol Drinker	10.7%	5.8%
Binge Alcohol Drinker	17.8%	15.2%
Used Marijuana Past 30 days	16.2%	NA
Ever Used Prescription Drugs to Get High	7.3%	NA
Had Flu Shot in Past 12 Months, Age 65+	69.9%	64.2%
Colorectal Cancer Screening[6], Age 50+	73.5%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

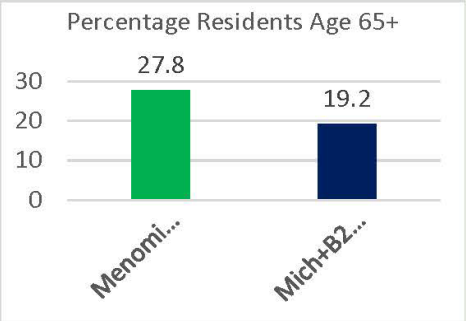
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

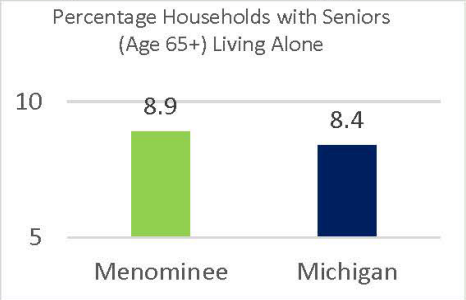
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Menominee County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	72.8%
Drug abuse	47.1%
Shortage of mental health programs and services	53.7%
Shortage of substance abuse treatment programs and services	42.9%
Lack of programs and services to help seniors maintain their health and independence	42.1%
Lack of affordable facilities or programs for year-round physical activity or recreation	31.3%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	36.6%
Shortage of long-term care (nursing home beds) or lack of affordable long-term care services	39.4%
Shortage of dentists, or lack of affordable dental care	41.6%

Senior Spotlight[3]



Menominee County has a much higher proportion of seniors than the state and nation, at over 27 percent. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



Over 1-in-11 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Ontonagon County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Ontonagon County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-24.5% (7,818 to 5,906)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	15.2%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	14.3%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	21.5%	14.7%
Birth Rate per 1,000 population (2022)[4*]	4.0	7.2*
Percent Change in Birth Rates from 2012 to 2022	-15.6%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1837.9	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	886.5	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Ontonagon County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	24.7%	19.0%
Unable to Access Healthcare Due to Cost	17.2%	9.2%
No Routine Checkup in Past 12 Months	28.5%	18.4%
No Dental Care Past 12 Months	32.6%	NA
Obese (Body Mass Index 30.0 or Greater)	33.5%	35.4%
Current Cigarette Smoker	14.5%	13.6%
Former Smoker	36.7%	26.9%
5+ Daily Servings of Fruits and Vegetables	1.8%	NA
Ever Diagnosed With Diabetes	16.2%	12.4%
Ever Diagnosed With Heart Disease	12.4%	9.1%
Ever Diagnosed With Depressive Disorder	25.7%	24.1%
Took Medication for Mood Past 12 Months	25.7%	NA
Heavy Alcohol Drinker	11.0%	5.8%
Binge Alcohol Drinker	25.5%	15.2%
Used Marijuana Past 30 days	23.1%	NA
Ever Used Prescription Drugs to Get High	4.6%	NA
Had Flu Shot in Past 12 Months, Age 65+	62.9%	64.2%
Colorectal Cancer Screening[6], Age 50+	66.7%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

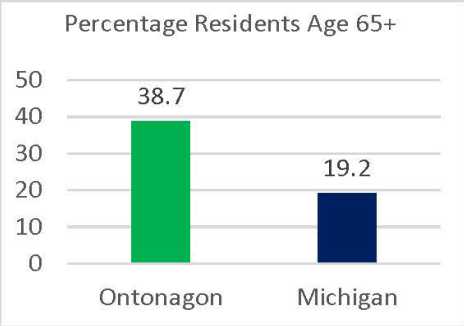
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

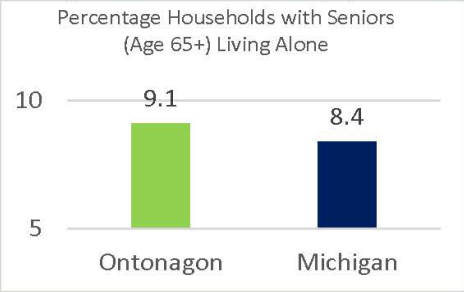
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Ontonagon County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Drug Abuse	41.0%
Health Insurance is expensive or has high costs for co-pays and deductibles	65.3%
Shortage of long-term care (nursing beds) or lack of affordable long-term care and services	50.9%
Lack of housing and programs for people with Alzheimer's Disease and dementia	60.1%
Shortage of mental health programs and services, or lack of affordable mental health care	53.2%
Lack of programs and services to help seniors maintain their health and independence	54.0%
Shortage of substance abuse treatment programs and services, or lack of affordable care	46.1% %
Alcohol abuse	38.4%
Shortage of dentists, or lack of affordable dental care	53.2%

Senior Spotlight[3]



Ontonagon County has more than double the proportion of seniors than the state and nation, at 38.7 percent. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-11 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

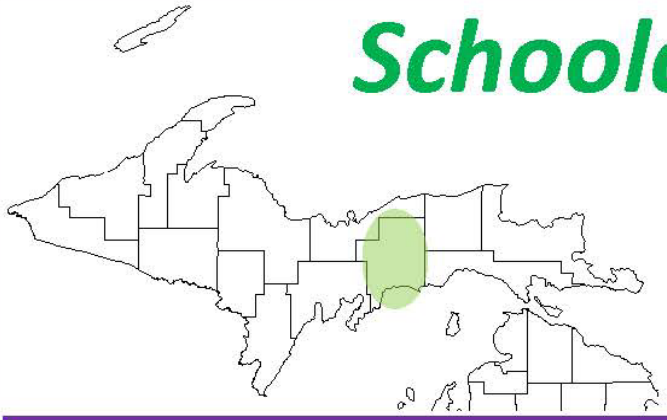
(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.



Schoolcraft County

2024 Upper Peninsula Community Health Needs Assessment (CHNA) County Dashboards[1]

More information at www.wupdhd.org/upchna[2]

Fast Facts

Indicator	Schoolcraft County	Michigan
Percentage Population Change Year 2000 to 2023[3]	-8.5% (8,903 to 8,149)	+0.99%
Percentage Residents Age 26+ With Bachelor's Degree/Higher (2022)[3]	20.1%	31.1%
Percentage All Residents Living Under Poverty Line (2022)[3]	12.8%	13.4%
Percentage of Children Under 18 Living in Poverty (2022)[3]	21.4%	14.7%
Birth Rate per 1,000 population (2022)[4*]	9.1	7.2*
Percent Change in Birth Rates from 2012 to 2022	-31.3%	-20.5%*
Raw Mortality rate per 100,00 (2022)[4]	1410.9	1097.8
Age-Adjusted Mortality Rate per 100,000 (2022)[4]	810.2	852.8

Adult Health Survey Results[5]

In the table below are weighted estimates for selected health indicators, from randomly sampled residents of Schoolcraft County (definitions at wupdhd.org/upchna):

Health Indicator	Local	State
General Health Status Only Fair or Poor	26.0%	19.0%
Unable to Access Healthcare Due to Cost	14.8%	9.2%
No Routine Checkup in Past 12 Months	16.7%	18.4%
No Dental Care Past 12 Months	38.5%	NA
Obese (Body Mass Index 30.0 or Greater)	44.2%	35.4%
Current Cigarette Smoker	11.7%	13.6%
Former Smoker	41.4%	26.9%
5+ Daily Servings of Fruits and Vegetables	4.3%	NA
Ever Diagnosed With Diabetes	17.3%	12.4%
Ever Diagnosed With Heart Disease	12.7%	9.1%
Ever Diagnosed With Depressive Disorder	30.7%	24.1%
Took Medication for Mood Past 12 Months	26.5%	NA
Heavy Alcohol Drinker	7.4%	5.8%
Binge Alcohol Drinker	14.2%	15.2%
Used Marijuana Past 30 days	20.7%	NA
Ever Used Prescription Drugs to Get High	4.0%	NA
Had Flu Shot in Past 12 Months, Age 65+	61.2%	64.2%
Colorectal Cancer Screening[6], Age 50+	72.7%	NA

Health Disparities at a Glance[5]

Health status, access and behaviors vary by income, education, and other social determinants. The table shows differences among all U.P. residents, by household income group, for selected health indicators.

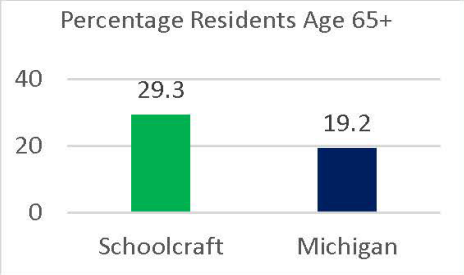
Health Indicator By Household Income	Less Than $25,000	$50,000+
Health Fair or Poor	30.3%	7.6%
Uninsured (18-64)	8.1%	3.0%
Unable to Access Care Due to Cost	12.0%	9.1%
No Dental in Past Year	52.2%	21.4%
Current Smoker	33.1%	8.5%
No Physical Activity	29.5%	9.6%
Diabetes Diagnosis	16.5%	8.5%
Heart Disease	10.5%	6.4%
Chronic Lung Disease	14.2%	2.7%
Current Asthma	18.8%	9.8%
Limited By Arthritis	45.5%	24.9%
Depressive Disorder	49.7%	28.8%
Marijuana Past Month	33.6%	15.5%
Prescription Abuse	7.1%	6.6%
Drove After Drinking	2.1%	7.0%

Community Issues and Priorities[7]

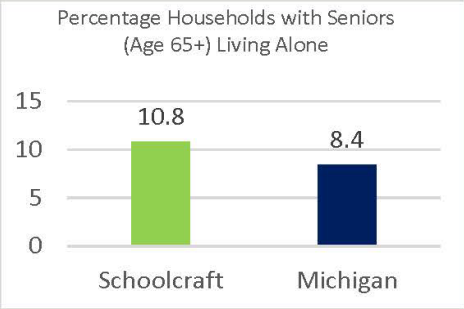
The table below lists the community health issues most frequently rated as "very important" by survey respondents from Schoolcraft County. Respondents chose from a list of 14 possible issues presented for ranking in the 2024 Regional Adult Health Survey.

Community Health Issue	Very Important
Health Insurance is expensive or has high costs for co-pays and deductibles	65.5%
Drug abuse	40.5%
Lack of housing and programs for people with Alzheimer's Disease and dementia	40.5%
Lack of affordable healthy foods, including year-round fresh fruits and vegetables	37.5%
Lack of programs and services to help seniors maintain their health and independence	33.2%
Lack of affordable facilities or programs for year-round physical activity or recreation	29.0%
Childhood obesity	26.0%
Shortage of mental health programs and services, or lack of affordable mental health care	43.0%
Shortage of dentists, or lack of affordable dental care	59.6%

Senior Spotlight[3]



Schoolcraft County has a much larger proportion of seniors than the state and nation. Health needs of older residents include chronic disease management, dementia care, and quality nursing home and assisted living options.



About 1-in-9 households in the county is occupied by a senior living alone. How will communities plan to meet their medical, social, housing, and transportation needs?

Data Sources/Footnotes

* Upper Peninsula data

(1) Data in this County Dashboard come from the 2024 Upper Peninsula Community Health Needs Assessment (CHNA).

(2) The full CHNA can be viewed and downloaded at the Western U.P. Health Department web site, at www.wuphd.org/upchna.

(3) U.S. Census and American Community Survey counts and estimates.

(4) Vital statistics collected by the Michigan Department of Health and Human Services.

(5) 23,800 randomly sampled U.P. household addresses received 9-page health surveys in August 2024, 1,700 per county with Houghton and Keweenaw counties combined as one group. More than 3,500 surveys were completed, between 193 and 355 per county. Results were weighted and reported by county, age, gender, income, and education. Full results are in the CHNA at www.wuphd.org/upchna.

(6) Among adults age 50 and older, the proportion who reported having a blood stool test within the past 2 years or a colonoscopy within 10 years.

(7) In the same health survey discussed in footnote (5) above, respondents ranked 14 community health issues on a 4-point scale: "not an issue", "fairly unimportant", "fairly important" and "very important". The percentages of county residents choosing "very important" are shown in the table above left on this page.

The End