2022 Manitowoc County

Community Health Assessment





Table of Contents

Page 2 Executive Summary

- 3 Acknowledgements
- 4 Our Approach
- 5 Community Health Assessment Process
- 8 Manitowoc County Profile
- 9 County Health Rankings & Roadmaps

Social & Economic Factors

- 11 Childcare
- 12 Education
- 13 Employment & Income
- 14 Food Access
- 15 Housing

Health Behaviors

- 17 Alcohol Use
- 19 Drug Use
- 21 Tobacco Use
- 22 Mental Health
- 24 Nutrition & Physical Activity
- 25 Injury & Mortality

Clinical Care

- 27 Health Care Access
- 28 Preventative Care
- 29 Communicable Diseases
- 31 Chronic Diseases

Physical Environment

- 33 Air Quality
- 33 Radon
- 34 Lead
- 34 Water
- 35 References

Executive Summary

The Community Health Assessment (CHA) is a compilation of data that describes the health status of Manitowoc County. This report can be used to make data-informed decisions as to where our time and resources should be directed to increase the quality of our community's health.

The CHA report, prepared by Manitowoc County Health Department, provides an expansive review of Manitowoc County's health through community members' perspectives and measurable indicators of health. Data were collected from phone surveys, online surveys, key stakeholder interviews, community forums, and through review of secondary data.

The CHA report is organized according to the County Health Rankings Model, which explores areas of:

- Social & Economic Factors
- Health Behaviors & Outcomes
- Clinical Care
- Physical Environment

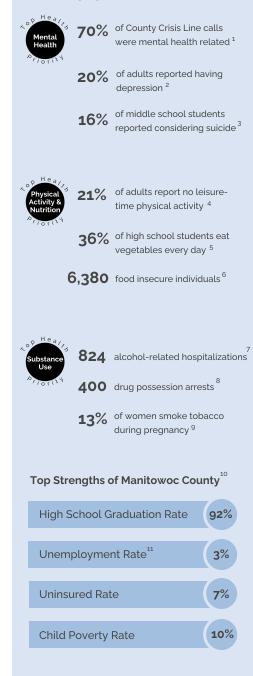
Over the course of the CHA process, three main health concerns surfaced: Mental Health, Physical Activity and Nutrition, and Substance Use. Community input emphasized the need to utilize a protective factor lens when looking at these priorities. By focusing on protective factors, which decrease the likelihood of negative health impacts, we can affect multiple areas of one's health including physical and mental at the same time. Common protective factors discussed during the CHA process included: supportive relationships, positive parenting, and safe/stable environments.

The top health priorities will become the core focus of our Community Health Improvement Plan (CHIP) as we collaborate with Healthiest Manitowoc County to create and implement timely, actionable, and data-based goals over the next five years.

- Manitowoc County Health Department

- 1. Manitowoc County Human Services Department, Crisis Intervention Report, 2022
- 2 & 4. Centers for Disease Control and Prevention, PLACES, 2022 3 & 5. Manitowoc County Youth Risk Behavior Survey, 2021
- Feeding America, 2020
 Wisconsin Department of Health Services, Alcohol Hospitalizations Dashboard, 2021
- 8. Wisconsin Department of Justice, 2021 9. Wisconsin Department of Health Services, Birth Counts Module, 2020
- 10. County Health Rankings & Roadmaps, 2022
- 11. U.S. Bureau of Labor Statistics, 2022

Top Health Priorities in Manitowoc County Local data highlights



Acknowledgements

We would like to thank the residents of Manitowoc County who participated in the data collection process through the online survey, phone survey, stakeholder interviews, or community forums. Community engagement in the Community Health Assessment (CHA) provides the planning committee a better sense of health concerns in our community.

A special thank you to the members of the CHA Planning Committee, which include:

Manitowoc County Health Department Team

Sydney Herman	Community Health Strategist	
Stephanie Lambert	Health Officer	
Lexi Otis	Health Educator, Emergency Preparedness Coordinator	

Community Partners

Aurora Health Care

Ann Christiansen	Vice President of Community Health in Wisconsin
Cathie Kocourek	Hospital President, Administration
Sarah Vanausdall	Community Benefit Analyst, Sr., Community Health

Froedtert Holy Family Memorial Hospital

Andrew Dresang	Executive Director, Community Engagement
Kate Nickel	Community Engagement Coordinator Sr.
Amanda Wisth	Manager of Community Benefit and Impact
Xue Yang	Community Relations Coordinator

Lakeshore Community Action Program, Inc.

Colleen Homb Executive Director

Lakeshore Community Health Care

Kristin Stearns Chief Executive Officer

Northeastern Wisconsin Area Health Education Center (NEW AHEC)

Annie Short Executive Director

United Way Manitowoc County, Inc.

Ashley Bender Executive Director

Thank

Several local businesses and individuals contributed to the success of the CHA process, including Healthiest Manitowoc County (HMC), Dorothy Chaney of Impact Community Planning Group, JKV Research, Center for Urban Population Health, the Franciscan Center for Music Education and Performance, and those who volunteered to facilitate discussions at our community forums.

Our Approach

What is the

Community Health Assessment?

CHA Phases

In accordance with Wisconsin State Statute § 251.05, all local health departments are required to conduct a Community Health Assessment (CHA) every five years.¹ Over the course of four phases, key community health concerns are identified using data collection, community meetings, and Manitowoc County resident feedback. Conclusions drawn from the CHA frame and focus top health priorities, strategies, and indicators used in a Community Health Improvement Plan (CHIP).

Phase 1	September 2021 —	CHA Planning Meetings Begin
Data Collection September 2021 through April 2022	January 2022 —	Stakeholder Interviews
	February 2022 —	JKV Phone Call Survey
Phase 2 Community Forums August 2022 through October 2022	April 2022 —	— Online Survey Launch
, lagaet 2022 all ough o etchol 2022	August 2022 —	— Community Data Walk
Phase 3 Priority Setting	September 2022 —	— Health Prioritization Meeting
October 2022 through November 2022	October 2022 —	Listening Session
Phase 4	November 2022 —	Synthesize Data and Information
CHA Report December 2022	December 2022 —	Submit CHA Report

Timeline of Our CHA

Community Change Model

Throughout the CHA and CHIP process, Results Based Accountability (RBA), a data-driven, decision-making framework, is being utilized to help frame complex issues into actionable problem statements. RBA for population health works backwards from identified issues using turn the curve thinking to move from problem to solution.

Figure 1: Results Based Accountability Turn the Curve Thinking



Community Health Assessment Process

Breaking down the CHA Phases

Phase

Data Collection: Primary & Secondary Data

Primary data is defined as information collected directly from a source. In terms of the CHA, the primary data sources consisted of members of the community, through the means of key stakeholder interviews, a phone survey, and an online survey. The CHA process hinges on the community's opinions and experiences.

Key Stakeholder Interviews Total of 30 questions

32 Interviews from providers, policy makers, local experts, and community members

The planning committee chose key stakeholders to represent various county populations and interests and conducted interviews from January through March 2022. Interview questions addressed pandemic-related needs or gaps, social determinants of health, populations most affected by health concerns, and major efforts needed in the community. The Center for Urban Population Health was commissioned to analyze the results in a comprehensive report.

Phone Survey Total of 85 questions

400 Completed Surveys

JKV Research, LLC conducted phone surveys between January 26 and April 2, 2022. The survey was offered in English and Spanish. Respondents were randomly selected. Callers anonymously answered questions about personal health conditions, health services, health care coverage, substance use, and economic hardship experienced in Manitowoc County.

Mode of Communication 55% Landline 45% Cellphone

Gender of respondents **50%** Female

Joro i cinate

49% Male

1% All Others

Age of respondents 18-34 yrs 22% 35-44 yrs 15% 45-54 yrs 17% 55-64 yrs 21% 65* yrs 26%

Education of respondents

30% High School Graduate or Less35% Some Post High School35% College Graduate

Key Stakeholders

Aging and Disability Resource Center of the Lakeshore Ascend Services. Inc. Big Brothers Big Sisters Wisconsin Shoreline CORE Treatment Services. Inc. Family Connections Hope House of Manitowoc County InCourage Lakeshore Community Action Program (CAP). Inc. Lakeshore Community Health Care Lakeshore Technical College League of Women Voters of Manitowoc County Lighthouse Recovery Community Center Manitowoc County Health Department Manitowoc County Human Services Department Manitowoc County Sheriff's Office Manitowoc County Veterans' Services Office Manitowoc Public Library Manitowoc Public School District Manitowoc-Two Rivers YMCA Painting Pathways Clubhouse, Inc. PFLAG Manitowoc County Chapter Prevent Suicide-Manitowoc County Reedsville School District RUTH - Interfaith Justice Group St. Thomas the Apostle Catholic Church The Chamber of Manitowoc County The Crossing of Manitowoc County The Haven of Manitowoc County, Inc. The Salvation Army Manitowoc County Trinity Hmong Lutheran Church United Way Manitowoc County

Community Health Assessment Process (Continued)

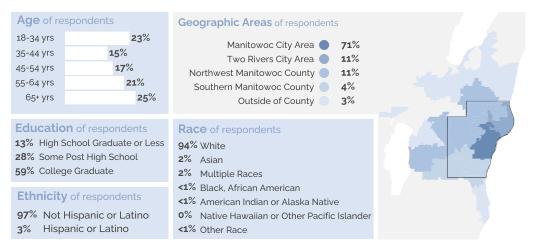
Phase

Data Collection: Primary & Secondary Data continued

Online Survey Total of 30 questions

958 Completed Surveys

The online survey was created using Survey Monkey and was active between April 8 and June 1, 2022, during which 958 surveys were completed. The survey was open to any resident or worker in Manitowoc County, 18 years old or older, and available in English, Spanish, and Hmong. Planning committee members distributed posters and flyers throughout the county and marketed the survey on social media. This was a perception survey, focusing on attitudes and experiences around health in Manitowoc County.



Secondary Data is data that has already been collected by researchers. The Center for Urban Population Health was contracted by the planning committee to gather and analyze Manitowoc County data from existing local, state, and national sources. Many of these data points provide insight into longitudinal trends over several years that serve as indicators of improvement or decline in Manitowoc County's health.

Manitowoc County Secondary Data Report Sources

American Community Survey Behavioral Risk Factor Surveillance System CDC PLACES County Health Rankings & Roadmaps US Census Bureau US Department of Health and Human Services, Healthy People 2030 WI Department of Health Services, WISH WI Department of Justice

Community Health Assessment Process (Continued)



Community Forums

After county data was collected from primary and secondary sources, a series of community forums were held to present the data and gather direct input from participants. All members of the community were invited and forums were advertised through flyers, social media, and press releases to local media.

Community Data Walk

August 31, 2022

People in attendance



Organizations represented

Following an optional lunch, community members were assigned to groups of seven, including a table facilitator to moderate discussion and answer questions along the way. The data walk was in part prepared and led by Dorothy Chaney of Impact Community Planning Group, LLC. Participants walked around the room to view data posted on walls and eventually narrowed the scope of health issues down to the top three health priorities in Manitowoc County.

Health Prioritization Meeting September 30, 2022

People in 43 attendance Organizations represented

As a direct follow-up to the data walk, participants reviewed indepth data for each of the top three health priorities: mental health; substance use; and nutrition, physical activity, and obesity. Each group selected specific priorities for their chosen health priority with an emphasis on risk and protective factors.



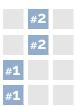
Listening Session

An evening listening session was offered on October 17. 2022 at the Manitowoc Public Library with an option to join via Zoom. This was an additional opportunity for community members to provide feedback.





Mental Health



Physical Activity & Nutrition



* Physical Activity & Nutrition was 7 not chosen as one of the top 3 health priorities during the Data Walk.

Manitowoc County Profile

About Our Community

Manitowoc County is situated along the coast of Lake Michigan and is surrounded by Kewaunee, Brown, Calumet, and Sheboygan counties.

Encompassing 589 square miles of land, Manitowoc County is home to approximately 81,505 people.¹

81,50 Manitowoc County's predominant employment industry is manufacturing (32%), followed by health care and social assistance (13%) and retail trade (10%).³

The following townships, villages, and cities comprise Manitowoc County:

Towns

Cato	Manitowoc Rapids
Centerville	Maple Grove
Cooperstown	Meeme
Eaton	Mishicot
Franklin	Newton
Gibson	Rockland
Kossuth	Schleswig
Liberty	Two Creeks
Manitowoc	Two Rivers

Villages
Cleveland
Francis Creek
Kellnersville
Maribel
Mishicot
Reedsville
St. Nazianz
Valders
Whitelaw

Manitowoc County

Population

Cities

Manitowoc

Two Rivers

Kiel

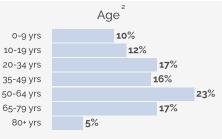
Gender 49% Female 51% Male

Ethnicity

95% Not Hispanic or Latino 5% Hispanic or Latino

Race⁵

2.5% 0.4% 0.2% 0.1%	Multiple Races Asian Black or African American American Indian or Alaska Native Native Hawaiian or Other Pacific Islander
0.7 %	Other





Median Household Income

\$57.918

Poverty

12% of population is below the Federal Poverty Level (FPL)

Education

- 8% Less than high school education
- 41% High school graduate
- **30%** Some college/Associate's degree
- 21% Bachelor's degree or higher



Photo credit: "City of Manitowoc Sign" by eyfoto

County Health Rankings & Roadmaps

Grounding our data

Data analysis of primary and secondary data, along with results from the community forums, was framed by the County Health Rankings Model (Figure 2).

This model outlines extensive factors of community health, which amounts to health behaviors (30%), clinical care (20%), social and economic factors (40%), and physical environment (10%). The health factors of an individual directly influences that person's overall health outcome.

Organizing the data according to the County Health Rankings Model, revealed longitudinal trends of health concerns and strengths in the county and informs health priorities.

With the breakdown of health factors in mind, we chose unique health indicators for Manitowoc County based on significant trends over time.

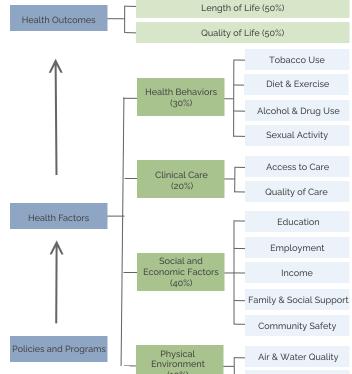
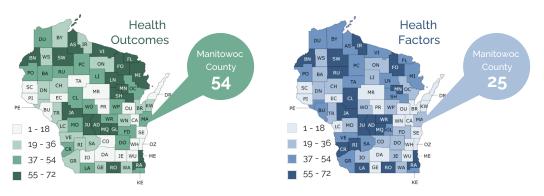


Figure 2: County Health Rankings Model

2022 County Health Rankings

County Health Rankings and Roadmaps annually prepares rankings of all counties in the state based on specific health indicators. The counties are ranked in two different categories: health outcomes and health factors on a scale from 1 to 72 (1 being the best, 72 being the worst).



Housing & Transit



Health Factor #1

Social & Economic Factors



Social and economic factors account for **40%** of health factors in the County Health Rankings Model. This factor equates to another concept, social determinants of health, in which "conditions in the places where people live, learn, work, and play affect a wide-range of health and quality-of-life-risks and outcomes". ¹ Such social and economic factors include: child care, education, employment, income, food access, and housing.





Why is Child Care Important?

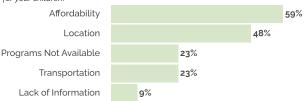
Access to affordable and quality child care is vital for working parents in order to support their families. Families who access child care can earn paid income or pursue higher education; however, many barriers exist to accessing care.

Child Care Centers

Earning an income during the day requires most parents or guardians to find suitable child care for their children, most often in the care of licensed daycares or family child care providers. There are 27 state-licensed child care facilities in Manitowoc County, **41**% of which are located in the City of Manitowoc.¹

Child Care Barriers

What barriers are keeping you from accessing the programs and services you need for your children?²



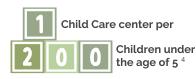
Affordable and Accessible Child Care consistently ranked in the top 2 social/economic issues in Manitowoc County among surveys and interviews

53% of respondents answered that there is a high need for full day child care in the community.²



23% of median household income is needed to pay child care in the community.³

In a household making \$58,464, \$13,489 is needed to pay for child care for two children.



"A lack of access to child care and younger children doing virtual school from home during the pandemic meant parents, usually moms, or grandparents had to leave the workforce to stav home with children." - Key Stakeholder



Why is Education Important?

Figure 3: Relationship between education and health

Education teaches and refines important skills and knowledge, which aid people in making informed choices about personal and familial health. Quality education promotes better health through prospects for higher paying jobs, often supplemented with health insurance and other benefits.¹

Our Schools

- 16 Private Schools
- **13** Public Elementary Schools 5-9
- 7 Public Middle Schools
- 6 Public High Schools
- 2 Colleges
- 1 Charter School

3-4 yrs	23%	
5-9 yrs		91%
10-14 yrs		98%
15-17 yrs		98%
18-19 yrs	22%	
20-24 yrs	24%	
25-34 yrs	6%	
35+ yrs	1%	
	. 1	

School Enrollment (2021)²

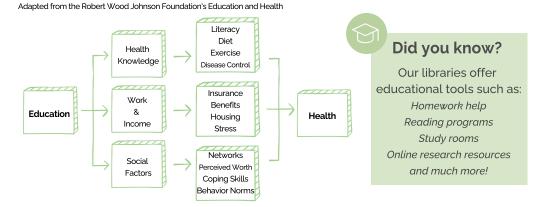
High School Graduation (2019)³

Percent of ninth-grade cohort that graduated high school.

92% Manitowoc County 00% Wisconsin

Education Attainment (2021)⁴ Population 25 years and older

- 8% Less than High School Education
- 41% High School Graduate
- 30% Some College/Associate's Degree
- 21% Bachelor's Degree or Higher



What is the YRBS?

The Youth Risk Behavior Survey (YRBS) is a biennial survey taken by middle and high school students. The students are granted complete anonymity and in return school districts and the county receive valuable data about student experiences and perceptions. In the 2020-2021 school year, 6 public middle schools and 7 public high schools in Manitowoc County participated in the survey.

Middle	e School⁵	High S	School
1,302 stud	ent responses	2,311 studer	nt responses
70%	students participa	ate in extracurriculars	65%
64%	students feel like	they belong in school	57%
53%	students sleep 8 o	r more hours per night	28%
43%		chnology b <mark>etwe</mark> en Dam on school nights	52%

1. Robert Wood Johnson Foundation, 2011 2 & 4. U.S. Census Bureau (Tables: S1401, S1501), 2021

Employment & Income (\$)

Why is Employment and Income Important?

Jobs accompanied with health insurance, paid-sick leave, retirement and other benefits are proven to positively impact health; however, these opportunities are typically limited to higher wage jobs.

Employment

Top industries in Manitowoc County by number of employees ²		
Manufacturing		12,511
Health Care and Social Assistance	5,120	
Retail Trade	3,985	
Construction	2,862	
Educational Services	2,138	
Accommodation & Food Services	1,927	

83% of workers drive to work alone ⁶



of workers drive 39% of workers dri more than 25 minutes to work⁷

In 2020, Manitowoc County's unemployment rate rose to 6%, up 3% from the previous year.³ These rates match Wisconsin's unemployment rates for the same years and can partially be contributed to effects from the COVID-19 pandemic.⁴ As of September 2022, Manitowoc County's unemployment rate is back at 3%.⁵

56% of high school students work 19% work 10-19 hours/week 14% work 20+ hours/week



Poverty Federal Poverty Level Income Guidelines⁹

Individual: \$13,590

Family of 4: **\$27,750**

10% Of 18 and under population in Manitowoc County are living in poverty ¹⁰

Photo credit: "Numbered Days" by Bill Chizek

Living Wade "

The living wage shown is the hourly rate that an individual in a household in Manitowoc County must earn to support his or herself and their family. Minimum wage is currently \$7.25.

	1 Worl	king Adult		2	Working	g Adults	
o Children	1 Child	2 Children	3 Children	o Children	1 Child	2 Children	3 Children
\$15.24	\$30.33	\$38.24	\$50.04	\$24.02	\$29.24	\$34.96	\$37.16

1. Robert Wood Johnson Foundation, 2011

2. U.S. Census Bureau, Table: S2403, 2021

4. Manitowoc County Workforce Profile, 2021 5. U.S. Bureau of Labor Statistics. 2022

3, 6, 7 & 10. County Health Rankings & Roadmaps, 2022 8. Manitowoc County Youth Risk Behavior Survey, 2021 12. Wisconsin's Current Minimum Wage Rates

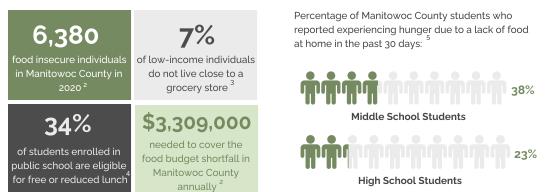
9. HealthCare.gov, 2022 11. Living Wage Calculator, 2022

Food Access

Why is Food Access Important?

Lack of regular access to affordable healthy food can lead to increased incidences of obesity, diabetes, heart disease and other health conditions. Those facing food insecurity often face additional issues such as poor housing and lack of health insurance.¹

Food Insecurity



Food Access

Resources like Women, Infants, and Children Nutrition Program (WIC) and Supplemental Nutrition Assistance Program (SNAP) provide eligible individuals and families assistance in buying food. ⁶



5 . Manitowoc County Youth Risk Behavior Survey, 2021 6. U.S. Department of Agriculture

7. U.S. Census Bureau, Table S2201, 2021

8. Manitowoc County Women, Infants, and Children, 2021 9. Aging & Disability Resource Center of the Lakeshore, 2021



Why is Housing Important?

When quality housing is unavailable and/or unaffordable, it can put stress on individuals and families and increase their chances for poor health outcomes. Location of housing can also affect one's health by providing or preventing access to transportation, healthy foods, exercise opportunities, safe neighborhoods, and educational opportunities.¹

Homelessness

Manitowoc County has 3 shelters:

InCourage Women's domestic violence shelter The Haven Men's homeless shelter Hope House 90-day shelter program geared towards families, but serving some without children

Demand that exceeds shelter capacity was one issue mentioned in key stakeholder interviews.

Capacity of Hope House ²	Waitlist for Hope House at one point in 2022
7 households or	14 families
26 individuals	44 singles
	14 couples

A group of volunteers and local agencies conduct a biennial Point-In-Time (PIT) homeless count in Manitowoc and surrounding counties. The PIT count focuses on locating individuals who may be experiencing homelessness by searching streets, cars, and other areas.



Individuals identified in the summer 2022 Point-In-Time count for Manitowoc County

Key stakeholders noted the scope of homelessness in Manitowoc County goes beyond those identified in PIT counts and shelters.⁴ The issue extends to those forced to couch surf. utilize 24/7 businesses. or those without permanent nighttime residence.



1. Robert Wood Johnson Foundation. 2011 2. Hope House of Manitowoc County, 2022 3. United Way of Manitowoc County, 2022 4. Manitowoc County Key Stakeholder Interviews, 2022 5. County Health Rankings & Roadmaps, 2022 6. U.S. Census Bureau, Table S2502, 2021

1 in 10 households in Manitowoc County experience at least one of the following: 5 Overcrowding **High housing costs** Lack of kitchen facilities Lack of plumbing



Get Connected. Get Help.™

18

United Way of Manitowoc County's 211 helpline directs callers to resources in the community.⁷

24% of calls were related to Housing/Shelter 6% of calls were related to Utilities



7. United Way of Manitowoc County Annual Report, 2021 8. Aging & Disability Resource Center of the Lakeshore

Health Factor #2

Health Behaviors & Outcomes

30% of health factors are associated with health behaviors. Everyday actions, such as alcohol consumption, diet, and physical activity can influence a person's overall health. Practicing healthy behaviors can protect individuals from disease and death.



	Alcohol Use
	Drug Use
5	Tobacco Use
	Mental Health
Ŕ	Nutrition & Physical Activity
	Injury & Mortality

Alcohol Use



Why is Alcohol Use Relevant?

Excessive consumption of alcohol is associated with various behavioral and health effects for both adults and youth. These may include injury, chronic illness, poor mental health, alcohol use disorders, or death as long-lasting effects of excessive alcohol use.¹

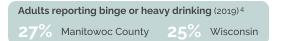
Excessive Drinking

Excessive drinking includes binge drinking, heavy drinking, and drinking while pregnant. Individuals who excessively drink are at risk for negative health effects.

The number of drinks for men and women varies for binge and heavy drinking.²

Binge Drinking
Menper occasionMen5 or more drinksWomen4 or more drinks

Heavy Drinking per week Men **15** or more drinks Women **8** or more drinks







In Wisconsin, 6% of women drink alcohol in excess (8 or more drinks per week) 3 months before pregnancy⁵

Short-Term Risks³

Alcohol poisoning Unintentional injuries Violence Poor pregnancy outcomes Memory problems

Long-Term Risks

Cancer High blood pressure Heart disease Liver disease Learning/memory problems Weakened immune system Mental health problems Alcohol use disorders

Underage Alcohol Use

Consumption of alcohol before the legal age of 21 can have damaging effects on brain and body development. There is also evidence of linked mental health problems and other addictions.⁶

Wisconsin is one of many states that allows minors to not only be present on alcohol serving premises but also consume alcohol under adult supervision.⁷ This normalization can lead to a low perception of risk towards excessive drinking.



(At least 1 drink in the past 30 days)

10% of those who currently drink, report binge drinking

1. Alcohol Prevention Ad Hoc Workgroup, 2021 2. Centers for Disease Control and Prevention, 2022 3. Medical College of Wisconsin

County Health Rankings & Roadmaps, 2022
 Wisconsin PRAMS Surveillance Report, 2019
 Wisconsin Department of Health Services, 2022

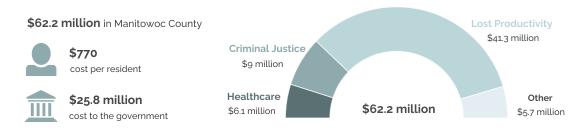
7. Serving Alcohol Inc. 8. Manitowoc County Youth Risk Behavior Su

8. Manitowoc County Youth Risk Behavior Survey, 2021

Alcohol Use (Continued)



Estimated Annual Cost of Binge Drinking[°]



Alcohol-Related Outcomes

Alcohol consumption in Manitowoc County contributed to the following in 2021:



Note that alcohol-related hospitalizations account for chronic hospitalizations as a result of long-term alcohol use. This does not include acute alcohol hospitalizations.

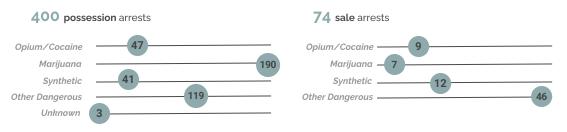




Why is Drug Use Relevant?

Drug use can lead to increased risk of chronic illness, heart disease, HIV/AIDS, Hepatitis C, and mental illness.¹ The rising number of people who use drugs or illegal substances has led to an increase in issues surrounding drug-related crimes and violence, legal system capacity strain, decreased workforce productivity, increased healthcare needs, and increased social service needs.²

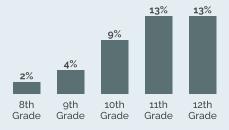
Drug Crime Arrests in 2021³



Youth Drug Use⁴

Marijuana Use

% of students who self-reported marijuana use in the past 30 days

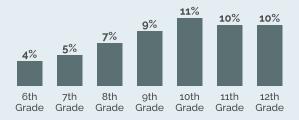




Of the high school students who reported using marijuana, **15%** reported starting before the age of 13.

Legal Drug Misuse

% of students who self-reported misusing over-the-counter and/or prescription pain medication



7% of being school

7% of high school students reported being offered, sold, or given drugs on school property.

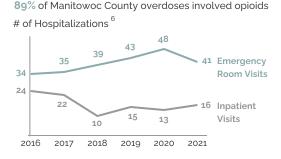
Drug Use (Continued)



Community Input

Key Stakeholders noted how trauma, mental illness and stress from lack of education, employment, housing, and social belonging feed into use and misuse of substances. Multiple stakeholders remarked that the impact of substance use goes beyond direct use and impacts families and friends with feelings of guilt, confusion, hopelessness, or anger.⁵ Substance use inside a home with young children can also normalize the behavior, which can lead to generational cycles of use.

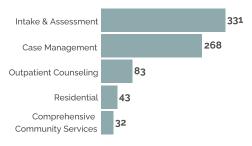
Opioid-Related Outcomes in Manitowoc County



Manitowoc County Services[®]

Top 5 most used services in 2020

of people served in Manitowoc County

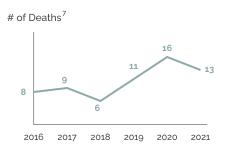


201 pounds of unwanted or unused medications were collected at the 2022 Annual Drug Take Back Event.⁹

Permanent drug disposal box locations:

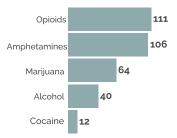
- Kiel Police Department Manitowoc City Police Department Manitowoc County Sheriff's Office Mishicot Police Department
- Two Rivers Police Department





Top 5 most common substances in 2020

of people served in Manitowoc County



The Manitowoc County Crisis Line provides 24/7 crisis support to those in need.

920-683-4230 M-F 8:00AM - 4:30PM

1-888-552-6642 Nights, holidays, weekends



substance use disorder related calls placed to the County Crisis Line between January and October 2022.¹⁰

5. Manitowoc County Key Stakeholder Interviews, 2022

- 6. Wisconsin Department of Health Services, Opioid Hospitalization Module, 2022
- 7. Wisconsin Department of Health Services, Opioid Death Module, 2022

8. Wisconsin Department of Health Services. County Services - Substance Use, 2021 9. Holy Family Memorial, 2022 10. Manitowoc County Human Services Department, Crisis Intervention Report, 2022





Why is Tobacco Use Relevant?

Tobacco consumption affects all areas of the body and can lead to disease, disability, or death in adults and youth.¹ Smoking is one of Wisconsin's top causes of preventable death.²

Health Effects

The toxic chemicals in tobacco products can lead to dangerous health outcomes, including eye diseases, cardiovascular disease, and several forms of cancer. ^{3, 4}

Incidence rates of cancer (per 100,000)⁵



Tobacco Products

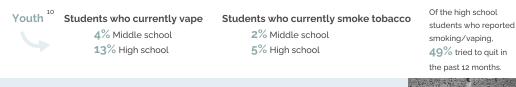
Nicotine is the addictive ingredient in the tobacco plant.⁶ Its presence in almost all tobacco products makes it difficult for users to quit.⁷

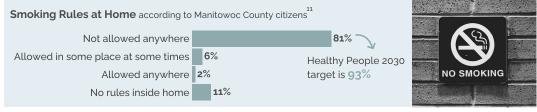


Tobacco Prevalence

Adults 18% of adults *currently smoke tobacco* in Manitowoc County, compared to 16% statewide.⁸

13% of women use tobacco during pregnancy in Manitowoc County, compared to 8% statewide.⁹





1. Centers for Disease Control and Prevention, 2022 2. Wisconsin Department of Health Services, 2022 3. U.S. Food and Drug Administration, 2022 4. U.S. Food and Drug Administration, 2021

- 5. Wisconsin State Cancer Profiles, 2015-2019 6. U.S. Food and Drug Administration, 2022 7. U.S. Food and Drug Administration, 2020
- 7. U.S. Food and Drug Administration, 2020 8. County Health Rankings & Roadmaps, 2022

9. Wisconsin Department of Health Services, Birth Counts Module, 2020 10. Manitowoc County Youth Risk Behavior Survey, 2021 11. Manitowoc County Phone Survey, 2022

Mental Health 🗳



Why is Mental Health Important?

Mental health is an ever-changing balance of our emotional, psychological, and social well-being affecting how someone thinks, feels, and acts. Mental health can influence one's ability to cope with stress, interact with others, and affect choices they make in regard to health. Mental illnesses are diagnosable conditions that affect a person's mental health. Common mental illnesses include anxiety, depression, personality disorders, and post-traumatic stress disorders, and can be caused by use of drugs or alcohol, battles with chronic health conditions, biological factors, and past traumatic experiences.¹



Manitowoc County adults report an average of **4.4 poor mental health days** per month. **14**% of adults report 14 or more poor mental health days in the past 30 days.²

20% of Manitowoc County adults report having **depression**.³

Manitowoc County Services

1,234	people served in 2020 by Manitowoo County mental health services
141	served had high intensity* ongoing needs
228	served had low intensity** ongoing needs
868	served had short term/ situational needs

"has a primary diagnosis of a major mental illness or severe emotional disturbance with substantial need for psychiatric and medical treatment

"has a diagnosed mental disorder, but is functioning in a fairly stable manner

The mental health provider ratio shows how many individuals would need to be served by 1 professional to cover the population. A high ratio can lead to high case loads and long wait lists.

Wisconsin

440 to 1

Manitowoc 920 to 1

The resources we have are either unaffordable for many on [*sic*] our community or insufficient to meet the need of those accessing services due to high demand of patient loads. Care is often superficial and a "band-aid" approach rather than actual treatment.

-Online Survey comment

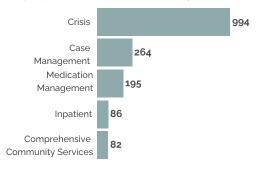


3,049 calls placed to the County Crisis Line between January and October 2022 were **mental health related**, making up **70%** of the **total calls**. ⁴

17% of Wisconsin mothers report experiencing **depression during pregnancy**.⁵

Top 5 most used services in 2020

of people served in Manitowoc County



4. Manitowoc County Human Services Department, Crisis Intervention Report, 2022 5. Wisconsin PRAMS Surveillance Report, 2019

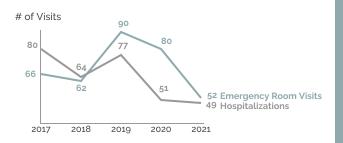
6. Wisconsin Department of Health Services, County Services - Mental Health, 2021 8. Manitowoc County Online Survey, 2022

Mental Health (Continued)



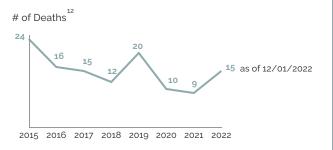


Self-inflicted Injury Hospitalizations 9. 10



Suicide

In 2020, **861** Wisconsinites died by suicide.¹¹ The impact of suicide reaches far and wide. Survivors may continue to feel depressed and develop mental health conditions while loved ones experience a range of emotions from anger, confusion, and depression to guilt.



In July 2022, the National Suicide Prevention Lifeline (1-800-273-TALK) launched a replacement Suicide & Crisis Lifeline (9-8-8).¹³ All calls to the original lifeline will automatically be rerouted to 9-8-8. The new number will continue to provide 24/7 confidential help to those in crisis.





9. Wisconsin Department of Health Services, Injury-Related Emergency Dept, Visits Module 10. Wisconsin Department of Health Services, Injury-Related Hospitalization Module

- 11. Wisconsin Department of Health Services, 2022
- 12. Wisconsin Department of Health Services, State Vital Records, 2022

Youth Mental Health

Youth with mental health conditions are more likely to experience social isolation, discrimination, development of other health conditions, educational difficulties, and are at higher risk of choosing risky behaviors."



telephone survey respondents stated a child in their household was diagnosed with one or more mental health conditions.¹⁵

2021 YRBS Results¹⁶

Every 2 years students take a self-reported survey about various health topics.

	Middle School 1,302 Responses	
Had Anxiety	50%	47%
Had Depression	29%	29%
Self-harmed	22%	17%
Considered Suicide	16%	14%
Had a Suicide Plan	11%	12%
Attempted Suicide	5%	7%

Bullying affects short and long-term health of both those that experience bullying and those that bully others. It can lead to depression, school related challenges, and violence.

Bullied on School Property	31%	19%
Bullied Online	19%	17%
Think Bullying is a Problem at	46%	42%
School		

13. Federal Communications Commission, 2022 14. World Health Organization, 2021

15. Manitowoc County Phone Survey, 2022 16. Manitowoc County Youth Risk Behavior Survey, 2021 17. U.S. Department of Health and Human Services, 2017

Nutrition & Physical Activity 🏌



Why is Nutrition and Physical Activity Important?

Healthy eating habits and physical activity are crucial elements of good physical and mental health.¹ Individuals lacking a balanced diet of nutrient-dense foods and adequate exercise are more at risk for chronic diseases and other poor health outcomes.

Nutrition

Consuming the proper amount of protein, fruits, vegetables, and grains all contribute to numerous health benefits, including lower risk of chronic disease. bone health issues, and cardiovascular disease.²

Youth in Manitowoc County³

37%

of high school students ate fruit every day

36% of high school students ate

vegetables every day

Adults in Wisconsin⁴

60% of adults eat fruits more than once a day 80%

of adults eat vegetables more than once a day

Physical Activity

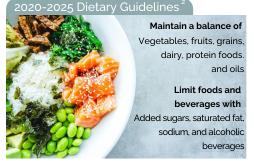
Frequent exercise provides immediate and long-term benefits for both adults and youth. These include improved cognition, sleep, mood, and bone health.

Physical activity also reduces risk of obesity, cardiovascular disease, type 2 diabetes, depression, dementia, and cancer.²

Physical Activity Recommendations

Adults 150 minutes of moderate intensity aerobic activity a week

Youth At least 60 minutes of moderate-to-vigorous activity daily.



Breastfeeding

Healthy nutrition can begin as early as infancy, especially during the first 6 months. Breastfeeding provides infants with important nutrients and antibodies which establish a stable foundation of health. Of the 729 babies born in Manitowoc County during 2020, 71% were breastfed before leaving the hospital.⁵



Did you know?

Throughout Manitowoc County, there are many opportunities for exercise.

85+ Parks

10+ Fitness Centers

Several trails. including:

Devil's River Trail Ice Age Trail Mariner's Trail

Point Beach State Park Rahr Memorial School Forest and many more!

Youth in Manitowoc County ³

14% report no sustained

of high school students exercise in 2021

Adults in Manitowoc County



of adults report no of adults report no leisure-time physical activity in 2020

1. County Health Rankings & Roadmaps, 2022

- 2. Dietary Guidelines for Americans, 2020
- 4. Centers for Disease Control and Prevention, BRFSS, 2021 Wisconsin Department of Health Services, Birth Counts Module, 2020

3. Manitowoc County Youth Risk Behavior Survey, 2021 6. Physical Activity Guidelines for Americans, 2018

7 Centers for Disease Control and Prevention PLACES 2022

Injury & Mortality 🕮

Why is Injury and Mortality Relevant?

Causes of injury and length of life inform us of our community's health and whether people live long, healthy lives.¹ Manitowoc County is ranked 54 out of 72 counties for health outcomes, 1 being the best. 72 being the worst.

Injury

In 2021, there were 5,241 emergency department visits and 390 hospitalizations due to injury.^{2, 3}

Top 3 Causes of Injury in Manitowoc County:

Fall Fal	l
Poisoning Str	uck by or against object or person
Motor Vehicle Cur	tting or piercing objects

Fall Injuries^{2,3}

Fall injuries in Manitowoc County were the top reported cause of hospital and emergency department visits in 2021.



Mortality

Length and quality of life of residents are evaluated to rank counties for health outcomes. 4 Various measures of mortality can help us identify preventable causes of death.

Infant Mortality⁶

Infant mortality is calculated as the number of infant deaths per 1.000 live births.

Manitowoc County 5 infant deaths per 1,000 live births Wisconsin 6 infant deaths per 1,000 live births

Premature Deaths

The average life expectancy in Manitowoc County is 78.6 years, while the Wisconsin's average is 78.9.

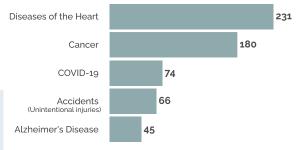
Premature death is a rate measured as the years of potential life lost before age 75 per 100,000 population.⁸

Manitowoc County 7,000 years of life lost per 100,000 people

Wisconsin 6.600 years of life lost per

- 1, 4, 6, 7 & 8, County Health Rankings & Roadmaps, 2022
- 2. Wisconsin Department of Health Services, Injury-Related Hospitalizations Module, 2021
- 3. Wisconsin Department of Health Services, Injury-Related Emergency Dept. Module, 2021

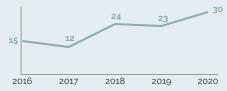
Top 5 Causes of Death in Manitowoc County in 2021⁵



Fall Injury Deaths⁹

According to the World Health Organization, "Falls are the second leading cause of unintentional injury deaths worldwide".¹⁰ In the past five years, fall-related deaths have increased significantly in Manitowoc County.





5. Wisconsin Department of Health Services, 2022

9. Wisconsin Department of Health Services, Mortality Module, 2020 10. World Health Organization, 2021

25



Health Factor #3

Clinical Care



Clinical Care represents **20%** of health factors in the County Health Rankings Model. Affordable, quality, and prompt health care are key qualities that have the potential to limit disease and identify health issues quickly.



Health Care Access

Preventative Care

Communicable Diseases

Chronic Diseases

Health Care Access

Why is Health Care Access Important?

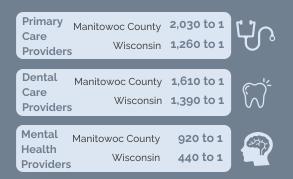
Access to health care, especially affordable and available services, is a valuable asset in a healthy community. Financial resources including health insurance, Medicaid, BadgerCare Plus, and programs for the uninsured are all opportunities for individuals to receive aid while accessing care.

Health Care Providers

There are 2 hospital systems in Manitowoc County, along with several other behavioral, mental, and dental health clinics.

Ratio of People to Providers

Provider ratios depict the number of individuals who need to be served by 1 professional to cover the entire population. A high ratio implies challenges to accessing care.



Insurance Coverage

Without insurance or a means of affording health care, uninsured individuals can face serious illness or health problems if they avoid receiving care. Others may be unable to pay medical bills, resulting in debt.

7%

of population under age 65 did not have health insurance in 2019.²

13,574

people were enrolled in BadgerCare Plus in October 2022. **4,956** of which were children.³

BadgerCare Plus Eligibility [°]

Must be

Wisconsin Resident U.S. citizen or qualifying immigrant

And one of the following

1 & 2. County Health Rankings & Roadmaps, 2022 3 & 6. Wisconsin Department of Health Services, 2022

4. Manitowoc County Online Survey, 2022

Child

5. Lakeshore Community Health Care

Young Adult

under age 26, and were in a foster home, court-ordered Kinship Care, or subsidized guardianship when they turned 18, regardless of income.

Adult

with income at or below 100% of the FPL.



of respondents have a primary care provider where they regularly go for checkups and when they are sick. ⁴



age 18 or younger with income at or

with income at or below 300% of the FPL.

below 300% of the FPL*.

Pregnant Woman

*Federal Poverty Level (FPL)

of respondents agree there are affordable health care services in the community.⁴

Lakeshore Community Health Care



Lakeshore Community Health Care serves both Manitowoc and Sheboygan counties with medical, mental health, dental, pharmaceutical, and support services. These services are available to everyone, regardless of insurance coverage.⁵

Preventative Care

Why is Preventative Care Important?

Routine checkups, screenings, and vaccinations are all steps an individual should take throughout their life to ensure a healthy lifestyle. Regularly scheduled care can detect and prevent chronic diseases.

Vaccinations

Vaccines are a preventative measure that equip an individual's immune system to defend against potentially life-threatening diseases.

Routine vaccinations are highly recommended for young children as early as birth. Many vaccines are given as a series over the course of several weeks to ensure complete protection. As children reach school-age, several vaccines are required by the state of Wisconsin unless parents complete an immunization waiver.¹

While most vaccines are administered through adolescence, adults are encouraged to receive additional immunizations, including an annual influenza vaccine and the occasional tetanus booster.²

Adolescent Vaccinations

Adolescent vaccination rates in Manitowoc County are considerably low.

Only 55% of adolescents completed the recommended doses of HPV. while Healthy People 2030 target is 80%.

633 students (all ages) have at least one waiver for required school vaccines in Manitowoc County.

2021 Vaccination Rates

Children (up to age 2) ⁵		
Dtap	77%	
Hepatitis A (1)*	84%	
Hepatitis A (2)	55%	
Hepatitis B	88%	
HiB	84%	
MMR	85%	
Polio	87%	
Pneumoccocal	82%	
Varicella	84%	

Routine Screenings

Visit to dentist or dental clinic

(past 3 years for women aged 21-65) **Colorectal Cancer Screening**

Visit to doctor for checkup

(past year among adults 18+)

(past year among adults 18+)

Cervical Cancer Screening

(among adults aged 50-75)

e 2) ⁵	Adolescents (aged	13 through 18) ⁶
7%	HPV (1)	66%
4%	HPV Complete	55%
5%	Mening ACWY (1)	79 %
8%	Mening ACWY UTD**	53 %
4%	Tdap (1)	86%
5%	Mening B (1)	38%
7%	Mening B (2)	26 %
2%		For

Wisconsin⁹

72%

71%

78%

67%

81%

Manitowoc

72%

66%

82%

61%

75%

County⁸

Adults (age 18 and	d older)	'
Tdap (1)	74 %	
HPV Complete	47 %	
Zoster Complete	22%	
PCV13 (1)	58 %	
PPSV23 (1)	62%	
Hepatitis A UTD	18 %	

or more information about recommended vaccines, visit Wisconsin Dept. of Health Services.

* The number following the vaccine refers to the dose in the series. ** Certain vaccines require a number of doses to be considered up-to-date (UTD).

Prenatal Care

Prenatal care visits include physical exams, weight checks, ultrasounds, and blood tests, Receiving routine care during pregnancy informs women of recommendations and aids a healthy pregnancy.¹⁰

Increase intake of folic acid

Avoid smoking, drinking, and using drugs

Control existing health conditions (diabetes or high blood pressure)

In 2020, 79% of pregnant women received care during the first trimester in Manitowoc County.

(past 2 years for women aged 50-74) 1 & 2. Wisconsin Department of Health Services, 2022

3. Healthy People 2030

Mammography

 Wisconsin Department of Health Services, REDCap, 2022. 5. 6 & 7. Wisconsin Department of Health Services, Vaccination Coverage, 2022

11. Wisconsin Department of Health Services. Birth Counts Module, 2020

^{8.} Centers for Disease Control and Prevention. PLACES. 2022 Centers for Disease Control and Prevention, PErcept, 2020
 Centers for Disease Control and Prevention, BRFSS, 2020 10. National Institute of Child Health and Human Development, 2017

Communicable Diseases



Why are Communicable Diseases Relevant?

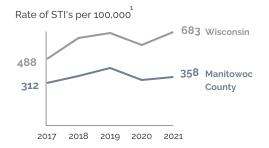
While most communicable disease infections are mild, some can lead to severe disease, disability, or death. Reporting and surveillance of infectious diseases mitigates widespread outbreaks and protects the public's health.

STI'S Sexuall Manitov Sexually highest Transmitted in 2021.

Sexually transmitted infections (STI's) in Manitowoc County make up some of the highest reportable incidences of disease in 2021.

Reported Incidences in 2021¹

Chlamydia	234 cases
Gonorrhea	41 cases
Syphilis	8 cases



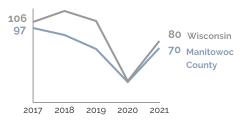
Enteric Diseases

Enteric diseases occur in the intestines as a result of consuming contaminated substances. Despite the recent decline of infections, both Manitowoc County and the State are experiencing a rise of cases.²

Reported Incidences in 2021¹

Salmonellosis	13 cases
Cryptosporidiosis	6 cases
Giardiasis	6 cases
Yersiniosis	<5 cases

Rate of enteric disease per 100,000¹



Respiratory Diseases Respiratory diseases are infections affecting the lungs, bronchus, or respiration. Common diseases include influenza, respiratory syncytial virus (RSV), adenovirus, and many others.



Reported Incidences in 2021¹ Active tuberculosis (TB) <5 cases

Latent TB (LTBI) 10 cases

Tick-Borne Diseases Tick-borne diseases are spread to humans through the bite of an infected tick. Left untreated, the infection can spread throughout the body.



Reported Incidences in 2021¹

Lyme Disease 22 cases Ehrlichiosis/Anaplasmosis <5 cases

Communicable Diseases (Continued)

COVID-19

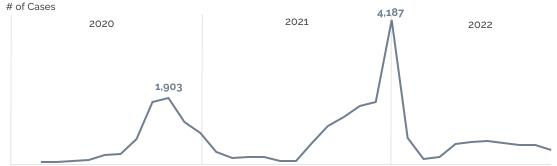
COVID-19 is a disease caused by the SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) virus. It is transmissible through respiratory droplets or particles that can be inhaled or land on other people's eyes, nose, or mouth.³

The World Health Organization (WHO) declared the COVID-19 outbreak as a global pandemic on March 11, 2020 and Manitowoc County identified its first COVID-19 case on April 3, 2020.⁴ Since then, Manitowoc County encountered two large waves of COVID-19 incidences, peaking in November 2020 and January 2022.

COVID-19 Cases in Manitowoc County

Between March 2020 and November 2022, Manitowoc County experienced: ⁵





Jan Feb Mar Apr May June July Aug Sep Oct Nov Dec Jan Feb Mar Apr May June July Aug Sep Oct Nov Dec Jan Feb Mar Apr May June July Aug Sep Oct Nov

Vaccinations

The initial COVID-19 vaccine became available to the public in December 2020. It is recommended that all eligible individuals stay up to date on their COVID-19 vaccines, including boosters.

Available COVID-19 vaccines in the United States:

Moderna Pfizer-BioNtech

Johnson and Johnson's Janssen

Novavax

Manitowoc County Vaccination Rates as of 11/30/2022

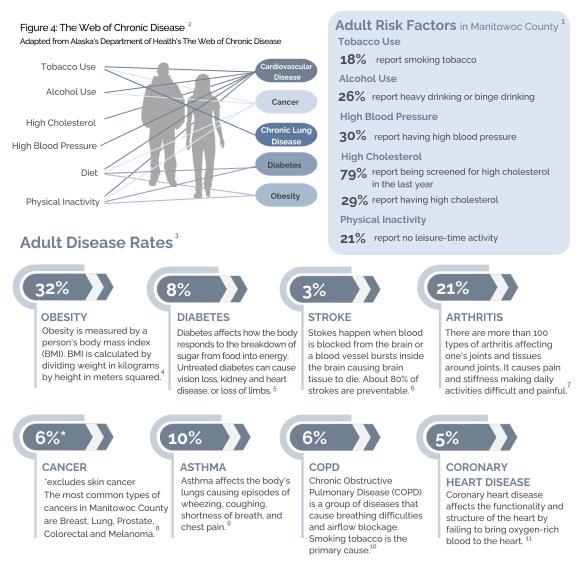
Complete Primary Series	Age	Updated Bivalent Booster
2%	0-4 yrs	0% This only shows the percent of population
20%	5-11 yrs	2% that received the
48%	12-17 yrs	5% updated bivalent booster. It does not
55%	18-24 yrs	3% include those who
55%	25-34 yrs	4% received the monovalent booster.
57%	35-44 yrs	6%
63%	45-54 yrs	9%
73%	55-64 yrs	19%
81%	65+ yrs	35%

5 & 6. Wisconsin Department of Health Services, Daily COVID-19 Summary Report, 2022

Chronic Diseases

Why are Chronic Diseases Relevant?

Chronic diseases are the leading cause of death and disability in the United States and are the number one cost to the health care system. They are long lasting conditions that reduce one's daily activities or requires ongoing medical attention. Many chronic diseases can be avoided by reducing or eliminating health behaviors such as: smoking, poor diet, physical inactivity, and excessive drinking.¹



1, 4, 5, 6, 7, 9 & 10. Centers for Disease Control and Prevention 2. Alaska Department of Health

3. Centers for Disease Control and Prevention, PLACES, 2019 & 2020

Health Factor #4

Physical Environment





Physical Environment accounts for **10%** of health factors in the County Health Rankings Model. There are aspects of the environment that an individual has little control over such as the quality of air and water. However, monitoring and testing the surrounding environment can detect harmful elements including radon and lead.





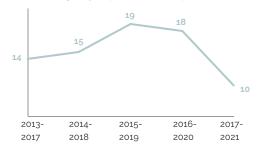
Why is Air Quality Important?

The Environmental Protection Agency (EPA) identified 6 pollutants to monitor air quality due to their potentially negative environmental and human health effects. These pollutants include: carbon monoxide, lead, nitrogen oxides, ground-level ozone, particle matter, and sulfur oxides.

Carbon Monoxide

When inhaled, carbon monoxide will replace the oxygen in one's body. When exposed to high levels of carbon monoxide for long periods of time, nausea, vomiting, muscle weakness, confusion, or loss of consciousness can occur.²

Carbon Monoxide Poisonings in Manitowoc County (5-year average)

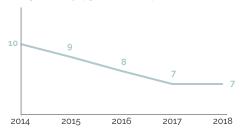


Rate of Emergency Department visits per 100,000

Particulate Matter (PM)

Particulate matter such as dust, dirt, soot, smoke, and liquid droplets are especially harmful to humans. Larger particles can irritate one's eyes, nose, and throat while smaller particles have potential to travel deep into one's lungs, and sometimes, bloodstream.⁴

Particulate Matter Pollution in Manitowoc County ⁵



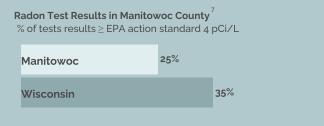
Average density ($\mu g/m^3$) of fine particulate matter

Radon •



Why is Radon Relevant?

Radon is the leading cause of lung cancer in nonsmokers in the U.S. It is an odorless, colorless gas that can naturally be released into the environment by rock, soil and water. Radon can enter homes and businesses through cracks in the floors and walls.⁶





Did you know?

The Manitowoc County Health Department offers low cost shortterm and long-term radon test kits available for purchase.

Lead i



Why is Lead Relevant?

Lead is a toxic, naturally occurring element that can cause serious health effects in young children and adults. Children younger than 6 years old are especially susceptible to reduced IQ, learning disabilities, and other behavioral effects as a result of lead poisoning.³

Lead was commonly used before the 1980's in residential paint, varnish, gasoline, and plastics. Despite lead being banned from paint and varnish due to its toxicity in 1978, its presence in products still lingers.³

Blood Lead Reference Value (BLRV)

Lead exposure is confirmed if the patient has a blood lead level greater than or equal to 5 micrograms of lead per deciliter of blood (μ g/dL).

As of May 2021, the CDC changed the BLRV from 5 µg/dL to 3.5 µg/dL. Lowering the reference value allows more time for parents, doctors, public health officials, and communities to reduce the child's future exposure to lead.4

In 2021, the blood lead levels of 49 children younger than 6 years old were greater than or equal to 5 μ g/dL.³

Houses built before 1978 are at risk for having lead-based paint.³

of housing units in Manitowoc County were built before 1979.6

Water

Why is Water Important?

Ensuring clean, safe water in homes and businesses is imperative to the health of the community. Throughout Manitowoc County, there are 11 different municipal water systems serving over 45,000 residents.⁷ Those who are not connected to public water systems receive water from private wells.

Private Well Quality

Private wells can be exposed to natural contaminants in groundwater, which is why it is important to regularly test wells. Contaminants can include arsenic, nitrate, nitrite, bacteria, and lead,⁸

Test results above EPA standard of 10µg/L



Fluoride Levels

Population on fluoridated public water system.¹⁰ 86% 87%

Beach Monitoring

In Summer 2021, 11 Manitowoc County beaches along Lake Michigan were monitored frequently for bacteria. During that time, a total of 322 samples were collected leading to 41 advisories and 11 closures.⁵

1. 2. 3 & 8. Wisconsin Department of Health Services, 2022 6. U.S. Census Bureau, Table S2504, 2021 4. Centers for Disease Control and Prevention, 2021 7. Wisconsin Department of Natural Resources

References

Our Approach

- 1. Clear Impact. (n.d.). Turn the Curve Thinking. https://clearimpact.com/results-based-accountability/turn-the-curve-thinking/
- 2. Wisconsin Department of Health Services. (2022, July 12). Community Health Improvement Assessment and Plans. https://www.dhs.wisconsin.gov/chip/index.htm

Manitowoc County Profile

- 1. United States Census Bureau. (n.d.). Quick Facts: Manitowoc County. WI. https://www.census.gov/quickfacts/fact/table/manitowoccountywisconsin/RHI125221
- 2. United States Census Bureau. (n.d.). Age and Sex, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Populations%20and%20People&g=0500000US55071&tid=ACSST1Y2021.S0101
- 3. United States Census Bureau. (n.d.). Industry by Sex for the Full-Time, Year-Round Civilian Employed Population 16 Years and Over, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Industry&g=0500000US55071&tid=ACSST1Y2021.S2404
- 4. United States Census Bureau. (n.d.). Hispanic or Latino Origin, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Race%20and%20Ethnicity&g=0500000US55071&tid=ACSDT1Y2021.B03003
- 5. United States Census Bureau. (n.d.). Race, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table? t=Race%20and%20Ethnicity&g=0500000US55071&tid=ACSDT1Y2021.B02001
- 6. City-Data.com. (n.d.). Manitowoc County, Wisconsin (WI). http://www.city-data.com/county/Manitowoc_County-WI.html
- 7. United States Census Bureau. (n.d.). Median Income in the Past 12 Months (in 2021 Inflation-Adjusted Dollars), 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Income%20and%20Poverty&g=0500000US55071&tid=ACSST1Y2021.S1903
- 8. United States Census Bureau. (n.d.). Poverty Status in the Past 12 Months, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Income%20and%20Poverty&g=0500000US55071&tid=ACSST1Y2021.S1701
- 9. United States Census Bureau. (n.d.). Education Attainment, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Populations%20and%20People&g=0500000US55071&tid=ACSST1Y2021.S1501

County Health Rankings & Roadmaps

1. County Health Rankings & Roadmaps. (2022). County Health Rankings Model. https://www.countyhealthrankings.org/explore-healthrankings/county-health-rankings-model

Social & Economic Factors

1. Centers for Disease Control and Prevention. Social Determinants of Health: Know What Affects Health. (2021, September 21). https://www.cdc.gov/socialdeterminants/index.htm.

- 1. Wisconsin Department of Children and Families. (2022, September 9). Licensed Child Care Directories https://dcf.wisconsin.gov/cclicensing/lcc-directories
- 2. Manitowoc-Two Rivers YMCA Lakeshore Area Youth and Family Services. (2022). Community Survey Report.
- 3. County Health Rankings & Roadmaps. (2022). Child Care Cost Burden. https://www.countyhealthrankings.org/explore-healthrankings/county-health-rankings-model/health-factors/social-economic-factors/family-and-social-support/child-care-cost-burden? state=55&year=2022#map-anchor
- 4. County Health Rankings & Roadmaps. (2022). Child Care Centers. https://www.countyhealthrankings.org/explore-health-rankings/countyhealth-rankings-model/health-factors/social-economic-factors/family-and-social-support/child-care-centers?state=55&year=2022#mapanchor
- 5. Center for Urban Population Health. (2022). Manitowoc County Health Needs Assessment. http://healthiestmc.org/wpcontent/uploads/2022/0g/2022-Manitowoc-Key-Stakeholder-Interview-Report.pdf

- 1. Egerter S., Braveman P., Sadegh-Nobari T., Grossman-Kahn, R. & Dekker, M. (2011). Education and Health. Exploring the Social Determinants of Health, 5, 1-17. https://www.rwjf.org/en/library/research/2011/05/education-matters-for-health.html
- 2. United States Census Bureau. (n.d.). School Enrollment, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Educational%20Attainment&g=0500000US55071&tid=ACSST1Y2021.S1401
- 3. County Health Rankings & Roadmaps. (2022). High School Graduation. https://www.countyhealthrankings.org/explore-health-rankings/county $health-rankings-model/health-factors/social-economic-factors/education/high-school-graduation?state=55 \& year=2022 \& tab=0 \\ factors/education/high-school-graduation?state=55 \\ factors/education/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/high-school-graduation/hi$
- 4. United States Census Bureau. (n.d.). Educational Attainment, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Educational%20Attainment&g=0500000US55071&tid=ACSST1Y2021.S1501
- 5. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. https://dpi.wi.gov/sspw/yrbs/online

Social & Economic Factors (Continued)

Employment & Income

- 1. An J, Braveman P., Dekker M, Egerter S & Grossman-Kahn R. (2011). Work, Workplaces and Health. *Exploring the Social Determinants of Health*, 9, 1-20. https://www.rwjf.org/en/library/research/2011/05/work-and-health-.html
- 2. United States Census Bureau. (n.d.). Industry by Sex for the Full-Time, Year-Round Civilian Employed Population 16 Years and Over, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/cedsci/table?t=Industry&g=050000US55071&tid=ACSST1Y2021.S2404
- 3. County Health Rankings & Roadmaps. (2022). Unemployment. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-</u>rankings-model/health-factors/social-economic-factors/employment/unemployment?state-55&year-2022#map-anchor
- 4. Wisconsin Department of Workforce Development & Job Center of Wisconsin. (2021). Manitowoc County 2021 Workforce Profile. https://www.jobcenterofwisconsin.com/wisconomy/wits_info/downloads/CP/manitowoc_profile.pdf
- 5. United States Bureau of Labor Statistics. (2022). Unemployment Rate in Manitowoc County, WI. [Data set]. https://fred.stlouisfed.org/series/WIMANI5URN
- 6. County Health Rankings & Roadmaps. (2022). Driving Alone to Work. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/physical-environment/housing-and-transit/driving-alone-to-work?state=55&year=2022#map-anchor</u>
- 7. County Health Rankings & Roadmaps. (2022). Long Commute Driving Alone. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/physical-environment/housing-and-transit/long-commute-driving-alone?</u> <u>state=55&year=2022#map-anchor</u>
- 8. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. <u>https://dpi.wi.gov/sspw/yrbs/online</u>
- 9. HealthCare.gov. (2022). Federal poverty level (FPL). https://www.healthcare.gov/glossary/federal-poverty-level-fpl/
- 10. County Health Rankings & Roadmaps. (2022). Children in Poverty. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/social-economic-factors/income/children-in-poverty?state=55&year=2022#map-anchor</u>
- 11. Living Wage Calculator. (2022). Living Wage Calculation for Manitowoc County, Wisconsin. https://livingwage.mit.edu/counties/55071
- 12. Wisconsin Department of Workforce Development. (n.d.). *Minimum Wage: Wisconsin's Current Minimum Wage Rates.* <u>https://dwd.wisconsin.gov/er/laborstandards/minimumwage.htm</u>

Food Access

- Healthy People 2030. (n.d.). Food Insecurity. <u>https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/food-insecurity</u>
- 2. Feeding America. (n.d.). Food Insecurity among Overall (all ages) *Population in Manitowoc County*. <u>https://map.feedingamerica.org/county/2020/overall/wisconsin/county/manitowoc</u>
- 3. County Health Rankings & Roadmaps. (2022). Limited Access to Healthy Foods. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/health-behaviors/diet-and-exercise/limited-access-to-healthy-foods?</u> <u>state=55&year=2022#map-anchor</u>
- 4. County Health Rankings & Roadmaps. (2022). Children Eligible for Free or Reduced Price Lunch. <u>https://www.countyhealth-rankings.org/explore-health-rankings/county-health-rankings-model/health-factors/social-economic-factors/income/children-eligible-for-free-or-reduced-price-lunch?state=55&year=2022#map-anchor</u>
- 5. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. <u>https://dpi.wi.gov/sspw/yrbs/online</u>
- U.S. Department of Agriculture. (n.d.) Supplemental Nutrition Assistance Program (SNAP). USDA Food and Nutrition Service. https://www.fns.usda.gov/snap/supplemental-nutrition-assistance-program.
- 7. United States Census Bureau. (n.d.). Food Stamps/Supplemental Nutrition Assistance Program (SNAP), 2021 American Community Survey 1-year estimates. [Data set]. <u>https://data.census.gov/cedsci/table?t=SNAP%2FFood%20Stamps&g=0500000US55071&tid=ACSST1Y2021.S2201</u>
- 8. Special Supplemental Nutrition Program for Women, Infants, and Children. (2021). Annual Count of Participation: Manitowoc County WIC. Manitowoc County Women, Infants, and Children.
- 9. Manitowoc County Aging and Disability Resource Center of the Lakeshore. (2021).

Housing

- 1. Braveman, P., Dekker, M., Egerter, S., Sadegh-Nobari, T. & Pollack, C. (2011). Housing and Health. Exploring the Social Determinants of Health, 7, 1-11_ https://www.rwjf.org/en/library/research/2011/05/housing-and-health.html
- 2. Hope House of Manitowoc County. (2022).
- 3. United Way Manitowoc County. (2022).
- 4. Center for Urban Population Health. (2022). Manitowoc County Health Needs Assessment. <u>http://healthiestmc.org/wp-content/uploads/2022/0g/2022-Manitowoc-Key-Stakeholder-Interview-Report.pdf</u>

Social & Economic Factors (Continued)

Housing (Continued)

- 5. County Health Rankings & Roadmaps. (2022). Severe Housing Problems. <u>https://www.countyhealthrankings.org/explore-health-rankings/countyhealth-rankings-model/health-factors/physical-environment/housing-and-transit/severe-housing-problems?state=55&year=2022#map-anchor</u>
- 6. United States Census Bureau. (n.d.). Demographic Characteristics for Occupied Housing Units, 2021 American Community Survey 1-year estimates. IData set]. https://data.census.gov/cedsci/table?t=Owner%2FRenter%20%28Householder%29%20Characteristics&g=0500000US55071
- 7. United Way Manitowoc County. (2022). 2021 Annual Report. https://www.flipsnack.com/unitedwaymanitowoccounty/2021-annual-report.html
- Aging and Disability Resource Center of the Lakeshore. (n.d.). Housing. <u>https://manitowoccountywi.gov/departments/aging-and-disability-resource-center/community-resources/housing/</u>

Health Behaviors & Outcomes

Alcohol Use

- 1. Alcohol Prevention Ad Hoc Workgroup, State Council on Alcohol and Other Drug Abuse. (2021). Moving Forward: Policies and Strategies to Prevent and Reduce Excessive Alcohol Use in Wisconsin. State of Wisconsin. <u>https://www.dhs.wisconsin.gov/scaoda/alcohol-prevention-report.pdf</u>
- 2. Centers for Disease Control and Prevention. (2022, April 14). Alcohol Use and Your Health. <u>https://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm</u>
- 3. Medical College of Wisconsin. (n.d.). Wisconsin Alcohol Policy Project: Understanding the Problem. <u>https://www.mcw.edu/departments/comprehensive-injury-center/wi-alcohol-policy-project/understanding-the-problem</u>
- 4. County Health Rankings & Roadmaps. (2022). Excessive Drinking. https://www.countyhealthrankings.org/explore-health-rankings/county-healthrankings-model/health-factors/health-behaviors/alcohol-and-drug-use/excessive-drinking?state=55&year=2022#map-anchor
- 5. Wisconsin Department of Health Services, Wisconsin Pregnancy Risk Assessment Monitoring System. (2019). 2018-2019 Wisconsin PRAMS Surveillance Report. <u>https://www.dhs.wisconsin.gov/publications/p02500-2019.pdf</u>
- 6. Wisconsin Department of Health Services. (2022). Small Talks: Get the Facts on Underage Drinking. <u>https://www.dhs.wisconsin.gov/small-talks/underage-drinking-facts.htm</u>
- 7. Serving Alcohol Inc. (n.d.). Wisconsin Alcohol Laws FAQ. https://servingalcohol.com/wisconsin-alcohol-laws-faq/
- 8. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. <u>https://dpi.wi.gov/sspw/yrbs/online</u>
- 9. Linnan, S., Paltzer, J. & Skalitzky, E. (2019). The Burden of Binge Drinking in Wisconsin. University of Wisconsin Population Health Institute. <u>https://uwphi.pophealth.wisc.edu/wp-content/uploads/sites/316/2019/10/The-Burden-of-Binge-Drinking-in-Wisconsin-Full-Report-2.pdf</u>
- 10. Wisconsin Department of Health Services, DHS Interactive Dashboards. (2022, June 9). Alcohol: Hospitalizations by County Dashboard. https://www.dhs.wisconsin.gov/alcohol/hospitalizations-county.htm
- 11. Wisconsin Department of Justice. (2022). Uniform Crime Reporting Arrest Data. <u>https://www.doj.state.wi.us/dles/bjia/ucr-arrest-data</u>
- Community Maps. (2022). Community Maps Wisconsin County TSC Crash Mapping. <u>https://transportal.cee.wisc.edu/partners/community-maps/crash/search/BasicSearch.do;jsessionid=61BA547D26FB6DF9D7F991C765AEFFE3</u>
- 13. Wisconsin Department of Health Services, DHS Interactive Dashboards. (2022, October 9). Alcohol: Attributable Deaths by County Dashboard. https://www.dhs.wisconsin.gov/alcohol/deaths-county.htm

Drug Use

- 1. National Institute on Drug Abuse. (2022, March 22). Addiction and Health. <u>https://nida.nih.gov/publications/drugs-brains-behavior-science-addiction/addiction-health</u>
- 2. Lo, T.W., Yeung, J.W.K., and Tam, C.H.L. (2020). Substance Abuse and Public Health: A Multilevel Perspective and Multiple Responses. International journal of environmental research and public health, 17(7), 2610. <u>https://doi.org/10.3390/ijerph17072610</u>
- 3. Wisconsin Department of Justice. (2022). Uniform Crime Reporting Arrest Data. https://www.doj.state.wi.us/dles/bjia/ucr-arrest-data
- 4. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. https://dpi.wi.gov/sspw/yrbs/online
- 5. Center for Urban Population Health. (2022). *Manitowoc County Health Needs Assessment*. <u>http://healthiestmc.org/wp-content/uploads/2022/09/2022-Manitowoc-Key-Stakeholder-Interview-Report.pdf</u>
- 6. Wisconsin Department of Health Services, DHS Interactive Dashboards. (2022, December 13). Dose of Reality: Opioid Hospital Visit Dashboard. https://www.dhs.wisconsin.gov/opioids/hospitalizations-county.htm
- 7. Wisconsin Department of Health Services, DHS Interactive Dashboards. (2022, December 13). Dose of Reality: Opioid Deaths by County Dashboard. https://www.dhs.wisconsin.gov/opioids/deaths-county.htm
- 8. Wisconsin Department of Health Services, DHS Interactive Dashboards. (2021, April 30). Substance Use: County Services Dashboard. https://www.dhs.wisconsin.gov/aoda/county-services-dashboard.htm
- 9. Holy Family Memorial. (2022, May 3). Home [Facebook page]. Facebook. Retrieved December 12, 2022 from <u>https://m.facebook.com/HolyFamilyMemorial/posts/pfbido2JVww6aVywJHuzhCizs2JmkB5rGxwfbP3hP3tkrgYHV2RZCrSXFN1tdxi2dCZFAsdl?_rdr</u>
- 10. Manitowoc County Human Services Department, Clinical Services Division. (2022). Crisis Intervention Report.

Health Behaviors & Outcomes (Continued)

Tobacco Use

- 1. Centers for Disease Control and Prevention (2022, August 22). *Smoking and Tobacco Use: Fast Facts and Fact Sheets*. <u>https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm#smoking-and-cigarettes</u>
- 2. Wisconsin Department of Health Services (2022, September 14). *Tobacco Prevention and Control Program*. <u>https://www.dhs.wisconsin.gov/tobacco/index.htm</u>
- 3. United States Food & Drug Administration. (2022, April 26). *How Smoking Can Contribute to Vision Loss and Blindness*. <u>https://www.fda.gov/tobacco-products/health-effects-tobacco-use/how-smoking-can-contribute-vision-loss-and-blindness</u>
- 4. United States Food & Drug Administration. (2021, November 9). *How Smoking Affects Heart Health*. <u>https://www.fda.gov/tobacco-products/health-effects-tobacco-use/how-smoking-affects-heart-health</u>
- 5. National Cancer Institute, State Cancer Profiles. (n.d.). *Incidence Rate Report for Wisconsin by County*. <u>https://statecancerprofiles.cancer.gov/incidencerates/index.php?</u> <u>stateFIPS=55&areatype=county&cancer=047&race=00&sex=0&age=001&stage=999&year=0&type=incd&sortVariableName=rate&sortOrder=default</u> <u>&output=0#results</u>
- 6. United States Food & Drug Administration. (2022, May 1). Chemicals in Tobacco Products and Your Health. <u>https://www.fda.gov/tobacco-products/health-effects-tobacco-use/chemicals-tobacco-products-and-your-health</u>
- 7. United States Food & Drug Administration. (2020, May 28). Products, Ingredients & Components. <u>https://www.fda.gov/tobacco-products/products-guidance-regulations/products-ingredients-components</u>
- 8. County Health Rankings & Roadmaps. (2022). Adult Smoking. https://www.countyhealthrankings.org/explore-health-rankings/county-healthrankings-model/health-factors/health-behaviors/tobacco-use/adult-smoking?state=55&year=2022#map-anchor
- 9. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Birth Counts Module. <u>http://dhs.wisconsin.gov/wish/</u>
- 10. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. <u>https://dpi.wi.gov/sspw/yrbs/online</u>
- 11. JKV Research, LLC. (2022). Manitowoc County Community Health Survey Report. <u>http://healthiestmc.org/wp-</u> content/uploads/2022/09/Manitowoc-County-Community-Health-Survey-Report-2022.pdf

Mental Health

- 1. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. (2021, June 28). About Mental Health. <u>https://www.cdc.gov/mentalhealth/learn/index.htm</u>
- 2. County Health Rankings & Roadmaps. (2022). Poor Mental Health Days. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-outcomes/quality-of-life/poor-mental-health-days?state=55&year=2022#map-anchor</u>
- 3. Centers for Disease Control and Prevention. (2022). PLACES: Local Data for Better Health, County Data 2022 Release. [Data set]. https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data#Filter
- 4. Manitowoc County Human Services Department, Clinical Services Division. (2022). Crisis Intervention Report.
- 5. Wisconsin Department of Health Services, Wisconsin Pregnancy Risk Assessment Monitoring System. (2019). 2018-2019 Wisconsin PRAMS Surveillance Report. <u>https://www.dhs.wisconsin.gov/publications/p02500-2019.pdf</u>
- 6. Wisconsin Department of Health Services, DHS Interactive Dashboard. (2021, April 30). *Mental Health: County Services Dashboard.* <u>https://www.dhs.wisconsin.gov/mh/county-services-dashboard.htm</u>
- 7. County Health Rankings & Roadmaps. (2022). Mental Health Providers. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/clinical-care/access-to-care/mental-health-providers?state=55&year=2022#map-anchor</u>
- 8. KV Research, LLC. (2022). Manitowoc County Online Community Health Survey Frequencies Report. <u>http://healthiestmc.org/wp-</u>content/uploads/2022/0g/Manitowoc-Online-CHS-Frequencies-Report-2022.pdf
- 9. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Injury-Related Emergency Department Visits Module. <u>http://dhs.wisconsin.gov/wish/</u>
- 10. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Injury-Related Hospitalizations Module. <u>http://dhs.wisconsin.gov/wish/</u>
- 11. Wisconsin Department of Human Services. (2022, November 20). Suicide Prevention. https://www.dhs.wisconsin.gov/prevent-suicide/index.htm
- 12. Wisconsin Department of Health Services, Division of Public Health State Vital Records Office. (2022). Manitowoc County Health Department Death Pronounced. Accessed December 1, 2022.
- 13. Federal Communications Commission. (2022, November 30). 988 Suicide and Crisis Lifeline. https://www.fcc.gov/g88-suicide-and-crisis-lifeline
- 14. World Health Organization. (2021, November 17). Adolescent mental health. <u>https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health</u>
- 15. JKV Research, LLC. (2022). Manitowoc County Community Health Survey Report. <u>http://healthiestmc.org/wp-content/uploads/2022/0g/Manitowoc-County-Community-Health-Survey-Report-2022.pdf</u>
- 16. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. https://dpi.wi.gov/sspw/yrbs/online 38
- 17. United States Department of Health and Human Services, National Institutes of Health, Office of Communications. (2017, January 13). How does bullying affect health and well-being? https://www.nichd.nih.gov/health/topics/bullying/conditioninfo/health#

Health Behaviors & Outcomes (Continued)

Nutrition & Physical Activity

- 1. County Health Rankings & Roadmaps. (2022). Diet and Exercise. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/health-behaviors/diet-and-exercise2</u>
- 2. U.S. Department of Agriculture and U.S. Department of Health and Human Services. (2020). *Dietary Guidelines for Americans, 2020-2025*, 1-149. https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf
- 3. Tortora, O., McCoy, K., and Frederick, C. (2021). Manitowoc County 2021 Youth Risk Behavior Survey Results. Madison: Wisconsin Department of Public Instruction. <u>https://dpi.wi.gov/sspw/yrbs/online</u>
- 4. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. (n.d.). *BRFSS Prevalence & Trends Data*. <u>https://www.cdc.gov/brfss/brfss/prevalence/index.html</u>
- 5. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Birth Counts Module. <u>http://dhs.wisconsin.gov/wish/</u>
- 6. U.S. Department of Health and Human Services. (2018). Physical Activity Guidelines for Americans, 2nd Edition, 1-118. <u>https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf</u>
- 7. Centers for Disease Control and Prevention. (2022). PLACES: Local Data for Better Health, County Data 2022 Release. [Data set]. https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data

Injury & Mortality

- 1. County Health Rankings & Roadmaps. (2022). Length of Life. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-outcomes/length-of-life?</u>
- 2. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Injury-Related Hospitalizations Module. <u>https://www.dhs.wisconsin.gov/wish/injury-hosp/query.htm</u>
- Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Injury-Related Emergency Department Visits Module. <u>https://www.dhs.wisconsin.gov/wish/injury-</u> ed/query.htm
- 4. County Health Rankings & Roadmaps. (2022). Wisconsin. <u>https://www.countyhealthrankings.org/explore-health-rankings/wisconsin?</u> year=2022
- 5. Wisconsin Department of Health Services, Division of Public Health, State Vital Records Office. (2022). 50 Ranked Causes of Death.
- 6. County Health Rankings & Roadmaps. (2022). Infant Mortality. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-outcomes/length-of-life/infant-mortality?state=55&year=2022#map-anchor</u>
- 7. County Health Rankings & Roadmaps. (2022). Life Expectancy. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-outcomes/length-of-life/life-expectancy?state=55&year=2022#map-anchor</u>
- 8. County Health Rankings & Roadmaps. (2022). Premature Deaths. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-outcomes/length-of-life/premature-death?state=558year=2022</u>
- 9. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Mortality Module. <u>https://www.dhs.wisconsin.gov/wish/mortality/broad-form.htm</u>
- 10. World Health Organization. (2021, April 26). <u>Falls. https://www.who.int/news-room/fact-sheets/detail/falls#:~:text=Falls%20are%20the%20second%20leading%20cause%20of%20unintentional.age%20suffer%20the%20greatest% 20number%20of%20fatal%20falls</u>

Clinical Care

Health Care Access

- 1. County Health Rankings & Roadmaps. (2022). Manitowoc, WI. <u>https://www.countyhealthrankings.org/explore-health-</u> rankings/wisconsin/manitowoc2year=2022
- 2. County Health Rankings & Roadmaps. (2022). Uninsured. <u>https://www.countyhealthrankings.org/explore-health-rankings/county-health-rankings-model/health-factors/clinical-care/access-to-care/uninsured?state=55&year=2022#map-anchor</u>
- 3. Wisconsin Department of Health Services. (2022). *BadgerCare Plus by County/Tribe*. https://www.dhs.wisconsin.gov/badgercareplus/bcpcounty-october2022.pdf
- 4. JKV Research, LLC. (2022). Manitowoc County Online Community Health Survey Frequencies Report. <u>http://healthiestmc.org/wp-content/uploads/2022/09/Manitowoc-Online-CHS-Frequencies-Report-2022.pdf</u>
- 5. Lakeshore Community Health Care. (n.d.). <u>https://www.lakeshorechc.org/</u>
- 6. Wisconsin Department of Health Services, Division of Medicaid Services. (2022). ForwardHealth Enrollment and Benefits Handbook. https://www.dhs.wisconsin.gov/publications/p0/p00079.pdf

Clinical Care (Continued)

Preventative Care

- 1. Wisconsin Department of Health Services. (2022, September 20). *Immunization Requirements*. https://www.dhs.wisconsin.gov/immunization/reqs.htm
- 2. Wisconsin Department of Health Services. (2022, August 15). *Immunizations: Adult Vaccine Information*. https://www.dhs.wisconsin.gov/immunization/adult.htm
- 3. Healthy People 2030. (n.d.). Increase the proportion of adolescents who get recommended doses of the HPV vaccine IID-08. <u>https://health.gov/healthypeople/objectives-and-data/browse-objectives/vaccination/increase-proportion-adolescents-who-get-recommended-doses-hpv-vaccine-iid-08</u>
- 4. Wisconsin Department of Health Services, REDCap. (2022). 2022-2023 School Immunization Assessment.
- 5. Wisconsin Department of Health Services, Division of Public Health, Bureau of Communicable Diseases, Immunization Program. (2022). Vaccination coverage among Wisconsin children by age 24 months, by vaccine or series, county of residence, and year. https://www.dhs.wisconsin.gov/publications/p02003.pdf
- 6. Wisconsin Department of Health Services, Division of Public Health, Bureau of Communicable Diseases, Immunization Program. (2022). Vaccination coverage among Wisconsin adolescents aged 13 through 18 years, by vaccine or series, county of residence, and year. <u>https://www.dhs.wisconsin.gov/publications/p02004.pdf</u>
- 7. Wisconsin Department of Health Services, Division of Public Health, Bureau of Communicable Diseases, Immunization Program. (2022). Vaccination coverage among Wisconsin adults, by vaccine or series, county of residence, and year. <u>https://www.dhs.wisconsin.gov/publications/p02005.pdf</u>
- 8. Centers for Disease Control and Prevention. (2022). PLACES: Local Data for Better Health, County Data 2022 Release. [Data set]. https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data
- g. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. (n.d.). BRFSS Prevalence & Trends Data. <u>https://www.cdc.gov/brfss/brfss/prevalence/</u>
- 10. National Institute of Child Health and Human Development, Office of Communications. (2017, January 31). What is prenatal care and why is it important? https://www.nichd.nih.gov/health/topics/pregnancy/conditioninfo/prenatal-care#
- 11. Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. (n.d.). Wisconsin Interactive Statistics on Health (WISH) data query system, Birth Counts Module. <u>http://dhs.wisconsin.gov/wish/</u>

Communicable Diseases

- 1. Manitowoc County Health Department. (2021). Manitowoc County Health Department Annual Report. <u>https://manitowoccountywi.gov/wp-content/uploads/2022/03/MCHD-ANNUAL-REPORT-2021-1.pdf</u>
- 2. Wisconsin Department of Health Services. (2022, November 2). Respiratory Viruses. https://www.dhs.wisconsin.gov/disease/respiratory.htm
- 3. Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases. (2022, August 11). *How COVID-19 Spreads*. <u>https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html</u>
- 4. Cucinotta, D., & Vanelli, M. (2022). WHO Declares COVID-19 a Pandemic. Acta Biomedica, 91(1): 157-160. https://doi.org/10.23750/abm.vg1i1.9397
- 5. Wisconsin Department of Health Services (2022). Daily COVID-19 Summary Report. Retrieved on December 1, 2022.
- 6. Wisconsin Department of Health Services, Wisconsin Immunization Registry. (2022). COVID-19: Vaccine Data. Retrieved December 1, 2020, from https://www.dhs.wisconsin.gov/covid-19/vaccine-data.htm#residents

Chronic Diseases

- 1. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. (2022, December 8). National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). <u>https://www.cdc.gov/chronicdisease/index.htm</u>
- 2. Alaska Department of Health, Division of Public Health. (n.d.). Chronic Disease Prevention and Health Promotion (CDPHP) Publications. https://health.alaska.gov/dph/Chronic/Pages/Publications/default.aspx
- 3. Centers for Disease Control and Prevention. (2022). PLACES: Local Data for Better Health. County Data 2022 Release. [Data set]. <u>https://chronicdata.cdc.gov/500-Cities-Places/PLACES-Local-Data-for-Better-Health-County-Data-20/swc5-untb/data#Filter</u>
- 4. Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. (2022, June 3). About Adult BMI. <u>https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html</u>
- 5. Centers for Disease Control and Prevention. (2022, July 7). What is Diabetes? <u>https://www.cdc.gov/diabetes/basics/diabetes.html</u>.
- 6. Centers for Disease Control and Prevention, Division for Health Disease and Stroke Prevention. (2019). *Know the Facts About Stroke*. https://www.cdc.gov/stroke/docs/Know_the_Facts_About_Stroke.pdf
- 7. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. (2022, April 19). Fast Facts About Arthritis. https://www.cdc.gov/arthritis/basics/arthritis-fast-facts.html
- 8. Wisconsin Cancer Collaborative. (2021). Cancer in Manitowoc County. https://wicancer.org/wp-content/uploads/2021/04/Manitowoc.pdf
- 9. Centers for Disease Control and Prevention, National Center for Environmental Health. (2021, July 1). Learn How to Control Asthma. https://www.cdc.gov/asthma/faqs.htm

Clinical Care (Continued)

Chronic Diseases (Continued)

- 10. Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health. (2022, October 21). COPD: Symptoms, Diagnosis, and Treatment. <u>https://www.cdc.gov/copd/features/copd-symptoms-diagnosis-treatment.html</u>
- 11. National Heart, Lung, and Blood Institute. (2022, March 24). What is Coronary Heart Disease? https://www.nhlbi.nih.gov/health/coronary-heart-disease disease

Physical Environment

Air Quality

- 1. Centers for Disease Control and Prevention, National Center for Environmental Health. (2022, November 21). Air Pollutants. https://www.cdc.gov/air/pollutants.htm
- 2. United States Department of Labor, Occupational Safety and Health Administration. (2012). OSHA Fact Sheet: Carbon Monoxide Poisoning. <u>https://www.osha.gov/sites/default/files/publications/carbonmonoxide-factsheet.pdf</u>
- 3. Environmental Public Health Data Tracker, Wisconsin Environmental Public Health Tracking Program. (n.d.). Carbon Monoxide Emergency Department Visits (5 Year Average). <u>https://dhsgis.wi.gov/DHS/EPHTracker/#/all/Carbon%20Monoxide%20Poisoning/coCountyIndex/NOTRACT/Emergency%20Department%2</u> oVisits%20(5%20Year%20Average)
- 4. Centers for Disease Control and Prevention, National Center for Environmental Health. (2022, November 21). Particle Pollution. https://www.cdc.gov/air/particulate_matter.html
- 5. County Health Rankings & Roadmaps. (2022). Air Pollution Particulate Matter. <u>https://www.countyhealthrankings.org/explore-health-</u> rankings/county-health-rankings-model/health-factors/physical-environment/air-and-water-quality/air-pollution-particulate-matter? <u>state=55&year=2022&tab=0#map-anchor</u>

Radon

- 1. Centers for Disease Control and Prevention, National Center for Environmental Health. (2022, July 29). Radon Communication Materials. https://www.cdc.gov/radon/communications/index.htm?
- CDC_AA_refVal-https%3A%2F%2Fwww.cdc.gov%2Fradon%2Ftoolkit%2Findex.htm 2. Wisconsin Environmental Public Health Tracking Program. (2021). 2021 Manitowoc County Environmental Health Profile. https://www.dhs.wisconsin.gov/publications/p0/p00719-manitowoc.pdf

Lead

- 1. Wisconsin Department of Health Services. (2022, November 9). Lead-Safe Wisconsin: Where is Lead Commonly Found in Wisconsin? https://www.dhs.wisconsin.gov/lead/sources.htm
- 2. Wisconsin Department of Health Services. (2022, November 2). Lead-Safe Wisconsin: Other Sources of Lead. https://www.dhs.wisconsin.gov/lead/emerging-sources.htm
- 3. Wisconsin Department of Health Services. (2022, October 5). What is Lead Poisoning? https://www.dhs.wisconsin.gov/lead/clppp-info.htm
- 4. Centers for Disease Control and Prevention. (2021, October 28). CDC Updates Blood Lead Reference Value for Children. https://www.cdc.gov/media/releases/2021/p1028-blood-lead.html
- 5. Manitowoc County Health Department. (2021). Manitowoc County Health Department Annual Report. <u>https://manitowoccountywi.gov/wp-content/uploads/2022/03/MCHD-ANNUAL-REPORT-2021-1.pdf</u>
- 6. United States Census Bureau. (n.d.). Physical Housing Characteristics for Occupied Housing Units, 2021 American Community Survey 1-year estimates. [Data set]. https://data.census.gov/table?t=Owner/Renter+(Householder)+Characteristics&g=0500000US55071&tid=ACSST1Y2021.S2504_

Water

- 1. Wisconsin Department of Natural Resources. (n.d.). Drinking Water System Portal: Find Public Water Systems. https://dnr.wi.gov/dwsviewer/DS/Search
- 2. Wisconsin Department of Health Services. (2022, September 1). Drinking Water Concerns. https://www.dhs.wisconsin.gov/water/hazards.htm
- 3. Wisconsin Environmental Public Health Tracking Program. (2021). 2021 Manitowoc County Environmental Health Profile. https://www.dhs.wisconsin.gov/publications/p0/p00719-manitowoc.pdf
- 4. Environmental Public Health Data Tracker, Wisconsin Environmental Public Health Tracking Program. (n.d.). Oral Health Population on Fluoridated Public Water System – Percent of Population.

https://dhsgis.wi.gov/DHS/EPHTracker/#/all/Oral%20Health/oralHealthIndex/NOTRACT/Population%20on%20Fluoridated%20Public%20Water/%20System/OHPFPWSPercPop