Wood County Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP) 2017

Healthy People Wood County

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Letter of Support

LETTER OF SUPPORT

The following plan is the result of a Healthy People Wood County collaborative effort among Ascension Saint Joseph's Hospital, Aspirus Riverview Hospital and Clinics, Legacy Foundation, Marshfield Clinic Health System, and the Wood County Health Department. These five organizations joined forces with community members and local organizations to identify the greatest needs and assets in Wood County and develop a plan to improve community health.

This assessment embraces a broad concept of health that includes social, cultural, and environmental factors that affect health. The purpose of this county-wide community health assessment (CHA) and community health improvement plan (CHIP) is to highlight strengths as well as areas of need, and present opportunities for collaboration between public health, healthcare, community organizations, and residents. The Affordable Care Act provides a framework for the existing structure of hospital community benefit programs by requiring a CHA every three years, accompanied by annual implementation strategies. It is anticipated that this document will be used as a reference and foundation for many efforts within the county. We know that we will have better outcomes by working together and we each have a critical role in investing in building healthy communities and fostering equitable access to health care. This plan weaves health equity to assure accountability in providing conditions where everyone has the opportunity to achieve their full potential.

Research shows that healthy communities invest private and public dollars to ensure equitable access to a system that is focused on prevention, wellness, and the elimination of disparities. Community partnerships, such as ours, address upstream drivers of health and lay the groundwork for ongoing community partnerships and well-aligned strategies that will succeed in responding to the identified needs. We recognize that health improvement happens at the local level, and our communities are at the core of bringing about the changes that will enhance the health of our residents. Working together, we can leverage our expertise and resources to address our most critical needs.

Community change, and the resulting health improvements, is a difficult process that requires sustained dedication, commitment and resources. In order to meet the goals in this plan, collective action is necessary. We invite all Wood County residents to use this plan to improve individual, family, and community health, and help us ensure a culture of health for all in our policies, plans, and economic and community activities. This sense of shared purpose will set the stage for ongoing collaboration to optimize health and prosperity for all.

Letter of Support

continued

We would like to express appreciation to all who participated in this assessment and planning process, whose efforts, insight and knowledge are included in this document. Anyone wishing to participate in implementation teams addressing the health priorities identified in this document can contact us at any time.

In Good Health,

Brian Kief, President, Ascension Saint Joseph's Hospital

MINISTRY
Saint Joseph's Hospital

Dr. Susan Turney, Marshfield Clinic Health System, CEO

Marshfield Clinic
HEALTH SYSTEM

Todd Burch, CEO, Aspirus Riverview Hospital and Clinics, Inc.

ASPIRUS™

Sue Kunferman, Director, Wood County Health Department

wood county
HEALTH DEPARTMENT
Nationally Accredited

Michael Bovee, Executive Director, Legacy Foundation

Legacy
FOUNDATION

Thanks!

ACKNOWLEDGMENTS

We would like to thank the residents of Wood County for engagement in this Healthy People Wood County community health assessment (CHA) and community health improvement plan (CHIP). The discussions and information shared during this process helped shape the strategic areas of focus for this community health assessment and the goals and objectives moving forward. Many thanks to the focus group, interview, survey, and community stakeholder meeting participants and coordinators. We are grateful for the inclusion of narratives and data reflecting people's lives, experiences, and priorities to inform and guide this process. This was all made possible by the Steering Committee, Coalition Coordinators, and Coalition Members who over the past 15 months shaped our path forward, aligned agendas, and made a commitment to work together to improve the health of Wood County residents. Wood County collaborates with the Ho-Chunk Health Department.

In particular we would like to thank members of the Steering Committee: Kristie Rauter Egge, Community Health Planner/Health Promotion Supervisor, Wood County Health Department; Sue Kunferman, Health Officer of Wood County Health Department; Nan Taylor, Director of Business Development & Community Relations, Aspirus Riverview Hospital and Clinics, Inc.; Danielle Luther, Manager of Substance Abuse Prevention, Marshfield Clinic Health System; Darcy Vanden Elzen, Healthy Lifestyles/RECIN Program Manager, Marshfield Clinic Health System; Lori Slattery-Smith, Director of Aspirus University of Wisconsin (UW) Cancer Center, Aspirus Riverview Hospital and Clinics, Inc.; Terri Richards, System Director Strategic Initiatives, Ascension Ministry Health Care; and Mike Bovee, Executive Director, Legacy Foundation of Central Wisconsin. In addition, a special thank you to the coalition coordinator leadership of Wood County Health Department staff and support including Erica Sherman, Public Health Nurse; DaNita Carlson, Health Educator; Mel Johnson, Public Health Nurse; Sarah Salewski, Health Educator; and Valerie Elliott, Program Support. Appendix A details the coalition members and partners who contributed to this CHA and CHIP.

Many thanks to the Wisconsin Department of Health Services and Division of Public Health for county data and consultation. In particular we would like to thank Anne Ziege, Ph.D., Research Scientist/ Behavioral Risk Factor Survey Coordinator, Wisconsin Division of Public Health, Office of Health Informatics, and Crystal Gibson, MPH, Epidemiologist, Prescription and Non-Prescription Opioid Harm Prevention Program, UW/Wisconsin Department of Health Services.

Thanks!

continued

We would also like to thank the Marshfield Area Coalition for Youth and Marshfield Clinic Health System for the data initially gathered related to alcohol and substance use for the community-based coalitions and community stakeholder meeting participants. Thank you to Amber France, Nutrition and Lactation Program Supervisor, Wood County Health Department, for support with breastfeeding data. For data guidance, we would also like to thank Amanda Jovaag, MS, Rankings Team Director, County Health Rankings & Roadmaps; Angela Rohan, Ph.D., Senior MCH Epidemiologist / CDC Assignee to the Wisconsin Department of Health Services, Centers for Disease Control and Prevention; and Hilary Joyner, Statewide Obesity Surveillance System Coordinator, Obesity Prevention Initiative at the UW Population Health Institute.

This report was prepared for the Wood County Health Department, with contributions from Kallista Bley, MPH, UW Population Health Service Fellow, as well as Kristie Rauter Egge, Sue Kunferman, Sarah Salewski, and the Ministry Saint Joseph's Hospital Healthy People Wood County 2016 Community Health Needs Assessment Report. The Population Health Service Fellowship position was funded by Incourage, the Wood County Health Department, and Forward Community Investments. Coalition coordinators, our Wisconsin Department of Health Services contacts, Wood County Health Department staff, and many individuals including Michele Mackey, M.S., J.D., Managing Director, The Andon Group, LLC; Samira Salem, Ph.D., Community Development Services Director, Forward Community Investments; Justine Marcus, Concurrent Master of City Planning/ Master of Public Health Candidate, University of California Berkeley; and Paula Tran Inzeo, MPH, Mobilizing Action Toward Community Health (MATCH) Director, UW Population Health Institute, provided review and feedback for this report. The format from King County Hospitals for a Healthier Community's 2015/2016 Community Health Needs Assessment report was adapted with permission. We would also like to acknowledge inspiration from the Baltimore City Health Department's Healthy Baltimore 2020. All photographs are from the Wood County Health Department unless otherwise noted. Thanks to all the agencies, organizations, community members, and individuals who have made this work possible.

Overview of the Wood County CHA/CHIP

OVERVIEW OF THE HEALTHY PEOPLE WOOD COUNTY CHA/CHIP

What is health? Health is more than healthcare. Health is well-being. As defined by the World Health Organization (WHO) in 1948, health is commonly understood as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[1] Decades of scientific literature have shown that our social and economic world affects health.[2] The 2017 Healthy People Wood County (HPWC) community health assessment (CHA) and community health improvement plan (CHIP) adopts this embracive view of health.

PARTNERSHIPS FOR A HEALTHIER COMMUNITY

HPWC is committed to using national best practices in conducting the CHA and implementing community health improvement strategies.[3,4]

HPWC strives to build a system where residents and local institutions are included in decision-making through a strategic and collaborative CHA/CHIP process that builds on our community assets, including the breadth of social, cultural, economic, political, and environmental strengths and resources.

Together, residents, public health, health systems, nonprofits, businesses, schools, and other community organizations are aligning agendas and focusing on complex health priorities through HPWC. Alone none of us can overcome these challenges our communities face, and together we can achieve measureable outcomes and progress. Resident voice is instrumental to this work, especially the voice of those most impacted by these health issues. By investing in community organizing and partnerships through a data-driven process, our work aims to improve community health and build resident leadership, power, and community ownership to create long-term sustainable change.

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[1] Preamble to the Constitution of the World Health Organization (WHO) as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the WHO, no. 2, p. 100) and entered into force on 7 April 1948. http://www.who.int/about/definition/en/print.html accessed 12/2016.

[2] WHO. Evidence on Social Determinants of Health. http://www.who.int/social_determinants/themes/en/ accessed 1/2017.

[3] County Health Rankings and Roadmaps. Our Approach. http://www.countyhealthrankings.org/our-approach, accessed 1/2017.

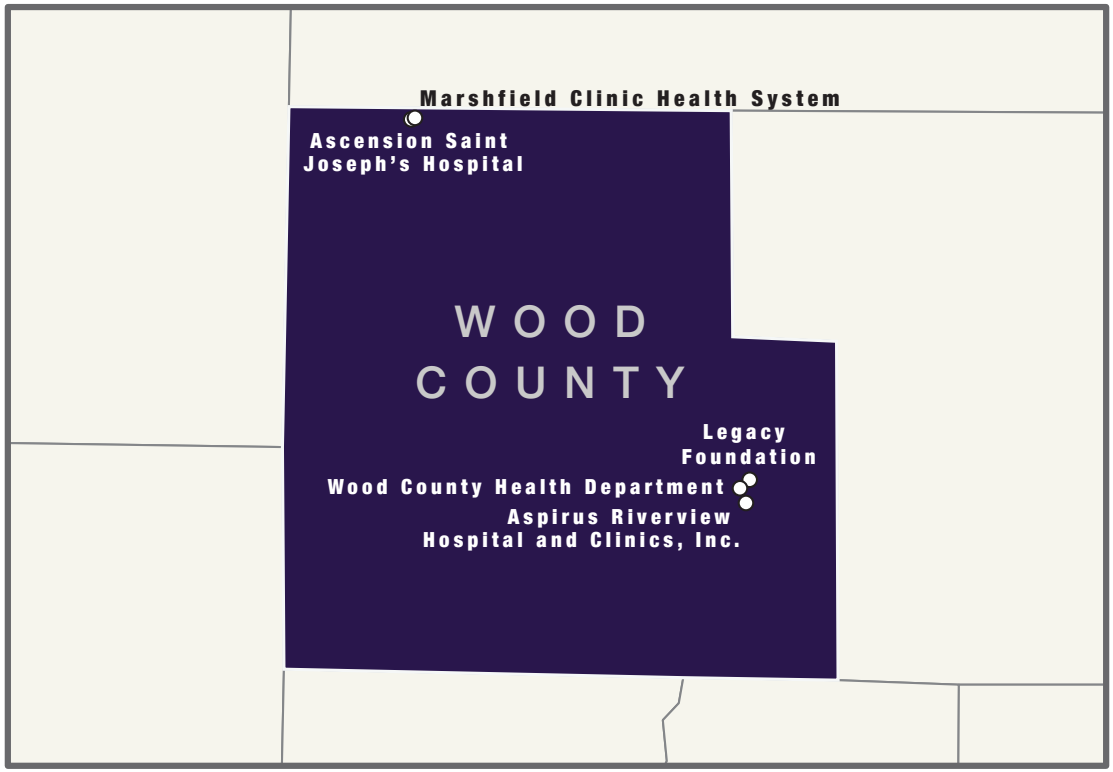
[4] Wisconsin Guidebook v2.0: February 2015 www.wicommunityhealth.org Wisconsin Community Health Improvement Plans and Processes (CHIPP) Infrastructure Improvement Project. Available at http://c.ymcdn.com/sites/www.walhdab.org/resource/resmgr/Custom_Site/Wisconsin_Guidebook_v2.0_Fin.pdf.

Overview of the Wood County CHA/CHIP

continued

CHA/CHIP PROCESS

The 2017 HPWC CHA process involved a Steering Committee dedicated to actively engaging individual community members and groups who represent a wide range of interests in Wood County. This Steering Committee was first convened in 2012 for the 2013 HPWC CHA. The Steering Committee for the CHA is comprised of leaders from Ascension Ministry Saint Joseph's Hospital, Aspirus Riverview Hospital and Clinics, the Legacy Foundation, Marshfield Clinic Health System, and the Wood County Health Department. These leaders have served as the coordinating council to plan the process, gather community health data, and identify and engage individuals and key informants who represent a broad spectrum of community stakeholders, including representatives from education, business, philanthropy, faith-based organizations, local and tribal government, underserved populations (including low-income individuals, youth, elders, and people of color), social service agencies, law enforcement, and health care.



Overview of the Wood County CHA/CHIP

continued

For the 2017 HPWC CHA, the Steering Committee used a mixed-methods approach to identify community health priorities in Wood County and assure input from key stakeholders. In addition to gathering quantitative community health data, the Steering Committee conducted a CHA survey with nearly 1,600 respondents, a community stakeholder meeting with 48 attendees, five focus groups with underserved populations, and six key informant interviews with health care providers. The team also gathered input from existing community-based coalitions. To understand progress towards community health improvement in Wood County, current community health data are compared to previous years, Wisconsin overall, and national benchmarks from Healthy People 2020, when possible. Healthy People 2020 provides national goals and measurable objectives for health improvement.[5]

Through this process, the HPWC CHA identified four community health priorities:

- **mental health and well-being**,
- **alcohol and substance use**,
- **healthy activity and food environments**, and
- **healthy growth and development**.

The CHA also established the **social determinants of health inequities** as a key consideration across all four priorities. These "determinants" refer to the social, economic, and political forces that shape inequalities in health (see page 17). The key findings related to the social determinants of health inequities and the four community health priorities are highlighted in this overview (pages 11-16), as well as in each of the respective report sections.

The 2017 HPWC CHA builds on the 2013 community health assessment and improvement efforts. To address the 2013 CHA priorities and effectively improve health outcomes, a Wood County Community Health Improvement Plan (CHIP) process was initiated after the 2013 CHA. Four coalitions – that align with the four identified CHA priorities – were formed to lead the CHIP process: (1) Mental Health Matters, (2) AOD Prevention Partnership, (3) Recreate Health, and (4) Brighter Futures. These four coalitions are now taking action on the current CHA priorities to improve community health in the county. As we move forward, it will be essential to support the coalitions in incorporating a health equity approach to this work.

[5] Healthy People 2020. Available at https://www.healthypeople.gov.

Overview of the Wood County CHA/CHIP

continued

This report presents data from the 2017 HPWC CHA and CHIP. For the CHA, this includes sections on the social determinants of health inequities and each of the four community health priorities (mental health and well-being, alcohol and substance use, healthy activity and food environments, and healthy growth and development), as well as a brief description of additional community health issues:

- **Social Determinants of Health Inequities**
- **Mental Health and Well-Being**
- **Alcohol and Substance Use**
- **Healthy Activity and Food Environments**
- **Healthy Growth and Development**
- **Additional Community Health Issues**

For the CHIP, sections include a description of each of the coalitions, including mission and goals; recent accomplishments; and furthering health equity efforts:

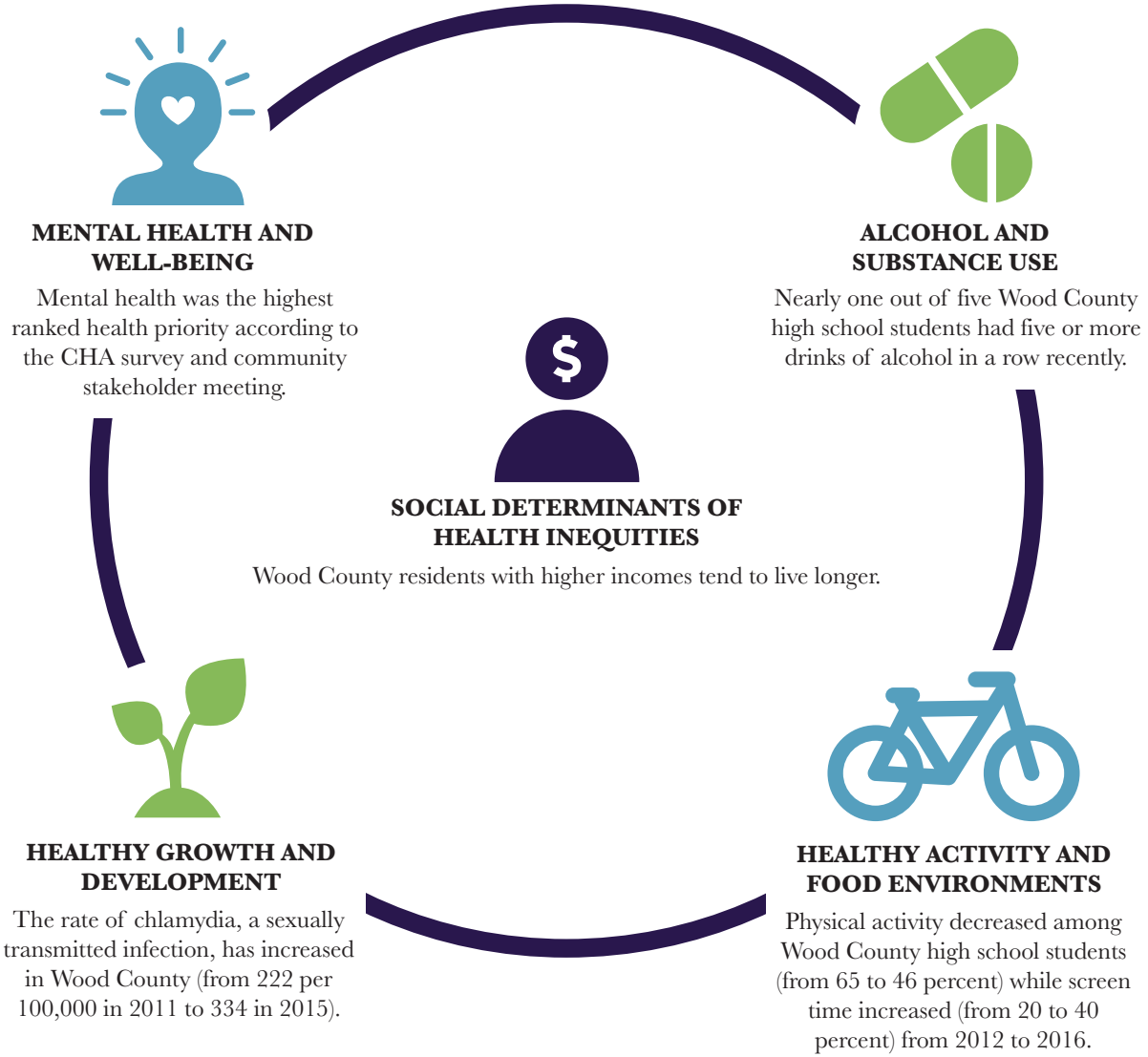
- **Community Health Improvement Plan (CHIP) Coalitions**
- **Accomplishments**
- **Furthering Health Equity Efforts**

The CHA/CHIP process (detail and methods), limitations and further considerations, and timeline are further described in Appendices B, C, and D, respectively. A technical appendix with raw data tables is also available as a separate document (Appendix E).

Overview of the Wood County CHA/CHIP

continued

COMMUNITY HEALTH PRIORITIES[6,7]



[6] Sources: Wisconsin (WI) Department of Public Instruction (DPI) Youth Risk Behavior Survey, Health Inequality Project, WI Department of Health Services (DHS) WI Interactive Statistics on Health (WISH), and WI DHS Sexually Transmitted Disease Program.

[7] Mental Health icon by Gemma Evans and Social Class/"Investor" icon by David García from the Noun Project. Available at https://thenounproject.com. All other icons made by Freepik from www.flaticon.com.

Overview of the Wood County CHA/CHIP

continued

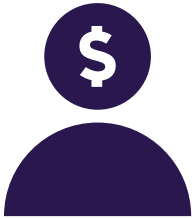
Social Determinants Of Health Inequities

- **Poverty has increased** in Wood County from 8.0 percent in 2006 to 11.3 percent in 2015. Child poverty was also high in 2015 (14 percent among children ages five to 17 in families).[8]

- While more than 90 percent of the Wood County population age 25 years and older has completed high school (92 percent), there are **fewer with a bachelor's degree** in Wood County (20 percent), compared to the state (28 percent).[9]

- The **population reporting Hispanic/ Latino ethnicity increased slightly** from 1 percent to 3 percent in Wood County from 1999 to 2015.[10,11]

- The most commonly identified **best resources in the community were community groups and social services** (e.g., Human Services, St. Vincent de Paul, clubhouses, peer specialists), followed by reproductive health and clinical services (e.g., Free Clinic, Planned Parenthood), educational resources (e.g., the library and schools), and local food and farming (e.g., farmer's markets, co-ops).[12]



[8] United States (US) Census. Small Area Income and Poverty Estimates (SAIPE). Wood County and Wisconsin. www.census.gov, accessed 1/2017.
[9] US Census. Quick Facts. Wood County and Wisconsin. (2011 to 2015) www.census.gov, accessed 1/2017.
[10] WI DHS, Division of Public Health (DPH), Office of Health Informatics. Wisconsin Interactive Statistics on Health (WISH) data query system, https://www.dhs.wisconsin.gov/wish/index.htm. Population Module, accessed 12/2016.
[11] DHS population estimates by Hispanic Ethnicity (of any race).
[12] Wood County CHA focus groups, 2015.

Overview of the Wood County CHA/CHIP

continued

Mental Health and Well-Being

- **Many adults in Wood County have had adverse childhood experiences (ACEs).** Nearly half have experienced at least one ACE (46 percent), and 11 percent had four or more.[13]
- **Depression is common** among adults in Wood County (16 percent ever diagnosed) and high among youth (28 percent report depressive feelings).[14,15] Approximately one out of 10 adults suffer from frequent mental distress (11 percent).[16]
- **Self-inflicted injury emergency department visits doubled** from 2013 to 2014.[17]
- There are **fewer mental health providers** in Wood County per population (101 providers in 2015), compared to Wisconsin overall.[18]

[13] Behavioral Risk Factor Surveillance System (BRFSS). Wisconsin Behavioral Risk Factor Survey. Office of Health Informatics. Division of Public Health and Centers for Disease Control and Prevention. 2013 to 2015.
[14] BRFSS, 2013 to 2015.
[15] WI DPI. Youth Risk Behavior Survey. Survey Results 2016.
[16] BRFSS, 2013 to 2015.
[17] WI DHS, DPH, Office of Health Informatics. Wisconsin Interactive Statistics on Health (WISH) data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Injury-Related Emergency Department Visits Module, accessed 11/2016.
[18] County Health Rankings & Roadmaps. *Mental Health Providers.* http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/62/data, accessed 11/2016.

Overview of the Wood County CHA/CHIP

continued

Alcohol and Substance Use

- Similar to Wisconsin, Wood County **alcohol use rates are higher than national benchmarks.**[19]
- **Adult binge drinking has increased** in Wood County from 15 percent (2005 to 2007) to 23 percent (2012 to 2014).[20,21]
- **Drug-related deaths have increased** in recent years in Wood County from 6.1 per 100,000 (2007 to 2009) to 11.1 (2013 to 2015).[22] Most opioid-related drug overdose deaths in Wood County were **due to prescription opioids** (88 percent).[23]
- **Hospital encounters involving opioids and ambulance runs with naloxone administration have increased** in recent years. For hospital encounters the rate increased from 16 per 100,000 (2006 to 2008) to 41 (2012 to 2014) and for ambulance runs 27 per 100,000 in 2011 to 63 in 2015.[24]

[19] WI DHS, Division of Care and Treatment Services and DPH. Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2016 (P-45718-16). Prepared by the Division of Care and Treatment Services, DPH, and the UW Population Health Institute (PHI). November 2016.

[20] WI DHS, DPH and Division of Mental Health and Substance Abuse Services. Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 (P-45718-14). Prepared by the Division of Mental Health and Substance Abuse Services, the UW PHI and the OHI, DPH. September 2014. Available at http://dhs.wisconsin.gov/stats/aoda.htm.

[21] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2016.

[22] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.

[23] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request (age-adjusted rates). 2003 to 2015.

[24] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request. WI inpatient hospitalization and emergency department data (age-adjusted rates) and Wisconsin Ambulance Run Data System (WARDS) (crude rates).

Overview of the Wood County CHA/CHIP

continued

Healthy Activity and Food Environments

- **Many residents live without parks and recreation facilities nearby, more than one in four** (26 percent).[25]
- One out of five adults in Wood County reported **no leisure-time physical activity** in 2013 (21 percent).[26]
- In 2014, there were approximately **3,320 food insecure children** in Wood County, one out of every five (20 percent).[27]
- While many initiated breastfeeding (80 percent), by the time a child was six months old less than a third reported any breastfeeding in Wood County in 2015 (31 percent). **Only 13 percent were exclusively breastfeeding** at six months.[28]

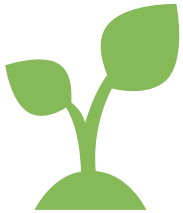
[25] County Health Rankings & Roadmaps. *Access to Exercise Opportunities.* 2014 http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/62/data, accessed 11/2016.
[26] Centers for Disease Control and Prevention (CDC). Diabetes Data and Statistics. State and County Data Indicators: Physical Inactivity Prevalence, Prevalence by Sex, and Incidence (age-adjusted percentages). https://www.cdc.gov/diabetes/data/countydata/statecountyindicators.html, accessed 12/2016.
[27] Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity and Child Food Insecurity Estimates at the County Level. Feeding America, 2016. www.feedingamerica.org/mapthegap, accessed 12/2016.
[28] Wisconsin Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) Program. Wood County Breastfeeding Incidence and Duration Report. Medicaid Prenatal Care Coordination Data 2007-2016.

Overview of the Wood County CHA/CHIP

continued

Healthy Growth and Development

- In 2015, **many received first trimester prenatal care** in Wood County (79 percent).[29]
- The percent of **preterm and low birthweight births, and the infant mortality rate, are lower** in Wood County compared to Wisconsin (1999 to 2015).[30,31]
- Although regular dental visits are recommended,[32] **less than half of Medicaid/BadgerCare+ members received a dental service** in the state fiscal year 2010 (37 percent).[33]
- **Smoking during pregnancy is high** in Wood County (20 percent), compared to 14 percent in Wisconsin from 1999 to 2015.[34]



[29] WI DHS, DPH, Office of Health Informatics (OHI). Wisconsin Interactive Statistics on Health (WISH) data query system, http://dhs.wisconsin.gov/wish/, Birth Counts and Fertility Modules, accessed 12/2016.
[30] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Preterm Birth and Low Birthweight Module, accessed 12/2016.
[31] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Infant Mortality Module, accessed 12/2016.
[32] The American Dental Association (ADA). ADA Statement on Regular Dental Visits. June 10, 2013. http://www.ada.org/en/press-room/news-releases/2013-archive/june/american-dental-association-statement-on-regular-dental-visits, accessed 1/2017.
[33] WI DHS, DPH, County Oral Health Wisconsin Surveillance System (COWSS). https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm, accessed 12/2016.
[34] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Birth Counts Module, accessed 12/2016.

Social Determinants of Health Inequities

SOCIAL DETERMINANTS OF HEALTH INEQUITIES

The World Health Organization (WHO) provides a framework for understanding the social determinants of health inequities.[35] Central to this framework is how our social, economic, and political context (such as public policies and cultural norms) shapes and defines social hierarchies related to social class, socioeconomic position, gender, and race/ethnicity. This includes considering relationships of power and differential access to resources and privilege.

Social stratifications shape and influence our material circumstances (living and working conditions, food access); interactions with health systems; and individual behaviors, biological, and psychosocial factors that affect health equity across populations and geographies. This section presents a description of the community in Wood County;[36] highlights the role of income, occupation, education, gender, race/ethnicity, access to quality care, and social cohesion in health, including examples from Wood County when possible; indicates the life expectancy and leading causes of mortality; and closes with a reflection on promoting health equity.

[35] Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). Geneva, WHO, 2010. http://www.who.int/social_determinants/corner/SDHDP2.pdf accessed 12/2016.

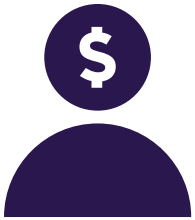
[36] *Community* is used to refer to all people in Wood County.

Social Determinants of Health Inequities

continued

KEY FINDINGS

- **Wood County residents with higher incomes tend to live longer.**[37]
- **Poverty has increased** in Wood County from 8.0 percent in 2006 to 11.3 percent in 2015. Child poverty was also high in 2015 (14 percent among children ages five to 17 in families).[38]
- While more than 90 percent of the Wood County population age 25 years and older has completed high school (92 percent), there are **fewer with a bachelor's degree** in Wood County (20 percent), compared to the state (28 percent).[39]
- The **population reporting Hispanic/ Latino ethnicity increased slightly** from 1 percent to 3 percent in Wood County from 1999 to 2015.[40,41]
- The most commonly identified **best resources in the community were community groups and social services** (e.g., Human Services, St. Vincent de Paul, clubhouses, peer specialists), followed by reproductive health and clinical services (e.g., Free Clinic, Planned Parenthood), educational resources (e.g., the library and schools), and local food and farming (e.g., farmers' markets, co-ops).[42]



[37] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.
[38] US Census. Small Area Income and Poverty Estimates (SAIPE). Wood County and Wisconsin. www.census.gov, accessed 1/2017.
[39] US Census. Quick Facts. Wood County and Wisconsin. (2011 to 2015) www.census.gov, accessed 1/2017.
[40] WDHS, Division of Public Health (DPH), OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm. Population Module, accessed 12/2016.
[41] WDHS population estimates by Hispanic Ethnicity (of any race).
[42] Wood County CHA focus groups, 2015.

Social Determinants of Health Inequities

continued

DESCRIPTION OF COMMUNITY

This community health assessment focuses on Wood County, Wisconsin. Wood County covers 809 square miles[43] and is located in the center of Wisconsin. Pittsville is commonly considered to be the center of Wisconsin[44] and recent calculations locate the geographic center of the state on the eastern edge of Auburndale in Wood County.[45,46]

The county seat is located in Wisconsin Rapids. The county is more rural than Wisconsin overall, with 37 percent of the population in rural areas and the majority in urban clusters, 63 percent in 2010. With 793 square land area miles, Wood County had a population density of 94 people per square mile in 2010.[47]

[43] US Census. 2016 Census Gazetteer Files. Wisconsin. http://www2.census.gov/geo/docs/maps-data/data/gazetteer/2016_Gazetteer/2016_gaz_counties_55.txt accessed 1/2017.

[44] Pittsville website. Available at http://pittsvillewi.com/.

[45] 44.6243N Latitude, 89.9941W Longitude according to the recent article: Rogerson, Peter. A New Method for Finding Geographic Centers, with Application to the U.S. States. *Professional Geographer*. August 14, 2015: 686-694. http://www.tandfonline.com/doi/full/10.1080/00330124.2015.1062707 accessed 2/2017.

[46] WI State Cartographer's Office data request. This finding will be updated and added to the "Wisconsin Geography Statistics," http://www.sco.wisc.edu/mapping-topics/wisconsin-geography-statistics2.html .

[47] US Census. Quick Facts. Wood County and Wisconsin. www.census.gov accessed 1/2017.

Social Determinants of Health Inequities

continued

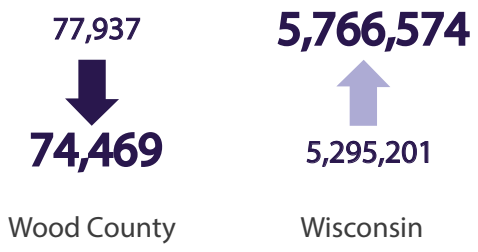
People and Environment

In 2015, the population of Wood County was 74,469. This represents a decrease from 77,937 in 1999, while the population of Wisconsin increased from 5,295,201 to 5,766,574 in the same time period.[48]

- **The age distribution has shifted towards older adults in both Wood County and Wisconsin since 1999**. The percent of the population under 45 years old has decreased, while the percent over has increased.[49]
- In both Wood County and Wisconsin, the population is approximately half female and half male.[50,51]

The Percent of Older Adults Has Increased in Wood County

Population Change from 1999 to 2015[52]



[48] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm. Population Module, accessed 12/9/2016.
[49] Ibid.
[50] Ibid.
[51] Census data only report the population female and male, non-binary options were not included.
[52] WI DHS. Population Module. 2016.

Social Determinants of Health Inequities

continued

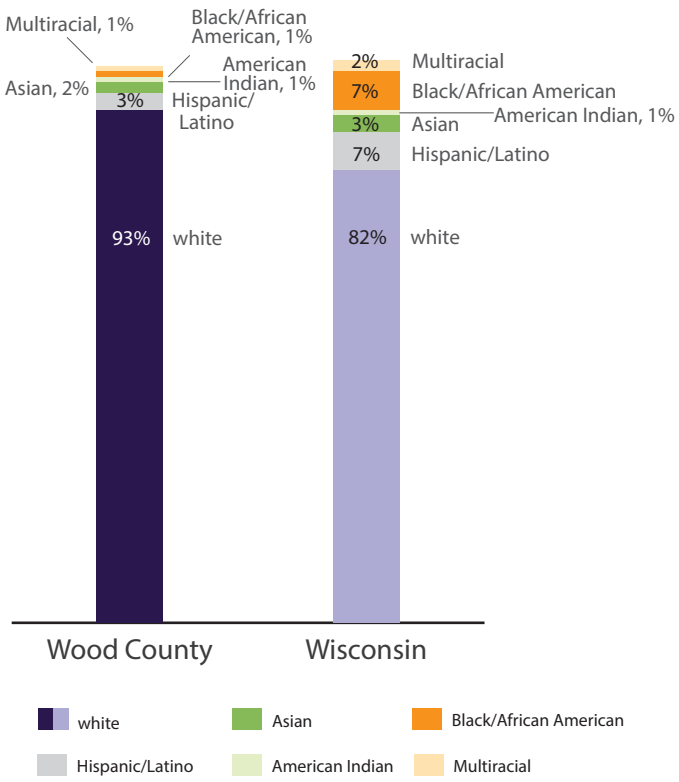
The majority of the population in Wood County is white (not Hispanic or Latino), 93 percent,[53] followed by Hispanic/Latino (three percent), Asian (two percent), American Indian (one percent), Black/African American (one percent), and those reporting two or more race categories (one percent).

- **The population reporting Hispanic/Latino ethnicity increased slightly from one to three percent, 1999 to 2015, in Wood County.**[54,55]

- More specifically, Wood County is home to Hmong, Ho-Chunk, and Amish communities.

The Ho-Chunk Nation, the "People of the Big Voice" or "People of the Sacred Language,"[56] has tribal lands in Wood County. Wood County is part of treaty land that has been claimed historically by multiple tribes including the Ho-Chunk, Ojibwe, and Menominee Nations.[57] Much of the land was taken through federal government treaties.

Race and Hispanic Ethnicity, 2015[58,59]



[53] According to US Census categories, those reporting Hispanic/Latino ethnicity may be of any race, and are included in the applicable race categories unless specifically noted otherwise, as indicated here.
[54] WI DHS. Population Module. 2016.
[55] WI DHS population estimates by Hispanic Ethnicity (of any race).
[56] Ho-Chunk Nation Department of Heritage Preservation. Division of Cultural Resources. About Ho-Chunk Nation. http://www.ho-chunknation.com/about.aspx accessed 12/2016.
[57] Jones, George O. *History of Wood County, Wisconsin*. H. C. Cooper, Jr. & Cooper, 1923. http://digital.library.wisc.edu/1711.dl/WI.JonesHist accessed 12/2016.
[58] US Census. Quick Facts. Wood County and Wisconsin. www.census.gov accessed 1/2017.
[59] Percentages do not add up to 100 in the figure due to rounding. Unrounded values total 100 for Wood County. In Wisconsin, unrounded values total 101, likely due to the small percentage (< one percent) who may be reporting both Hispanic/Latino ethnicity and a race category other than white in the state.

Social Determinants of Health Inequities

continued

The area was once covered by Glacial Lake Wisconsin. Cranberries, native to the region, grow well with the high water table in the sandy soils and wetland areas of Wood County.

- **In fact, more than 60 percent of the nation's cranberries come from Wisconsin, with Wood County having the most acres of cranberries of any county in the state.**[60]

The Wisconsin River flows through the county, connecting residents to waters shared across many Wisconsin communities. In Wood County, the river has provided access to an essential natural resource, supporting water-related recreation and industry. Along the river, lumber and paper mills have thrived and continue to be a prominent local industry.

Photograph by Kallista Bley from Glacial Lake Cranberries Tour

[60] WI State Cranberry Grower's Association. http://www.wiscran.org/cranberries/.

Social Determinants of Health Inequities

continued

INCOME AND OCCUPATION

There is a well-documented relationship between health and economic factors such as income and occupation.[61,62] CHA input from the Wood County community highlighted the important role of income and occupation, as well as the overall economy in health.

- In the Wood County CHA Survey, **income and employment were among the top five most important community health concerns,** alongside mental health and substance use (both drugs and alcohol).

From the survey, the Steering Committee identified income and employment as cross-cutting issues that would need to be addressed as social determinants of health inequities across the four community health priorities.

This emphasis was echoed in focus groups conducted with diverse stakeholder groups, including low-income individuals, people affected by mental illness, youth, and Hmong community members. Participants most commonly identified economic factors as the cause of current health needs in the community. These economic factors included the need for quality jobs with good salaries and benefits; an improved economy; lower unemployment; and improved affordability of basic needs, health care and insurance, dental care, gyms, and healthy foods. Among these causes, participants described **"not having good high paying jobs," "the economy [because] we can't afford the foods we need,"** and that **"employment is a huge thing."** In addition, financial barriers were identified by focus groups as both the primary challenge to maintaining health and the most common barrier to care.

ECONOMIC FACTORS

were identified as the most common:

- **cause of current health needs,**
- **challenge to health,** and
- **barrier to care**

among focus group participants.

[61] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.
[62] Marmot, M. Social Determinants of Health Inequalities. The Lancet, Volume 365, Issue 9464, 1099 - 1104.

Social Determinants of Health Inequities

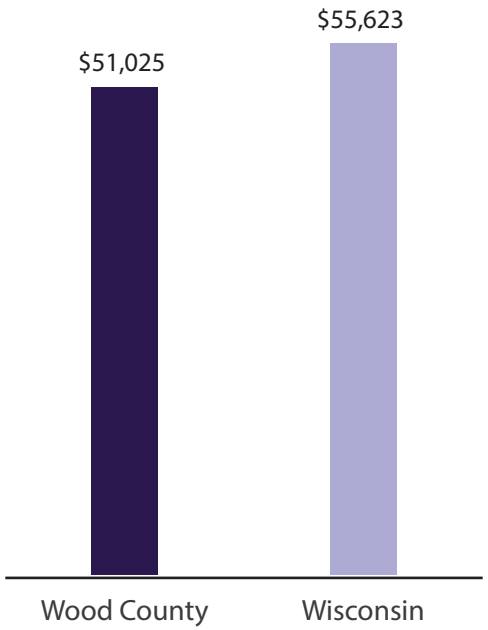
continued

Household Income

- **In 2015, the median household income was $51,025 in Wood County, compared to $55,623 in Wisconsin.**
- When incomes from previous years were adjusted for inflation, there was a statistically significant decrease in median household income in Wood County from 2007 to 2015.[63]
- Alongside a low median income, a high percent of renters pay more than 30 percent of their income on rent in Wood County (45 percent for 2011 to 2015).[64] This percent is similar to Wisconsin.

Median household income is lower in Wood County, compared to Wisconsin overall

Median Household Income, 2015[65]



[63] US Census Bureau. SAIPE. List of Counties with Significant Changes between 2007 and 2015. http://www.census.gov/did/www/saipe/methods/yrtoyrcomparison.html.
[64] US Census. 2011-2015 American Community Survey 5-Year Estimates. www.census.gov accessed 1/2017.
[65] US Census Bureau. Small Area Income and Poverty Estimates (SAIPE). Wood County and Wisconsin. www.census.gov accessed 1/2017.

Social Determinants of Health Inequities

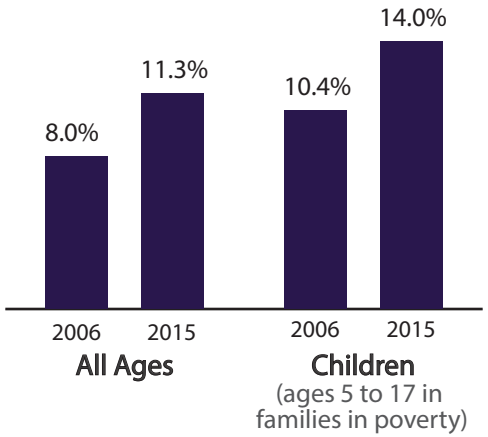
continued

Poverty

- In 2015, 11.3 percent of the population was living in poverty in Wood County, compared to 8.0 percent in 2006.
- **The percent of children (ages five to 17) in families in poverty was high in 2015 (14.0 percent).** A similar trend was seen in Wisconsin.

Poverty has increased in Wood County

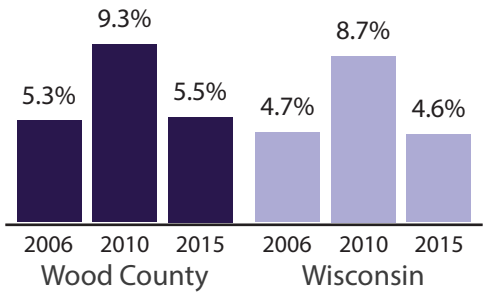
Poverty in Wood County, 2006 and 2015[67]



Unemployment

- **The unemployment rate among those in the labor force in Wood County decreased** from 9.3 percent in 2010 (in the aftermath of the Great Recession[66]), to 5.5 percent in 2015. A similar trend was seen in Wisconsin.

Unemployment Rate, 2006, 2010, and 2015[68]



[66] National Bureau of Economic Research (NBER). Business Cycle Expansion and Contractions. http://www.nber.org/cycles.html.
[67] US Census Bureau. Small Area Income and Poverty Estimates (SAIPE). Wood County and Wisconsin. www.census.gov accessed 1/2017.
[68] Bureau of Labor Statistics. Local Area Unemployment Statistics. Unemployment Rate 2006 to 2015. available at https://www.bls.gov/lau/lauov.htm.

Social Determinants of Health Inequities

continued

EDUCATION

Educational attainment is associated with higher incomes and improved health outcomes.[69]

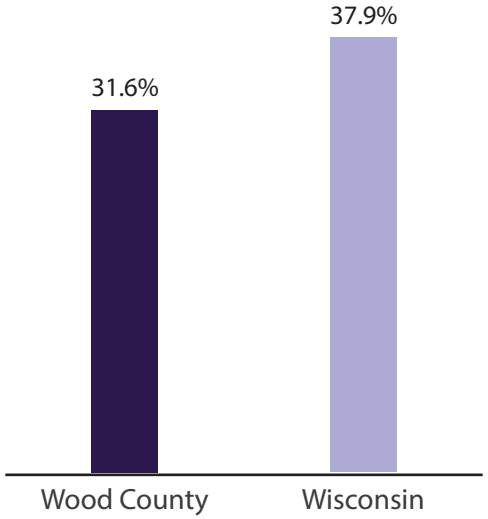
- More than 90 percent of the Wood County population age 25 years and older has completed high school (92 percent). This is similar to Wisconsin overall (91 percent).

- Mid-State Technical College has campuses in Wood County and yet **there are fewer residents with an associate's degree or higher here** (31.6 percent), compared to the state (37.9 percent). Those with an associate's degree or higher in the United States earned more on average and had a lower unemployment rate in 2015.[70]

Among Wood County adults (25 years+),

92% are high school graduates.

Associate's Degree or Higher (percent of persons age 25 years+), 2011 to 2015[71]



[69] Understanding the Relationship between Education and Health: A Review of the Evidence and an Examination of Community Perspectives. Content last reviewed September 2015. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/professionals/education/curriculum-tools/population-health/zimmerman.html.

[70] US Bureau of Labor Statistics. Earnings and Unemployment Rates by Educational Attainment, 2015. Current Population Survey. "Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers." Available at https://www.bls.gov/emp/ep_chart_001.htm.

[71] US Census. 2011-2015 American Community Survey 5-Year Estimates. www.census.gov accessed 1/2017.

Social Determinants of Health Inequities

continued

Increasing educational attainment across socio-economic, racial, and ethnic groups can lead to improved health equity. In terms of identifying what agency has a role in addresssing the Wood County community's current health needs, individuals affected by mental illness suggested during focus group conversations the **"bigger employers in town" have a responsibility to improve educational opportunities."** Participants also responded that there is a **need for "better education in schools"** to address our current health priorities. Among medical providers, one of the interviewees described the **"tremendous" education system** as one of the community's best resources, with another emphasizing the important role of schools. To improve health equity, it will be necessary to assure equitable access to quality educational opportunities, especially among Wood County's most vulnerable populations.

Social, economic, and political contexts – for example housing and planning policies – shape the neighborhood conditions that create differential exposures, opportunities, and outcomes across populations and geographies.[72,73,74,75] Place matters and given the influential role of both income and education on health, the spatial distribution of low-income and educational attainment across local geographies in Wood County is considered here. The map on the following page shows the percent of the population in Wood County living at or below the poverty level and without a high school diploma or equivalency. The highest concentrations of poverty are located in the southeast of the county (e.g., 20.2 percent), as well as small census tracts in the north. Community networks, power building, and social engagement can support strength and resiliency locally and reduce neighborhood inequities.[76,77]

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[72] Solar, 2010.

[73] Diez Roux, Ana V., Christina Mair. Neighborhoods and Health. Ann. N.Y. Acad. Sci. 1186 (2010): 125-145. available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1749-6632.2009.05333.x/pdf.

[74] Williams, David R., Chiquita Collins. Racial Residential Segregation: A Fundamental Cause of Racial Disparities in Health. Public Health Reports. Volume 116 (September-October 2001): 404 -416. available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1497358/.

[75] Fernández Campbell, Alexia. Neighborhoods Can Shape Success – Down to the Level of a City Block. The New York Times. May 23, 2016. available at https://www.theatlantic.com/business/archive/2016/05/how-a-neighborhood-block-can-affect-a-persons-success/483983/?utm_source=atlfb&utm_source=Intersection+Health&utm_campaign=816ea3d35f-5_25_IH&utm_medium=email&utm_term=0_1f2a5cef2f-816ea3d35f-141314865.

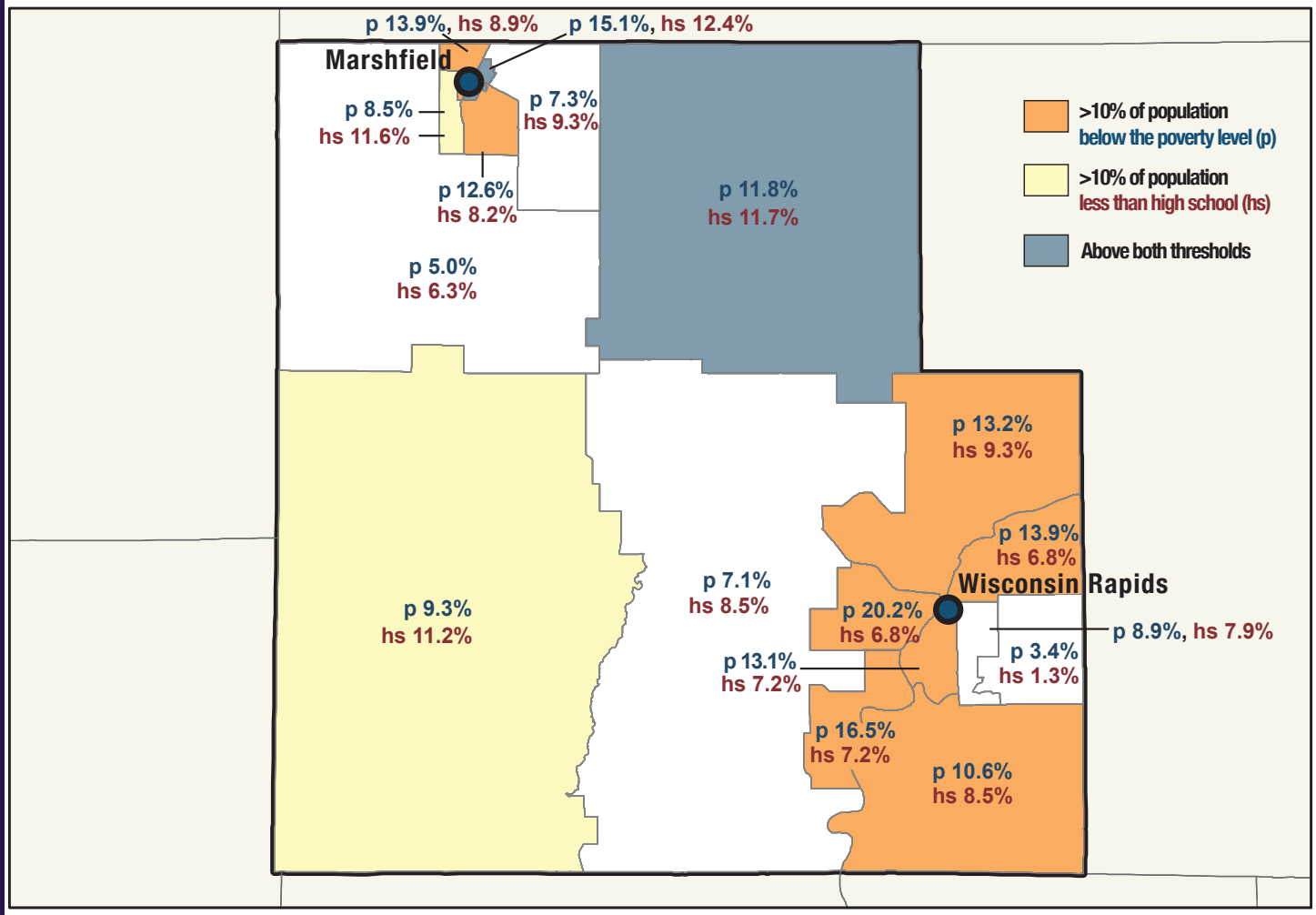
[76] Solar, 2010.

[77] Bornstein, David. How Community Networks Stem Childhood Traumas. The New York Times. August 17, 2016. https://www.nytimes.com/2016/08/17/opinion/how-community-networks-stem-childhood-traumas.html?utm_source=Intersection+Health&utm_campaign=6c75e273a1-8_11_IH&utm_medium=email&utm_term=0_1f2a5cef2f-6c75e273a1-141314865.

Social Determinants of Health Inequities

continued

Percent of the Population Living at or below the Federal Poverty Level and without a High School Diploma (or Equivalency), 2011 to 2015[78]



[78] Community Commons Vulnerable Populations Footprint. US Census American Community Survey 2011-2015. Available at communitycommons.org.

Social Determinants of Health Inequities

continued

GENDER

Gender is a form of social identity that may or may not align with sex assigned at birth, (e.g., female, male, or intersex).[79] Gender categories are non-binary and encompass a spectrum of experiences, such as those who identify as women, men, transgender, and genderqueer. According to the World Health Organization (WHO), the "socially constructed characteristics" of gender include "norms, roles, and relationships" that vary across time, cultures, and geographies.[80] Given gender-based discrimination, these norms position individuals with differential access to income, education, and power according to gender identity. This gender inequality results in unequal health outcomes across groups. For Wood County, data on the county's gender distribution are presented on page 20. As noted there, data were only available for the population female and male, and non-binary options were not included.

[79] WHO. Gender Definition and Fact Sheet. http://www.who.int/gender-equity-rights/understanding/gender-definition/en/ accessed 1/2017.

[80] WHO. Gender Definition and Fact Sheet.

Social Determinants of Health Inequities

continued

RACE AND ETHNICITY

Racial and ethnic inequities in health continue to persist. These inequities result from differential exposures (social, political, economic, environmental), differential access to prevention and treatment services (including those related to both mental and physical health), and differential quality of care according to social categories of 'race' and experiences of racism.[81] Racism can be understood as the "system of structures, process, and values that results in differential outcomes by 'race,'" and may be present at various levels: "cultural, institutional, interpersonal, and internalized."[82]

Historical trauma, a concept developed by Dr. Maria Yellow Horse Brave Heart, refers to the "cumulative emotional and psychological wounding over one's lifetime and from generation to generation following loss of lives, land, and vital aspects of culture."[83,84] A history of displacement, relocations, slavery, unjust treaties, forced assimilation, tribal terminations, racial segregation, incarceration, and inequitable development and investment has led to historical trauma and exacerbated the racial health inequities we face across the country and in Wisconsin communities today. For example, racially restrictive covenants on property, discriminatory federal housing policies and banking practices such as redlining, exclusionary zoning and urban planning, and the resulting residential and school racial segregation, alongside differential law enforcement and incarceration,[85,86] have resulted in different life and health opportunities among communities of color. In addition, research has demonstrated that sustained stress across the life course (e.g., historical trauma) has physiological

[81] American Public Health Association (APHA). Research and Intervention on Racism as a Fundamental Cause of Ethnic Disparities in Health. Policy Statement 2017. January 01, 2001. http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database accessed 1/2017.

[82] APHA. Policy Statement 2017.

[83] Wisdom of Elders, Inc. Transcending Historical Trauma. http://discoveringourstory.wisdomoftheelders.org/resources/transcending-historical-trauma accessed 9/2016.

[84] Takini's Historical Trauma. https://web.archive.org/web/20140517094521/http:/historicaltrauma.com/

[85] Hutson, Malo André (2012). "Metropolitan Fragmentation and Health Disparities: Is There a Link?" The Milbank Quarterly, Vol 90. No 1 (p187-207).

[86] Iton, Anthony (2006). "Tackling the Root Causes of Health Disparities through Community Capacity Building" in ed. Hofrichter, Richard, Tackling Health Inequities Through Public Health Practice: A Handbook for Action, National Association of County and City Health Officials: p 124.

Social Determinants of Health Inequities

continued

effects and can increase health risks,[87,88] potentially across generations.[89] According to the 2013 Race to Equity Baseline Report, the magnitude of many racial disparities in Wisconsin far exceed national averages.[90] Data on race and ethnicity for Wood County are detailed on page 21.

[87] Unnatural Causes. Backgrounders from the Unnatural Causes Health Equity Database: Chronic Stress. available at http://www.unnaturalcauses.org/assets/uploads/file/primers.pdf.

[88] McEwen, Bruce S. and Peter J. Gianaros. "Central role of the brain in stress and adaptation: Links to socioeconomic status, health, and disease." Ann. N.Y. Acad. Sci. 1186 (2010) 190–222. available at http://www.unnaturalcauses.org/assets/uploads/file/CentralRoleoftheBrain.PDF.

[89] Collins, James W., Jr., et al. "Very Low Birthweight in African American Infants: The Role of Maternal Exposure to Interpersonal Racial Discrimination." *American Journal of Public Health* 94.12 (2004): 2132-8. *ProQuest.* Web. 8 Mar. 2017.

[90] Race to Equity. Baseline Report on the State of Racial Disparities in Dane County, 2013. http://racetoequity.net/.

Social Determinants of Health Inequities

continued

ACCESS TO QUALITY CARE

The quality of and access to care were among the top ten rated health issues on the Wood County CHA Survey. Alongside income and employment, the Steering Committee also identified the quality of and access to care from the survey as cross-cutting issues to be addressed across all community health priorities. Access to quality, compassionate care was also among the most important health concerns identified by underserved populations during focus group conversations. In particular, participants highlighted **financial** and **transportation barriers** to accessible care, as well as a **lack of compassion and training** among providers.

When asked specifically about what prevents community members from receiving care, the most common barrier was financial (including income, cost, affordability, and insurance), mentioned across all focus groups, followed by a lack of quality services (including a lack of compassionate care, lack of available services and staff, poor communication, uncoordinated care, and ethnic disparity).

Participants described a "need for more compassion and understanding with people" particularly related to mental health, describing experiences feeling "stigmatized," and a "bad experience with existing services," as well as "staff shortage[s]," "unavailability" of services, and "poor communication between providers" that resulted in treatment delays. One participant shared that "people are concerned about being cared for here," and another described the experience of waiting or seeking care farther away to find a location where, in their words, "I didn't feel like I was being judged and felt very comfortable."

Other barriers to care that were identified included a lack of awareness (of health information or resources), poor health (e.g., "physically unable" to seek care or "acutely mentally ill"), transportation challenges, and other competing priorities.

Medical providers interviewed also identified financial barriers and income disparities among the most common barriers to care and maintaining health. The need for quality, compassionate care was particularly echoed by Emergency Department (ED) physicians who indicated that those in crisis were not seen by mental health professionals in the ED and that "staff do not feel well equipped to address the patient's concerns." Another physician shared the importance of how to provide care so that people "feel they're respected," and recognizing the need to foster "hope."

Many Report Barriers To Affordable, Quality Care In Wood County

Social Determinants of Health Inequities

continued

SOCIAL COHESION

Social cohesion refers to the social relationships between individuals, communities, institutions, and the state, and the ability to work together, foster civic participation, and develop community-driven decision-making and policy to improve equity and quality of life.[91]

Focus group conversations with underserved populations in Wood County emphasized the importance of social connection. In describing a healthy lifestyle, the most common theme across all focus groups was **connection** including social support, low stress and positivity, being engaged and busy, and overall well-being. In terms of social support, diverse participants described the role of family, relationships, and supportive people such as "going to talk to someone if you have stress." Many participants also shared the importance of low stress, a positive attitude, hope, sleep, and feeling good mentally. Both elders and youth noted the need for engagement, with elders describing "being healthy enough to keep busy," making things and activities such as "crocheting, sewing," and for youth, "setting goals" and "academic success" were mentioned. Others highlighted overall well-being that included both mental and physical health, and self-care.

Social cohesion is more than social connection and involves engagement in decision-making and policy. In identifying whose role it is to address identified health needs, the most common themes across focus group conversations were the **community** (including "everyone," "anyone," and "ourselves") and the **government** (e.g., health department, federal government including Congress, schools, human services, and the mayor).[92] One example of fostering the relationship between community and government is the Wood County CHA that aims to be community-driven and to center the voices of impacted community members in identifying public health priorities, decisions, and policies in an ongoing manner.

[91] Solar, 2010.

[92] Others with a role who were mentioned in some focus group conversations included health care providers, peer and outreach groups, and local organizations (e.g., employers, restaurants, and community groups).

Social Determinants of Health Inequities

continued

Fourth of July Fireworks Show

Events in Wood County have been organized by and for the local community to help build social cohesion, relationships, and trust. For example, Wood County youth have fostered community cohesion and gained leadership skills through the annual Fourth of July fireworks show in Wisconsin Rapids. Incourage's Teen Fireworks Committee includes Wood County high school students from Nekoosa, Assumption, Port Edwards, and Lincoln, and works in collaboration with area municipalities, community residents, and area businesses. Thousands gather along the Wisconsin River in downtown Rapids for this annual event.

Photograph by Nick Lally. July 4, 2016

Incourage Community Picnic

Photograph by Nick Lally. August 3, 2016

An annual community picnic in Wisconsin Rapids has been hosted by Incourage to strengthen neighborhood connections since 2012. The event has become increasingly community supported with more than 400 volunteers contributing more than 1,000 hours, and more than three-fourths of the food partners incorporating local ingredients in 2016.[93] The event is accessible with no cost to participate or to enjoy the picnic beverages, food, and activities. Over 7,000 attended in 2016.

[93] Incourage Foundation. Community Picnic. incouragecf.org/act/community-picnic/.

Social Determinants of Health Inequities

continued

COMMUNITY STRENGTHS AND RESOURCES

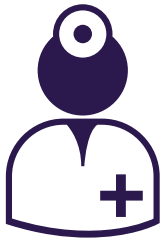
Wood County has vibrant communities, with a breadth of strengths and resources that connect and support local residents. As part of the HPWC CHA/CHIP process, representatives from medically underrepresented and vulnerable populations described the community's best resources. This section presents those asset-related findings. Other strengths and resources were identified through the HPWC coalition strategic planning process and are detailed in Appendix E.[94]

The most commonly identified assets during focus group conversations were **community groups and social services** in Wood County.[95] These included government, nonprofit, and peer supports:

- Human Services (e.g, Comprehensive Community Services (CCS) and Community Support Program (CSP))
- Creative Community Living Services (CCLS),
- St. Vincent de Paul
- Personal Development Center, Inc., (PDC)
- Family Center
- Clubhouses
- Peer Specialists

Many of these community groups and social services support independent living among those affected by mental health, disability, and domestic violence and assault. For St. Vincent de Paul, participants referenced the organization itself, staff, volunteers, and outreach programs as "good resources." In addition, medical provider interviewees highlighted other community groups such as the Boys and Girls Club, YMCA, United Way, and community volunteer groups.

Wood County **reproductive health and clinical services** were also described among the community's best resources – the second most common response. Participants specifically mentioned:



- Planned Parenthood
- Free Clinic
- Doctors
- Translators

The importance of accessibility of the services was noted, with specific references to services that were "free" and description of how translators can be "helpful." One participant described experiences with doctors who were "nice and willing to help." The physicians interviewed also emphasized these services, with additional reference to the hospital and the health care system.

[94] Appendix E is included a separate technical appendix document.
[95] Icons made by Freepik from www.flaticon.com.

Social Determinants of Health Inequities

continued

Educational resources were also viewed as a strength in Wood County. For example, the following were mentioned by focus group participants:

- Library
- Schools (specifically nutrition and health classes)

Medical provider interviewees also described the "tremendous" education system and schools as community assets.

Several topics emerged as themes within, rather than across focus groups. These include **local food and farming,** and religion. Youth, in particular, described local food and farming among the community's greatest resources. These youth highlighted "places in the community that are gaining more healthy options," and the importance of seeing how the food you eat is made.

- Farmers' Markets
- Farming
- Co-ops

Reference was also made to religion, with specific mention of prayer and churches among the community resources in Wood County.

There was singular mention of "us" (referring to youth) and the courthouse as community resources among focus group participants. In addition, medical providers noted "well supported" youth activities, first responders, police, and the Legacy Foundation as community resources.

When asked how the community supports the ability to lead a healthy lifestyle, the most common response across focus group participants was the need for **more support,** including increased awareness and accessibility of existing resources. Some participants noted the benefits of United Way 2-1-1, bulletin boards as no-cost options for advertising programs, and CCLS home support. A couple of other participants indicated they didn't feel the community supports healthy lifestyles. Suggestions to improve awareness included: developing a catalog or directory of resources, better communication about supports available (particularly for low-income individuals), and providing information about how to access services for those without transportation, insurance, or sufficient income. Again, the importance of free, no-cost, and financial support was emphasized.

> **"[The] Community Needs to Help Others More."**
>
> -St. Vincent de Paul Participant

Social Determinants of Health Inequities

continued

LIFE EXPECTANCY

Life Expectancy by Income

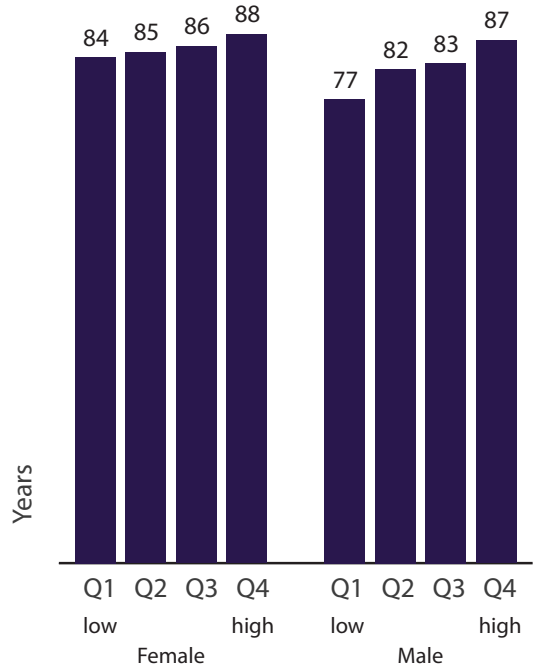
How long we live is influenced by many factors, particularly social class. In the United States, a history of racially restrictive policies (including slavery, segregation, and redlining) has limited access to jobs, housing, educational opportunities, and wealth accumulation, resulting in racial and ethnic inequities in social class. Research has strongly demonstrated a relationship between income and life expectancy.[96,97,98,99] This pattern holds in both Wood County and Wisconsin.

- From 2001 to 2014, **life expectancy increased as income increased** in Wood County, for both females and males.

In addition, the life expectancy gap between higher income and lower income individuals has been increasing nationally.[100]

Life Expectancy Increases with Income in Wood County

Wood County Life Expectancy for Females and Males by Income Quartiles, 2001 to 2014[101]



[96] Chetty R, Stepner M, Abraham S, Lin S, Scuderi B, Turner N, Bergeron A, Cutler D. The Association Between Income and Life Expectancy in the United States, 2001-2014. *JAMA*. 2016;315(16):1750-1766.

[97] National Academies of Sciences, Engineering, and Medicine (NASEM). (2015). *The Growing Gap in Life Expectancy by Income: Implications for Federal Programs and Policy Responses.* Committee on the Long-Run Macroeconomic Effects of the Aging US Population-Phase II. Committee on Population, Division of Behavioral and Social Sciences and Education. Board on Mathematical Sciences and Their Applications, Division on Engineering and Physical Sciences. Washington, DC: The National Academies Press. https://www.nap.edu/catalog/19015/the-growing-gap-in-life-expectancy-by-income-implications-for

[98] Marmot, M. Social Determinants of Health Inequalities. The Lancet , Volume 365 , Issue 9464 , 1099 - 1104.

[99] Marmot, M.G, et al. Health inequalities among British civil servants: the Whitehall II study. The Lancet, 8 June 1991, Vol.337(8754), pp.1387-1393.

[100] NASEM 2015. *The Growing Gap in Life Expectancy by Income: Implications for Federal Programs and Policy Responses.*

[101] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.

Social Determinants of Health Inequities

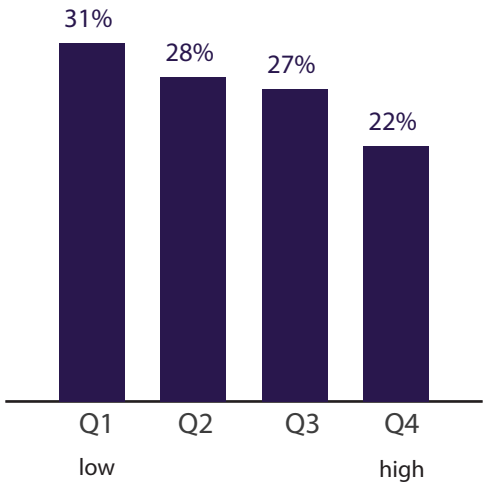
continued

Obesity by Income

Income is associated with longer life expectancies, as well as the corresponding protective factors to prevent chronic illness. As income increases, the rates of obesity decrease, physical activity increases, and smoking generally decreases. According to the Health Inequality Project, much of the life expectancy differences by income are attributable to differences in obesity, physical activity, and smoking.[102] Of note, the World Health Organization (WHO) framework documents how health behaviors such as these are shaped by the material circumstances in which people live – for example, whether there is local access to fresh produce and safe places to be physically active. It is social, economic, and public policies that structure these opportunities inequitably across populations and geographies.[103]

- **Obesity is highest among the lowest income populations** in Wood County (31 percent). There is a stepwise decrease in the percent obese as income increases in Wood County. The lowest obesity fraction was seen among the highest income quartile (22 percent).

Obesity by Income Quartiles (Q1 to Q4) in Wood County, 2001 to 2014[104]



[102] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.
[103] Solar, 2010.
[104] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.

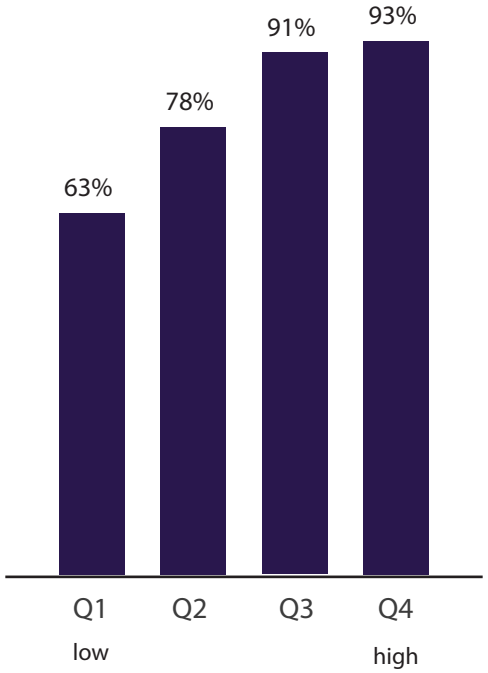
Social Determinants of Health Inequities

continued

Physical Activity by Income

- **Physical activity increases with income in Wood County.** More than 90 percent of the two highest income groups exercised in the 30 days before the survey (91 percent and 93 percent respectively for quartiles three and four). Among the lowest income quartile, only 63 percent had exercised that month.

Physical Activity by Income Quartiles (Q1 to Q4) in Wood County, 2001 to 2014[105]



[105] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.

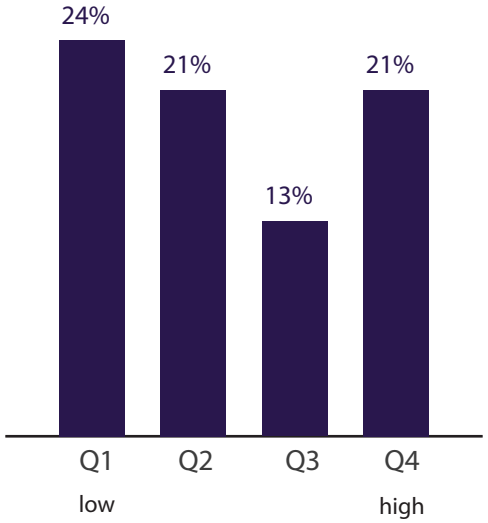
Social Determinants of Health Inequities

continued

Smoking by Income

- In Wood County, **the highest fraction of current smokers is among the lowest income quartile** (24 percent). With the exception of the highest income quartile, smoking decreases in Wood County as income increases.

Current Smokers by Income Quartiles (Q1 to Q4) in Wood County, 2001 to 2014[106]



[106] Chetty, Raj, et al. The Health Inequality Project. https://healthinequality.org/data/ accessed 11/2016.

Social Determinants of Health Inequities

continued

LEADING CAUSES OF MORTALITY

- There were 800 deaths in Wood County in 2015, resulting in an age-adjusted death rate of 693.7 per 100,000 population. This mortality rate is lower than that of Wisconsin in the same year (716.4).[107]
- In fact, from 1999 to 2015, many of the top ranked causes of death in Wood County were lower than age-adjusted death rates for Wisconsin (deaths per 100,000 population). This includes heart disease (161.2 compared to 182.5), cancer (159.8 compared to 176.1), stroke (41.0 compared to 44.7), accidents (36.1 compared to 41.5), Alzheimer's disease (19.8 compared to 23.1), and diabetes (16.2 compared to 19.9).
- **The leading causes of death in Wood County were heart disease and cancer in 2015,** as well as across the period 1999 to 2015.
- While the overall mortality rate did not decrease in Wood County in 2015 compared to previous years (1999 to 2015), the rates of the top causes of death, heart disease and cancer, did decrease.[108]
- Other top causes of death in 2015 included chronic lower respiratory diseases, accidents (unintentional injuries), stroke, Alzheimer's disease, diabetes, kidney disease, influenza and pneumonia, and intentional self-harm (suicide).

Heart Disease and Cancer are the Most Common Causes of Death in Wood County

[107] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Mortality Module, accessed 11/2016.

[108] The decrease in the rate of heart disease was signficant. For cancer, the confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.

Social Determinants of Health Inequities

continued

PROMOTING HEALTH EQUITY

Healthy People Wood County, along with organizations such as the World Health Organization (WHO),[109,110,111] the Centers for Disease Control and Prevention (CDC),[112] the National Association of City and County Health Officials (NACCHO),[113] and Healthy People 2020,[114] among many others, is committed to promoting health equity and addressing the social production of health inequities. To further health equity, there is a need for county leadership to be responsive to and reflective of diverse populations, for services provided to be culturally and linguistically appropriate, and for policy development and decision-making to involve impacted communities.

For community health improvement, it is important to build power in communities impacted by inequities; this can include leadership development opportunities, supporting meaningful relationship building between community members to work on topics of most shared interest, and creating meaningful opportunities for community members to be a part of local decision-making. In addition, it is critical to engage sectors such as economic development, transportation, food and agriculture, education, criminal justice, natural resources, and social services, whose decisions shape the context and environments of inequity.

[109] WHO. Social Determinants of Health. http://www.who.int/social_determinants/en/ accessed 12/2016.
[110] WHO. Health Systems: Equity. http://www.who.int/healthsystems/topics/equity/en/ accessed 12/2016.
[111] Solar, 2010.
[112] CDC Social Determinants of Health. http://www.cdc.gov/socialdeterminants/ accessed 12/2016.
[113] National Association of City and County Health Officials. Roots of Health Inequity. http://www.rootsofhealthinequity.org accessed 12/2016.
[114] Healthy People 2020. Social Determinants of Health. https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health accessed 12/2016.

Mental Health and Well-Being

MENTAL HEALTH AND WELL-BEING

Mental health is one of the highest priority health issues in Wood County. Across all CHA data sources, mental health emerged as one of the most important areas of focus. Mental health was the highest ranked priority from the Wood County CHA Survey results (Appendix E) and community stakeholder meeting participants resoundingly rated mental health as the greatest priority (65 percent, compared to 11 percent or less for all other top ranked priorities). Likewise, across focus group conversations and interviews, mental health was emphasized as a key concern.

Mental health issues affect our communities nationally,[115] in Wisconsin, and locally in Wood County.[116] Common experiences of childhood trauma have been shown to affect mental health and well-being later in life. Globally, mental health – specifically major depression – is the leading cause of disability, and also contributes to mortality through suicide deaths.[117] In addition to depression, mental health issues include bipolar affective disorder (manic and depressive episodes), schizophrenia and other psychoses, dementia, autism spectrum disorders, and obsessive compulsive disorders, among others.[118,119]

There is a demonstrated relationship between mental and physical health. For example, serious psychological distress was shown to be associated with chronic illness and disease in Wisconsin.[120] In many ways, mental health is a driver of other health issues such as substance use and chronic illness. Mental health was identified as the primary driver of other health issues at the community stakeholder meeting. This means the other health concerns (e.g., alcohol and drug use, chronic illness, healthy eating, physical activity, food security, and oral health) were seen by participants as resulting

[115] US Department of Health and Human Services (DHHS). Mental Health: A Report of the Surgeon General. Rockville, MD. US DHHS, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 1999. Available at https://profiles.nlm.nih.gov/ps/access/NNBBHS.pdf.

[116] BRFSS, 2013 to 2015.

[117] WHO. Depression Fact Sheet. Available at gttp://www.who.int/mediacentre/factsheets/fs369/en/.

[118] WHO. Mental Health. http://www.who.int/topics/mental_health/en/ accessed 1/2017.

[119] US DHHS. Mental Health: A Report of the Surgeon General. 1999.

[120] WI DHS, DPH and Division of Mental Health and Substance Abuse Services. *Linking Mental and Physical Health: Results from the Wisconsin Behavioral Risk Factor Survey* (P-00066). Prepared by the Bureau of Health Information and Policy, DPH; and the Bureau of Prevention, Treatment and Recovery, Division of Mental Health and Substance Abuse Services. April 2009. http://dhs.wisconsin.gov/stats/brfs.htm, accessed 11/2016.

Mental Health and Well-Being

continued

from or an outcome of mental health issues. By addressing mental health as a primary driver, it is thought improvements will be seen in other health areas as well.

According to the Surgeon General, there are stark disparities in the availability and accessibility of mental health services according to income, employment, education, gender, race and ethnicity, age, and sexual orientation – even more so than for other health issues.[121] There are financial barriers to the accessibility of treatment, a dearth of culturally and linguistically appropriate mental health services, a lack of providers from diverse racial and ethnic backgrounds, and limited availability of services in rural areas.[122] Stories and experiences shared during focus groups and interviews suggest that these challenges and disparities are relevant locally in Wood County as well.

[121] US DHHS. Mental Health: Culture, Race, and Ethnicity. A Supplement to Mental Health: A Report of the Surgeon General DHHS. US Public Health Service. http://www.ct.gov/dmhas/lib/dmhas/publications/mhethnicity.pdf.
[122] US DHHS. Mental Health: A Report of the Surgeon General. 1999.

Mental Health and Well-Being

continued

KEY FINDINGS

- **Mental health was the highest ranked health priority according to the CHA survey and community stakeholder meeting.**
- **Many adults in Wood County have had adverse childhood experiences (ACEs).** Nearly half have experienced at least one ACE (46 percent), and 11 percent had four or more.[123]
- **Depression is common** among adults in Wood County (16 percent ever diagnosed) and high among youth (28 percent report depressive feelings).[124,125] Approximately one out of 10 adults suffer from frequent mental distress (11 percent).[126]
- **Self-inflicted injury emergency department visits doubled** from 2013 to 2014.[127]
- There are **fewer mental health providers** in Wood County per population (101 providers in 2015), compared to Wisconsin overall.[128]

[123] BRFSS, 2013 to 2015.
[124] BRFSS, 2013 to 2015.
[125] WI DPI. Youth Risk Behavior Survey. Survey Results 2016.
[126] BRFSS, 2013 to 2015.
[127] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Injury-Related Emergency Department Visits Module, accessed 11/2016.
[128] County Health Rankings & Roadmaps. *Mental Health Providers.* http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/62/data, accessed 11/2016.

ADVERSE CHILDHOOD EXPERIENCES (ACES)

Research has demonstrated a strong relationship between childhood experiences of trauma, and mental and physical health later in life.[129,130] In fact, the number of adverse childhood experiences (ACEs) are directly associated with a range of health-related issues over time including alcoholism, substance abuse, depression, suicide attempts, chronic illness, sexually transmitted infections, unintended pregnancies, financial stress, academic achievement, and early death, among others.[131] Many of these health issues are priorities in Wood County.

What are ACEs?

As measured in Wisconsin, ACEs include:[132,133]

- mental illness of a household member,
- substance abuse in the household,
- physical abuse by a parent or other adult in the home,
- verbal abuse by a parent or other adult in the home,
- parents divorced or separated,
- violence between parents or other adults in the household,
- incarcerated household member, and
- sexual abuse by an adult or someone five or more years older.

[129] Felitti, Vincent J et al. Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults. *American Journal of Preventive Medicine*, Volume 14, Issue 4, 245 – 258.
[130] CDC. About Adverse Childhood Experiences. https://www.cdc.gov/violenceprevention/acestudy/about_ace.html accessed Nov 2016.
[131] CDC. About the CDC-Kaiser Ace Study: Major Findings. https://www.cdc.gov/violenceprevention/acestudy/about.html accessed Nov 2016.
[132] BRFSS, 2013 to 2015.
[133] Note that only eight categories of ACEs are measured in the Wisconsin BRFSS module. The original Kaiser ACE study includes two additional categories of neglect.

Mental Health and Well-Being

continued

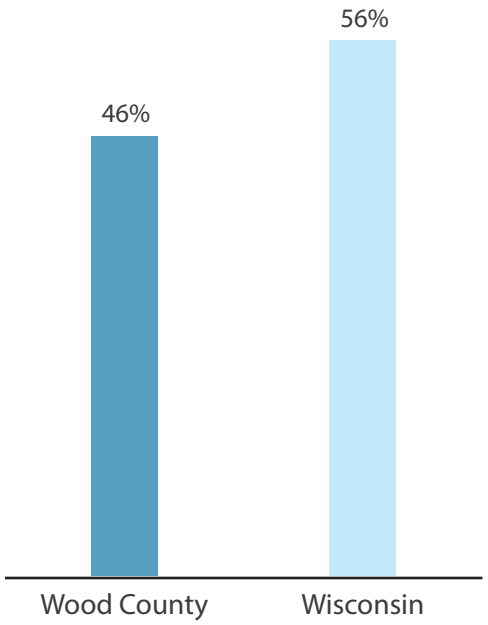
One or More ACEs

ACEs are fairly common in Wood County, but less so than Wisconsin overall.

- A majority of Wisconsin adult residents have at least one ACE (56 percent), and in Wood County this percentage drops slightly to nearly half (46 percent).[134]

Nearly Half of Wood County Adult Residents Have at Least One ACE

Adult Residents with at Least One ACE, 2013 to 2015[135]



[134] BRFSS, 2013 to 2015.
[135] BRFSS, 2013 to 2015.

Mental Health and Well-Being

continued

Four or More ACEs

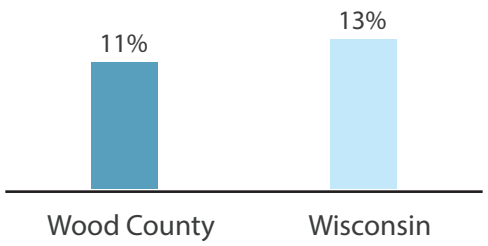
The impact of four or more ACEs is of particular concern given the dose-response relationship between the number of ACEs and the risk of poor health outcomes later in life.[136]

- **In Wood County, 11 percent of adult residents have four or more ACEs.** This is only slightly less than reported for the state (13 percent).
- In terms of those affected by multiple types of childhood trauma (four or more ACEs), the differences between Wood County and Wisconsin are slight and not significant, with both reporting more than 10 percent.

Through the development of safe, stable, and nurturing relationships and environments (SSNREs), Wood County can prevent ACEs, foster resilience, and promote protective factors.[137]

Approximately 1 out of 10 Wood County Adult Residents Have Four or More ACEs

Adult Residents with Four or More Adverse Childhood Experience (ACE), 2013 to 2015[138]



[136] CDC. About the CDC-Kaiser Ace Study: Major Findings. https://www.cdc.gov/violenceprevention/acestudy/about.html accessed Nov 2016.
[137] CDC. About Adverse Childhood Experiences: ACEs Can Be Prevented. https://www.cdc.gov/violenceprevention/acestudy/about_ace.html (accessed Nov 2016).
[138] BRFSS, 2013 to 2015.

Mental Health and Well-Being

continued

MENTAL DISTRESS AND DEPRESSION

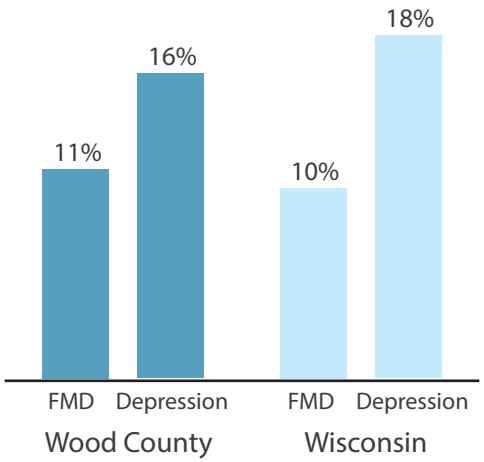
Adult Mental Distress and Depression

Many adults suffer from mental distress and depression.

- Approximately one among every ten adults report frequent mental distress in Wood County and Wisconsin (11 percent and 10 percent respectively).
- The percent ever diagnosed with depression was higher, 16 percent in Wood County and 18 percent in Wisconsin.

Depression is Common among Adults in Wood County

Adult Frequent Mental Distress (FMD) and Depression, 2013 to 2015[139]



[139] BRFSS, 2013 to 2015.

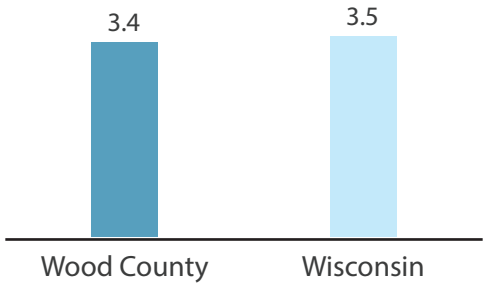
Mental Health and Well-Being

continued

Poor Mental Health Days

- The average number of poor mental health days in a month in Wood County (3.4), was similar to the state average for 2013 to 2015 (3.5).

Average Number of Poor Mental Health Days (reported in past 30 days), 2013 to 2015[140,141]



[140] BRFSS, 2013 to 2015.
[141] For Wood County, n=355, and for Wisconsin, n=19,822.

Mental Health and Well-Being

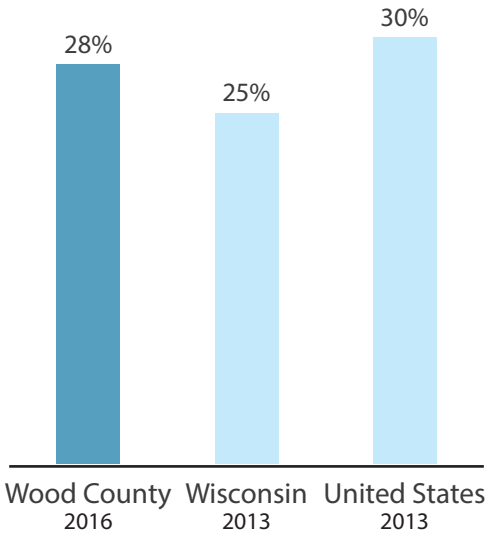
continued

Depressive Feelings Among Youth

- **Nearly a third of Wood County high school students reported feeling sad or hopeless** for two weeks or more in a row in the last twelve months and stopped some of their usual activities as a result (28 percent).

- These 2016 data are similar to state and national comparisons from 2013, the most recent year for which data are available (slightly more than Wisconsin, 25 percent, and slightly less than United States, 30 percent).

High School Youth with Depressive Feelings,[142,143]



[142] WI DPI. Youth Risk Behavior Survey.

[143] Wisconsin and United States 2013 data are weighted for 9th to 12th grade students. This may explain differences between Wood County and state and national comparisons. For Wood County, n=522.

INTENTIONAL SELF-HARM

Suicide Deaths

Intentional self-harm, including suicide and self-inflicted injuries, has effects beyond the individual that echo painfully throughout the community. The number of suicide deaths only begins to capture the scope of intentional self-harm in a population. For every suicide death, there is a larger number of hospitalizations and emergency department visits, even more primary care visits, and yet an even greater number of people not treated or seeking treatment outside the healthcare system for self-inflicted injuries. Suicidal thoughts are the most common form of self-harm, more so than attempts leading to injury and death.[144]

- In Wood County, there were 71 suicides from 2010 to 2015, with an average of 12 suicide deaths per year.
- **In 2013, there was a peak of 17 suicide deaths, the highest number reported in the period from 1999 to 2015,** despite a decline in the overall county population from 77,937 in 1999 to 74,469 in 2015.

17 suicide deaths in 2013

[144] WI DHA, the Injury Research Center at the Medical College of Wisconsin, and Mental Health America of Wisconsin. *The Burden of Suicide in Wisconsin, 2007 – 2011.* (2014).

Mental Health and Well-Being

continued

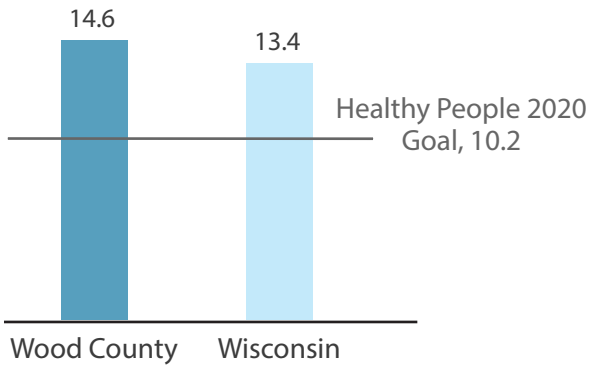
Suicide Rates

The Wood County and Wisconsin age-adjusted mortality rates for suicide are above the Healthy People 2020 goal of 10.2 suicide deaths per 100,000,[145] indicating a need for intervention.

- Wood County has an age-adjusted mortality rate of 14.6 suicide deaths per 100,000 population for 2010 to 2015.
- The age-adjusted mortality rate in Wisconsin for the same period was 13.4. Although the Wood County rate appears to be higher than the state, this difference may not be statistically significant.[146]

Suicide Rates in Wood County and Wisconsin are Higher than Healthy People 2020 Goals

Age-adjusted Mortality Rate for Suicide per 100,000 Population, 2010 to 2015[147]



[145] Healthy People 2020. Mental Health and Mental Disorders. https://www.healthypeople.gov/2020/topics-objectives/topic/mental-health-and-mental-disorders/objectives, accessed 9/2016.
[146] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.
[147] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Mortality Module, accessed 9/2016.

Mental Health and Well-Being

continued

Self-Inflicted Injuries

Self-inflicted injury hospitalizations and Emergency Department (ED) visits are important indicators of mental health.

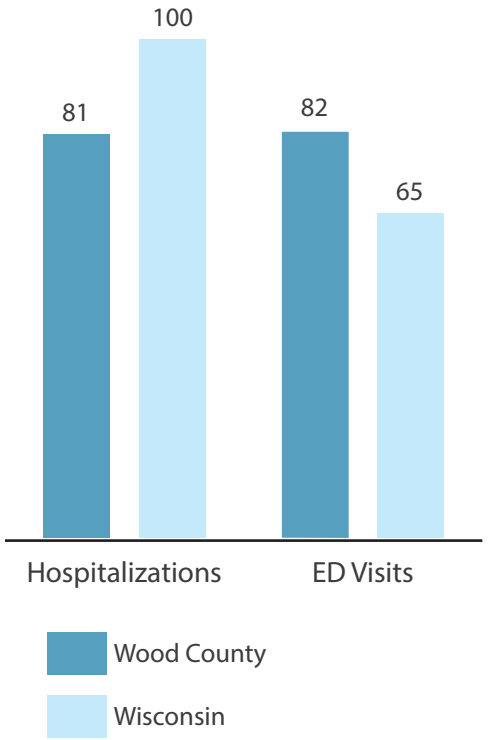
- From 2002 to 2014, the age-adjusted rates for self-inflicted injury hospitalizations and ED visits were about the same for both Wood County and Wisconsin.[148] For self-inflicted injury hospitalizations, the rate for Wood County was 97 per 100,000 population, and 98 for Wisconsin overall. Similarly, the self-inflicted injury ED visit rate was 56 per 100,000 for Wood County and 53 for Wisconsin.

- **In recent years though, the hospitalization rate has decreased in Wood County, and is lower compared to Wisconsin.** From 2010 to 2014, the self-inflicted injury hospitalization rate was 81 per 100,000 population in Wood County, and 100 for Wisconsin.

- **On the other hand, the ED visit rate has increased compared to Wisconsin during this same time period.**[149] The self-inflicted injury ED visit rate was 82 per 100,000 population in Wood County, and only 65 for Wisconsin from 2010 to 2014.

Self-Inflicted Injury Hospitalizations are Lower, while ED Visit Rates are Higher in Wood County

Self-Inflicted Injury Hospitalization and Emergency Department Visit Age-adjusted Hospitalization Rates per 100,000 Population, 2010 to 2014[150]



[148] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.

[149] If an ED visit resulted in an in-patient hospitalization, rather than a release, that datum would be included within the hospitalization rate. Also, if a patient passed away during an ED visit, that datum is included in the mortality rates, rather than ED visit rates. https://www.dhs.wisconsin.gov/wish/injury-ed/form.htm, accessed 11/2016.

[150] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Injury-Related Hospitalizations and Emergency Department Visits Modules, accessed 11/2016.

Mental Health and Well-Being

continued

While decreases were seen in Wood County self-inflicted injury hospitalizations in recent years, this was not true of ED visits.[151]

- In 2014, both Wood County and Wisconsin had a spike in ED visits, with the highest rate of self-inflicted injury ED visits reported to date: 147 in Wood County and 117 in Wisconsin (see separate Appendix E for data tables).

- Nearly 20 percent of all self-inlicted injury ED visits since 2002 occurred in 2014 (18 percent in Wood County and 17 percent in Wisconsin). **In fact, the number of self-inflicted injury ED visits doubled in 2014 from the previous year,** increasing from 45 to 90 in Wood County and from 3,079 to 6,333 in Wisconsin.

Self-inflicted injury ED visits doubled from 2013 to 2014

[151] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Injury-Related Hospitalizations and Emergency Department Visits Modules, accessed 11/2016.

Mental Health and Well-Being

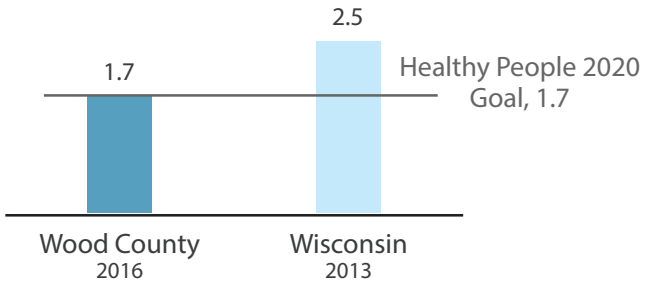
continued

Youth Suicide Attempts

It is important to intervene early and reach youth with prevention efforts.[152]

- Although the percent of Wood County high school students who reported an attempted suicide that resulted in an injury requiring treatment by a medical professional (including poisoning and overdose) meets the Healthy People 2020 objective of 1.7 attempts per 100 population in 2016, this value has varied over the years (4.2 in 2008 and 3.7 in 2012) and changes must be interpreted with caution due to small numbers.

High School Students Who Attempted Suicide Resulting in Injury per 100 Population[153]



[152] Healthy People 2020. Mental Health and Mental Disorders. https://www.healthypeople.gov/2020/topics-objectives/topic/mental-health-and-mental-disorders, accessed 11/2016.
[153] WI DPI. Youth Risk Behavior Survey. Survey Results and Comparison Reports.

Mental Health and Well-Being

continued

MENTAL HEALTH PROVIDERS

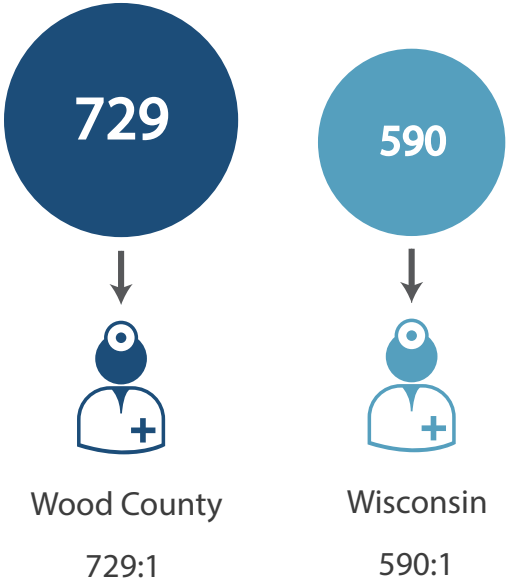
Access to mental health care and providers is of particular concern in rural areas where long distances may be barriers to care.

- Although Wood County is not a Mental Health Federally Designated Health Professional Shortage Area (MH HPSA),[154] there are fewer mental health providers in Wood County per population compared to Wisconsin overall.

- In 2015, there were 101 mental health providers in Wood County.[155,156] This means a greater ratio of county population to mental health providers in Wood County, 729 to 1, compared to Wisconsin overall, which has only 590 to every one provider.[157]

An additional consideration with these data is mental health providers may be concentrated near Marshfield in northern Wood County. Future analyses should consider whether county ratios mask sub-county disparities and assess whether shortages exist in the southern part of the county.

Ratio of Population to Mental Health Providers, 2015[158]



[154] WI DHS. https://www.dhs.wisconsin.gov/primarycare/maps.htm, accessed 11/2016.
[155] Calculated by County Health Rankings & Roadmaps using the number of mental health providers registered in the Centers for Medicare and Medicaid Services (CMS) National Provider Identification (NPI) in 2015.
[156] County Health Rankings & Roadmaps. *Mental Health Providers.* http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/62/data, accessed 11/2016.
[157] County Health Rankings & Roadmap, 2015.
[158] Icon made by Freepik from www.flaticon.com.

Alcohol and Substance Use

ALCOHOL AND SUBSTANCE USE

Wood County community members have identified alcohol and substance use among the top health priorities in the county. "Alcohol" and "drugs" were in the top five health priorities ranked by respondents of the Wood County CHA Survey (Appendix E).[159] At the community stakeholder meeting, drugs were ranked highly as a top priority issue, and both alcohol and drugs were seen as common drivers of other health concerns (Appendix E). Alcohol and substance use were a resounding theme across health provider interviews, and were mentioned among focus group conversations as well.

Interviews with medical providers described both alcohol and drug use among the greatest health concerns in the county. Emergency department physicians described common and recent experiences related to alcohol and drug use including those seeking care because of primary alcohol toxicity or secondary injury that occurred while intoxicated, treating three young adults in the past week for heroin overdose, and challenges with access to care. In the words of one provider, "…just had a gentleman come to the office last week and say he had a problem with opiates and couldn't find a program." This provider emphasized the co-occurrence of mental health and substance use issues, and the connection of these issues to social factors such as employment and social support. Another provider detailed challenges with access to treatment and care, including limited outpatient follow-up.

"Mental health and substance abuse are linked. [This] leads to a vicious cycle of loss of job, troubled relationships, downward spiral."

-Wood County Medical Provider

[159] Coalition members and partners are considering the best terminology to use when discussing substance use to prevent and reduce stigma. This report uses the language "substance use" rather than "drug" or "abuse" whenever possible. An exception is descriptions of qualitative or quantitative data that specifically use other language in order to reference that data accurately.

Alcohol and Substance Use

continued

In focus group conversations with underserved populations, drug use was also identified as an important health need, with one participant explaining that **"there's a strong drug and alcohol culture."** Others described a lack of available services, with elders indicating that **"our community has lost services"** specifically related to mental health and substance use.

There is a need to strengthen prevention and support so that the criminal justice system is not used as the means to access treatment facilities for addiction and mental health issues. As one focus group participant explained, there is "poorly coordinated AODA [alcohol and other drug abuse] and mental health [care]," noting that there are "poor resources to provide acute care to the mentally ill beyond jail," as well as "poorly educated emergency staff, EMT, police, fire, and limited resources available…" These are public health issues, and must be treated as such. In order to develop effective public health strategies to substance use, it will be important to incorporate an equity approach, engage those impacted by addiction in developing solutions, expand access to support and treatment, and consider intersections with mental health. In collaboration with other rural Wisconsin counties, Wood County is identifying how to operationalize health equity around substance use issues through the CHIP process.

Although Wood County alcohol use rates are similar to Wisconsin for many data points, these rates are high compared to national benchmarks. According to physicians, the strong culture of "excessive use of alcohol" in Wood County and Wisconsin presents challenges to promoting healthy alcohol consumption. The Wisconsin Epidemiological Profile on Alcohol and Other Drug Use highlights five focus areas related to alcohol use and other drug abuse: underage drinking, adult binge drinking, drinking among pregnant women, drinking and driving, and opioid use for nonmedical purposes.[160] With the exception of drinking among pregnant women where local data were not available for this report, these issues are explored here in relation to Wood County, and are complimented by additional data on other drug-related deaths, hospitalizations, illnesses, and adolescent use.

[160] WI Epidemiological Profile on Alcohol and Other Drug Use, 2016.

Alcohol and Substance Use

continued

KEY FINDINGS

- Nearly **one out of five Wood County high school students had five or more drinks** of alcohol in a row recently.[161]
- Similar to Wisconsin, Wood County **alcohol use rates are higher than national benchmarks.**[162]
- **Adult binge drinking has increased** in Wood County from 15 percent (2005 to 2007) to 23 percent (2012 to 2014).[163]
- **Drug-related deaths have increased** in recent years in Wood County from 6.1 per 100,000 (2007 to 2009) to 11.1 (2013 to 2015).[164] Most opioid-related drug overdose deaths in Wood County were **due to prescription opioids** (88 percent).[165]
- **Hospital encounters involving opioids and ambulance runs with naloxone administration have increased** in recent years. For hospital encounters the rate increased from 16 per 100,000 (2006 to 2008) to 41 (2012 to 2014) and for ambulance runs 27 per 100,000 in 2011 to 63 in 2015.[166]

[161] WI DPI. Youth Risk Behavior Survey. Comparison Reports.
[162] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.
[163] WI DHS, DPH and Division of Mental Health and Substance Abuse Services. Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 (P-45718-14). Prepared by the Division of Mental Health and Substance Abuse Services, the UW PHI and the OHI, DPH. September 2014. Available at http://dhs.wisconsin.gov/stats/aoda.htm.
[164] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.
[165] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request (age-adjusted rates). 2003 to 2015.
[166] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request. WI inpatient hospitalization and emergency department data (age-adjusted rates) and Wisconsin Ambulance Run Data System (WARDS) (crude rates).

Alcohol and Substance Use

continued

ALCOHOL USE AND MISUSE

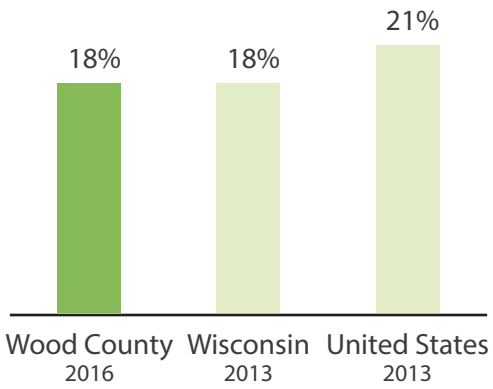
Alcohol Consumption Among Youth

Alcohol is the substance that is most commonly used and abused among United States youth.[167]

- More than half of Wood County high school students report having had at least one drink of alcohol in their lifetime (63.6 percent in 2016).
- Nearly a third of Wood County high school students report recent drinking (at least one drink of alcohol in the last 30 days before the survey) (30.4 percent in 2016).
- Of particular concern, **binge drinking was commonly reported among Wood County adolescents.** Nearly one out of five Wood County high school students had five or more drinks of alcohol in a row during the last 30 days when surveyed (17.5 percent in 2016). These data are similar to state and national comparisons.
- While some increases were seen in Wood County high school drinking behaviors, the percent who drank alcohol (other than a few sips) for the first time before the age of 13 years decreased. In 2012, 22.0 percent of high school students had alcohol before age 13, compared to 15.5 percent in 2016.

Nearly 1 out 5 Wood County High School Students Had 5+ Drinks of Alcohol in a Row Recently

High School Students Who Had Five or More Drinks of Alcohol in a Row in the last 30 Days[168]



[167] CDC. Underage Drinking Fact Sheet. https://www.cdc.gov/alcohol/fact-sheets/underage-drinking.htm accessed 12/2016.

[168] WI DPI. Youth Risk Behavior Survey. Comparison Reports.

Alcohol and Substance Use

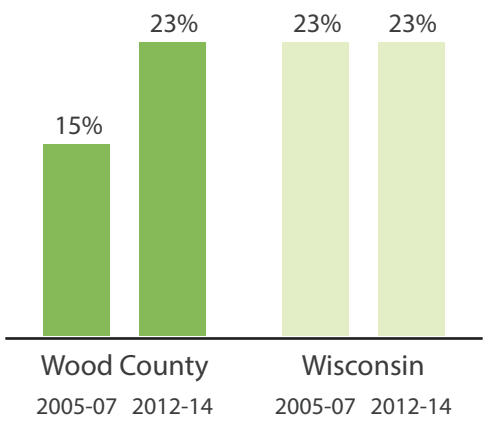
continued

Adult Binge Drinking

Adult binge drinking has increased in Wood County.

- In 2012 to 2014, nearly a quarter of Wood County adults reported binge drinking (23 percent). This was an increase from 2005 to 2007, when 15 percent reported binge drinking.
- Wisconsin binge drinking rates have remained fairly constant over this same time period, 23 percent in 2005 to 2007 and 2012 to 2014.

Adult Binge Drinking (age 18 and older), Three Year Pooled Estimates, 2005 to 2014[169]



[169] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.

Alcohol and Substance Use

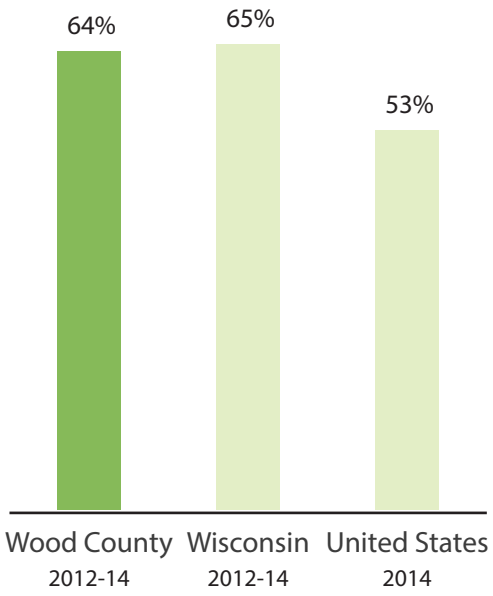
continued

Current Alcohol Use Among Adults

Not only is binge drinking high, but the **prevalence of drinking in Wood County and Wisconsin overall is higher than national comparisons.**

- In 2012 to 2014, current alcohol use was 64 percent among adults in Wood County and 65 percent in Wisconsin. Nationally, it was 53 percent in 2014.
- The percent of heavy drinkers increased in Wood County from 5.0 percent in 2013 to 9.9 percent in 2014.[170]

Current Alcohol Use Among Adults (age 18 and older)[171]



[170] Confidence intervals for these percentages are overlapping, and observed differences may not be statistically significant.
[171] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.

Alcohol and Substance Use

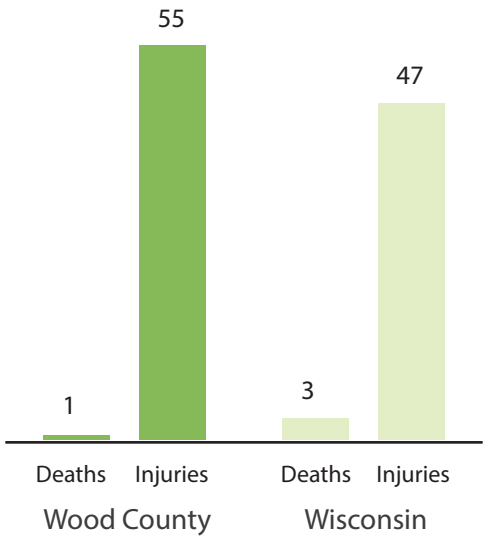
continued

Alcohol-Related Motor Vehicle Deaths and Injuries

The rate of alcohol-related motor vehicle deaths and injuries has fluctuated in Wood County between 2008 and 2014.[172]

- The alcohol-related motor vehicle death rate has ranged from zero in 2008 and 2012 to four per 100,000 population in 2013.
- In 2014 there was one alcohol-related motor vehicle death per 100,000 population, compared to 3 for Wisconsin overall. One out of four driving deaths were alcohol attributable in Wood County in 2010 to 2014, 25 percent. This was lower than for Wisconsin overall (38 percent).[173]
- **Alcohol-related motor vehicle injuries were more common than deaths.** In Wood County, these rates varied as well with a low of 33 injuries per 100,000 population in 2009, and a high of 55 in 2011 and 2014.
- While there was a decline in the alcohol-related motor vehicle injury rates in Wisconsin from 76 per 100,000 in 2008 to 47 in 2014, a similar pattern was not seen in Wood County.

Alcohol-Related Motor Vehicle Deaths and Injuries, Rates per 100,000 Population, 2014[174]



The rates of those operating a vehicle while intoxicated (OWI) have dropped in Wood County, but remain high. The Wood County rate was 699 per 100,000 population in 2011 and 513 in 2014. This rate is still higher than Wisconsin where there were 431 OWIs per 100,000 in 2014.[175]

[172] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.
[173] County Health Rankings & Roadmaps, 2016. Data from 2010 to 2014. http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/134/data accessed 12/2016.
[174] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.
[175] Ibid.

Alcohol and Substance Use

continued

Alcohol-Related Deaths, Hospitalizations, and Outlet Density

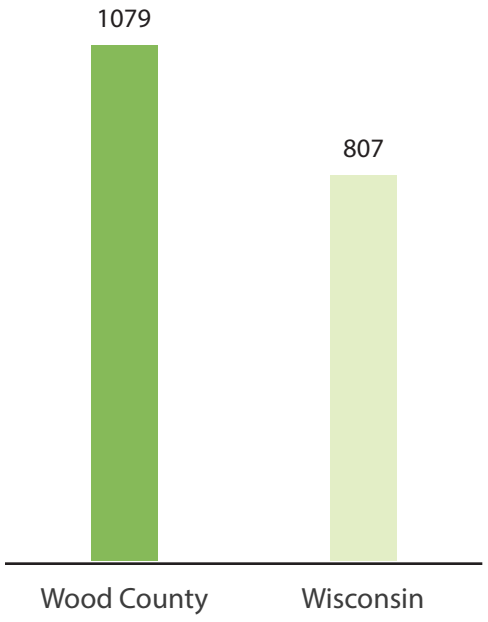
Alcohol is an underlying or contributing factor in many causes of death. The majority of alcohol-related deaths in Wisconsin were due to acute causes such as falls, most commonly, as well as alcohol poisoning, motor and other vehicles, and self-injury in 2015 (58 percent). The other 42 percent were due to chronic conditions such as liver cirrhosis and cancer.[176] In Wood County, the number of alcohol-related deaths have increased in recent years from six in 2009 to 16 in 2014. In the period from 2009 to 2015, the age-adjusted mortality rate for chronic liver disease and cirrhosis varied, with a high 13.3 per 100,000 and a low 6.1.[177,178]

There has been a **high rate of alcohol-related hospitalizations** in Wood County.

- In recent years, there were rates of more than 1,000 alcohol-related hospitalizations per 100,000 population in Wood County. This was 1,079 per 100,000 in 2013 to 2014, compared to 807 in Wisconsin.

The alcohol outlet density in Wood County was 1.5 licenses per 500 people in 2014 to 2015.[179] This was the same for Wisconsin overall. In Wood County that year, there were 229 total licenses issued, 64 Class A licenses and 168 Class B.

Alcohol-Related Hospitalizations, Rate per 100,000 Population, 2013 to 2014[180]



[176] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2016.
[177] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Mortality Module, accessed 12/2016.
[178] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.
[179] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.
[180] Ibid.

OVERVIEW OF DRUG-RELATED DEATHS AND HOSPITALIZATIONS

Drug-related Deaths

Drug-related deaths have increased in recent years.

- In Wood County, the age-adjusted rate of drug overdose deaths increased from 6.1 per 100,000 in 2007 to 2009, to 11.1 in 2013 to 2015.[181] Increases were also seen in Wisconsin.

Drug Overdose Deaths, Age-Adjusted Rates per 100,000 Population[182]

[181] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.
[182] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request.

Alcohol and Substance Use

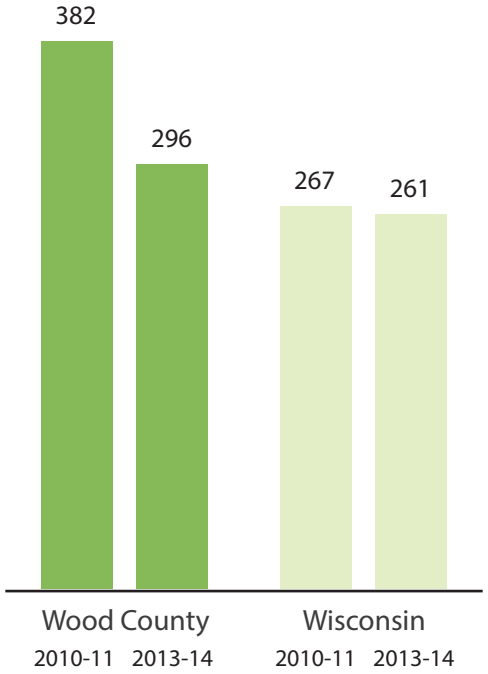
continued

Drug-related Hospitalizations

While drug overdose deaths have increased, hospitalizations have decreased in Wood County in recent years.

- There were 247 total drug-related hospitalizations in 2012 and this dropped to 210 in 2014.
- **In 2010 to 2011, the drug-related hospitalization rate for Wood County was high compared to Wisconsin (382 per 100,000 population versus 267), but this gap has steadily decreased.** By 2013 to 2014, Wood County rates were similar to Wisconsin: 296 drug-related hospitalizations per 100,000 population in Wood County compared to 261 in Wisconsin.

Drug-related Hospitalizations, Rate per 100,000 Population, 2010 to 2014[183]



[183] Wisconsin Epidemiological Profile on Alcohol and Other Drug Use, 2014 and 2016.

OPIOIDS

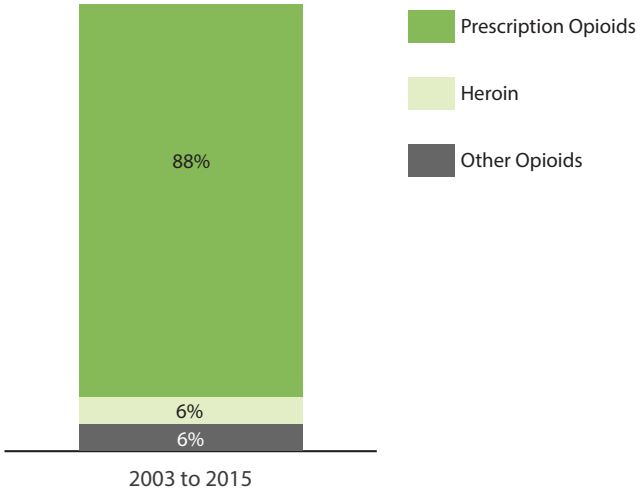
Opioid-Related Deaths

Opioids include prescription pain relievers such as morphine, hydrocodone, oxycodone, and codeine; other synthetic opioids such as fentanyl; and heroin, among others.[184,185] While used frequently for pain, many individuals may develop tolerance, physical dependence, or an opioid use disorder, and misuse may result in overdose and death. These opioids are sometimes used in combination with each other or other drugs, either through prescriptions or misuse. Opioids combined with benzodiazepines are particularly dangerous, increasing the risk of overdose and death.[186] Opioid use can also result in additional health issues, as well. For example, those who use opioids are at increased risk of infectious diseases such as Hepatitis C Virus infection (with injections); injuries such as falls and drug impaired traffic crashes; and cardiovascular effects.[187]

- From 2003 to 2015, nearly half of drug overdose deaths in Wood County were opioid-related (46 percent). **Among only opioid-related deaths in Wood County, 88 percent involved prescription opioids.**

Most Opioid-Related Drug Overdose Deaths were Due to Prescription Opioids in Wood County

Drug Overdose Deaths Involving Opioids, 2003 to 2015[188]



[184] Substance Abuse and Mental Health Services Administration (SAMHSA). Opioids. https://www.samhsa.gov/atod/opioids accessed 12/2016.
[185] CDC. Opioid Basics. https://www.cdc.gov/drugoverdose/opioids/index.html accessed 12/2016.
[186] US Food and Drug Administration (FDA). FDA News Release. FDA requires strong warnings for opioid analgesics, prescription opioid cough products, and benzodiazepine labeling related to serious risks and death from combined use. August 31, 2016. http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm518697.htm.
[187] WI DPH. Family Health Section, Bureau of Community Health Promotion. Prescription and Non-Prescription Opioid Harm Prevention Program. Presentation. December 14, 2016.
[188] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request.

Alcohol and Substance Use

continued

Wood County has experienced few drug overdose deaths involving heroin from 2003 to 2015, with the first heroin-related death occurring in 2013 (age-adjusted death rate of 2.0 per 100,000) and another heroin-related death occurring in 2014 (age-adjusted death rate of 1.6 per 200,000). In the same time period, there were a total of eight drug overdose deaths involving synthetic opioids (a proxy for fentanyl) in Wood County. While Wisconsin statewide has experienced substantial increases in both heroin and synthetic opioid-related deaths, these data suggest that Wood County has fared better than the state in this regard. However, it is important to monitor these issues moving forward.[189]

[189] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request.

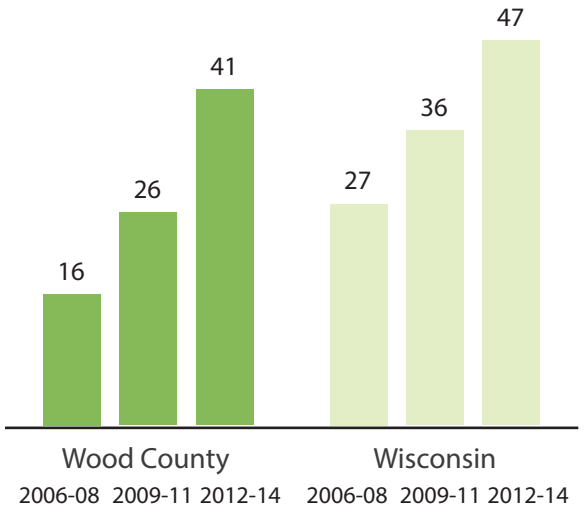
Hospital Encounters Involving Opioids

Opioid overdose deaths represent the "tip of the iceberg" of total opioid harm. Hospitalization and ambulance data help describe the scope of non-fatal opioid use.[190] There has been an **increase in the rate of hospital encounters involving opioids in Wood County.**

- The three year rates for hospital encounters involving opioids have increased from 16.4 per 100,000 population in 2006 to 2008, to 40.5 in 2012 to 2014. Similar increases were seen in Wisconsin.

- Again, the majority of these encounters were due to prescription opioids (more than 80 percent). While few hospital encounters were due to heroin in past years (one in 2006 to 2008 and two in 2009 to 2011), this has increased in more recent years in Wood County (18 in 2012 to 2014).

Hospital Encounters Involving Opioids, 2006 to 2014 [191,192]



[190] The geographies of hospital data are based on the residence of the individual who overdosed, and ambulance data capture the location of overdoses.

[191] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request. Wisconsin inpatient hospitalizations and emergency department data.

[192] According to DHS, "hospital encounters involving opioids" are defined here as "emergency department visits or inpatient hospitalizations of Wisconsin residents with the following ICD-9 codes in the principal diagnosis, any contributing diagnosis, or first-listed external cause of injury (e-code): 96500 (Poisoning by opium (alkaloids), unspecified, 96501 (Poisoning by heroin), 96502 (Poisoning by methadone), 96509 (Poisoning by other opiates and related narcotics), E8500 (Accidental poisoning by heroin), E8501 (Accidental poisoning by methadone), or E8502 (Accidental poisoning by other opiates and related narcotics)."

Alcohol and Substance Use

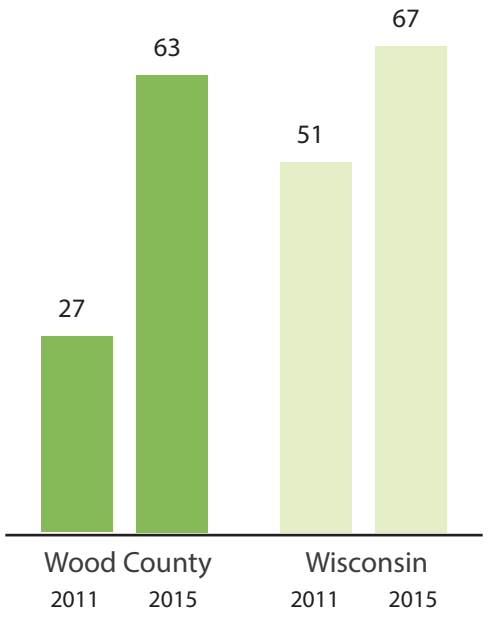
continued

Ambulance Runs with Naloxone Administration

Ambulance runs with Naloxone administration – which counteracts the effects of an opioid overdose – have also increased in recent years in Wood County.

- While ambulance rates with naloxone administration in Wood County were lower compared to Wisconsin statewide in 2011 (26.8 per 100,000 population in Wood County and 51.2 in Wisconsin), the rate in Wood County was similar to Wisconsin in 2015.
- In 2015, there was a rate of 62.7 ambulance runs with naloxone administered per 100,000 population in Wood County and 67.0 for Wisconsin overall.

Ambulance Runs with Naloxone Administration, 2011 and 2015[193]



[193] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request. Wisconsin Ambulance Run Data System (WARDS). (crude rates).

Alcohol and Substance Use

continued

Neonatal Abstinence Syndrome

Substance use during pregnancy can lead to neonatal abstinence syndrome among infants, most commonly the result of opioid exposures.[194] Crude rates of neonatal abstinence syndrome have increased slightly in recent years, as well. In Wood County, there were five infants born with neonatal abstinence syndrome in 2015 (5.8 per 1,000 live births). From 2006 to 2011 there were two or less births with neonatal abstinence syndrome a year.[195]

Youth Prescription Drug Misuse and Prevention

The percent of Wood County high school students who ever took prescription drugs – these include opioids, as well as others - without a doctor's prescription was 13.1 percent in 2016.[196] This is similar to previous years (13.5 percent in 2012), and to Wisconsin (14.9 percent in 2013).

[194] Ko JY, Patrick SW, Tong VT, Patel R, Lind JN, Barfield WD. Incidence of Neonatal Abstinence Syndrome — 28 States, 1999–2013. MMWR Morb Mortal Wkly Rep 2016;65:799–802. Available at https://www.cdc.gov/mmwr/volumes/65/wr/mm6531a2.htm.

[195] WI DHS, DPH. Prescription and Non-Prescription Opioid Harm Prevention Program Data Request. Wisconsin inpatient hospitalizations.

[196] WI DPI. Youth Risk Behavior Survey. Comparison Reports.

Opioid Harm Prevention

Public health approaches to preventing opioid harm include expanding Naloxone (Narcan®) access, drug disposal programs, safe prescribing practices, Good Samaritan Laws that protect those seeking overdose medical care from drug possession charges, harm reduction approaches (any positive change, self-defined success),[197] needle exchanges, insurance coverage for alternative therapies, medication-assisted treatments (MAT), and overdose fatality reviews, among others.

- Of note in 2016, the Wisconsin Department of Health Services (DHS) issued a Statewide Standing Order for Naloxone Dispensing, allowing pharmacies to dispense Naloxone without a prescription.

- Collecting unused medications can help prevent prescription drug misuse. While permanent drop-off sites are always available at law enforcement agencies in Wood County, there have also been a number of federal and state sponsored one-day collection events. There were at least eight Prescription Drug Take-Back Events hosted in Wood County from 2013 to 2016. There was an average of 1,318 pounds of prescription drugs collected per event, for a total of 10,545 pounds over the four years.[198]

- In early 2017, the Wisconsin Enhanced Prescription Drug Monitoring Program (PDMP) mandate will go into effect requiring medical providers to review PDMP records before prescribing opioids. Strong safety nets and strategic action will be needed in Wood County to support those with dependencies and avoid illicit opioid use as access to prescription opioids is restricted.

[197] AIDS Resource Center of Wisconsin. Harm Reduction. Presentation. December 14, 2016.
[198] Northwoods Coalition. Wood County Prescription Drug Collection Totals from 2013 to 2016.

HEPATITIS C VIRUS

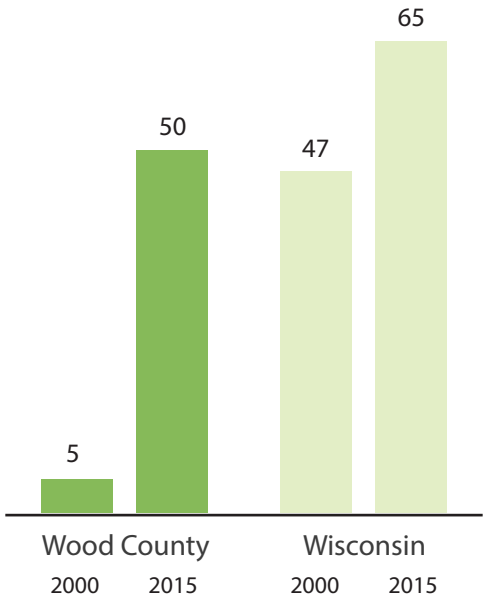
Those who inject drugs, including opioids such as fentanyl and heroin, are at increased risk of Hepatitis C Virus (HCV) infection. HCV is transmitted very easily. Unlike Human Immunodeficiency Virus (HIV), HCV can remain infective in liquids, syringes, and on surfaces for many weeks and transmission is difficult to prevent. During injection drug use, shared supplies such as needles, cookers, and cotton increase the risk of sharing HCV as well.[199]

- **The number and rate of new reports of HCV have increased in Wood County**, from four reports in 2000 (a rate of 5 per 100,000) to 37 annual new reports in 2015 (a rate of 50 per 100,000).

- While the rate of new reports in Wood County was much lower than the state overall in 2000 (5 per 100,000 compared to 47 per 100,000), this gap has decreased; in 2015 the rate was 50 per 100,000 in Wood County compared to 65 in Wisconsin.

New Reports of Hepatitis C Virus Have Increased in Wood County since 2000

Rate of New Reports of Hepatitis C Virus (HCV) per 100,000 Population,* 2000 and 2015[200]



[199] WI DPH. Family Health Section, Bureau of Community Health Promotion. Prescription and Non-Prescription Opioid Harm Prevention Program. Presentation. December 14, 2016.

[200] Bureau of Communicable Diseases, Division of Public Health, Wisconsin Department of Health Services. Wisconsin Electronic Disease Surveillance System (WEDSS) (as of 5/13/2016).

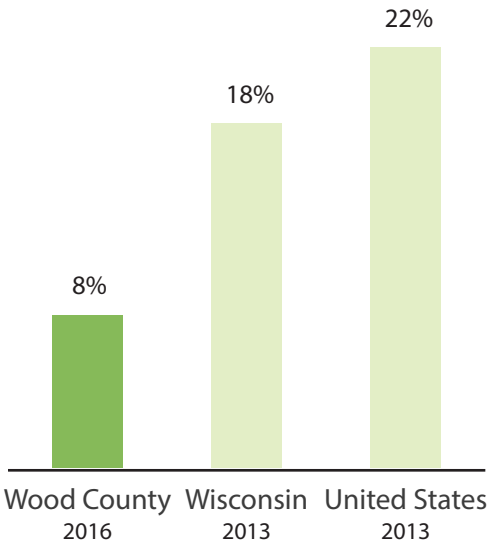
Alcohol and Substance Use

continued

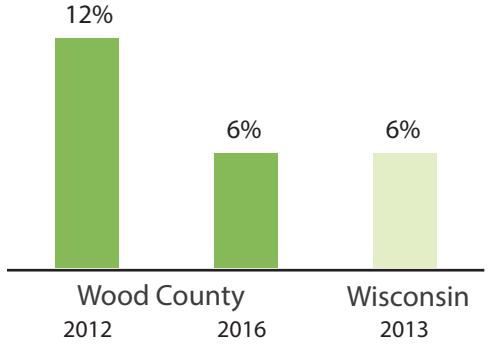
OTHER DRUG USE AMONG ADOLESCENTS

- The percent of Wood County high school students who were offered, sold, or given an illegal drug on school property in the last year was lower than state and national comparisons (8.2 percent in 2016 compared to 18.3 percent in Wisconsin and 22.1 percent nationally in 2013).
- The percent of high school students who reported ever sniffing glue, breathing aerosol spray can contents, or inhaling any paints or sprays to get high decreased by half in Wood County from 12.2 percent in 2012 to 6.0 percent in 2016.
- In addition, the percent of high school students ever using any form of cocaine, including powder, crack, or freebase in Wood County was 4.3 percent in 2016. This was similar to percentages in previous years and state and national comparisons. Increases were seen in marijuana usage.

High School Students Who Were Offered, Sold, or Given an Illegal Drug on School Property[201]



High School Students Who Reported Ever Sniffing Glue, Breathing Aerosol Spray Can Contents, or Inhaling any Paints or Sprays to Get High, 2012 to 2016[202]



[201] WI DPI. Youth Risk Behavior Survey. Comparison Reports.
[202] Ibid.

Healthy Food and Activity Environments

HEALTHY ACTIVITY AND FOOD ENVIRONMENTS

Environments that support physical activity and healthy food access can prevent some of the most common health problems. Chronic illnesses such as heart disease, diabetes, and stroke are among the leading causes of death and disability in Wood County and Wisconsin, and can be prevented through physical activity and healthy diets, as well as by reducing tobacco exposure and excessive alcohol use.[203,204]

- **Physical activity** is a preventive factor for many adverse chronic health conditions. Improving the environment for walking and biking – for example through Community Design, Complete Streets, Bike Share, Way Finding/Route Systems, and Safe Routes to School – increases access to and opportunities for physical activity in the community.

- **Healthy food** provides a foundation for preventing chronic illness and promoting vibrant health. Nutrition can be improved through a focus on food systems in schools (Farm to School), hospitals (Farm to Hospital), worksites, and the community (Community Food Center), as well as access to healthy foods at grocery stores, farmers' markets, restaurants/bars, and corner stores.

"Try to keep moving. Trying to stay involved and keep active."

-St. Vincent de Paul Participant

The importance of nutrition and physical activity for a healthy lifestyle was a theme common across focus group conversations. Diverse participants highlighted the importance of eating healthy, access to affordable food, and keeping active through exercise and physical activity. A participant from St. Vincent de Paul Free Clinic explained that a healthy lifestyle means **"to be active and to eat right, to take care of yourself as much as you can,"** and another participant from River Cities Clubhouse noted the need for "working out even though it is not fun, eating mostly healthy foods, [and] trying to reduce stress."

By developing policies and actions to support healthier food and activity environments, additional benefits can be seen in improved mental health, social support, and social cohesion. An equity frame can mobilize stakeholders to make these environments more accessible to all.

[203] Healthiest Wisconsin 2020 Focus Area Profiles. Chronic Disease Prevention and Management. https://www.dhs.wisconsin.gov/publications/p0/p00816-chronic-disease.pdf accessed 12/2016.

[204] Refer to the Healthy Growth and Development and Alcohol and Substance Use sections of this report for further details on tobacco exposure and excessive alcohol use, respectively.

Healthy Food and Activity Environments

continued

KEY FINDINGS

- **Many residents live without parks and recreation facilities nearby, more than one in four** (26 percent).[205]
- One out of five adults in Wood County reported **no leisure-time physical activity** in 2013 (21 percent).[206]
- **Physical activity decreased** among Wood County high school students (from 65 percent to 46 percent) while **screen time increased** (from 20 percent to 40 percent) from 2012 to 2016.[207]
- In 2014, there were approximately **3,320 food insecure children** in Wood County, one out of every five (20 percent).[208]
- While many initiated breastfeeding (80 percent), by the time a child was six months old less than a third reported any breastfeeding in Wood County in 2015 (31 percent). **Only 13 percent were exclusively breastfeeding** at six months.[209]

[205] County Health Rankings & Roadmaps. *Access to Exercise Opportunities.* 2014 http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/62/data, accessed 11/2016.
[206] CDC. Diabetes Data and Statistics. State and County Data Indicators: Physical Inactivity Prevalence, Prevalence by Sex, and Incidence (age-adjusted percentages). https://www.cdc.gov/diabetes/data/countydata/statecountyindicators.html, accessed 12/2016.
[207] WI DPI. Youth Risk Behavior Survey. Comparison Reports.
[208] Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity and Child Food Insecurity Estimates at the County Level. Feeding America, 2016. www.feedingamerica.org/mapthegap, accessed 12/2016.
[209] Wisconsin WIC Program. Wood County Breastfeeding Incidence and Duration Report. Medicaid Prenatal Care Coordination Data 2007-2016.

Healthy Food and Activity Environments

continued

ACCESS TO EXERCISE OPPORTUNITIES

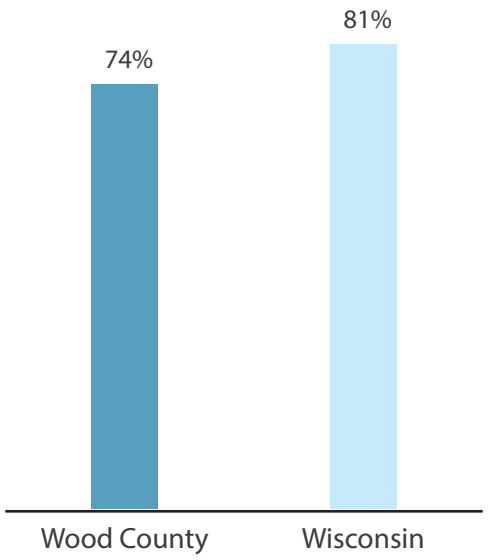
Park and Recreation Facility Access

Our surroundings can make it easier to exercise. For example, people who live closer to parks, bike lanes, sidewalks, trails, and gyms are more likely to be physically active.[210,211] Physical activity can prevent chronic illnesses such as heart disease, type 2 diabetes, and cancer, as well as strengthen bones and improve mental health.[212] In Wood County, **fewer are estimated to live close to parks and recreational facilities compared to Wisconsin overall**. Access includes not only proximity, but also affordability. Ensuring equitable access to active environments is an important consideration.

Focus group participants highlighted several opportunities for physical activity in Wood County among the ways the community supports healthy lifestyles. These included the Bike Share program (see next page), area gyms, recreational sports programs, and the YMCA. While medical providers described efforts within the school systems to encourage children to be active, one community member wished there was more information about affordable options to keep children active, especially when school is out.

Many Residents Live Without Parks and Recreation Facilities Nearby in Wood County

Access to Exercise Opportunities, 2014[213]



[210] County Health Rankings and Roadmaps. Access to Exercise Opportunities. accessed 12/2016 http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/132/description.
[211] Healthy People 2020. Physical Activity. https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity accessed 12/2009.
[212] CDC. Division of Nutrition, Physical Activity, and Obesity. Physical Activity and Health. accessed 12/2016 https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm.
[213] County Health Rankings and Roadmaps. Access to Exercise Opportunities. accessed 12/2016 http://www.countyhealthrankings.org/app/wisconsin/2016/measure/factors/132/data.

Healthy Food and Activity Environments

continued

Bike Accessibility

The River Riders Bike Share in Wisconsin Rapids is a successful example of community collaboration to improve the accessibility (both in terms of proximity and affordability) of bicycling.

A local coalition of community partners identified bike share programs as a means to promote healthy living in Wood County. This coalition met to assess the need for bicycle/pedestrian comprehensive plans and identify best practices to foster active communities. In conversation with Vallo Cycle, a rural bike sharing program in Alabama, the coalition learned about development and implementation possibilities. The coalition reached out to other local community organizations, including Incourage's Teen Leadership Program, for input and assistance.

The teens helped name the program, design the logo, conduct a bike share assessment (including an evaluation of the bikeability in each city census block and of areas of highest need), and identify bike share location sites. Four locations were selected as ideal sites to host the bike share:

- South Wood County YMCA,
- Aspirus Riverview Hospital,
- Hotel Mead & Conference Center, and
- Quality Foods West Grand (grocery store).

A bike share survey was also conducted in the summer of 2013 to gauge community knowledge of and interest in a bike share program. In the fall of 2014, the bike share was created and has received 95 donated bicycles to date.

Bikes and helmets can be checked-out at no cost for a 24 hour time period, as needed, given availability. This nationally acclaimed equitable bike share program has a fleet of 20 bikes, both adult and youth, with more than 520 bike check-outs since mid-summer 2015, providing an accessible transportation option in an otherwise car-centric community.

Community Partners

Aspirus Riverview Hospital

Bike Share location sites (listed above)

Clean Green Action (environmental coalition)

Community groups (e.g., bike clubs) and volunteers

Incourage

Incourage Teen Leadership Program

Local businesses (e.g., restaurants, publishing company)

Planning and Zoning department representatives

Rotary Club

Wisconsin Rapids Public School District staff

Wisconsin Rapids Airport

Wood County Health Department

Wood County Highway Department

PHYSICAL INACTIVITY AND SCREEN TIME

Physical Activity Recommendations

Lack of physical activity can lead to chronic illness. Wood County medical provider interviewees described physical inactivity in youth and adults among the most important health issues in the county. In the words of one provider, **"for adults it is not always easy to find options [or] group activities or to afford some of the activities,"** noting the importance of access to exercise opportunities.

National Recommendations for Physical Activity[214]

Adults:

- 150 minutes per week of moderate activity or 75 minutes of vigorous activity (or combination)
- Muscle strengthening activity at least two days per week
- Additional benefits to doubling moderate activity to 300 minutes or vigorous to 150 minutes
- Avoid inactivity – any physical activity is better than none and can lead to some health benefits

Youth (Children and Adolescents):

- One hour or more of physical activity every day
- Most of the hour should be moderate or vigorous aerobic activity
- Vigorous activity at least three days per week
- Muscle/bone strengthening activity at least three days per week

[214] US Department of Health and Human Services (HHS). 2008 Physical Activity Guidelines for Americans. Available at https://health.gov/paguidelines/guidelines/summary.aspx.

Healthy Food and Activity Environments

continued

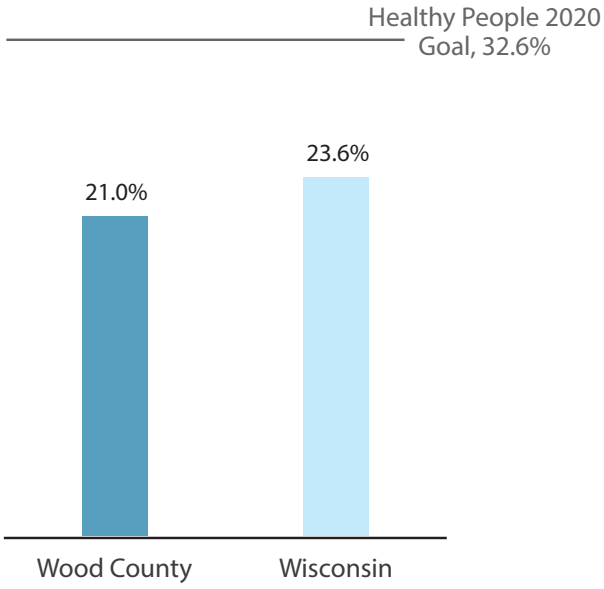
Leisure-Time Physical Inactivity

Both Wood County and Wisconsin have surpassed the Healthy People 2020 goal of no more than 32.6 percent reporting leisure-time physical inactivity.[215,216]

- In Wood County, only 21.0 percent report no leisure-time physical activity, and 23.6 percent for Wisconsin. That being said, inactivity has increased slightly in Wisconsin over the last decade, and a similar pattern was seen in Wood County.[217]
- While fewer have close access to exercise opportunities in Wood County, physical inactivity rates do not differ greatly between Wood County and Wisconsin.[218]

1 out of 5 in Wood County Report Physical Inactivity

No Leisure-Time Physical Activity Age-adjusted Percent, 2013[219]



[215] Healthy People 2020. Physical Activity. https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity accessed 12/2009.

[216] According to the CDC Diabetes Atlas Glossary, "leisure-time physical inactivity" refers to individuals who "reported not participating in physical activity or exercise in the past 30 days." available at https://www.cdc.gov/diabetes/library/glossary.html#l.

[217] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.

[218] Confidence intervals for these rates are overlapping. and observed differences may not be statistically significant.

[219] CDC. Diabetes Data and Statistics. State and County Data Indicators: Physical Inactivity Prevalence, Prevalence by Sex, and Incidence. https://www.cdc.gov/diabetes/data/countydata/statecountyindicators.html 12/2016.

Healthy Food and Activity Environments

continued

Youth Physical Activity

Physical activity has decreased among Wood County high school students.

- While a majority of Wood County students reported being physically active five days or more (on average for 60 minutes or more in the past week) in 2012 (64.5 percent), less than half reported so in 2016 (45.6 percent). This is similar to state and national comparison data (49.5 percent in Wisconsin and 47.3 percent nationally in 2013).

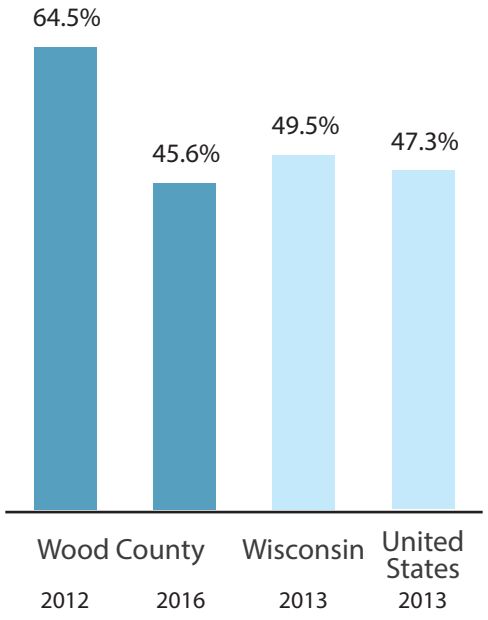
- The percent reporting no physical activity (on average for 60 minutes or more in the past week) increased from 4.3 percent in 2012, to more than triple that in 2016, 13.3 percent.

The Healthy People 2020 goal is for at least 31.6 percent of adolescents to meet the current federal physical activity guidelines for aerobic physical activity (at least 60 minutes every day).[220]

- Only a quarter of Wood County students met this goal in 2016 (25.3 percent). This is a decrease from 2012 when 41.0 percent reported at least 60 minutes of physical activity all seven days of the last week.

Physical Activity Decreased Among Wood County High School Students

High School Students Who Were Physically Active for 60 minutes on 5 days or More[221]



[220] Healthy People 2020. Physical Activity. https://www.healthypeople.gov/2020/topics-objectives/topic/physical-activity accessed 12/2009.

[221] WI DPI. Youth Risk Behavior Survey. Comparison Reports.

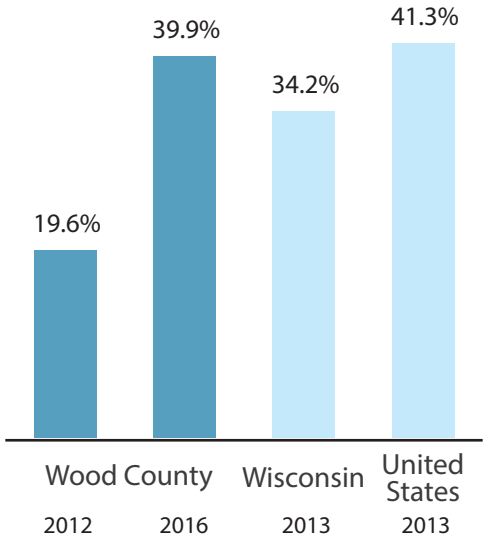
Healthy Food and Activity Environments

continued

Youth Screen Time

- Alongside decreases in physical activity, the percent of Wood County high school students who played on a computer or video games for three or more hours (on average per school day) increased (from 19.6 percent in 2012 to 39.9 percent in 2016).
- The percent of high school students who watched television for three hours or more decreased slightly from 25.1 percent in 2012, to 20.6 percent in 2016. This decrease in television, alongside corresponding increases in computer time, may be due in part to changes in technology such as the availability of online streaming and the digital distribution of television content.

High School Students Who Played on a Computer or Video Games for 3+ Hours [222]



[222] WI DPI. Youth Risk Behavior Survey. Comparison Reports.

Healthy Food and Activity Environments

continued

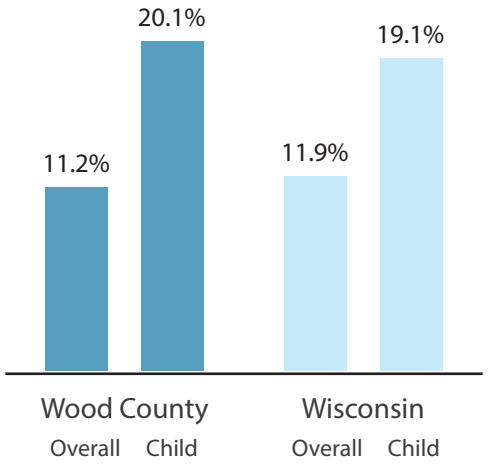
FOOD INSECURITY

Food security describes access to enough food at all times for everyone to live an active and healthy lifestyle.[223] Food insecurity, or the lack of access to sufficient food for anyone at any time, may be persistent or occasional, as households make difficult decisions with limited resources to meet basic needs that may include housing and health care, alongside food.

- In both Wood County and Wisconsin, more than 10 percent of the population was food insecure in 2014 (11.2 percent and 11.9 percent respectively). An even greater percent of children were food insecure that same year (20.1 percent in Wood County and 19.1 percent in Wisconsin).
- In 2014, there were 3,320 food insecure children in Wood County.
- Among Wood County high school students, nearly a third report going hungry at some point because there was not enough food in the home in 2016 (30.8 percent). This includes roughly six percent who were hungry "most of the time" or "always" (4.0 percent and 1.7 percent respectively).

1 out of 5 Children are Food Insecure in Wood County and Wisconsin

Food Insecurity Overall and Among Children, 2014[224]



3,320 Children Lack Access to Enough Food

[223] US Department of Agriculture. Food Security. https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/ accessed 12/2016.

[224] Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity and Child Food Insecurity Estimates at the County Level. Feeding America, 2016. www.feedingamerica.org/mapthegap accessed 12/2016.

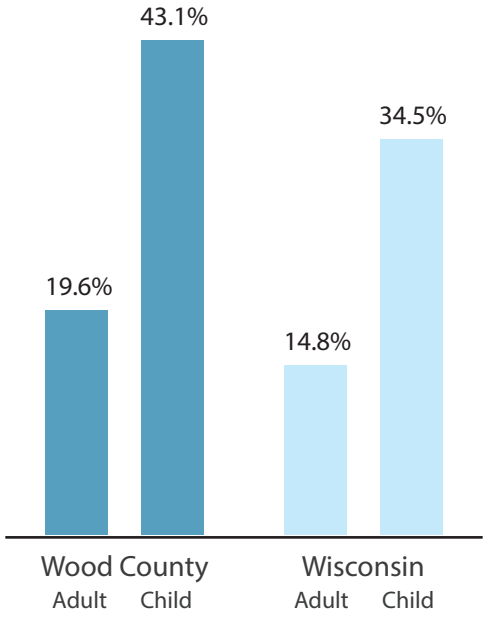
FOOD SUPPORT SERVICES

FoodShare Participation

Food assistance is available through programs such as FoodShare Wisconsin (also known as the Supplemental Nutrition Assistance Program or SNAP); the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); the Commodity Supplemental Food Program (CSFP); School Breakfast Program (SBP); National School Lunch Program (NSLP); and The Emergency Food Assistance Program (TEFAP), among others. FoodShare Wisconsin helps those with limited income purchase food.

- Nearly one in five adults were FoodShare participants in Wood County in 2013 (19.6 percent). The percent is even higher among children. Wood County is among the counties with the highest percent of children who are FoodShare participants in Wisconsin (43.1 percent).
- Likewise, many receive support through WIC and free and reduced price school meals. In 2013, 673 women participated in WIC and 1,739 children. The free and reduced price school meal eligibility rate in Wood County was 42.8 percent in 2013, similar to Wisconsin overall (43.3 percent).
- Despite eligibility, not all students participate daily in free and reduced lunch options (71.3 daily participation in Wood County and 70.2 in Wisconsin).

FoodShare Participation, 2013[225]



[225] Wisconsin Food Security Project. Wood County Report. http://www.foodsecurity.wisc.edu.

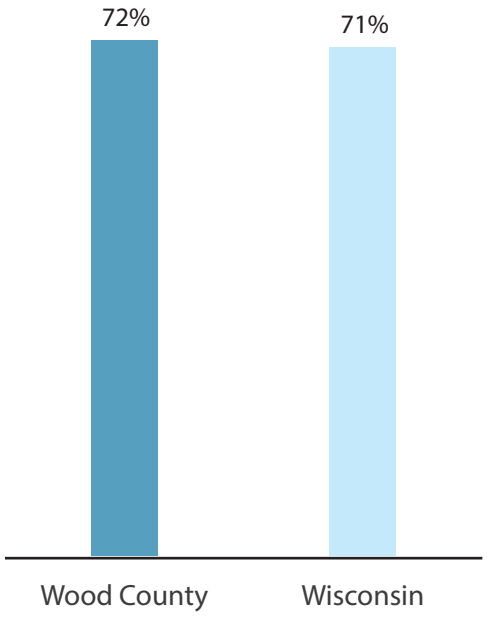
Healthy Food and Activity Environments

continued

Federal Nutrition Assistance Eligibility

- In Wood County, 72 percent of food insecure households were below 200 percent of the Federal Poverty Level and would likely qualify for federal nutrition assistance. This is similar to Wisconsin overall (71 percent). Yet, there are many who experience food insecurity not eligible for this assistance (28 percent and 29 percent in Wood County and Wisconsin respectively in 2014).

Potential Income Eligibility for Federal Nutrition Assistance among Food Insecure, 2014[226]



[226] Gundersen, C., A. Dewey, A. Crumbaugh, M. Kato & E. Engelhard. Map the Meal Gap 2016: Food Insecurity and Child Food Insecurity Estimates at the County Level. Feeding America, 2016. www.feedingamerica.org/mapthegap.

Healthy Food and Activity Environments

continued

ACCESS TO HEALTHY FOODS

According to the Index of Factors that Contribute to a Healthy Food Environment, Wood County is doing fairly well, ranked 8.0 out of 10 in 2016, slightly above the index for Wisconsin, 7.9, but still with room for improvement.[227] Even so, approximately a quarter of Wood County households have low access to a grocery store (26.4 percent).[228]

- There are 809 miles^2 in Wood County and only one grocery approximately per 100 square miles (1.4) and per 10,000 people (1.49).[229]
- In addition, approximately five percent of residents, both in Wood County and Wisconsin (5.84 percent and 4.81 percent respectively) reported limited access to healthy foods.[230]

Young people and Hmong community members from the focus groups highlighted the **accessibility (including affordability and availability) of healthy foods** among the most important health needs in Wood County. In the words of one participant, "how can we get the healthy foods to all families?" Some of the possibilities described included community gardens (e.g., schools, UW Extension gardens), farmers' markets (e.g., at the mall, Peach Street), and increasing the availability of healthy foods in restaurants and school lunches, as well as providing information about health eating and nutrition facts.

Another common theme was how busy lifestyles, a lack of time, and the convenience, abundance, and marketing of high calorie, high sugar, large portion fast foods (e.g., restaurants and vending machines) make healthy eating difficult. As a participant explained, many **"don't have a lot of time, so resort to eating fast food**...and then you feel bad about it afterwards." Others emphasized how common and easily accessible fast food establishments are within the community. These challenges may be even greater for low-income communities,[231] resulting in increased disparities.

[227] County Health Rankings & Roadmaps. State Rankings Data 2011 – 2016. Food Environment Index. http://www.countyhealthrankings.org accessed 12/2016.

[228] USDA Food Atlas. https://www.ers.usda.gov/data-products/food-environment-atlas/go-to-the-atlas/.

[229] Wisconsin Food Security Project. Wood County Report. http://www.foodsecurity.wisc.edu.

[230] County Health Rankings & Roadmaps. State Rankings Data 2011 – 2016. Limited Access to Healthy Foods. http://www.countyhealthrankings.org accessed 12/2016.

[231] The Robert Wood Johnson Foundation and the University of North Carolina School of Public Health, Chapel Hill. Active Living by Design. "Low Income Populations and Physical Activity." available at http://www.bms.com/Documents/together_on_diabetes/2012-Summit-Atlanta/Physical-Activity-for-Low-Income-Populations-The-Health-Trust.pdf.

Healthy Food and Activity Environments

continued

NUTRITION

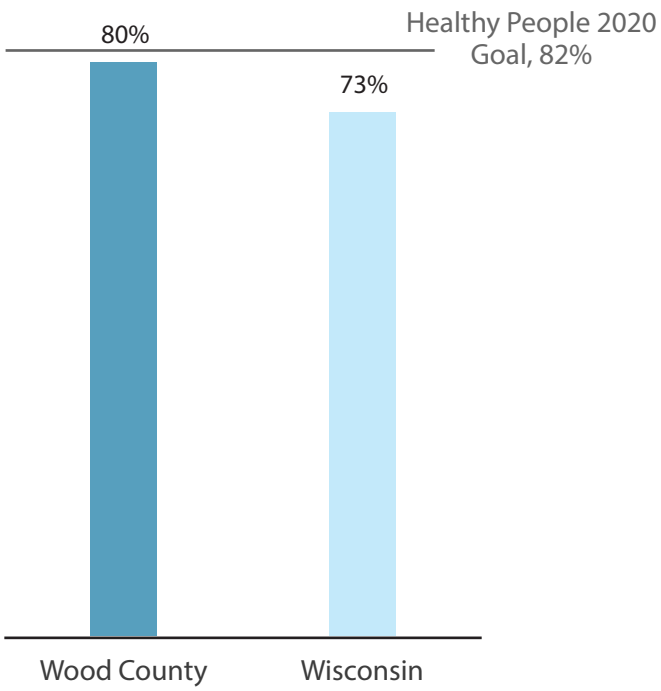
Nutrition begins early in life and breastfeeding can provide long lasting health benefits for children and mothers. Breast milk is a source of nutrients and provides immunological benefits that can prevent illness. Those never breastfed or who stop breastfeeding early have higher risks of chronic illnesses including type 2 diabetes and asthma, obesity, infections (ear, respiratory, and diarrhea), and sudden infant death syndrome (SIDS).[232] Exclusive breastfeeding and longer duration have also been associated with improved maternal health outcomes, including lower rates of cancer. Breastfeeding can also support parent-child bonding. Alongside health benefits, the Surgeon General's Call to Action to Support Breastfeeding also highlights the economic and environmental benefits of breastfeeding.

Breastfeeding Initiation

- Among Wood County WIC births in 2015, **80 percent reported breastfeeding** (for any length of time). This is higher than Wisconsin overall (73 percent) and on track for meeting the Healthy People 2020 goal of 82 percent.

Many Initiate Breastfeeding

WIC Breastfeeding Incidence, 2015[233,234]



[232] US DHHS. *The Surgeon General's Call to Action to Support Breastfeeding.* Washington, DC: US DHHS, Office of the Surgeon General; 2011. http://www.surgeongeneral.gov. accessed 12/2016.
[233] Wisconsin WIC Program. Wood County Breastfeeding Incidence and Duration Report. Medicaid Prenatal Care Coordination Data 2007-2016.
[234] Healthy People 2020. Maternal, Infant, and Child Health Objectives. https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives accessed 12/2016.

Any and Exclusive Breastfeeding

The American Academy of Pediatrics recommends that breast milk be the main source of nutrients throughout the infant's first year, with other foods complementing, not replacing, breast milk after the first six months.[235]

WIC Any Breastfeeding at six and twelve months:

- By the time the child was six months old, less than a third report any breastfeeding in Wood County (30.7 percent in 2015). This is similar to Wisconsin overall (33.7 percent),[236] and far below the Healthy People 2020 goal of 60.6 percent.[237]
- Likewise, at one year, only 17.8 percent are breastfeeding in Wood County and 15.8 in Wisconsin,[238] again far below the Healthy People 2020 goal of 34.1 percent.[239]

WIC Exclusive Breastfeeding at six and twelve months:

- Drops were also seen in exclusive breastfeeding rates. At one month, nearly half of those who had ever breastfed their infant in Wood County, did so exclusively (45.9 percent in 2015). This was higher than Wisconsin overall (only 38.7 percent).
- By the time the infant was six months old, rates between Wood County and Wisconsin were similar, with only 13.0 percent and 12.4 percent respectively reporting exclusive breastfeeding.[240] This is below the Healthy People 2020 objective of 25.5 percent exclusively breastfeeding at six months.[241]

These data indicate that while many initiate breastfeeding in Wood County, including a high percent exclusively breastfeeding, there are **barriers to continued breastfeeding** that cause these rates to drop at six months and one year, compared to state and national comparisons. For example, childcare centers have contributed to barriers for moms returning to work but still wishing to breastfeed their infants, due to lack of breastfeeding policies, storage facilities for breast milk, or breastfeeding or pumping facilities. Efforts in Wood County to remove these barriers are highlighted on the next page.

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[235] American Academy of Pediatrics. Policy Statement: Breastfeeding and the Use of Human Milk. *Pediatrics* Volume 129, Number 3, March 2012. available at http://pediatrics.aappublications.org/content/pediatrics/129/3/e827.full.pdf
[236] WI WIC Program Data, 2007-2016.
[237] Healthy People 2020, Maternal, Infant, and Child Health Objectives, 2016.
[238] WI WIC Program Data, 2007-2016.
[239] Healthy People 2020, Maternal, Infant, and Child Health Objectives, 2016.
[240] WI WIC Program Data, 2007-2016.
[241] Healthy People 2020, Maternal, Infant, and Child Health Objectives, 2016.

Removing Barriers to Breastfeeding

The Wisconsin Department of Health Services (DHS), Wood County Health Department, and the Wood County Breastfeeding Coalition worked together to develop the Breastfeeding Friendly Childcare Provider Program. The program helps childcare centers remove barriers to breastfeeding such as a lack of staff education or adequate breastfeeding facilities. The goal is to increase the number of moms still using breast milk as the child's main source of nutrition until the child is one year of age or older.

10 Steps

The program provides a clear, ten-step outline that childcare providers can achieve to better support breastfeeding moms. Upon completion of the ten steps, the childcare provider becomes listed with their Child Care Resources & Referral Agency as "breastfeeding friendly." Examples of steps include designating a breastfeeding policy lead person or team, developing policies for current staff and parents, creating a breastfeeding room or space, and continuing, yearly education for staff to keep the designation.[242]

Successes

The Breastfeeding Friendly Childcare Provider Program was piloted in 16 sites across Wood County. All have developed breastfeeding policies and are designated breastfeeding-friendly. Data collected from all 16 sites using the Go NAP SACC Breastfeeding & Infant Feeding tool indicate that conditions for breastfeeding moms improved. For example, all sites have a quiet and comfortable space, other than a bathroom, for mothers to breastfeed or express milk. Childcare providers also increased refrigerator and/or freezer space to allow all breastfeeding mothers to store milk. Posters and handouts provide parents with information about the importance of breastfeeding. Better educated staff now look for specific hunger signs, such as rooting, rather than feeding only on schedules because scheduled feedings can lead to uncomfortable overfeeding and reflux for babies. The program continues to grow with positive results and the ultimate goal is to take the program statewide. In the words of Amber France, MS MPH, IBCLC:

"After the implementation of the Breastfeeding Friendly Childcare Program, childcare providers reported that **parents were now seeking out breastfeeding friendly providers and some of those childcare providers now have waiting lists.** This shows that this program had a community-wide impact."

[242] Additional information, including the 10 Steps to Breastfeeding Friendly Childcare Center Toolkit, online training modules, an action plan template, and more can be found at: http://www.woodcountybreastfeeding.org/BreastfeedingFriendlyChildcareCenters.aspx. The site also lists breastfeeding friendly childcare centers in Wood County, ways childcare centers can develop their own breastfeeding friendly policies, and contact information for local technical assistance.

Healthy Food and Activity Environments

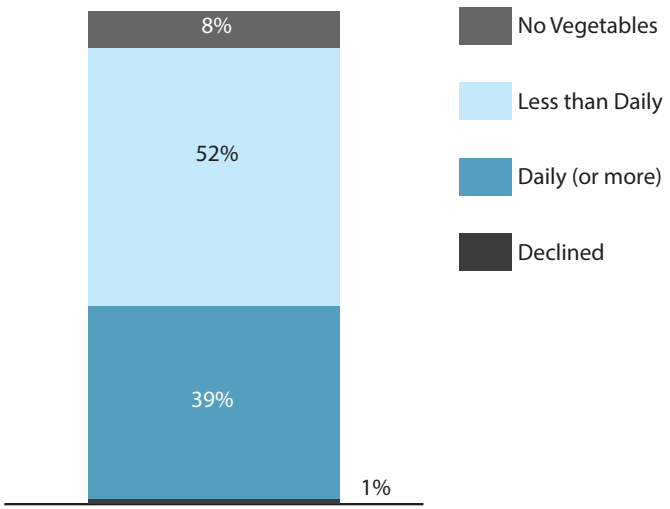
continued

Youth Vegetable Consumption

Nutrition supports healthy child growth and development. Healthy food across the lifespan can help in the prevention of chronic illness, as well as improved quality of life related to the nutritional, social, and cultural aspects of shared food.

- In 2016, nearly all Wood County high school students reported eating vegetables at least once a week (91 percent).
- While daily consumption of vegetables is recommended, **only 39 percent reported eating vegetables at least once a day**.
- Most high school students continue to report eating fruit one or more times in the past week (91 percent in Wood County in 2012 and 2016). These data are similar to Wisconsin and the United States in 2013 (92 percent and 89 percent respectively).
- One out of five Wood County high school students report drinking pop one or more times a day in 2016 (21 percent). This percent is similar to 2012 (also 21 percent), and Wisconsin overall (20 percent).

Wood County High School Students Who Ate Vegetables in the Past Week, 2016[243]



[243] WI DPI. Youth Risk Behavior Survey. Wood County, WI High School Survey for 2015-2016, Grades 9-12, January 2016 to March 2016.

Healthy Food and Activity Environments

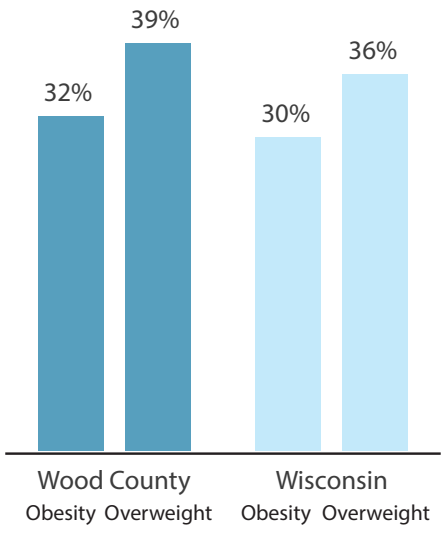
continued

OVERWEIGHT AND OBESITY

Obesity has been increasing globally and is a risk factor for chronic illness. Obesity and its precursor – overweight – are the result of a positive imbalance between energy intake and energy expenditure. With globalization and urbanization, the corresponding changes in work, transportation, and trade have led to environments that support the increased consumption of energy dense foods and more sedentary lifestyles.[244] To support equitable access to healthy food and activity environments across populations, consideration must be given to the health impacts of policies proposed by diverse sectors including transportation, natural resources, education, and community development.

Obesity is common in Wood County (43 percent in 2014 according to Body Mass Index (BMI) measurements from a Survey of the Health of Wisconsin (SHOW) sample).[245] There are a broad range of obesity data reported for Wood County and differences depend on whether modeled estimates or actual BMI measurements or abdominal obesity (waist circumference) assessments from population samples were used.

Obesity and Overweight, 2012 to 2015[246]



- Measured BMI data from the Behavioral Risk Factor Survey reveal 32 percent obesity for 2012 to 2015 and 39 percent overweight in Wood County.[247]
- Modeled three year estimates show that from 2003 to 2013 the rate of obesity fluctuated in Wood County, ultimately increasing from a low of 24 percent (in 2003 to 2005), to 34 percent more recently (in 2011 to 2013).[248] These rates were similar to Wisconsin overall.

[244] WHO. Obesity and Overweight Fact Sheet. Updated June 2016 http://www.who.int/mediacentre/factsheets/fs311/en/ accessed 12/2016.
[245] Bersch, A, T LeCaire, P Bajwa, K Malecki. Survey of the Health of Wisconsin (SHOW) Wood County Report: Obesity and Related Health Behaviors. Draft 9.1.2016.
[246] Behavioral Risk Factor Surveillance System (BRFSS). Wisconsin Behavioral Risk Factor Survey. Office of Health Informatics. Division of Public Health and Centers for Disease Control and Prevention.
[247] Ibid.
[248] County Health Rankings & Roadmaps. Rankings Data. 2016 CHR CSV Trends Data. http://www.countyhealthrankings.org/sites/default/files/2016CHR_CSV_Trend_Data.csv accessed 12/2016.

Healthy Food and Activity Environments

continued

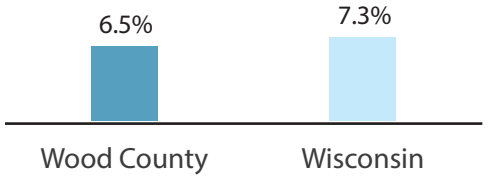
DIABETES

Diabetes is a chronic illness related to high blood sugar levels. Complications may include heart disease, stroke, kidney failure, nerve damage, impaired vision and hearing, and lower-limb damage or amputation.[249,250] Diabetes can be prevented and managed through regular physical activity, healthy diet, and health provider support.[251] To prevent related heart disease, smoking cessation, blood pressure, and lipid management are also recommended.[252]

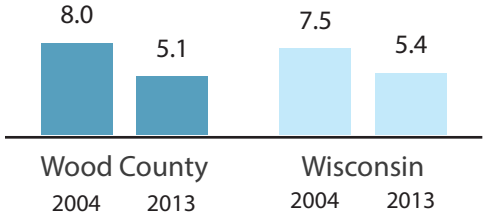
Overall, Wood County has diagnosed diabetes age-adjusted prevalence and incidence rates similar to Wisconsin. The diagnosed diabetes age-adjusted prevalence in Wood County was 6.5 percent in 2013. This prevalence is similar to Wisconsin (7.3 percent). The diagnosed diabetes age-adjusted incidence rate in Wood County was 5.1 per 100,000 population in 2013, compared to 8.0 in 2004. State level incidence is similar, 5.4 in 2013, compared to 7.5 in 2004. Although the rate appears to be decreasing since 2004, these differences may not be statistically significant.[253]

Wood County Diabetes Prevalence and Incidence Rates are Similar to Wisconsin

Diagnosed Diabetes Age-Adjusted Prevalence, 2013[254]



Diagnosed Diabetes Age-Adjusted Incidence Rate per 100,000 population[255]



[249] CDC. *National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014.* Atlanta, GA: US Department of Health and Human Services; 2014. https://www.cdc.gov/diabetes/data/statistics/2014StatisticsReport.html accessed 12/2016.

[250] Mayo Clinic. Diabetes Complications. http://www.mayoclinic.org/diseases-conditions/diabetes/basics/complications/con-20033091 accessed 12/2016.

[251] CDC. Basics About Diabetes. https://www.cdc.gov/diabetes/basics/diabetes.html accessed 12/2016.

[252] CDC. *National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States,* 2014.

[253] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.

[254] CDC. Diabetes Data and Statistics. https://www.cdc.gov/diabetes/data/index.html accessed 12/2016.

[255] Ibid.

Healthy Growth and Development

HEALTHY GROWTH AND DEVELOPMENT

Healthy growth and development refers to improving the quality of life across the lifespan, with a particular focus on critical developmental periods such as pregnancy, early childhood, and adolescence. Stark inequities in pregnancy outcomes and infant health according to race, ethnicity, income, and educational attainment have been documented.[256,257] By maximizing access to care and services, providing information and counseling, and strengthening systems, partnerships, and community capacity with attention to equity, healthy growth and development can be fostered throughout the life continuum. Factors highlighted here include reproductive and sexual health, birth outcomes, oral health, and tobacco use and exposure.

[256] Healthy People 2020. Maternal, Infant, and Child Health. https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health accessed 12/2016.

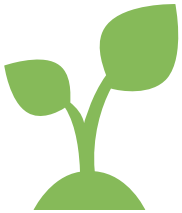
[257] Lu MC, Kotelchuck M, Hogan V, Jones L, Wright K, Halfon N. Closing the Black-White Gap in Birth Outcomes: A Life-course Approach. Ethnicity & disease. 2010;20(1 0 2):S2-62-76.

Healthy Growth and Development

continued

KEY FINDINGS

- In 2015, **many received first trimester prenatal care** in Wood County (79 percent).[258]
- **Smoking during pregnancy is high** in Wood County (20 percent), compared to 14 percent in Wisconsin from 1999 to 2015.
- The rate of **chlamydia, a sexually transmitted infection, has increased** in Wood County (from 222 per 100,000 in 2011 to 334 in 2015).[259]
- The percent of **preterm and low birthweight births, and the infant mortality rate, are lower** in Wood County compared to Wisconsin (1999 to 2015).[260,261]
- Although regular dental visits are recommended,[262] **less than half of Medicaid/BadgerCare+ members received a dental service** in the state fiscal year 2010 (37 percent).[263]



[258] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Birth Counts and Fertility Modules, accessed 12/2016.
[259] WI DHS, DPH, Wisconsin Sexually Transmitted Disease Program. Disease Surveillance and Statistical Trends, Statewide Profile and Case Rates by County - 2011, 2012, 2013, 2014, 2015, https://www.dhs.wisconsin.gov/std/data.htm, accessed 12/2016.
[260] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Preterm Birth and Low Birthweight Module, accessed 12/2016.
[261] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Infant Mortality Module, accessed 12/2016.
[262] The American Dental Association (ADA). ADA Statement on Regular Dental Visits. June 10, 2013. http://www.ada.org/en/press-room/news-releases/2013-archive/june/american-dental-association-statement-on-regular-dental-visits, accessed 1/2017.
[263] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm, accessed 12/2016.

REPRODUCTIVE AND SEXUAL HEALTH

Reproductive and family planning, sexual health, and healthy relationships can support healthy growth and development across the life course. Reproductive and sexual health support strategies may include policies and legislation; education, counseling, testing, and referrals for pregnancy, sexually transmitted infections (STIs), and human immunodeficiency virus (HIV); cancer screenings; prenatal care; counseling and resources to develop safe and nurturing relationships; home visits for new parents; and forming collaborations to strengthen service systems, among many others. Sexual orientation and gender are part of our identities. Healthy People 2020 highlights the need to reduce reproductive and sexual health inequities, particularly related to racial, ethnic, sexual orientation, and gender disparities.[264]

Challenges to accessing care in Wood County were highlighted in a key informant interview with a Wood County Emergency Department (ED) doctor. This physician described how many seek pregnancy and STI-related care in the ED, while being treated for other health issues. This ED doctor expressed concern about patient **access to reproductive and sexual health services,** explaining, "Why is the individual not being treated by a primary care physician?" This interviewee noted teen pregnancy and STIs among the greatest health concerns in Wood County.

[264] Healthy People 2020. https://www.healthypeople.gov

Healthy Growth and Development

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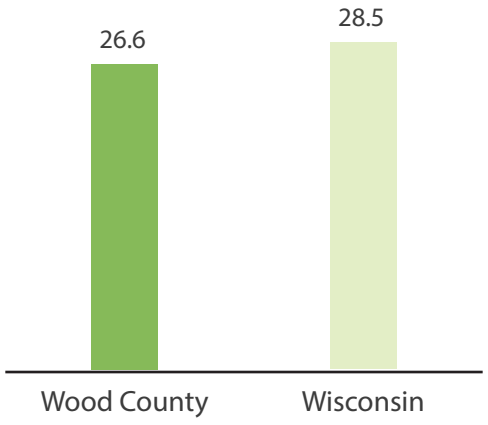
Birth Rate

Healthy pregnancies and births lay the foundation for health across the lifespan.

- In 2015, there were 869 births in Wood County. This is similar to the average annual number of births in Wood County since 1999 (859).
- In total there were 14,595 births in Wood County from 1999 to 2015, with a low of 753 in 2014 (10.1 births per 1,000 population) and a high of 941 in 2008 (12.4 births per 1,000 population).[265] The birth rate for this period was 11.4 per 1,000 population in Wood County, lower than Wisconsin overall (12.4).
- From 1999 to 2015, **the teen birth rate was 26.6 in Wood County** (per 1,000 females ages 15 to 19), lower than Wisconsin overall (28.5). Most of these births occurred among older teens. Those ages 18 and 19 had a birth rate of 37.1 in 2015, compared to 9.1 among 15 to 17 year olds.

Wood County Has Lower Birth Rates than Wisconsin Overall

Wood County Teen Birth Rate, 1999 to 2015 (per 1,000 Females ages 15 to 19)[266]



859 Births on Average Each Year in Wood County

[265] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Birth Counts and Fertility Modules, accessed 12/2016.

[266] WI DHS, DPH, OHI. WISH data query system, https://www.dhs.wisconsin.gov/wish/index.htm, Teen Births - Teen Birth Rates Module, accessed 12/2016.

Healthy Growth and Development

continued

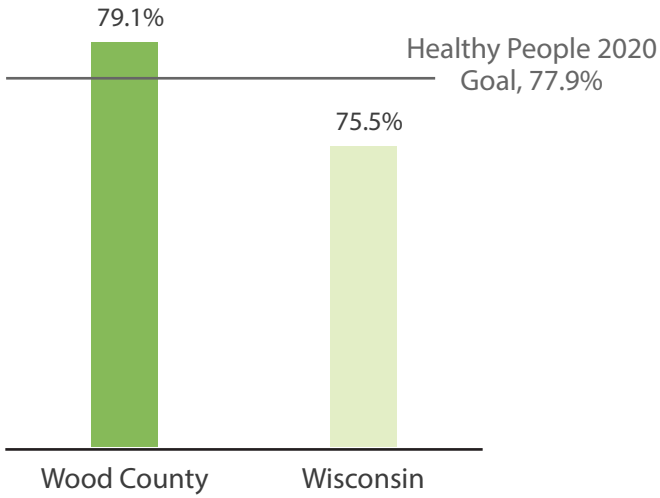
Prenatal Care

Prenatal care beginning in the first trimester can help support a healthy pregnancy and birth.

- From 1999 to 2015, the percent of births with prenatal care in the first trimester was 80.6 in Wood County. In recent years, the percent in Wisconsin has dropped below Wood County. In 2015, 79.1 percent of births in Wood County had first trimester prenatal care, compared to only 75.5 percent in Wisconsin.[267] This meets and surpasses the Healthy People 2020 goal of 77.9 percent.

A Greater Percent Receive First Trimester Prenatal Care in Wood County

First Trimester Prenatal Care, 2015[270]



Smoking During Pregnancy

Smoking during pregnancy leads to increased health risks for mother and child.

- **The percent smoking during pregnancy is high in Wood County** (19.6 percent from 1999 to 2015).[268] This is higher than Wisconsin (14.3 percent) and the Healthy People 2020 goal of less than 2 percent.[269]

Smoking during Pregnancy is High in Wood County

[267] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Birth Counts and Fertility Modules, accessed 12/2016.
[268] Ibid.
[269] Healthy People 2020. Maternal, Infant, and Child Health Objectives. https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives accessed 12/2016.
[270] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Birth Counts and Fertility Modules, accessed 12/2016.

Healthy Growth and Development

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Sexually Transmitted Infections

Sexually transmitted infections (STIs) such as chlamydia, gonorrhea, and syphilis are both preventable and treatable. Routine STI testing, treatment if indicated, and physical barriers such as condoms can prevent new infections.

- The rate of sexually transmitted infections has increased in Wood County from 2011 to 2015, largely due to chlamydia infections. The rate of chlamydia infections increased from 222 cases per 100,000 in 2011 to 334 in 2015, while the rates of gonorrhea remained below 17 and syphilis below 4 per 100,000 population.

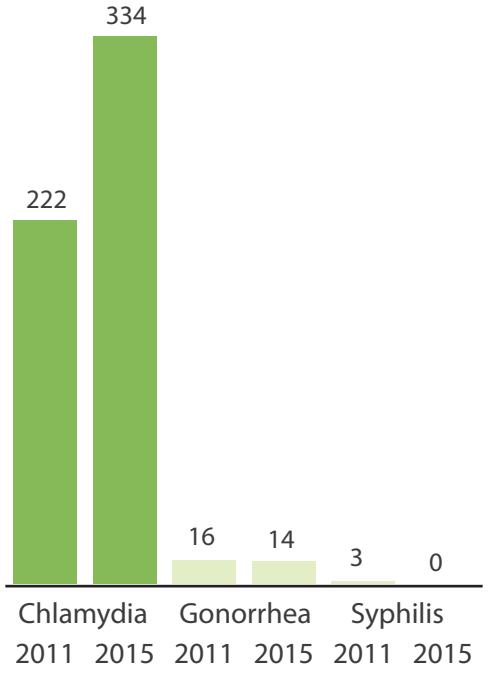
Human Immunodeficiency Virus

Human immunodeficiency Virus (HIV) can be transmitted sexually and by sharing needles.

- The HIV prevalence rate was lower in Wood County (55.7 per 100,000), compared to Wisconsin overall in 2015 (119.3 per 100,000). The majority of prevalent cases in Wood County include individuals whose HIV infection has progressed to Acquired Immune Deficiency Syndrome (AIDS) (63.4 percent), as well as another 31.7 percent people living with diagnosed HIV infection, and 4.9 percent whose current disease status is not indicated.[271]

Increases in Rate of Chlamydia Infections

Chlamydia, Gonorrhea, and Syphilis in Wood County, Cases per 100,000 Population, 2011 and 2015[272]



[271] WI DHS, DPH, Wisconsin Map and List of County HIV Case Surveillance Data. https://www.dhs.wisconsin.gov/aids-hiv/county-data.htm accessed 12/2016.

[272] WI DHS, DPH, Wisconsin Sexually Transmitted Disease Program. Disease Surveillance and Statistical Trends, Statewide Profile and Case Rates by County - 2011, 2012, 2013, 2014, 2015, https://www.dhs.wisconsin.gov/std/data.htm, accessed 12/2016.

Healthy Growth and Development

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BIRTH OUTCOMES

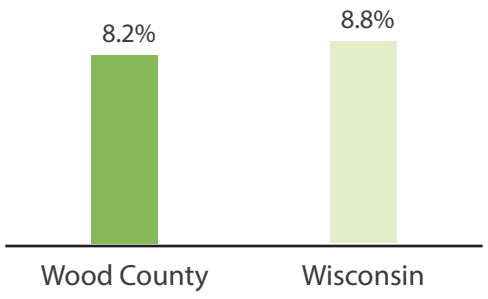
Preterm and Low Birthweight Births

Globally, preterm birth (before the 37th completed week of pregnancy) is the leading cause of newborn deaths and a common cause of death among children under five.[273] Preterm births and low birthweight (those born weighing less than 2,500 grams) are associated with an increased risk of illness, including chronic illness later in life, disability, and developmental challenges.[274] **In Wood County, there were fewer preterm and low birthweight births than Wisconsin overall.** Both Wood County and Wisconsin preterm and low birthweight births meet and exceed Healthy People 2020 goals.[275]

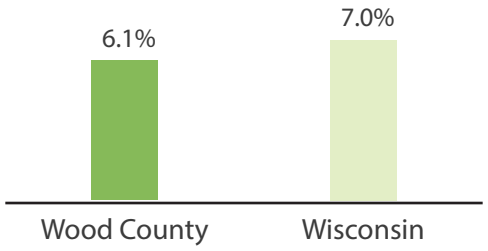
- In Wood County, 8.2 percent of births were preterm compared to 8.8 percent in Wisconsin from 1999 to 2015.
- Likewise, there were fewer low birthweight births in Wood County (6.1 percent), compared to Wisconsin overall for 1999 to 2015 (7.0 percent). These are all lower than the Healthy People 2020 goals.

Wood County Has Fewer Preterm and Low Birthweight Births

Preterm Births, 1999 to 2015[276]



Low Birthweight, 1999 to 2015[277]



[273] WHO. Preterm Birth. http://www.who.int/topics/preterm_birth/en/ accessed 12/2016.
[274] CDC. Preterm Birth and Low Birthweight. https://ephtracking.cdc.gov/showRbPrematureBirthEnv and https://ephtracking.cdc.gov/showRbLBWGrowthRetardationEnv.action accessed 12/2016.
[275] Healthy People 2020. Maternal, Infant, and Child Health Objectives. https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives accessed 12/2016.
[276] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Preterm Birth and Low Birthweight Module, accessed 12/2016.
[277] Ibid.

Infant Mortality

Infant mortality refers to a death in the first year of life.

- There were 62 infant deaths in Wood County from 1999 to 2015, including five that occurred in 2015.[278]
- The infant mortality rate in Wood County from 1999 to 2015 was 4.2 per 1,000 live births. This is lower than Wisconsin (6.3)[279] and the Healthy People 2020 goal of 6.0.[280]

In Wood County, Fetal Infant Mortality Review (FIMR) and Child Death Review (CDR) teams review these deaths and provide recommendations to organizations working on improving health in these specific areas.

Given the documented existence of inequities nationally and statewide, it is important to note that county level trends may not apply to all subpopulations in Wood County. Moving forward, it will be essential to assess and understand when county wide indicators do not reflect patterns across subpopulations and the extent to which inequities persist in Wood County.

Infant Mortality Rate is Low in Wood County

[278] WI DHS, DPH, OHI. WISH data query system, http://dhs.wisconsin.gov/wish/, Infant Mortality Module, accessed 12/2016.
[279] Ibid.
[280] Healthy People 2020. Maternal, Infant, and Child Health Objectives. https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives accessed 12/2016.

ORAL HEALTH

Our ability to speak, express emotion through facial expressions, swallow, taste, and chew food is dependent on oral health.[281] Many suffer from pain, illness, and disability related to oral health.[282] While oral diseases can be prevented, there are substantial barriers to accessing oral health care including cost, availability (e.g., distance to services and transportation access), and a lack of culturally or linguistically appropriate care.[283] Focus group conversations with vulnerable populations in Wood County emphasized the barriers and disparities. For example, one individual affected by mental illness described the numerous challenges experienced across health care systems when seeking urgent access to oral health care:

"…I have to take the bus to Neillsville and it is such a pain. [I] can't get in if in pain or an acute issue. Lack of transportation is a huge issue. Lack of education on the part of emergency personnel with what to do with people with mental health issues. Significant lack of compassion based on lack of understanding…"

Participants from St. Vincent de Paul Free Clinic highlighted dental care as part of a healthy lifestyle, while also describing barriers to this care. In the words of one participant, **"deductibles are too high and going to the dentist is too expensive."** These focus group findings echo the documented oral health inequities that persist related to insurance/access, race, and disability.[284]

> **"Dental care for people that are poor is terrible."**
>
> - Mental Health Consumer

[281] Healthy People 2020. Oral Health. https://www.healthypeople.gov/2020/topics-objectives/topic/oral-health accessed 12/2016.
[282] Ibid.
[283] Ibid.
[284] Healthiest Wisconsin 2020.

Healthy Growth and Development

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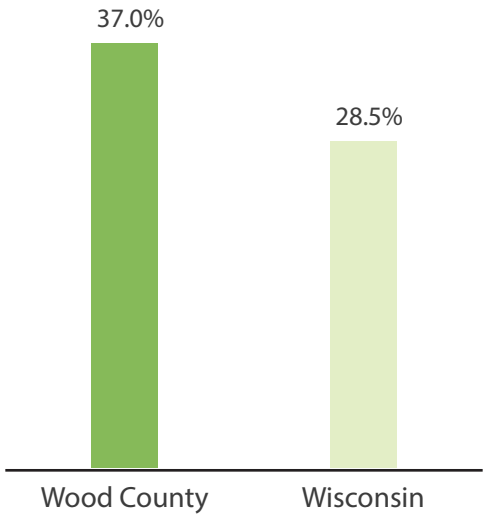
Dental Services

Regular dental visits are recommended.[285]

- Overall, less than half of Medicaid/BadgerCare+ members received a dental service in the state fiscal year 2010 (SFY10) (37.0 percent in Wood County and 28.5 percent in Wisconsin).
- A dental visit is recommended by the first tooth or first birthday, and yet only 13.4 percent of children under three with Medicaid/BadgerCare+ received a dental service.

Medicaid/BadgerCare+ Members with Dental Service, SFY10[286]



[285] The American Dental Association (ADA). ADA Statement on Regular Dental Visits. June 10, 2013. http://www.ada.org/en/press-room/news-releases/2013-archive/june/american-dental-association-statement-on-regular-dental-visits, accessed 1/2017.

[286] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm.

Healthy Growth and Development

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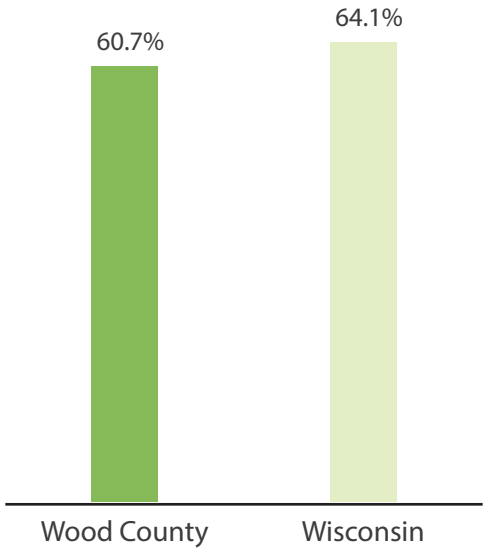
Access to Fluoridated Water

Fluoride helps prevent tooth decay, but many do not have access to optimally fluoridated water in Wood County.

- Across all water sources, 60.7 percent of the population had access to optimally fluoridated water in 2011, compared to 64.1 percent in Wisconsin overall.
- Nearly all those with a public water supply had access (96.9 percent in Wood County, compared to 89.4 percent in Wisconsin).[287]

Population (All Water Sources) with Access to Optimally Fluoridated Water, 2011[288]



[287] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm.
[288] Ibid.

Healthy Growth and Development

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Dental Sealants

A total of 19 schools in Wood County had a dental sealant program in 2010 to 2011.

- Most schools that were eligible for Seal-A-Smile in Wood County were funded in 2010 to 2011: ten out of 13 eligible schools or 76.9 percent.
- Among third graders in 2007 to 2008, a majority had received dental sealants (77.4 percent). This is far more than in Wisconsin overall (50.8 percent).[289]

Dental Health Professionals

In Wood County there were 58 licensed dentists and 48 licensed dental hygienists in 2011.

- Although Wood County is not a Dental Health Professional Shortage Area (HPSA), there is a large population to dentist ratio, 1,289 to 1. This is similar to Wisconsin overall, 1,662 to 1.[290]
- The Medicaid/BadgerCare+ population (continuously enrolled) to dentist ratio is 195 to 1 in Wood County, again similar to Wisconsin 219 to 1.[291] There is one Federally Qualified Health Center (FQHC) dental clinic in Wood County.[292]

Most Seal-A-Smile Eligible Schools in Wood County were Funded

Funding of Seal-A-Smile Eligible Schools in Wood County[293]

[289] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm.
[290] Ibid.
[291] Ibid.
[292] DHS. Federally Qualified Health Centers. https://www.dhs.wisconsin.gov/forwardhealth/fqhc.pdf.
[293] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm.

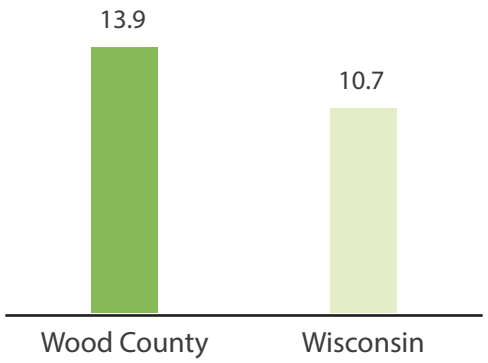
Oral Disease

While most adults in Wood County had a dental visit in the past year (77.4 percent), many had tooth loss due to decay or gum disease (42.7 percent) (2006, 2008, 2010).[294]

In Wood County, the age-adjusted incidence (2004 to 2008) and mortality rates (2003 to 2007) for oral/pharyngeal cancer were slightly higher than Wisconsin.[295]

- The age-adjusted incidence rate was 13.9 per 100,000 in Wood County and 10.7 in Wisconsin.
- The age-adjusted mortality rate was 4.0 per 100,000 in Wood County, and 2.5 in Wisconsin.

Age-adjusted Incidence Rate for Oral/ Pharyngeal Cancer, 2004 to 2008[296]



[294] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm.
[295] Confidence intervals for these rates are overlapping, and observed differences may not be statistically significant.
[296] WI DHS, DPH, COWSS. https://www.dhs.wisconsin.gov/oral-health/cowss/index.htm.

SMOKING AND TOBACCO USE

Tobacco-Related Deaths

Smoking and tobacco use substantially increase the risk of chronic illnesses such as heart disease, stroke, and cancer.[297] **Tobacco was more common as an underlying or contributing cause of death than both alcohol and other drugs** combined in Wood County from 2005 to 2014.[298]

- In 2014, tobacco was an underlying cause of mortality for 99 deaths in Wood County, compared to 16 for alcohol and six for other drugs, for a rate of 133 tobacco-related deaths per 100,000 population.[299]

[297] CDC. Health Effects of Cigarette Smoking. https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/ accessed 2017.
[298] DHS Wood County Public Health Profiles. Available at https://www.dhs.wisconsin.gov/stats/phprofiles/wood.htm accessed 12/2016.
[299] Ibid.

Youth Smoking and Tobacco Use

Through interviews, medical providers in Wood County emphasized the impact of smoking on health and the importance of prevention and smoking cessation. One doctor explained that they were **"specifically concerned about kids starting smoking."**

Among Wood County high school students, recent improvement was seen in some, but not all areas related to smoking and tobacco use (see graph on next page).[300]

- The percent who smoked a whole cigarette for the first time before age 13 decreased slightly in Wood County (from 8.9 percent in 2012 to 7.2 percent in 2016).
- The percent who smoked cigarettes on school property at least one day during the 30 days before the survey also declined (from 3.7 percent in 2012 to 2.3 percent in 2016).
- Importantly, the percent of current high school students who smoked more than ten cigarettes per day when they smoked decreased (from 2.8 percent in 2012 to 1.3 percent in 2016). This is far below state and national comparisons from 2013 (9.8 percent in Wisconsin and 8.6 percent nationally).
- In addition, the percent of Wood County high school students using chewing tobacco, snuff, or dip at least one day during the 30 days before the survey decreased (from 11.0 percent in 2012 to 7.3 percent in 2016), falling below state and national comparisons (8.0 percent and 8.8 percent respectively in 2013).

Amidst those improvements, there were some increases in adolescent smoking during this same time period.

- The largest increase was seen in the percent of Wood County high school students who ever tried cigarette smoking, even one or two puffs (from 26.9 percent in 2012 to 30.9 percent in 2016).
- The percent who smoked cigarettes at least one day during the 30 days before the survey increased slightly (from 12.5 percent in 2012 to 13.3 percent in 2016).
- Likewise, the percent of Wood County high school students who smoked cigars, cigarillos, or little cigars on at least one day during the 30 days before the survey increased slightly as well from 6.4 percent in 2012 to 7.2 in 2016.

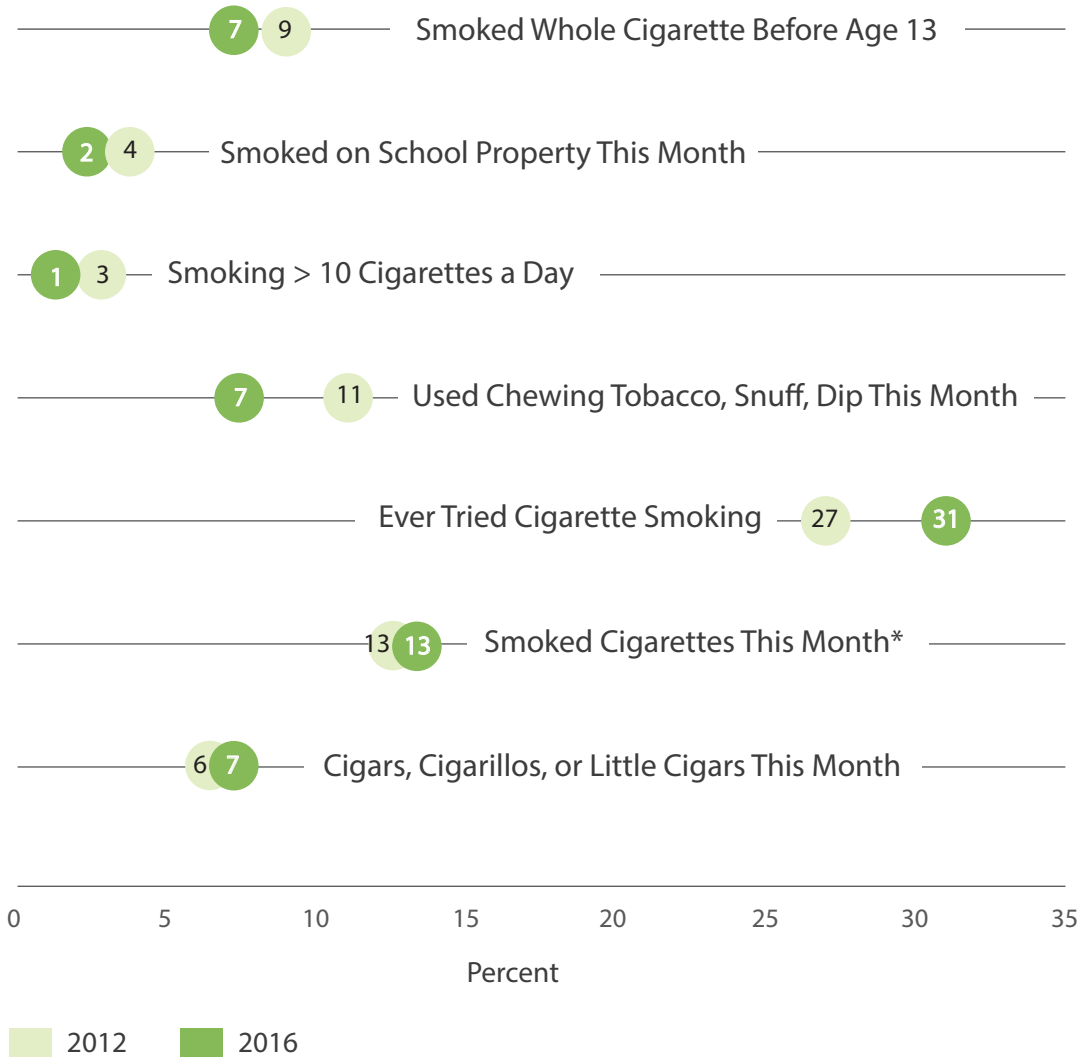
[300] WI DPI. Youth Risk Behavior Survey. Comparison Reports.

Healthy Growth and Development

continued

There Were Some Decreases in Teen Smoking and Tobacco Use

Smoking and Tobacco Use Among Wood County High School Students from 2012 to 2016 (Percent)[301]



*These values are rounded from 12.5 percent in 2012 and 13.3 percent in 2016.

[301] WI DPI. Youth Risk Behavior Survey. Comparison Reports.

Healthy Growth and Development

continued

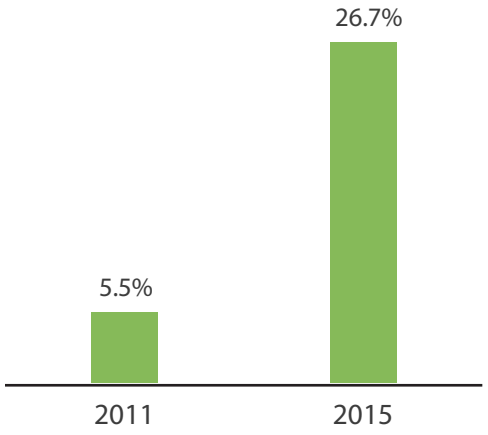
Tobacco Sales to Youth

Access to tobacco products among youth can be reduced by preventing illegal sales to minors. The Wisconsin Department of Health Services (DHS) partners with local contacts to conduct inspections, congratulating local retail establishments that do not sell to youth, and providing guidance and resources to those who would have made sales.

- According to these inspections, the percent of tobacco sales to youth has been increasing in Wood County (from a low of 5.5 percent in 2011 to a high of 34.9 percent in 2014). In 2015, sales remained high at 26.7 percent.

An interviewed Wood County doctor emphasized the ongoing importance of reducing youth access to tobacco products.

Tobacco Sales to Youth in Wood County[302]



"Hopefully we are going to make [cigarettes] less and less accessible to our teens."

- Wood County Medical Provider

[302] Wisconsin Wins Program. http://wiwins.org/ accessed 12/2016.

ADDITIONAL COMMUNITY HEALTH ISSUES

Although not identified as top priorities, **environmental health** and **infectious disease** are also of importance in Wood County, particularly issues related to air pollution and water quality.

For example, odors from the paper mill and other area industry caused focus group members to question air quality and safety. Several focus group participants discussed the odors from local paper mills, indicating that many "need paper mills to keep running for jobs, but the air is so unhealthy." Others expressed interest in information about strategies to lessen air pollution, as they noted concern for the air around local industry. In addition, community members have mobilized around water quality concerns in response to a proposed Concentrated Animal Feeding Operation (CAFO) in the county. Although not a common theme, a medical provider interviewed identified highly infectious disease risk and emergency preparedness among the most important health concerns in Wood County.

Data on environmental health and infectious disease were included as part of the larger data set initially gathered and that was shared with community-based coalitions and community stakeholder meeting participants (see separate technical appendix). This includes data on air quality (e.g., ozone, particulate matter), water quality (e.g., arsenic, nitrate), lead exposures, radon levels, carbon monoxide poisonings, food and waterborne illnesses, Lyme disease, other insect vector illnesses, cancers (e.g., melanoma and lung cancers), asthma, and heat stress.

In addition, this data set includes greater detail on the social and economic factors that influence health including data on child care costs, school enrollment, languages spoken, social support caseload, students without stable housing, workforce migration, and insurance status, among others. Additional community data related to housing, segregation, and inequalities can be further explored moving forward.

Social support, particularly for children and vulnerable populations, was also highlighted among interviewees. During interviews, a health care provider noted "vulnerable children" among the most important health concerns, describing issues related to abuse, abandonment, and neglect. Another provider also emphasized the importance of social service connections and case management, in their words, "particularly as it relates to frail, elderly, prisoners, [and] individuals with addiction."

Community Health Imrovement Plan (CHIP) Coalitions

COMMUNITY HEALTH IMPROVEMENT PLAN (CHIP) COALITIONS

To address the identified CHA priorities and effectively improve health outcomes, a Wood County Community Health Improvement Plan (CHIP) process was initiated after the 2013 CHA. According to the National Association of County and City Health Officials (NACCHO),

> *"A community health improvement plan is an action-oriented plan outlining the priority community health issues (based on the community health assessment findings and community member and [Local Public Health System] partner input) and how these issues will be addressed, including strategies and measures, to ultimately improve the health of a community."*[303]

Four HPWC coalitions – that align with the four identified CHA priorities – were formed to lead the CHIP process:

- **Mental Health Matters,**
- **AOD Prevention Partnership,**
- **Recreate Health,** and
- **Brighter Futures.**

As defined by Coalitions Work, a coalition is "a group of diverse organizations and constituencies who work together to reach a common goal or goals."[304] Many stakeholders, additional community coalitions, and community residents contribute to the HPWC coalition efforts (Appendix A). Working jointly can build social cohesion, improve awareness, leverage limited resources, reduce inefficiencies, maximize joint benefits, and strengthen influence.[305]

[303] National Association of County and City Health Officials (NACCHO). Recommendations on Characteristics for High-Quality Community Health Assessments and Community Health Improvement Plans. Available at: http://www.naccho.org/programs/public-health-infrastructure/community-health-assessment?p=chachipgeneral.
[304] Coalitions Work. http://coalitionswork.com/what-is-a-coalition-anyway/ accessed 1/2017.
[305] Ibid.

Community Health Imrovement Plan (CHIP) Coalitions

continued

COALITION MISSIONS AND GOALS

As part of the CHIP, each coalition developed a mission statement and outlined goals and objectives to address the identified health priorities. A summary of the missions is provided here in the adjacent box and followed by highlighted goals for each coalition (pages 114 - 117). Process goals and coalition objectives are detailed in a separate technical appendix.[306]

Coalition Missions

Mental Health Matters:
Achieving the highest quality of mental health in the state

AOD Prevention Partnership:
Creating safe and healthy communities for youth and adults by preventing and reducing harmful substance use

Recreate Health:
Reducing the impact of chronic disease in Wood County by creating community and systems level change by empowering everyone to make healthy choices regarding nutrition and physical activity

Brighter Futures:
Achieving optimal health of youth and families by improving health systems, providing education, and strengthening partnerships

[306] Although not a focus of the CHIP coalitions, tobacco use is an important health issue in Wood County, as indicated in this report. The Wood County Health Department Family Health and Injury Prevention Team will be working on initiatives for tobacco use and secondhand smoke exposure for 2017 through the Maternal Child Health Block Grant. In addition, The Central Wisconsin Tobacco Free Coalition has mobilized around this issue. http://centralwitobaccofree.org/.

healthypeoplewoodcounty.org

Mental Health Matters

To achieve the highest quality of mental health in the state.

Decrease Stigma

Decrease mental health stigma within structural and social settings

Increase Awareness of Adverse Childhood Experiences (ACEs)
Support Positive Social-Emotional Development | Prevent Suicide
Foster Hope and Recovery

Enhance Access

Enhance access and reduce barriers to utilize mental health services by residents, with a focus on at-risk populations

Connect Community to Mental Health Resources | Engage the Faith Community

Provider Integration

Improve integration between behavioral health and primary care providers

Educate Primary Care Providers | Foster Closer Connections Between Service Providers
Improve Quality of Care

Healthy People Wood County

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healthypeoplewoodcounty.org

AOD Prevention Partnership

Creating safe and healthy communities for youth and adults by preventing and reducing harmful substance use.

Alcohol

Reduce and prevent underage drinking and unhealthy adult alcohol use and consumption

Increase Enforcement of Impaired Driving Laws | Evaluate Temporary Liquor Licenses
Support Age Compliance Checks for Alcohol Sales
Advocate for Policies to Improve the Alcohol Advertising Environment

Prescription Drugs, Methamphetamine, and Heroin

Reduce and prevent the misuse of prescription drugs, methamphetamine, and heroin

Support the Work of Wood County Drug Task Force
Provide Public Awareness and Education | Review Prescription Drug Prescribing Policies

Marijuana

Reduce and prevent the use of marijuana

Address Known Risk and Protective Factors | Conduct Community Needs Assessment
Educate Community | Review Drug-Free Workplace Policies

Healthy People Wood County

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healthypeoplewoodcounty.org

Recreate Health

Reducing the impact of chronic disease in Wood County by creating community and systems level change by empowering everyone to make healthy choices regarding nutrition and physical activity.

Food Systems

Improve the nutrition of Wood County residents through enhanced food systems

Farm to School | Farm to Hospital | Community Food Center

Food Promotion and Retail

Improve the nutrition of Wood County residents through enhanced food promotion and retail

Grocery Store | Farmers Market | Restaurants/Bars | Corner Stores

Community – Clinical Linkages

Improve chronic disease referrals and educational trainings through the improvement of community-clinical linkages in Wood County

Community-Clinical Linkages | Non-Rx Primary Care Providers
Non-Rx Mental Health Providers

Infrastructure Improvements

Improve the physical activity of Wood County residents through bicycling & walking infrastructure improvements

Complete Streets | Community Design | Bike Share | Way Finding / Route Systems

CONTACT US

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Healthy People Wood County

healthypeoplewoodcounty.org

Brighter Futures

Achieving optimal health of youth and families by improving health systems, providing education, and strengthening partnerships.

Oral Health

Improve oral health outcomes for prenatal through preteen populations

Early Prevention Strategies | Wood County Healthy Smiles

Youth Health

Improve overall health among youth

Partnerships for Education | Youth Risk Behavior Surveys
Providers and Teens Communicating for Health
Parent Network Dinners and Education

Preconception → Early Childhood

Improve health outcomes for preconception through early childhood populations

Preconception and Prenatal Education | Evidence-Guided Home Visitation
Healthcare System Collaboration

Healthy People Wood County

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Community Health Imrovement Plan (CHIP) Coalitions

continued

ACCOMPLISHMENTS

We would like to highlight some of the recent HPWC coalition accomplishments (2013 to 2016) (see next page). These accomplishments were made possible through collaboration with many partners, including – but not limited to:

Anchor Bay,

Aspirus Riverview Hospitals and Clinics,

Auburndale School District,

Central Wisconsin Tobacco Free Coalition,

Belvedere Supper Club,

Business Education Partnership,

Community members,

Chat-R-Box,

Children's Hospital of Wisconsin, Wood County,

City of Marshfield,

City of Wisconsin Rapids,

The Daily Grind,

Domtar,

Early Years Coalition, Clean Green Committee,

East Junior High Youth Ambassadors,

Fey Publishing,

Great Expectations,

Higher Grounds Bakery and Coffeehouse,

Incourage,

Marshfield Clinic Health System:

- Healthy Lifestyles – Marshfield Area Coalition,
- Marshfield Area Coalition for Youth,
- Marshfield Clinic – Center for Community Outreach,
- Security Health Plan,

Marshfield School District,

Mayor's Sustainability Council in Wisconsin Rapids,

Melody Gardens,

Mid-State Independent Living Consultants,

Nekoosa School District,

Nutz Deep,

Opportunity Development Centers,

Patty's Café,

Pittsville School District,

Rotary International,

Port Edwards School District,

Shaw Lee,

South Wood County Hunger Coalition,

South Wood County YMCA,

Teen Leadership Program through Incourage,

United Way of Inner Wisconsin,

Wood County Human Services,

Wisconsin Rapids Public Schools,

WiseMind Mental Health Clinic LLC,

Youth Ambassadors,

and local farmers, local enforcement agencies, and other area businesses.

Healthy People Wood County

Highlighted Accomplishments 2013-2016

Mental Health and Well-being

Four conferences with more than 700 participants in attendance

3,310 people trained in suicide prevention, including 1,230 youth and 2,080 adults

Passed a Mental Health resolution for Wood County employees

Alcohol and Other Substance Use

Passed a SOCIAL HOST ordinance in Wisconsin Rapids

10,545 lbs of prescription drugs collected and properly disposed of in Wood County

E-cigarette language added to policies for Wood County employees and City of Marshfield

Healthy Activity and Food Environments

118,314 lbs of local produce purchased from 38 farmers served in 6 school districts; a total of $114,973 invested in Wisconsin economy

10 restaurants in Wood County provide more than 50 healthy options for customers through Smart Meal

Started EQUITABLE bike share: 20 bikes, 4 locations, more than 520 checkouts

Healthy Growth and Development

County-wide Youth Risk Behavior Survey (YRBS) completed by schools

Marshfield Clinic now does Oral Health Screenings at 9 month well-child visits; 1,512 education packets given to children

Five teens hired as Health Educators; 9 workshops reaching 421 youth; 3 workshops reaching 58 providers

Furthering Health Equity Efforts

FURTHERING HEALTH EQUITY EFFORTS

This CHA identified the social determinants of health inequities as a cross-cutting issue across all four health priorities. The World Health Organization (WHO) emphasizes the importance of promoting health equity through action on these social factors.[307] As we move forward, it will be essential to support coalitions in incorporating a health equity approach to this work. This could include identifying ways to operationalize health equity within the CHIPs (e.g., reviewing goals and objectives for opportunities to further health equity); increasing the voices, input, and involvement of diverse community members in decision-making; conducting Health Impact Assessments to understand the equity impacts of proposed policies and plans; and partnering with other counties to share strategies.

For example, the Wood County Health Department has begun to partner with several other counties to incorporate health equity approaches to alcohol and substance use through the CHA/CHIP process. In addition, several local endeavors have the potential to support coalitions in furthering health equity efforts: Health in All Policies (HiAP) and the Healthy Living Hub.

Health in All Policies

One way to advance community health and improve health equity is by implementing HiAP. Our environment and the healthy choices available to us are shaped by a breadth of government policies, sectors, and agencies, including those related to housing, transportation, education, criminal justice, and natural resources, among others. A HiAP approach involves considering health in decisions across government sectors.

Much of the foundation for implementing a HiAP approach has been established in Wood County as a result of the HPWC CHA/CHIP efforts over the last decade, including the development of strong cross-sector relationships, information gathering and sharing, staff capacity building, and the assessment of legal resources.[308] Funding - an additional foundational need - will be explored as we move forward. Through HiAP, we can improve community health in Wood County and make health equity a consideration across all policies.

[307] WHO Commission on Social Determinants of Health (CSDH) (2008). Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the CSDH. Geneva WHO. Available at: http://apps.who.int/iris/bitstream/10665/43943/1/9789241563703_eng.pdf.

[308] Foundations for HiAP are referenced from: Association of State and Territorial Health Officials (ASTHO). Health in All Policies: a Framework for State Health Leadership. available at: http://www.astho.org/HiAP/Framework/.

Furthering Health Equity Efforts

continued

Healthy Living Hub

The Healthy Living Hub is a Wood County Health Department, Wood County YMCA, and UW Stevens Point community and academic partnership to further the data- and community-driven decision-making of this CHA and the sustainability of CHIP efforts. A "hub" or "center" has been created that includes virtual and physical platforms that aim to solidify partnerships, enhance collective efforts, and facilitate a sustainable approach to achieving a healthier, happier, and more vibrant and equitable community. The Healthy Living Hub will help address CHA health priorities and support CHIP efforts by enhancing the community's ability to:

- **Manage Data:** collect and synthesize data from all community sectors and assess disparities;
- **Leverage Resources:** combine efforts, build on strengths, work collaboratively to improve health equity;
- **Advance Learning:** serve as a "health incubator" for equitable wellness strategies, ideas, and solutions; and
- **Engage Citizens:** build local capacity, support community organizing, and use effective communication strategies to foster engagement.

Appendix A: HPWC Coalition Members and Partners

APPENDIX A: HPWC COALITION MEMBERS AND PARTNERS

The four HPWC coalitions are comprised of numerous community partners and would not be able to achieve their mission and goals without support from additional community businesses and organizations. These coalition members, community partners, and additional community businesses and organizations are listed here for each coalition.

Mental Health Matters Coalition

Ascension Saint Joseph's Hospital

Aspirus Riverview Foundation

Aspirus Riverview Hospital

Behrend Psychology Consultants

Children's Hospital of Wisconsin

Christian Life Fellowship

Community Care of Central Wisconsin

Community volunteers

Compass Counseling

Domtar

Family Center

First Baptist

Grace Lutheran

Hannah Center

Heart of Wisconsin Chamber of Commerce

Incourage Community Foundation

Legacy Foundation of Central Wisconsin

Marshfield Area United Way

Marshfield Clinic Health System:

- Marshfield Clinic – Center for Community Outreach
- Marshfield Clinic Mike's Run
- Marshfield Area Coalition for Youth
- Security Health Plan

Marshfield Public Library

MHS Health WI

Mid-State Independent Living Consultants

Mid-State Technical College

NAMI Wood-Portage Counties

Nekoosa Police Department

New Hope Christian Reformed

New Horizons Dental LLC

Northwest Journey

Appendix A: HPWC Coalition Members and Partners

continued

Mental Health Matters Coalition (continued)

Opportunity Development Center (ODC)

Opportunity Inc.

Parent Information and Education Resource (PIER)

Personal Development Center (PDC)

Phoenix Behavioral Health Services LLC

Positive Alternatives

River Cities Clubhouse

Saint Vincent De Paul Outreach Center

School District of Marshfield

School District of Nekoosa

The Webb Foundation

Therapy Without Walls

United Methodist, Port Edwards

United Way of Inner Wisconsin

Victory Christian Outreach Center

Wisconsin Rapids Community Media

Wisconsin Rapids Police Department

Wisconsin Rapids Public Schools

WiseMind Mental Health Clinic

Wood County Health Department

Wood County Human Services Department

Wood County Sheriff's Department

Wood County UW Extension

Wood County Veterans Association

Woodlands Church

Youth for Christ

Appendix A: HPWC Coalition Members and Partners

continued

AOD Prevention Partnership Coalition

(formerly known as the Alcohol & Other Drug Abuse (AODA) Coaltion)

AIDS Resource Center of Wisconsin
Ascension Saint Joseph's Hospital
Aspirus Riverview Foundation
Aspirus Riverview Hospital
ATTIC Correctional Services
Children's Hospital of Wisconsin
City of Wisconsin Rapids
Community volunteers
Compass Counseling
Faith Baptist Church
Family Center
Grand Rapids Police Department
Hannah Center
Heart of Wisconsin Chamber of Commerce
Helping Hands Gospel Mission
Incourage Community Foundation
Legacy Foundation of Central Wisconsin
Marshfield Area United Way
Marshfield Clinic Health System:
- Marshfield Clinic – Center for Community Outreach
- Marshfield Area Coalition for Youth

Marshfield Police Department
Marshfield Public Library
Mid-State Technical College
Moravian Church
NAMI Wood-Portage Counties
Nekoosa Police Department
Nicolet Staffing
North Central Workforce Development
Opportunity Development Center (ODC)
Opportunity Inc.
Paper City Savings
Personal Development Center (PDC)
Pittsville Police Department
Pittsville Public School District
Port Edwards Police Department
Positive Alternatives
Saint Vincent De Paul Outreach Center
School District of Marshfield
School District of Nekoosa
Solarus

Appendix A: HPWC Coalition Members and Partners

continued

AOD Prevention Partnership Coalition (continued)

State Public Defenders Office

State Veterans Outreach

Tobacco Free Coalition of Central Wisconsin

United Church of Christ

United Methodist Church

United States Department of Agriculture

United Way of Inner Wisconsin

Victory Christian Church

Wisconsin Department of Corrections

Wisconsin Division of Probation and Parole

Wisconsin Rapids Community Media

Wisconsin Rapids Police Department

Wisconsin Rapids Public Schools

Wood County Courts

Wood County District Attorney's Office

Wood County Drug Treatment Court

Wood County Health Department

Wood County Human Services Department

Wood County Sheriff's Department

Wood County UW Extension

Wood County Veterans Association

Wood County Veterans Services

Woodlands Church

WoodTrust Bank

Appendix A: HPWC Coalition Members and Partners

continued

Recreate Health Coalition

(formerly known as the Chronic Disease Prevention and Management Coalition)

Aging and Disability Resource Center (ADRC)

Allied Health Chiropractic

Anchor Bay

Ascension Saint Joseph's Hospital

Aspirus Doctors Clinic

Aspirus Riverview Clinic & Hospitals

Belevedere Supper Club

Central Rivers Farmshed

Childcaring Inc.

Clean Green Action

Community volunteers

DATCP Farm to School AmeriCorps

Higher Grounds Bakery and Coffeehouse

Ho-Chunk

Incourage Community Foundation

Main Street Marshfield Farmers' Market

Marshfield Area YMCA

Marshfield Clinic Health System:

- Healthy Lifestyles – Marshfield Area Coalition
- Marshfield Clinic – Center for Community Outreach
- Security Health Plan

Marshfield Pick N Save

Mayor's Sustainability Council

Melody Gardens

Mid-State Technical College

Nutz Deep

Ocean Spray

Patty's Café

Peach Street Farmers' Market

Piggly Wiggly

Pittsville Public School District

Port Edwards School District

Quality Foods IGA-West Grand

School District of Auburndale

School District of Marshfield

School District of Nekoosa

Shaw Lee

South Wood County Hunger Coalition

South Wood County YMCA

The Daily Grind

United Way of Inner Wisconsin

Appendix A: HPWC Coalition Members and Partners

continued

Recreate Health Coalition (continued)

Wisconsin Rapids Police Department

Wisconsin Rapids Public Schools

Wood County Farmers' Market

Wood County Head Start

Wood County Health Department

Wood County Human Services

Wood County Planning and Zoning

Wood County UW Extension

Wood County Women, Infant, Children (WIC)

Appendix A: HPWC Coalition Members and Partners

continued

Brighter Futures Coalition

(formerly known as the Healthy Growth and Development Coalition)

Ascension Saint Joseph's Hospital

Aspirus Doctors Clinic

Aspirus Riverview Hospital

Childcaring Inc.

Community volunteers

Family Center

First Choice Pregnancy Resource Center

Hannah Center

Ho-Chunk

Incourage Community Foundation

Legacy Foundation of Central Wisconsin

Lutheran Social Services

Marshfield Area United Way

Marshfield Clinic Health System:

- Marshfield Clinic – Center for Community Outreach

Parents Information and Education Resource (PIER)

Pittsville Public School District

Planned Parenthood

Port Edwards School District

School District of Auburndale

School District of Marshfield

School District of Nekoosa

United Way of Inner Wisconsin

Wisconsin Rapids Public Schools

Wisconsin Women's Health Foundation

Wood County Head Start

Wood County Health Department

Wood County Human Services Department

Wood County UW Extension

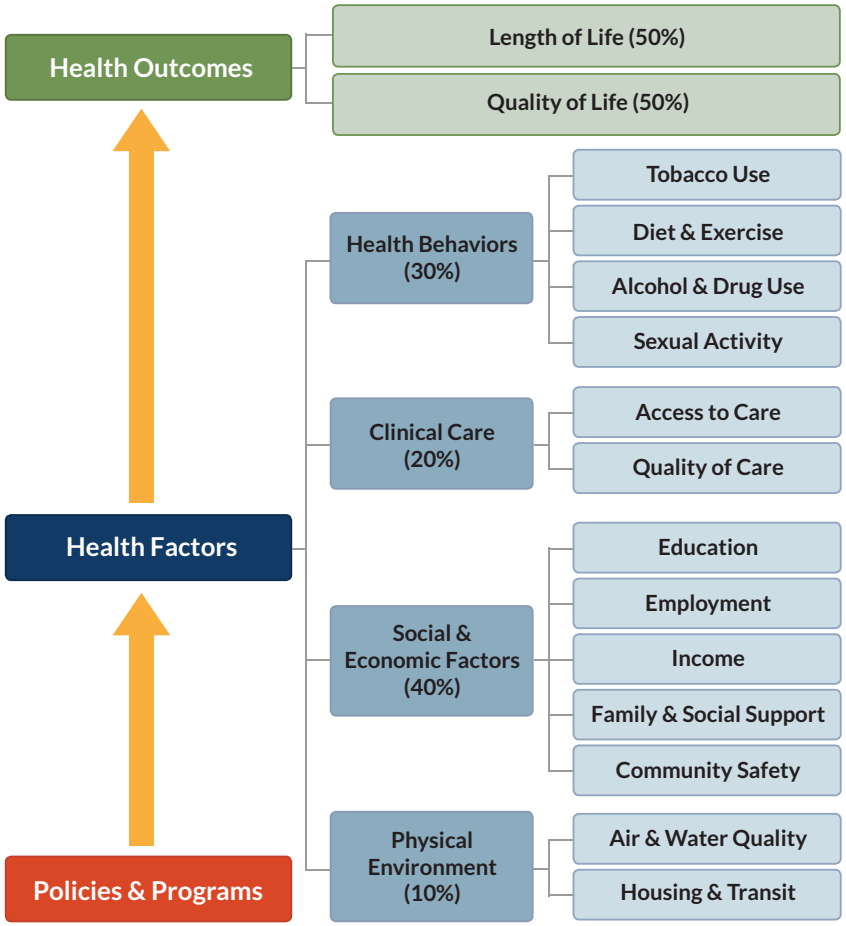
Wood County Women, Infants, and Children (WIC)

Appendix B: CHA/CHIP Process Detail and Methods

APPENDIX B: CHA/CHIP PROCESS DETAIL AND METHODS

COMMUNITY HEALTH IMPROVEMENT STRATEGY

The Wood County CHA is committed to using national best practices in conducting the CHA and implementing community health improvement strategies. Our approach relies on the model developed by the County Health Rankings and Roadmaps and the Robert Wood Johnson Foundation, utilizing in particular the determinants of health model and the model for community health improvement.



County Health Rankings model © 2017 UWPHI

Appendix B: CHA/CHIP Process Detail and Methods

continued

In addition, we utilize the *Wisconsin Guidebook on Improving the Health of Local Communities* (developed with funding from the University of Wisconsin School of Medicine and Public Health from the Wisconsin Partnership Program). This guidebook builds on the County Health Rankings and Roadmaps program's Action Center.

Appendix B: CHA/CHIP Process Detail and Methods

continued

Based on all of these resources, the Wood County community health improvement strategy rests on the following principles to make our communities a healthy place to live, learn, work and play:

- Work collaboratively to effectively address health issues,
- Pay attention to the forces that shape health outcomes,
- Focus efforts on target populations with a disparate health burden,
- Emphasize the powerful impact of policy- and system-based approaches on change,
- Use the best evidence of effective strategies, and
- Identify and track specific, measurable performance indicators.

The vision of this work is aligned with the five aspects of the national BUILD Health Challenge mission: Bold, Upstream, Integrated, Local, and Data-Driven (or BUILD) (see adjacent text box).

As excerpted from the BUILD Health Challenge,[309] this includes:

BOLD "Aspire toward a fundamental shift beyond short-term programmatic work to longer-term influences over policy, regulation, and systems-level change."

UPSTREAM "Focus on the social, environmental, and economic factors that have the greatest influence on the health of your community, rather than on access or care delivery."

INTEGRATED "Align the practices and perspectives of communities, health systems, and public health under a shared vision, establishing new roles while continuing to draw upon the strengths of each partner."

LOCAL "Engage neighborhood residents and community leaders as key voices and thought leaders throughout all stages of planning and implementation."

DATA-DRIVEN "Use data from both clinical and community sources as a tool to identify key needs, measure meaningful change, and facilitate transparency among stakeholders to get actionable insights."

[309] BUILD Health Challenge. Our Mission. http://buildhealthchallenge.org/our-mission/ accessed 1/2017.

Appendix B: CHA/CHIP Process Detail and Methods

continued

PLANNING AND PRIORITIZATION PROCESS

The Wood County CHA process involved a Steering Committee dedicated to actively engaging individual community members and groups who represent the broad interests of the community. The Steering Committee for the CHA was comprised of leaders from the Wood County Health Department, Ascension Ministry Saint Joseph's Hospital, Aspirus Riverview Hospital and Clinics, Marshfield Clinic Health System, and the Legacy Foundation. These leaders have served as the coordinating council to plan the process, gather community health data, and identify and engage individuals and key informants who represent a broad spectrum of community stakeholders, including representatives from education, business, philanthropy, faith-based organizations, local and tribal government, underserved populations (including low-income individuals, youth, elders, and people of color), social service agencies, law enforcement, and health care.

The team used a mixed-methods approach to identify community health needs and priorities in Wood County and assure input from key stakeholders. In addition to gathering quantitative community health data, the Steering Committee conducted a Wood County CHA survey, a community stakeholder meeting, focus groups, and key informant interviews, as well as gathered input from existing community-based coalitions. Future CHA efforts will explore equity analyses further. Equity perspectives are incorporated in the current CHA particularly through qualitative data from focus groups with underserved populations, as well as the other primary data collection methods and literature review.

A quality management and process improvement specialist (certified as a "Lean Six Sigma Black Belt") assisted with the analysis and organization of the survey data, as well as the process for determining the health priorities used in the stakeholder and focus group meetings. After review of the data and input from stakeholder groups, the following criteria were used by the Steering Committee to determine the health improvement priorities:

- Health areas that have the largest community impact
- Health areas that have the most serious impact
- Health areas for which the community is ready for change
- Health improvement areas that can be changed over a reasonable timeline
- Health coalitions' [mental health; alcohol and drug abuse; chronic disease; and healthy growth and development] current status as it relates to implementation plans

COMMUNITY HEALTH DATA

The Steering Committee gathered quantitative community health data related to health outcomes and the factors that shape health. **Health outcome** data included mortality data related to the leading cause of death and morbidity data related to the leading causes of illness and health (e.g., mental health, substance use-related hospitalizations, obesity, and pregancy and birth outcomes, as well as injury, violence, and communicable disease). Data on the **factors that shape health** included the population distribution (e.g., total population, age distribution), social determinants of health inequities (e.g., income, education, education, gender, race and ethnicity), health behaviors (e.g., alcohol and drug use, physical activity, nutrition, sexual health, tobacco use), physical environment description (e.g., housing, food security, natural environment), and health care access.

To understand progress towards community health improvement in Wood County, current community health data are compared to previous years, Wisconsin overall, and national benchmarks, when possible. Healthy People 2020 provides national benchmarks and measurable objectives for health improvement.[310] In some cases, observed differences are not statistically significant and caution must be used given the small population and sample size for Wood County estimates (see Appendix C).

While the data related to the prioritized health issues are highlighted in this report, a broad data set was initially gathered and presented to community-based coalitions and community stakeholder participants. This is included as Appendix E (separate document).

Data Sources

CHA data sources included:

- Ascension Saint Joseph's Hospital
- Aspirus Riverview Hospitals and Clinics
- Centers for Disease Control and Prevention (CDC) Diabetes Interactive Atlas
- CDC Youth Risk Behavior Survey
- County Health Rankings & Roadmaps
- County Oral Health Wisconsin Surveillance System (COWSS)
- FBI Arrest Statistics
- Healthiest Wisconsin 2020
- Institute of Medicine, "Improving Health in the Community: Role for Performance Monitoring Wisconsin Department of Health Services"

[310] Healthy People 2020. Available at https://www.healthypeople.gov.

Appendix B: CHA/CHIP Process Detail and Methods

continued

Data Sources (continued)

- Marshfield Clinic Health System:

  Marshfield Clinic – Center for Community Outreach

  Marshfield Area Coalition for Youth
- Northwoods Coalition Epidemiological Profiles
- Primary data collected through community surveys, focus groups, and key stakeholder interviews
- UW (University of Wisconsin) Extension Food Security Project
- UW Milwaukee Center for Urban Initiatives and Research
- UW Population Health Institute
- Wisconsin Department of Health Services
- Wisconsin Department of Public Instruction
- Wisconsin Department of Revenue
- Wisconsin Department of Transportation
- Wisconsin Epidemiological Profile on Alcohol and Other Drug Use
- Wisconsin Environmental Public Health Tracking
- Wisconsin Interactive Statistics on Health
- Wisconsin Medicaid
- Wisconsin Youth Risk Behavior Survey
- Wisconsin Wins
- Wood County Communicable Disease Reports
- Wood County Women, Infants, and Children (WIC) Program

Appendix B: CHA/CHIP Process Detail and Methods

continued

WOOD COUNTY CHA SURVEY

In fall 2015, a Wood County CHA Survey was sent electronically and as a hard copy requesting input on health priorities.

- A total of **1,577 community resident surveys were completed.**
- The survey was distributed to employers to reach their employee base (e.g., Ascension Ministry Saint Joseph's Hospital, Aspirus Riverview Hospital and Clinics, Marshfield Clinic Health System), local Chamber of Commerce for local businesses, local coalition contacts, St. Vincent De Paul Outreach Center, school districts, technical schools and university systems, public service organizations, and community service groups.
- To reach diverse populations in Wood County, the survey was offered in **English, Hmong, and Spanish**.
- In addition, the survey was designed for an 8th grade reading level and reading ease through the use of the *"Affordable Language Services"* Tool.

This survey was conducted to gauge resident perspectives on the level of importance of various health issues. Community members were provided with a list and definition of Healthy Wisconsin 2020 focus areas. Individuals were asked to rate 22 health issues on a scale of one to five (with one being "not important" and five being "very important). These responses were weighted and averaged to identify the highest ranked health issues. Narrative responses related to assets in the community that help individuals be healthy and those factors that were perceived as barriers were summarized.

The Steering Committee reviewed the ranked survey items along with the prioritization criteria to identify the top eight health concerns. Eight priority areas from the survey were identified as targets for further assessment at the community stakeholder forum. Although highly ranked on the survey; income, employment, quality of care, and access to care were identified as cross-cutting issues that would need to be addressed across all priorities, and were therefore not selected among the top eight health priorities.

Appendix B: CHA/CHIP Process Detail and Methods

continued

COMMUNITY STAKEHOLDER MEETING

A forum was held to gather input from key stakeholders on October 8, 2015 at the Pittsville Fire Department from 11:30am-2:00pm. Key stakeholders with varied expertise were invited to participate to help prioritize the community health needs for Wood County. Participants were sent a description of the CHA planning process and the community health data prior to the meeting. This allowed the participants the opportunity to review the data and to begin discernment of the key community health priorities. At the forum, the eight selected priorities were discussed and further prioritized through two separate activities: table top advocacy and drivers-means-outcomes activities.

- **Table Top Advocacy:** Each participant selected one of the eight priority areas that was of interest to them. The small groups then discussed why this health priority should be given a high ranking. Following the small group discussion, each group advocated for their health priority and individuals voted twice for their first and second priority through an electronic voting process.

- **Drivers-Means-Outcomes:** Participants continued to stay in their identified groups and worked through an activity to determine if certain health priorities drive or influence others. The activity required participants to assess each of the priorities which were written on poster paper and placed in a circle. The participants then needed to determine if the health need was a driver as it related to other health priorities and therefore the arrow pointed out to other health priority[ies] or if it was an outcome of the other priority and therefore would have the arrow pointing in from the other health priority[ies].

Ultimately the exercise helped the participants better understand the nature of health priorities and provide insights into possible implementation strategies for future planning. By focusing on the drivers, resources can be invested in strategies that focus on the underlying causes of poor health outcomes. Because every organization has limited resources, focusing on the drivers is a way to maximize resources.

Appendix B: CHA/CHIP Process Detail and Methods

continued

Community Stakeholder Meeting Participating Organizations

Aging and Disability Resource Center

Aspirus Riverview Hospital and Clinics

Boys and Girls Club

Childcaring Inc.

City of Marshfield

City of Wisconsin Rapids

Clean Green Action

Incourage

Legacy Foundation

Marshfield Clinic Health System:

- Healthy Lifestyles – Marshfield Area Coalition
- Marshfield Clinic – Center for Community Outreach
- Marshfield Area Coalition for Youth
- Security Health Plan

Marshfield Public Library

Ministry St Joseph's Hospital

Ministry Medical Group - Employer Solutions

Opportunity Development Center

Nekoosa School District

North Central Community Action

Port Edwards School District

St. Vincent de Paul Outreach Center

United Way of Marshfield

United Way of Inner Wisconsin

UW Stevens Point

UW – Wood County Extension

Wisconsin Energy

Wisconsin Rapids Police Department

Wisconsin State Assembly

Wood County Dispatch

Wood County Human Services

Wood County Public Health

Wood County Sheriff Department

YMCA

Appendix B: CHA/CHIP Process Detail and Methods

continued

FOCUS GROUPS

Focus groups were held to gather information on community health needs, barriers, and resources from underserved populations in Wood County. A total of five focus groups reaching an estimated 57 participants were conducted with representatives from Forum 55 (elders), East Junior High (youth), St. Vincent DePaul Free Clinic (low-income patients), River Cities Clubhouse (people affected by mental illness), and Hmong community members. Additional outreach was conducted to connect with food pantry and soup kitchen clients, organizations serving the Latino/Hispanic community, and religious groups, although focus groups were not realized to date.

KEY INFORMANT INTERVIEWS

A total of six key informant interviews were conducted with physicians and case managers in Wood County. These interviews gathered health care provider perspectives on community health priorities. Interviewees worked in a breadth of health care facilities including the Emergency Department, inpatient and outpatient settings, residency programs, free clinics, and primary care offices.

COMMUNITY-BASED COALITION INPUT

As part of 2013 CHA efforts, four community coalitions had been organized representing the following key focus areas:

- **Mental health**
- **Alcohol and drug abuse**
- **Chronic disease (nutrition and physical activity)**
- **Healthy growth and development**

These coalitions have representatives from the broader community and have been responsible for the development of implementation plans for the previously identified health priorities. In January to April 2016, the Steering Committee asked these coalitions to complete an assessment of their work, to include accomplishments, effectiveness of their actions, gaps and future opportunities (essentially a SWOT analysis). The outcome of this effort was to determine how the priorities that are being identified in the current CHA can be aligned with previously identified CHA priorities and implementation plans. It is important to preserve and sustain the work of these very valuable community based coalitions while refining the focus with the most recent CHA work. Ultimately, this work contributes to the development of the new implementation plan with measurable goals, objectives, and strategies. No written comments were received regarding the previous CHA.

APPENDIX C: LIMITATIONS AND FURTHER CONSIDERATIONS

The HPWC CHA and CHIP is an ongoing data- and community-driven process that identifies community health priorities and implementation plans to improve health. There are many strengths to this CHA and CHIP, including the incorporation of community health data from local and national public health surveillance systems, Healthy People 2020 comparisons when appropriate, broad community input, and supportive community-based coalitions to advance identified health priorities. As with any analysis, there are some limitations and further considerations as we move forward.

- **Small numbers limit assessments, specifically in regards to quantified assessments of inequities and change over time.** There are several limitations related to the small population size in Wood County. Many health outcomes of interest include annual cases of less than twenty. Caution must be used when interpreting rates calculated from events less than twenty.[311] The confidence intervals are included in a separate technical appendix when available for better assessment of the precision of the estimates presented. For confidentiality reasons, data are not reported by many agencies for events less than five.

  Small numbers limit the possibility of stratifying many outcomes by race, ethnicity, and socioeconomic status to better understand health inequities in the county. Given the small number of annual deaths, much of these data cannot be reported by race and ethnicity. For example, it is difficult to assess racial inequities by cause of death in Wood County because each cause of death is often less than five when stratified, even when summed from 1999 to 2014. With illnesses being more common than death, morbidity data will be important for assessing inequities moving forward.

  In many cases, changes from year to year or between places (e.g., Wood County and Wisconsin) cannot be assessed because many estimates are imprecise and not statistically significant due to small numbers. This report frequently presents data summed across multiple years to provide more robust estimates.

- **County-level indicators may not capture sub-county inequities that exist.** This CHA presents county-level indicators that may or may not apply to subpopulations or smaller geographies within Wood County. The next iterations of the CHA may include further assessments to better understand health inequities that exist within the county within the limitations of small population size.

[311] Paul Buescher, Problems with Rates Based on Small Numbers. North Carolina Department of Health and Human Services. August 2008. http://www.schs.state.nc.us/schs/pdf/primer12_2.pdf.

Appendix C: Limitations and Further Considerations

There is currently limited access to timely, local-level data. Access to these data would increase understanding of these issues in Wood County. In order to better focus our efforts on where the greatest needs are, there is a desire to explore geographic differences throughout Wood County with mapping and if possible with data at the census block level.

- **Further outreach and engagement is required.** While much of the data in Wood County cannot be stratified to assess health inequities due to small numbers, focus groups with underserved populations help provide qualitative data to understand the scope and extent of health inequities in the county. A limitation of the current report is that focus groups have not yet been conducted with the Latino/Hispanic population in Wood County. It will be important to further outreach efforts and actively involve representatives of this growing population in future CHA efforts. Several focus groups were conducted in partnership with community organizations and future assessments would benefit from further input from Hmong families and people affected by mental illness who are not receiving or connected to support services, as well as high-risk prenatal and postpartum populations.

  The survey was conducted in English, Spanish, and Hmong, and it will be important to share results of the CHA in multiple languages as well. This will allow the findings to reach a broader cross-section of the Wood County population and create opportunities for ongoing dialog to inform the next steps of the Community Health Improvement Plans.

  There is also a great opportunity to explore rural perspectives within the CHA/CHIP process, especially those outside of the larger municipalities of Marshfield and Wisconsin Rapids. The next iteration of assessment could identify challenges that may be greater for those who live in the most rural parts of Wood County. This may include consideration of how local relationships affect care seeking for mental health services.

- **Strategically consider additional data points and sources.** This report used the data that was initially gathered for community-based coalitions and community stakeholder meeting participants as a starting point for analysis. The assessment has benefited from additional data requests, such as opioid data from the Wisconsin Department of Health Services Division of Public Health Prescription and Non-Prescription Opioid Harm Prevention Program, and future assessments would be strengthened by purposeful consideration of other data points and sources.

  For example, early childhood is a critical period of development that lays the foundation for health later in life. In regards to the adverse childhood experience data, it will be important to look at interventions that impact children at a young age during key periods of brain development. Data related to quality early child care options, developmental screenings,

Appendix C: Limitations and Further Considerations

continued

and third grade reading levels will be useful for assessing early educational outcomes. The Wisconsin Department of Public Instruction provides data on the demographics of students, which may differ from overall population estimates for the county. In addition, the 2016 Youth Risk Behavior Survey data provided in this report is representative of three of the six school districts in Wood County. Data from all six school districts for 2015 have been recently released and may provide a representative picture of the county for future assessments. There is also interest in gathering data related to the number of fast food chains, grocery stores, and farmers' markets, and their spatial distribution across the county, including proximity to schools and low-income communities.

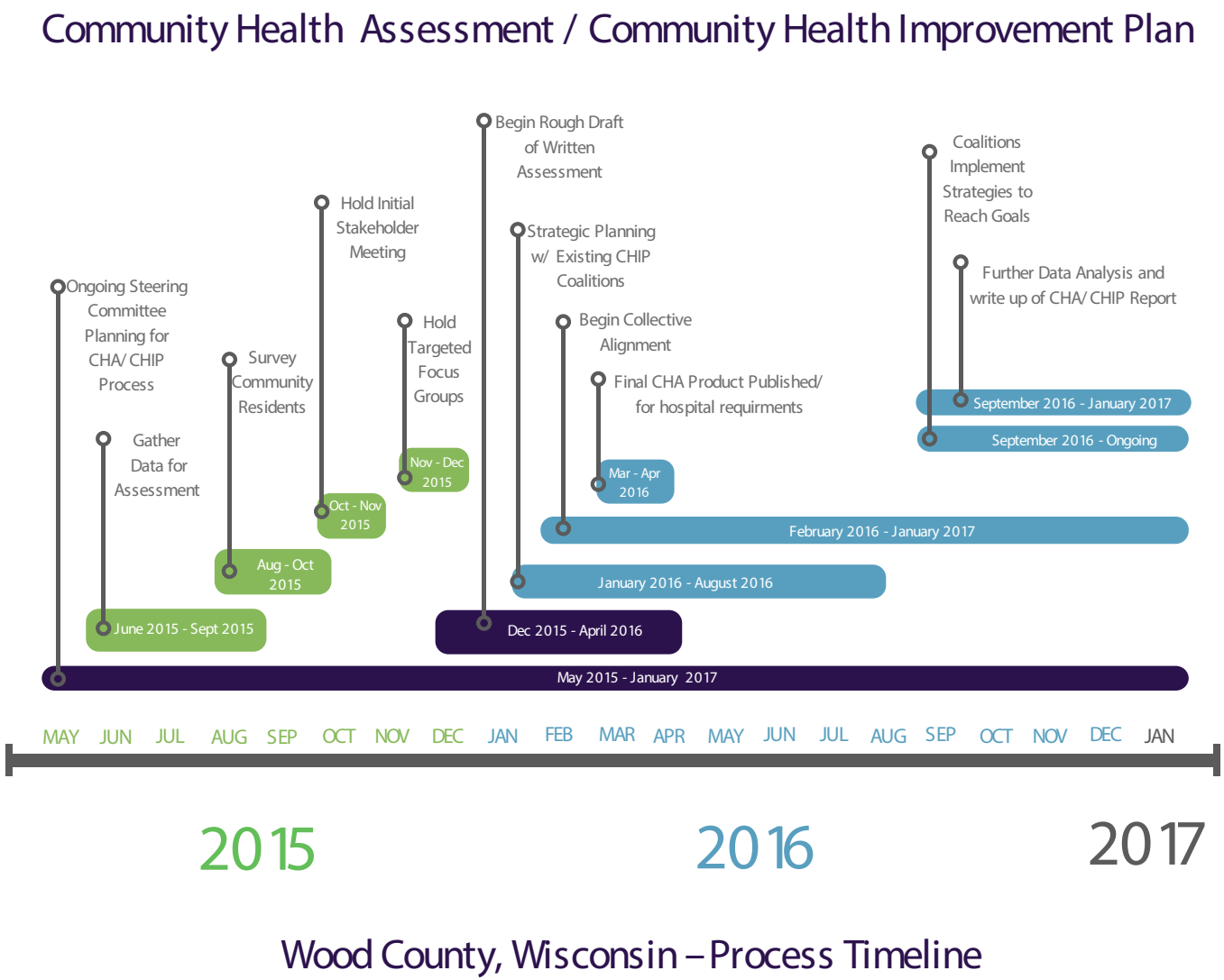
In addition, there are a breadth of economic- and housing-related data publicly available (e.g., labor force participation rates). Longitudinal Employer-Household Dynamics data from the US Census may help better understand the relationship between education and employment in the county, including the earnings and educational attainment associated with inflow and outflow jobs. It may also be useful to consider data related to jobs that are available in our community and options for re-skilling and re-training people for existing opportunities.

These are just a few examples of data that could be reviewed as part of the CHA/CHIP process. The next iteration of the HPWC CHA/CHIP would benefit from a strategic assessment of indicators that should be focused on in greater depth.

- **There is a need to improve primary data collection with further training.** While efforts were made to have quality and consistency in primary data collection, the process of instrument development and implementation could be improved upon. The opportunities for improvement include pilot testing instruments, recording interviews and focus groups for transcription, improving the literacy level and accessibility of survey questions, and providing additional trainings for interviewers, focus group facilitators, and note-takers.

These limitations and considerations will be reviewed as the CHA process moves forward. This CHA builds on the 2013 assessment and furthers data-informed and community-defined efforts for improving community health in Wood County. This process will continue as partners convene to review this CHA and inform next steps towards action in the county.

Appendix C: Limitations and Further Considerations

continued

APPENDIX D: 2017 HPWC CHA/CHIP TIMELINE