WISCONSIN COLLABORATIVE *for* HEALTHCARE QUALITY

2019 Wisconsin Health Disparities Report

In collaboration with:
Health Innovation Program
Integrating healthcare research and practice

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The following Wisconsin Collaborative for Healthcare Quality members contributed data to this report:

- Ascension Wisconsin
- Aspirus
- Associated Physicians
- Aurora Health Care
- Bellin Health
- Beloit Health System
- Divine Savior Healthcare
- Fort HealthCare
- Froedtert & The Medical College of Wisconsin
- Gundersen Health System
- Marshfield Clinic Health System
- Mayo Clinic Health System
- Mercy Health System
- Prairie Clinic
- Prevea Health
- Primary Care Associates of Appleton
- ProHealth Care
- Sauk Prairie Memorial Hospital & Clinics
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- UnityPoint Health | Meriter
- UW Health
- Vibrant Health Family Clinics
- Wildwood Family Clinic

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About the Wisconsin Collaborative for Healthcare Quality

WCHQ members include 35 health systems, 325 medical clinics and 149 dental clinics. Members represent integrated health systems with hospitals and clinics; small, rural hospitals; a staff model health plan; and two Federally Qualified Health Centers (FQHCs).

WCHQ members represent more than 65 percent of Wisconsin's primary care physicians, which is over 5,000 primary care physicians, advanced practice providers and physician assistants.

Many health care-related stakeholders support WCHQ, including health plans, corporate sponsors, purchasers, policy and advocacy organizations, government agencies, research institutions and foundations.

Executive Summary

The Wisconsin Collaborative for Healthcare Quality (WCHQ) and its member organizations developed the *Wisconsin Health Disparities Report* to identify where disparities in health outcomes and care exist in Wisconsin and to help inform and accelerate programs that are working to eliminate disparities. WCHQ hopes that by identifying and publicly reporting these differences, this report will draw attention to and promote public accountability, improvement and action by multiple stakeholders.

Eliminating health disparities is a task that cannot be done by health systems alone or accomplished in silos. This report can contribute to the identification of opportunities for health systems, health departments, policymakers, nonprofits and employers to develop collaborative approaches within their communities to create a healthier Wisconsin for all.

Summary of Findings

Health outcome and care measures that have **substantial disparities in Wisconsin** are summarized below by race/ethnicity, payer and rural/urban residence. In the summary and tables below, population groups and measures with substantial disparities are highlighted. *Substantial disparities* were defined as a rate that was at least 10% lower than the population group with the highest rate. *Disparities* were defined as a rate that was from 5% to 9% lower than the population group with the highest rate. The rates for all population groups are documented more extensively in the following report, including the populations with the highest and lowest rates.

Racial and Ethnic Disparities

Nationally, disparities in health outcomes, preventive services and health care exist for people of color, even when controlling for insurance status and income.

In Wisconsin, this report found that *American Indian/Alaska Native* children had much lower childhood vaccination rates, while adults had much lower rates of breast cancer screening, attainment of recommended weight and being tobacco-free if they had diabetes or heart disease. *Asian/Pacific Islander* adults had much lower rates of breast and colorectal cancer screening. *Black* children had much

Race/Ethnicity	Substantial Disparities in Wisconsin Compared to Population Group with the Highest Rate
American Indian/ Alaska Native	Childhood vaccinations; breast cancer screening; recommended weight; tobacco-free (diabetes; heart disease)
Asian/Pacific Islander	Breast cancer screening; colorectal cancer screening
Black	Childhood vaccinations; recommended weight; blood pressure control; tobacco-free (diabetes; heart disease)
Hispanic/Latino	Recommended weight; blood sugar control (diabetes)
White	HPV vaccination; recommended weight

lower childhood immunization rates, while *Black* adults had much lower attainment of recommended weight and blood pressure control and *Black* adults who had diabetes or heart disease were much less likely to be tobacco-free. *Hispanic/Latino* adults had much lower attainment of recommended weight and those with diabetes had much lower blood sugar control. Finally, *White* adolescents had much lower HPV vaccination rates and *White* adults had much lower attainment of recommended weight.

Payer Disparities

Disparities by health insurance coverage may exist due to differences in the populations that are insured, or due to variation in coverage, co-pay and deductible amounts, or the cost of medical services.

In Wisconsin, those with *commercial* insurance had much lower attainment of recommended weight. Those with *Medicare* had much lower cervical cancer screening. Individuals with *Medicaid* or who were *uninsured* had much lower rates of childhood vaccinations; breast and colorectal cancer screening; depression screening; attainment of recommended weight; and, if they had diabetes, had much lower blood sugar control. In addition, individuals with *Medicaid* had much lower blood pressure control and much lower rates of being tobacco-free if they had diabetes or heart disease. *Uninsured* individuals also had much lower rates of HPV vaccination.

Rural/Urban Disparities

Disparities by rural and urban residence can be due to a number of factors, including economic, social, racial, ethnic, geographic, health care access and utilization, cost and distribution of providers and services.

In Wisconsin, this report found disparities for rural and urban areas, although none of these differences were substantial disparities using the report definition (10% or greater difference). Specifically, there were lower rates of adolescent immunization in *rural* areas and lower rates of depression screening in *urban* areas. These limited report findings may have been related to the use of only two categories to describe rural and urban. This approach may have masked disparities that occurred within rural or within urban areas. A future report will provide additional detail on potential disparities using more detailed categorizations of rural and urban.

Payer	Substantial Disparities in Wisconsin Compared to Population Group with the Highest Rate
Commercial	Recommended weight
Medicare	Cervical cancer screening*
Medicaid	Childhood vaccinations; breast and colorectal cancer screening; depression screening; recommended weight; blood pressure control; blood sugar control (diabetes); tobacco-free (diabetes; heart disease)
Uninsured	Childhood vaccinations; HPV vaccination; breast, colorectal and cervical cancer screening; depression screening; recommended weight; blood sugar control (diabetes)

*Approximately 17% of Medicare beneficiaries are under the age of 65

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Introduction

Widespread disparities exist in health outcomes and care in Wisconsin. Although Wisconsin ranks high in overall health care nationally, the state performs poorly with respect to disparities.[1] In a national report, Wisconsin performed worse than the U.S. average on 22 of 27 measures of disparity in care for Hispanics and non-Hispanic Blacks relative to Whites.[2] The Health of Wisconsin Report Card, published by the University of Wisconsin Population Health Institute in 2016, showed the state of Wisconsin had an overall health disparities grade of "D."[3]

Reducing health disparities is a statewide imperative. On March 19, 2019, Governor Tony Evers signed an Executive Order creating the Governor's Health Equity Council. The goal of the Council is to develop a plan, supported by a body of research, with key benchmarks to reduce and eliminate health disparities throughout the state of Wisconsin by 2030. The plan will address health disparities in populations based on race, economic status, education level, history of incarceration and geographic location.[4]

The Wisconsin Collaborative for Healthcare Quality (WCHQ) publicly reports and brings meaning to health outcomes and care measures in Wisconsin. Measurement is recognized as an essential tool for monitoring health disparities.[5]

WCHQ and its member organizations developed the *Wisconsin Health Disparities Report* to identify where disparities in health outcomes and care exist in Wisconsin and to help inform and accelerate programs that are working to eliminate disparities.

Scope

The goal of this report is to present recent Wisconsin data on disparities in health outcomes and care, comparing measures by race/ethnicity, payer and rural/urban residence.

The report does not provide recommendations on next steps. WCHQ hopes that by identifying and publicly reporting these differences, this report will draw attention to and promote public accountability, improvement and action by multiple stakeholders. Information and/or tools to address disparities in health outcomes and care are provided in the Resources section of the report.

Definition of Health Disparities

For the purposes of this report, health disparities were defined as differences in health outcomes and care measures adversely affecting population groups seen in primary care settings. Throughout this report, the following thresholds are used to describe the differences in rates between population groups:

0%-4%	No difference between population groups
5%-9%	Population group has lower rates, representing a gap or disparity
≥10%	Population group has much lower rates, representing a substantial gap or disparity

Denominator Definition

WCHQ measures use a denominator definition that limits the patient population to those individuals who are recently and regularly seen in the primary care setting by a health system. The individuals included in this report are those who have been seen at least twice in the primary care setting in the last several years at a WCHQ member organization. These individuals had at least one office visit between January 1, 2018 and December 31, 2018.

Racial and Ethnic Minority Populations

Nationally, disparities in health outcomes, preventive services and health care exist for people of color,[6] even when controlling for insurance status and income.[7] This report utilizes race and ethnicity categories as defined by the CDC,[8] and includes American Indian or Alaska Native, Asian/Pacific Islander, Black, Hispanic/Latino and White.

Payer Types

Disparities by health insurance coverage may exist due to differences in the populations that are insured, or due to variation in coverage, co-pay and deductible amounts, or the cost of medical services. This report categorizes payers into three types (commercial, Medicare, Medicaid) and includes individuals who are uninsured in a separate category.

Rural/Urban Residence

Disparities by rural and urban residence can be due to a number of factors, including economic, social, racial, ethnic, geographic, health care access and utilization, cost and distribution of providers and services. This report defines rural or urban based on standard ZIP code categories.[9]

Organizations

Wisconsin Collaborative for Healthcare Quality

The Wisconsin Collaborative for Healthcare Quality (WCHQ) publicly reports and brings meaning to performance measurement information that improves the quality and affordability of health care in Wisconsin, in turn improving the health of individuals and communities. WCHQ is the primary author of the *Wisconsin Health Disparities Report*.

University of Wisconsin Health Innovation Program

The University of Wisconsin Health Innovation Program (HIP) is a research program based within the University of Wisconsin (UW) School of Medicine and Public Health. HIP's mission is to transform health care delivery and population health across the state and nation through health systems research that partners UW faculty with health care and community organizations. HIP staff collaborated with WCHQ on development of the *Wisconsin Health Disparities Report*.

Wisconsin Partnership Program

The Wisconsin Partnership Program (WPP) was established at the School of Medicine and Public Health in 2004 through a generous and visionary endowment gift from Blue Cross and Blue Shield United of Wisconsin's conversion to a stock insurance corporation. Its mission is to improve the public health needs of Wisconsin and reduce health disparities through initiatives in research, education and community partnerships. The *Wisconsin Health Disparities Report* was funded by WPP through a grant to HIP and WCHQ.

Data

WCHQ members submitted standardized and recent (2018) clinical data, which was aggregated to provide a statewide snapshot that identified disparities across health outcomes and care measures. Differences in statewide performance are presented separately for populations defined by race/ethnicity, payer and rural/urban residence. For all WCHQ measures, higher performance is considered better.

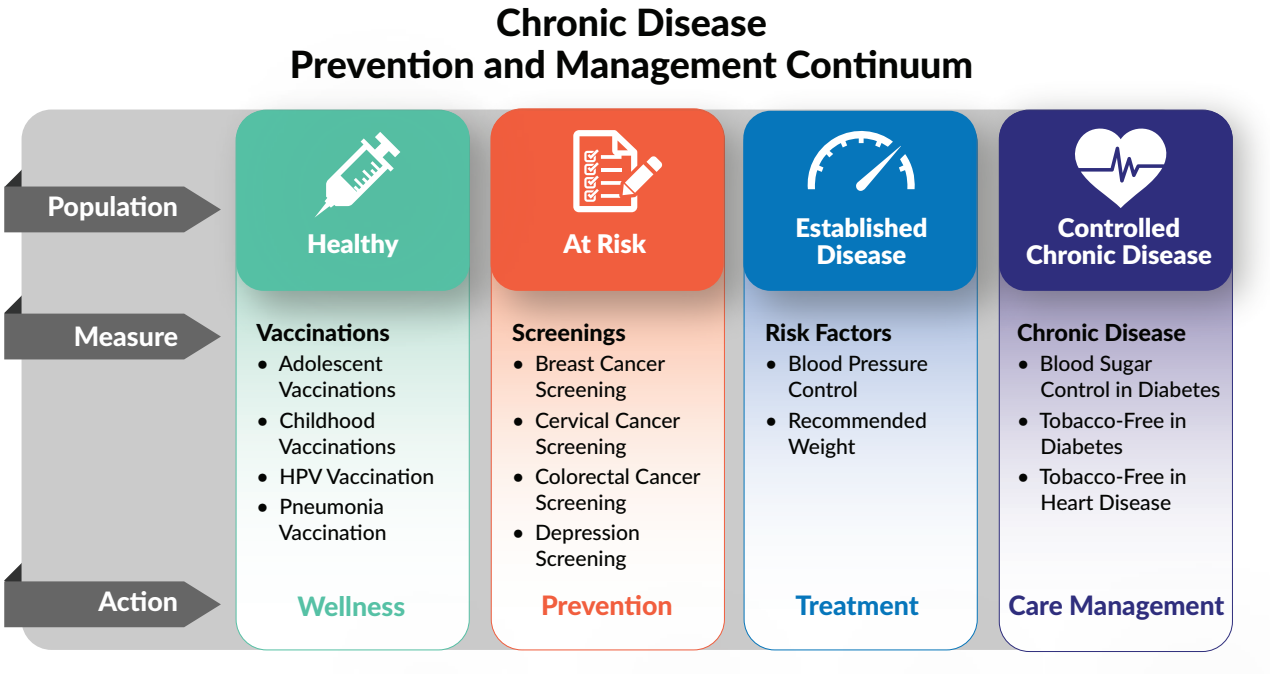
Appendix

Stratified results for all WCHQ measures are available in a separate appendix document. The appendix contains detailed methodology, measure definitions for all WCHQ measures and tables including performance and denominator data for all measures stratified by race/ethnicity, payer and rural/urban residence. The appendix is available as a separate Excel file for download from HIPxChange at www.hipxchange.org/WCHQDisparities.

Model

The measures selected for this report are based on an adaptation of the Chronic Disease Prevention and Management Continuum model.[10] The model shows population health at four stages: (1) healthy, (2) at risk, (3) established disease and (4) controlled chronic disease. The model orients users toward actions to prevent populations from moving or progressing from one health state to the next. WCHQ measures included four specific types of measures (i.e. vaccinations, screenings, risk factors and chronic disease) that represented each stage of population health.

1. **Vaccinations:** These measures keep individuals well by preventing disease.
2. **Screenings:** These measures assess and reduce the risk for diseases and conditions or detect disease at an early stage when treatment is most likely to be effective.
3. **Risk Factors:** These measures monitor established conditions that are also risk factors for subsequent chronic diseases.
4. **Chronic Disease:** These measures monitor specific chronic diseases (e.g., diabetes, heart disease) to reduce complications and disability and improve health outcomes.



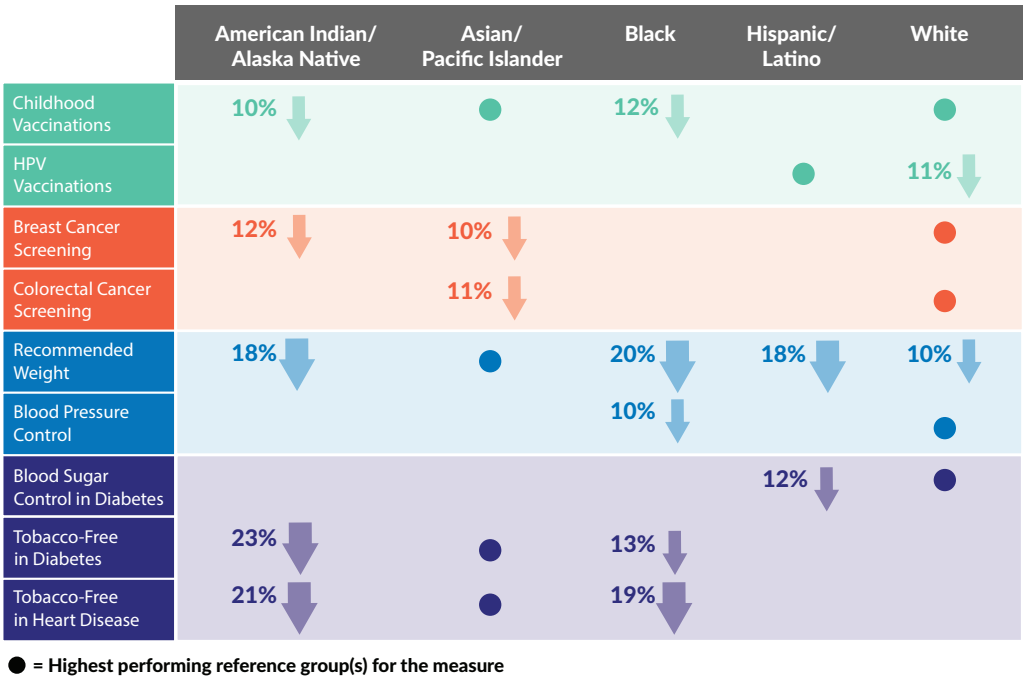
Summary of Findings

Racial and Ethnic Disparities

Nationally, disparities in health outcomes, preventive services and health care exist for people of color,[6] even when controlling for insurance status and income.[7]

In Wisconsin, this report found that *American Indian/Alaska Native* children had much lower childhood vaccination rates, while adults had much lower rates of breast cancer screening, attainment of recommended weight and being tobacco-free if they had diabetes or heart disease. *Asian/Pacific Islander* adults had much lower rates of breast and colorectal cancer screening. *Black* children had much lower childhood immunization rates, while *Black* adults had much lower attainment of recommended weight and blood pressure control and *Black* adults who had diabetes or heart disease were much less likely to be tobacco-free. *Hispanic/Latino* adults had much lower attainment of recommended weight and those with diabetes had much lower blood sugar control. Finally, *White* adolescents had much lower HPV vaccination rates and *White* adults had much lower attainment of recommended weight.

Substantial Disparities in Wisconsin by Race/Ethnicity



● = Highest performing reference group(s) for the measure

Payer Disparities

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Rural/Urban Disparities

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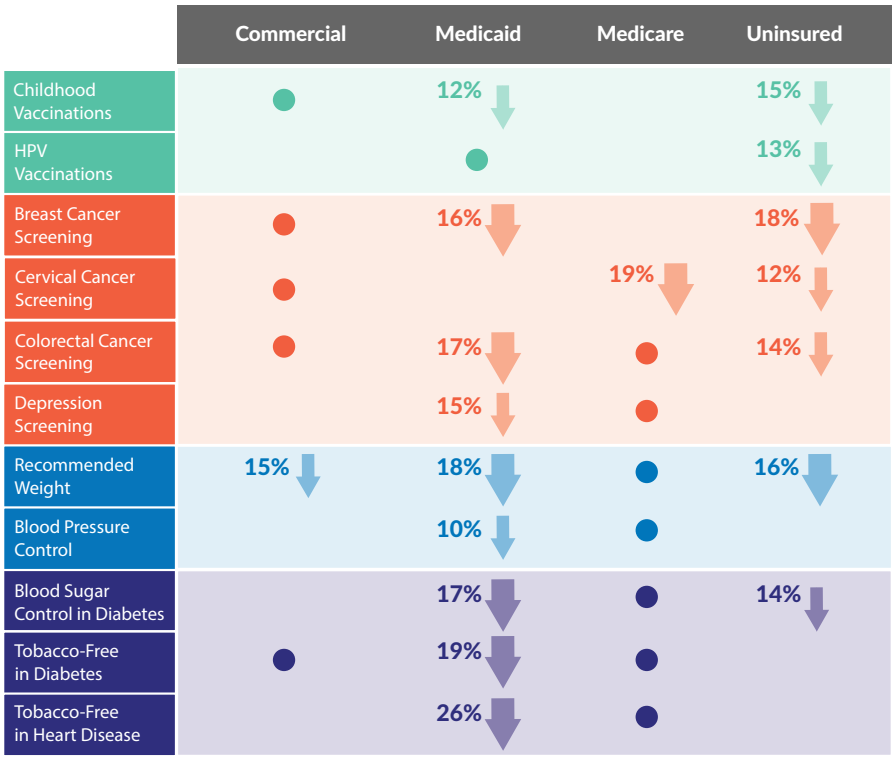
Substantial Disparities in Wisconsin by Payer



● = Highest performing reference group(s) for the measure

Vaccinations

Introduction

Diseases that were common and deadly around the world can now be prevented by vaccination. When individuals are not vaccinated, they are at risk of getting sick from a preventable disease as well as passing it on to others who lack immunity for that disease. Many insurers cover the cost of vaccinations. To reduce disparities, other barriers to vaccination in addition to cost must be addressed.

This section focuses on childhood vaccinations, adolescent vaccinations, HPV vaccination and pneumonia vaccination in adults.

Childhood Vaccinations: In the first two years of life, the CDC recommends that children receive a series of vaccinations to protect them against infectious diseases such as polio, measles and pertussis.[11] High rates of childhood vaccinations prevent the resurgence of infectious diseases, such as polio, that have been virtually eradicated in the United States.[12]

Adolescent Vaccinations: The CDC recommends that adolescents receive vaccinations against meningitis, tetanus, diphtheria and pertussis by age 13.[13] Ensuring the proper vaccination of adolescents contains the transmission of infectious diseases that have become much less common in the United States.[12]

Human Papillomavirus (HPV) Vaccination: The HPV vaccine prevents cancer-causing infections and precancers. It has resulted in a significant drop in HPV infections and cervical precancers since it came into use.[14]

Pneumonia Vaccination: The CDC recommends that adults aged 65 years or older receive one dose of a pneumonia vaccination to protect against bacteria that cause pneumonia, bacteremia and meningitis.[15] The risks for complications, hospitalizations and death from pneumonia are higher among persons aged >65 years and the risk of getting pneumococcal disease doubles after age 60.[16]

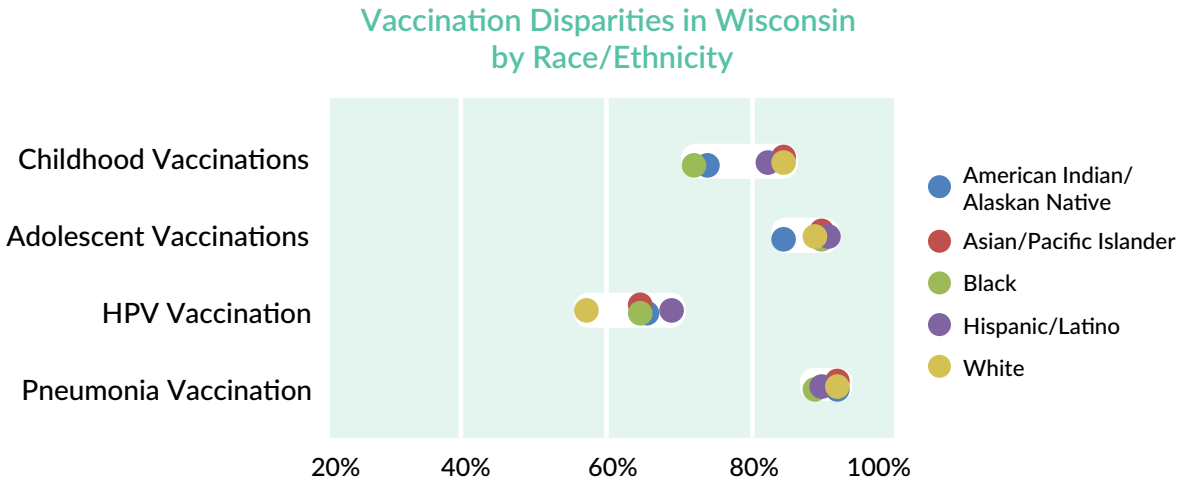
WCHQ Measure Definitions: Vaccinations

Childhood Vaccinations	This measure calculates completion of the Primary Childhood Series for children age two who have had each of the following immunizations on or before their second birthday: Four Diphtheria Tetanus and Acellular Pertussis (DTaP), Three Polio (IPV), One Measles, Mumps and Rubella (MMR), Three H influenza Type B (HiB), Three Hepatitis B (Hep B), One Chicken Pox/Varicella (VZV), Four Pneumococcal Conjugate (PCV).
Adolescent Vaccinations	The percentage of adolescents age 13 who have had each of the following immunizations: One dose of meningococcal vaccine on or between the 11th and 13th birthdays AND One tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap) on or between the 10th and 13th birthdays.
HPV Vaccination	The percentage of adolescents age 15 who have had two or three doses of the human papillomavirus (HPV) vaccine by their 15th birthday.
Pneumonia Vaccination	The percentage of adults greater than or equal to 65 years who had a Pneumococcal Vaccination.

Results

Race/Ethnicity

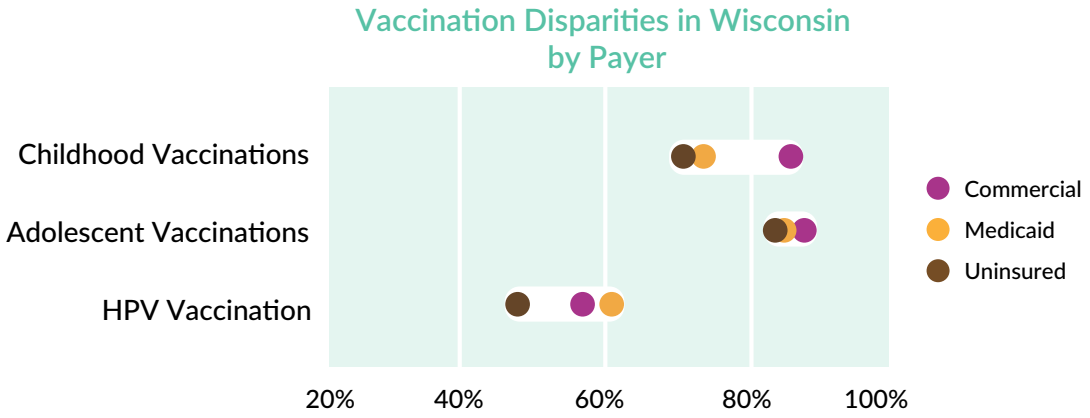
- The *childhood vaccination* rate was much lower for American Indian/Alaska Native and Black children compared to Asian/Pacific Islander, Hispanic/Latino and White children.
- The *adolescent vaccination* rate was lower for American Indian/Alaska Native adolescents compared to Asian/Pacific Islander, Black and Hispanic/Latino children, although the sample size for American Indian/Alaska Native children was small.
- The *HPV vaccination* rate was much lower for White adolescents compared to American Indian/Alaska Native, Asian/Pacific Islander, Black and Hispanic/Latino adolescents.
- There were no differences in the *pneumonia vaccination* rate between racial and ethnic groups.



Measure Name	American Indian/Alaska Native	Asian/Pacific Islander	Black	Hispanic/ Latino	White
Childhood Vaccinations	73%	83%	71%	81%	83%
	(N=206)	(N=1,726)	(N=2,532)	(N=3,628)	(N=30,312)
Adolescent Vaccinations	83%	88%	88%	89%	87%
	(N=108)	(N=729)	(N=1,384)	(N=2,349)	(N=22,196)
HPV Vaccination	65%	64%	64%	68%	57%
	(N=127)	(N=706)	(N=1,455)	(N=2,210)	(N=22,495)
Pneumonia Vaccination	90%	90%	87%	88%	90%
	(N=1,063)	(N=5,487)	(N=19,900)	(N=9,587)	(N=616,580)

Payer

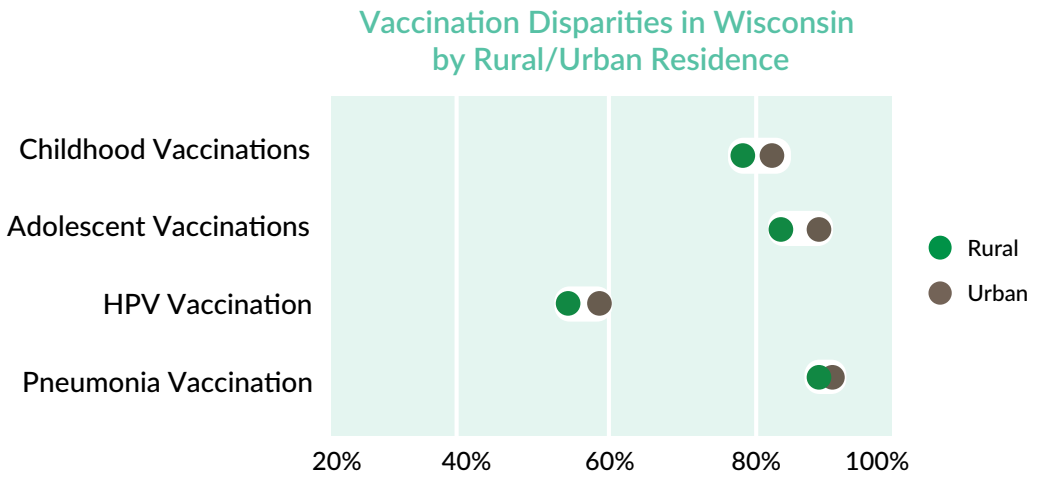
- The *childhood vaccination* rate was much lower for children who were on Medicaid or uninsured compared to children with commercial insurance.
- There were no differences in the *adolescent vaccination* rate between payers, including commercial, Medicaid and uninsured.
- The *HPV vaccination* rates were much lower for adolescents who were uninsured compared to adolescents on Medicaid or commercial insurance.
- *Pneumonia vaccination* was excluded from payer analysis because this measure only includes patients that are 65 years of age or older and the majority of these patients are insured by Medicare.



Measure Name	Commercial	Medicaid	Medicare	Uninsured
Childhood Vaccinations	86%	74%	N/A	71%
	(N=23,557)	(N=13,153)		(N=1,131)
Adolescent Vaccinations	88%	85%	N/A	84%
	(N=18,119)	(N=7,162)		(N=524)
HPV Vaccination	57%	61%	N/A	48%
	(N=18,578)	(N=6,919)		(N=594)

Rural/Urban Residence

- There was no difference in *childhood vaccination* rates when comparing rural and urban areas.
- The *adolescent vaccination* rate was lower for rural adolescents compared to urban adolescents.
- There was no difference in the *HPV vaccination* rate when comparing rural and urban areas.
- There was no difference in the *pneumonia vaccination* rate when comparing rural and urban areas.



Measure Name	Rural	Urban
Childhood Vaccinations	78%	82%
	(N=8,638)	(N=31,953)
Adolescent Vaccinations	83%	88%
	(N=5,709)	(N=21,972)
HPV Vaccination	55%	59%
	(N=5,596)	(N=22,161)
Pneumonia Vaccination	88%	90%
	(N=160,761)	(N=497,547)

Screenings

Introduction

The goal of preventive health screenings is to improve health outcomes by assessing and reducing the risk for diseases and conditions, or to detect disease at an early stage when treatment is likely to work effectively. Preventive services are often cost effective and provide better value per dollar than waiting to treat diseases.[17]

Nearly all people are eligible for preventive screenings,[18] but Americans use preventive services at about half the recommended rate.[19] Nationally, there are differences in who has access to and who utilizes preventive services.

This section focuses on breast, cervical and colorectal cancer screenings and depression screening.

Breast Cancer Screening: In Wisconsin, there are an average of 767 deaths from breast cancer annually.[20] Breast cancer screening has been shown to reduce deaths by detecting breast cancer at an early stage when treatment is more effective.

Cervical Cancer Screening: In Wisconsin in 2015, 214 women were diagnosed with cervical cancer,[21] with 51% of cancers diagnosed at an early stage. Cervical cancer screening has been effective in reducing cervical cancer incidence and death by more than 60% since its introduction in the 1950's due to early detection.[22]

Colorectal Cancer Screening: In Wisconsin, colorectal cancer is the second leading cause of cancer-related death for males and females combined.[23] Colorectal cancer screening reduces mortality by both detecting the cancer early, when treatments are more effective and by removing precancerous polyps.

Depression Screening: In Wisconsin, clinical depression is a common medical illness that affects a fifth of Wisconsin residents.[24] Depression screening is essential for detecting, diagnosing and treating depression.

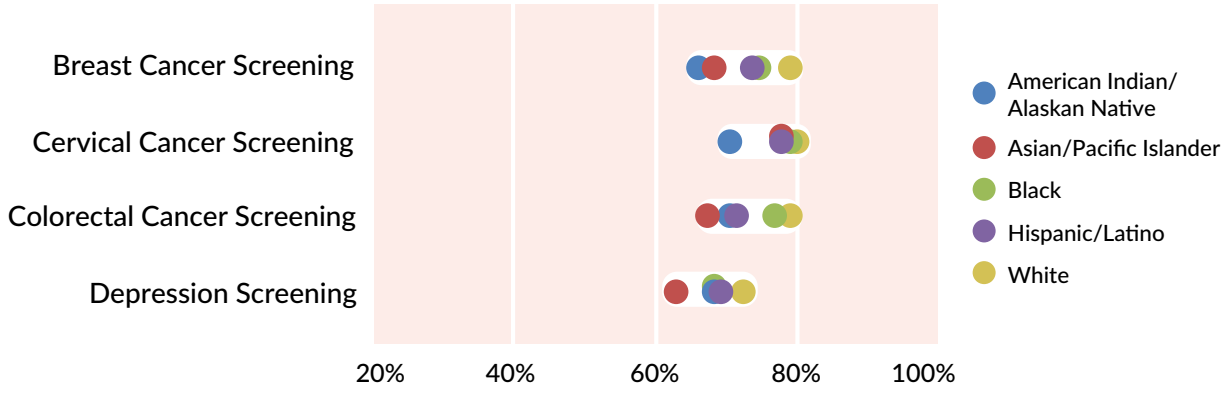
WCHQ Measure Definitions: Screenings		
	Breast Cancer Screening	The percentage of women age 50 through 74 who had a minimum of one breast cancer screening test during the two year measurement period.
	Cervical Cancer Screening	The percentage of women age 21 through 29 who have had a minimum of one cervical cancer screening (cytology) test performed during the three year measurement period AND the percentage of women age 30 through 64 who have had a minimum of one cervical cancer screening (cytology) test performed during the three year measurement period or one screening cytology test and a human papillomavirus (HPV) test (co-tests) or a stand-alone HPV test within the last five years (three year measurement period plus two years).
	Colorectal Cancer Screening	The percentage of adults age 50 through 75 who had received a screening for colorectal cancer. This could include a colonoscopy in the past ten years, a CT colonography or flexible sigmoidoscopy in the past five years, or a stool test in the past year.
	Depression Screening	The percentage of patients aged 12 years and older screened for clinical depression at any time during the measurement period using an age appropriate standardized depression screening tool.

Results

Race/Ethnicity

- The *breast cancer screening* rate was much lower for American Indian/Alaska Native and Asian/Pacific Islander women and lower for Hispanic/Latino women compared to White women. There was no difference between Black and White women.
- The *cervical cancer screening* rate was lower for American Indian/Alaska Native women compared to White women. There were no differences in *cervical cancer screening* rates between Asian/Pacific Islander, Black, Hispanic/Latino and White women.
- The *colorectal cancer screening* rate was much lower for Asian/Pacific Islander adults compared to White adults. The *colorectal cancer screening* rates were lower for American Indian/Alaska Native and Hispanic/Latino compared to White adults. There was no difference in screening rates between Black and White adults.
- The *depression screening* rate was lower for Asian/Pacific Islander adults compared to White adults. There was no difference in *depression screening* rates between American Indian/Alaska Native, Black and Hispanic/Latino adults compared to White adults.

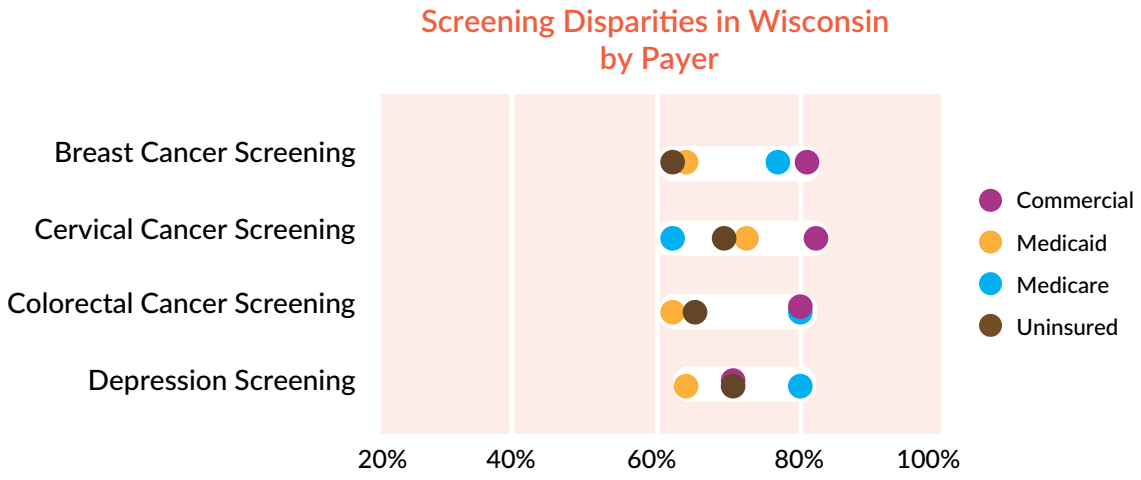
Screening Disparities in Wisconsin by Race/Ethnicity



Measure Name	American Indian/Alaska Native	Asian/Pacific Islander	Black	Hispanic/ Latino	White
Breast Cancer Screening	67%	69%	75%	74%	79%
	(N=1,467)	(N=6,594)	(N=26,330)	(N=12,709)	(N=522,959)
Cervical Cancer Screening	71%	78%	79%	78%	80%
	(N=2,744)	(N=18,517)	(N=47,695)	(N=34,764)	(N=670,833)
Colorectal Cancer Screening	71%	68%	77%	72%	79%
	(N=2,584)	(N=11,944)	(N=46,301)	(N=25,347)	(N=1,030,825)
Depression Screening	69%	64%	69%	70%	73%
	(N=3,051)	(N=25,795)	(N=65,019)	(N=49,376)	(N=1,144,454)

Payer

- The *breast cancer screening* rate was much lower for women who were uninsured and for those with Medicaid compared to women with commercial insurance or Medicare.
- The *cervical cancer screening* rate was much lower for women with Medicare or who were uninsured and lower for women with Medicaid compared to women with commercial insurance.
- The *colorectal cancer screening* rate was much lower for those with Medicaid and who were uninsured compared to those with Medicare or commercial insurance.
- The *depression screening* rate was much lower for those with Medicaid and lower for those with commercial insurance and who were uninsured compared to those with Medicare.

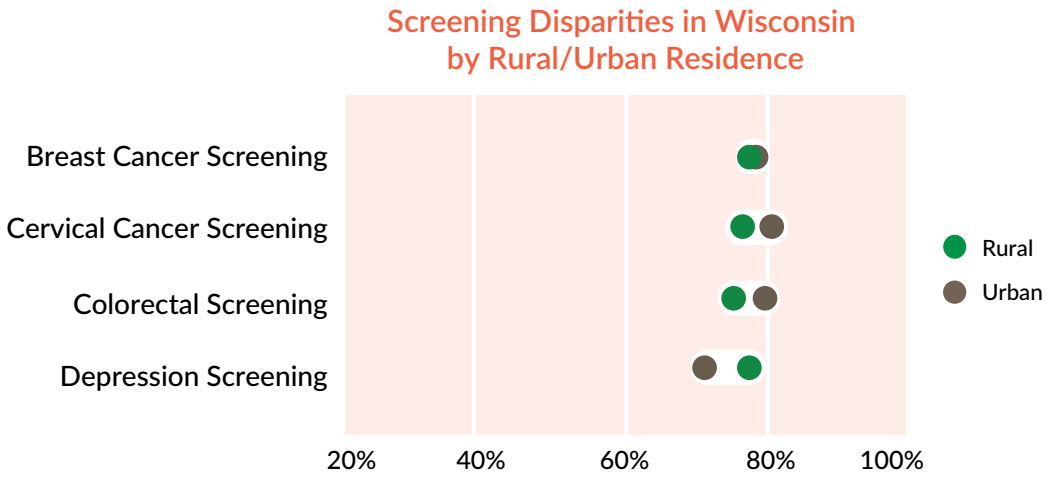


Measure Name	Commercial	Medicaid	Medicare	Uninsured
Breast Cancer Screening	81%	65%	77%	63%
	(N=345,985)	(N=26,229)	(N=161,554)	(N=16,214)
Cervical Cancer Screening	82%	73%	63%	70%
	(N=580,461)	(N=98,549)	(N=29,089)	(N=33,777)
Colorectal Cancer Screening	80%	63%	80%	66%
	(N=677,291)	(N=49,467)	(N=315,073)	(N=35,229)
Depression Screening	71%	65%	80%	71%
	(N=816,534)	(N=86,779)	(N=319,747)	(N=38,454)

**Approximately 17% of Medicare patients are under the age of 65*

Rural/Urban Residence

- There was no difference in the *breast cancer screening* rate when comparing rural and urban areas.
- There was no difference in the *cervical cancer screening* rate when comparing rural and urban areas.
- There was no difference in the *colorectal cancer screening* rate when comparing rural and urban areas.
- The *depression screening* rate was lower for urban areas when compared to rural areas.



Measure Name	Rural	Urban
Breast Cancer Screening	77%	78%
	(N=127,165)	(N=452,647)
Cervical Cancer Screening	76%	80%
	(N=145,060)	(N=648,492)
Colorectal Cancer Screening	75%	79%
	(N=254,557)	(N=882,421)
Depression Screening	77%	71%
	(N=280,686)	(N=1,029,112)

Risk Factors for Chronic Disease

Introduction

Obesity and high blood pressure are common risk factors for other chronic diseases such as diabetes, stroke, cancer and heart disease. Both conditions are more common among certain populations such as people of color and the uninsured. Measuring and monitoring weight and blood pressure are important strategies for improving long-term health outcomes.

Nationally, obesity affects various racial and ethnic groups, populations who live in rural areas and those with low incomes at a higher rate,[25] while high blood pressure disproportionately affects Black and American Indian/Alaska Native populations.

Recommended Weight: Obesity has reached epidemic levels in Wisconsin, with nearly half of Wisconsin residents meeting the definition of obesity.[26] Body Mass Index (BMI) is an important screening tool for weight categories that are associated with other health problems. If an adult has a BMI within the normal parameters, they are considered to have recommended weight.

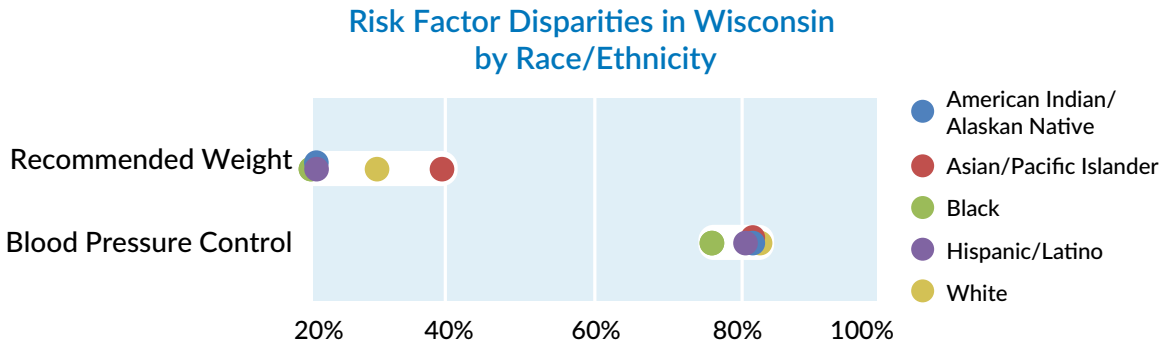
Blood Pressure Control: In 2016, heart disease was the second leading cause of death in Wisconsin. Hypertension (high blood pressure) is a precursor to heart disease that impacts approximately 1.3 million adults statewide.[27]

WCHQ Measure Definitions: Risk Factors for Chronic Disease		
	Recommended Weight	The percentage of patients aged 18 years through 85 years of age who had the following during the 12-month measurement period: 1. At least one Body Mass Index (BMI) test annually. 2. Most recent BMI measurement based on the following Normal Parameters: 18-64 years BMI >=18.5 and <25; 65 years and older BMI >=23 and <30
	Blood Pressure Control	The percentage of essential hypertension patients 18 through 85 years of age who had the following during the 12-month measurement period: A Representative Blood Pressure (BP) in control during the 12-month measurement period. Adequate Control is defined as follows: Less than 140/90 for patients less than 60 years of age or patients of any age with a diagnosis of diabetes and/or chronic kidney disease OR less than 150/90 for patients 60 years of age and older without diabetes or chronic kidney disease.

Results

Race/Ethnicity

- The attainment of *recommended weight* rate was much lower for American Indian/Alaska Native, Black, Hispanic/Latino and White adults compared to Asian/Pacific Islander adults.
- The *blood pressure control* rate was much lower for Black adults compared to White adults. There was no difference in the *blood pressure control* rate between American Indian/Alaska Native, Asian/Pacific Islander, Hispanic/Latino and White adults.

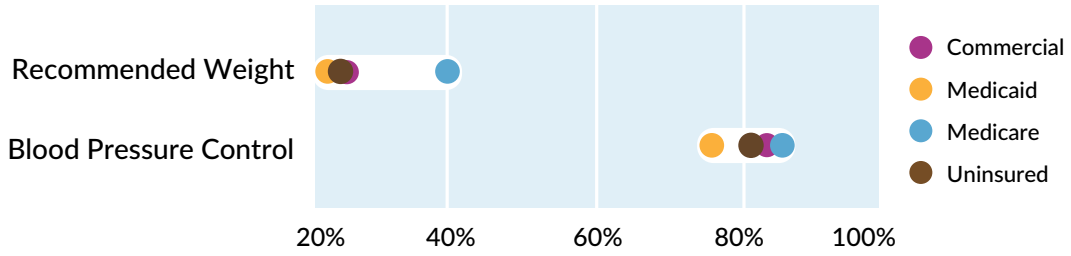


Measure Name	American Indian/Alaska Native	Asian/Pacific Islander	Black	Hispanic/ Latino	White
Recommended Weight	21%	39%	19%	21%	29%
	(N=4,831)	(N=26,839)	(N=87,087)	(N=58,309)	(N=1,602,200)
Blood Pressure Control	82%	82%	74%	80%	84%
	(N=1,496)	(N=6,402)	(N=39,125)	(N=14,592)	(N=554,193)

Payer

- The rate of attainment of *recommended weight* was much lower for adults with commercial insurance, those who were uninsured, or had Medicaid compared to adults with Medicare.
- The *blood pressure control* rate was much lower for adults with Medicaid compared to adults with Medicare. There was no difference in rates for adults who were uninsured or with commercial insurance compared to Medicare.

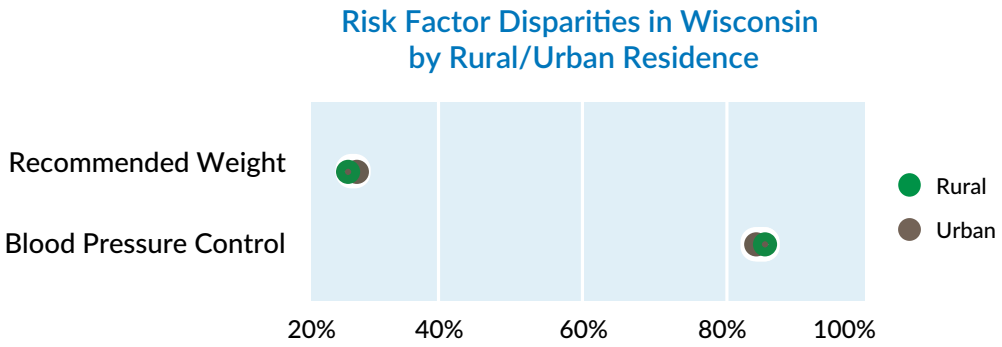
Risk Factor Disparities in Wisconsin by Payer



Measure Name	Commercial	Medicaid	Medicare	Uninsured
Recommended Weight	25%	22%	40%	24%
	(N=1,106,623)	(N=136,079)	(N=443,481)	(N=57,441)
Blood Pressure Control	83%	75%	85%	81%
	(N=310,873)	(N=29,943)	(N=242,065)	(N=14,692)

Rural/Urban Residence

- There was no difference in the attainment of *recommended weight* rate when comparing rural and urban areas.
- There was no difference in the *blood pressure control* rate when comparing rural and urban areas.



Measure Name	Rural	Urban
Recommended Weight	27%	28%
	(N=388,202)	(N=1,427,742)
Blood Pressure Control	84%	83%
	(N=141,611)	(N=482,039)

Chronic Disease Management

Introduction

Sixty percent of Americans live with at least one chronic disease, such as diabetes, heart disease or cancer. Over 90 percent of the nation's $3 trillion in annual health care expenditures are attributed to people with chronic health conditions.[28] Therefore, caring for these high-need, high-cost individuals is an urgent priority.

Managing populations with chronic conditions can reduce complications and disability and improve health outcomes. Nationally, there are differences in which populations are more likely to live with a chronic condition and in how these chronic conditions are managed.

This section focuses on the following measures: blood sugar control in diabetes, tobacco-free in diabetes and tobacco-free in heart disease.

Blood Sugar Control in Diabetes: In Wisconsin, approximately 356,000 adults have been diagnosed with diabetes.[29] The blood sugar control measure provides information on a patient's average level of blood sugar over the past 3 months to monitor diabetes and see if they are meeting treatment goals.[30] Frequently monitoring a patient's blood sugar correlates with decreased incidence of diabetic complications.

Tobacco-Free in Diabetes: People with diabetes who smoke are more likely than non-smokers to have trouble with controlling their disease and are more likely to have serious health problems from diabetes.[31] Advising individuals to not smoke or use tobacco products and to encourage smoking cessation counseling is an important component of diabetes care.

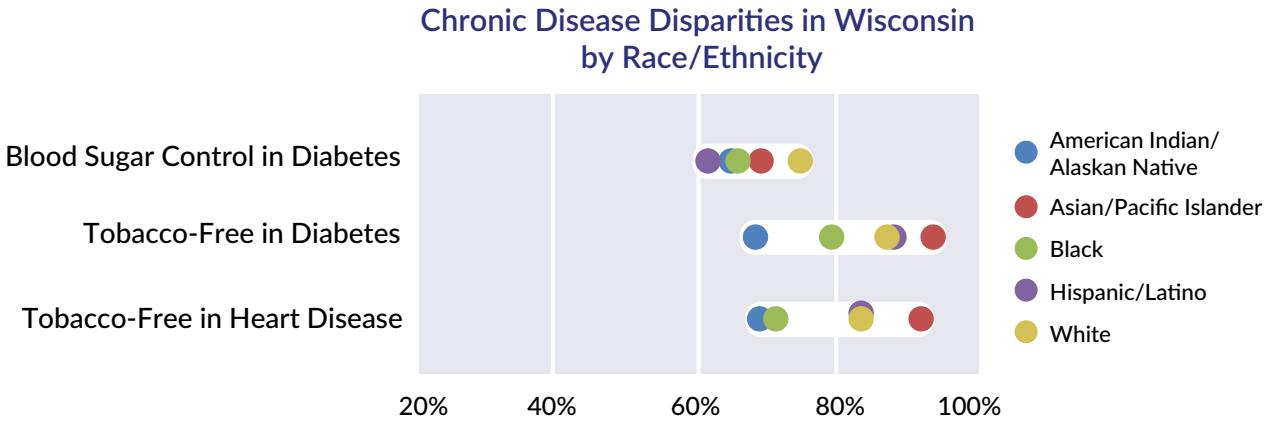
Tobacco-Free in Heart Disease: Nationally, smoking causes one out of every three deaths from cardiovascular disease.[32] Similar to diabetes, advising individuals to not smoke or use tobacco products and to encourage smoking cessation counseling is an important component of heart disease care.

WCHQ Measure Definitions: Chronic Disease Management		
	Blood Sugar Control in Diabetes	The percentage of diabetes patients 18 through 75 years of age who had the following during the 12-month measurement period: Most recent A1c blood sugar level controlled to less than 8.0%.
	Tobacco-Free in Diabetes	The percentage of diabetes patients 18 through 75 years of age who had the following during the 12-month measurement period: Most recent Tobacco Status is Tobacco-Free.
	Tobacco-Free in Heart Disease	The percentage of patients age 18 through 75 with one of the following conditions: 1) Two diagnoses related visits with Coronary Artery Disease (CAD) or a CAD risk-equivalent condition, or 2) Acute Coronary Event consisting of an acute myocardial infarction (AMI), coronary artery bypass graft (CABG), or percutaneous coronary intervention (PCI) from a hospital visit, who had each of the following during the one year measurement year: Most recent Tobacco Status is Tobacco-Free.

Results

Race/Ethnicity

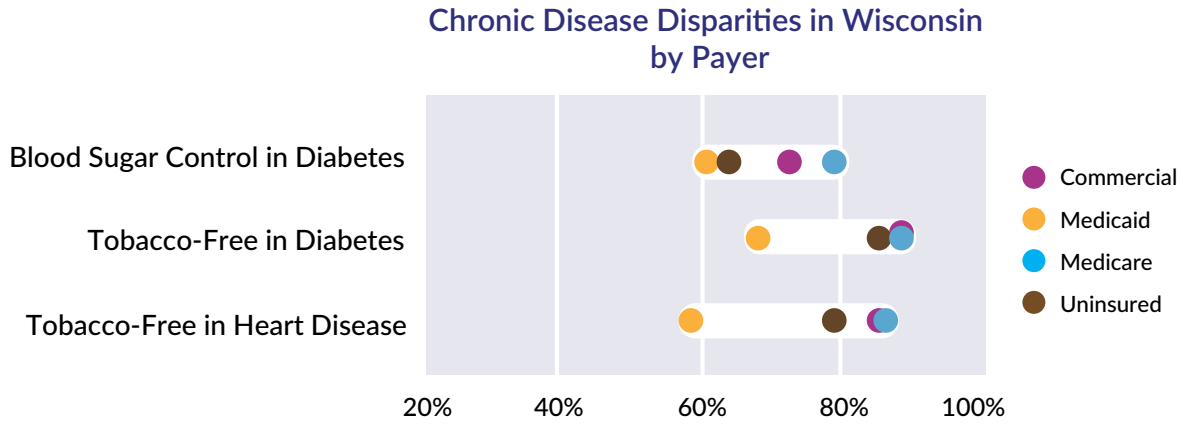
- The *blood sugar control in diabetes* rate was much lower for Hispanic/Latino adults compared to White adults. The rate was lower for American Indian/Alaska Native, Asian/Pacific Islander and Black compared to White adults.
- The *tobacco-free control in diabetes* rate was much lower for American Indian/Alaska Native and Black and lower for Hispanic/Latino and White adults compared to Asian/Pacific Islander adults.
- The *tobacco-free control in heart disease* rate was much lower for American Indian/Alaska Native and Black and lower for Hispanic/Latino and White adults compared Asian/Pacific Islander adults.



Measure Name	American Indian/Alaska Native	Asian/Pacific Islander	Black	Hispanic/ Latino	White
Blood Sugar Control in Diabetes	65%	69%	66%	62%	74%
	(N=1,050)	(N=4,025)	(N=15,362)	(N=9,402)	(N=181,631)
Tobacco-Free in Diabetes	69%	92%	79%	87%	86%
	(N=956)	(N=3,775)	(N=15,159)	(N=8,922)	(N=164,264)
Tobacco-Free in Heart Disease	70%	91%	72%	83%	83%
	(N=313)	(N=830)	(N=4,184)	(N=1,873)	(N=79,936)

Payer

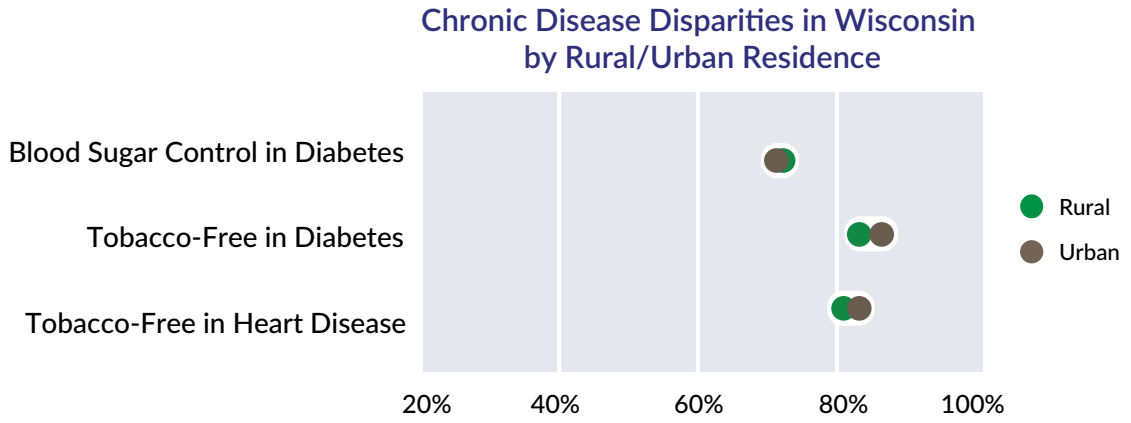
- The *blood sugar control in diabetes* rate was much lower for adults with Medicaid or who were uninsured compared to those with Medicare. The rate was lower for commercial insurance compared to Medicare.
- The *tobacco-free control in diabetes* rate was much lower for adults with Medicaid compared to those with commercial insurance, Medicare or those who were uninsured.
- The *tobacco-free control in heart disease* rate was much lower for adults with Medicaid compared to those with Medicare or commercial insurance. The rate was lower for adults who were uninsured compared to those with Medicare or commercial insurance.



Measure Name	Commercial	Medicaid	Medicare	Uninsured
Blood Sugar Control in Diabetes	72%	61%	78%	64%
	(N=115,214)	(N=16,461)	(N=66,647)	(N=6,144)
Tobacco-Free in Diabetes	87%	68%	87%	84%
	(N=108,367)	(N=15,330)	(N=60,699)	(N=5,889)
Tobacco-Free in Heart Disease	84%	59%	85%	78%
	(N=41,234)	(N=5,054)	(N=38,589)	(N=1,524)

Rural/Urban Residence

- There was no difference in the *blood sugar control in diabetes* rate when comparing rural and urban areas.
- There was no difference in the *tobacco-free control in diabetes* rate when comparing rural and urban areas.
- There was no difference in the *tobacco-free control in heart disease* rate when comparing rural and urban areas.



Measure Name	Rural	Urban
Blood Sugar Control in Diabetes	73%	72%
	(N=51,408)	(N=163,473)
Tobacco-Free in Diabetes	83%	86%
	(N=43,536)	(N=151,991)
Tobacco-Free in Heart Disease	81%	83%
	(N=20,682)	(N=67,309)

Conclusion

The goal of the *Wisconsin Health Disparities Report* is to provide baseline information on disparities in health outcomes and care within Wisconsin. This report can contribute to the identification of opportunities for health systems, health departments, policymakers, non-profits and employers to develop collaborative approaches within their communities to create a healthier Wisconsin for all.

Eliminating health disparities is a task that cannot be done by health systems alone or accomplished in silos. Relationships and trust must be built among multiple entities including health systems, policymakers, state and local public health departments, community organizations and Wisconsin residents. Together, these entities must commit to a shared vision with defined roles and responsibilities and co-develop strategies to reduce disparities in health outcomes and care for all populations.

Resources

- Agency for Healthcare Research and Quality – Resources for Addressing Disparities and Improving Quality https://nhqrnet.ahrq.gov/inhqrdr/resources/info
- American Hospital Association – Equity of Care Tools http://www.equityofcare.org
- Centers for Disease Control and Prevention – Health Equity Tools https://www.cdc.gov/chronicdisease/healthequity/index.htm
- Community Preventive Services Task Force – The Guide to Community Preventive Services https://www.thecommunityguide.org/
- County Health Rankings & Roadmaps – What Works for Health http://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health
- HIPxChange from the Health Innovation Program https://www.hipxchange.org
- University of Wisconsin Population Health Institute – Assessing and Improving Community Health in Wisconsin http://www.improvingwihealth.org/
- University of Wisconsin Population Health Institute – What Works for Health: Policies and Programs to Improve Wisconsin's Health http://whatworksforhealth.wisc.edu/index.php
- Wisconsin Collaborative for Healthcare Quality – Public Reporting Website https://reports.wchq.org/
- Wisconsin Department of Health Services – Healthiest Wisconsin 2020 Tools & Resources https://www.dhs.wisconsin.gov/hw2020/tools.htm
- Wisconsin Hospital Association – Community Benefit Reports https://www.wha.org/DataandPublications/WHAreports
- Wisconsin Partnership Program https://www.med.wisc.edu/wisconsin-partnership-program/

Detailed Methodology

Disparity Indicator Selection

The first step in the development of this report was to perform a literature review for evidence of the relationship between quality of care and disparities. There is well-documented evidence of relationships between demographics, socioeconomic status and health outcomes and care measures, including strong evidence that race, ethnicity, insurance status and type, area deprivation and vulnerability and education affect the quality of health outcomes and care. This literature review was used to select the measures and indicators of disparity.

WCHQ then analyzed the completeness and quality of demographic and insurance data currently submitted to the WCHQ data repository and reporting system and worked directly with members to complete data mapping and submission for race, ethnicity, payer and ZIP code. We determined that for this report it would be beneficial to select a subset of measures on which to focus and include all publicly reported measures currently in use on the WCHQ website within a separate Appendix. For this report, WCHQ recommended that three separate indicators be used to measure disparity in health care quality in Wisconsin: race/ethnicity, primary payer and a measure of geography. This recommendation was approved by the WCHQ Measurement Advisory Committee (MAC).

Data Collection

WCHQ member organizations submit data to WCHQ from their electronic health records (EHRs) in one of two ways. Most members submit data directly to WCHQ's data repository. A smaller subset of members calculate measure results in their own reporting systems.

Data Quality and Validation

Data from WCHQ member organizations underwent a rigorous validation process. This consisted of a series of quality checks, including comparing denominators and performance rates with their publicly reported WCHQ measure results and ensuring that all data mappings were complete. Some member-level data was excluded from analysis due to incompleteness or quality issues.

Racial and Ethnic Minority Populations

This report utilizes race and ethnicity categories as defined by the CDC,[8] and include:

- **American Indian or Alaska Native** – A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
- **Asian/Pacific Islander** – A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example: Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand and Vietnam. Or a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- **Black** – A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" can be used in addition to "Black or African American."

- **Hispanic/Latino** – A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."
- **White** – A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

Payer Types

This report categorizes payers into three types (commercial, Medicare, Medicaid) and include individuals who are uninsured in a separate category:

- **Commercial** – Insurance that is not paid through any government source. These plans may be financed by an individual, their employer, or a combination of the two.
- **Medicaid** – A joint federal and state program that helps with medical costs for some people with low incomes and limited resources.[33] In Wisconsin, the state Medicaid program is known as BadgerCare Plus.
- **Medicare** – The federal health insurance program for people 65 years of age or older, certain younger people with disabilities and people with End-Stage Renal Disease (permanent kidney failure with dialysis or a transplant, sometimes called ESRD).[33]
- **Uninsured** – No insurance provided by a major insurer, payer, or government program. This includes self-pay, charity care and persons with no insurance provider.

Rural/Urban Residence

This report defines rural or urban based on standard ZIP code categories.[9]

- **Rural** – ZIP codes with little or no connection or commuting to an urban area or urban cluster.
- **Urban** – ZIP codes with a large commuting relationship to an urban area or urban cluster.

Limitations of the Report

There are several limitations to the findings of this report. First, this report found few disparities for rural and urban areas. These limited report findings may have been related to the use of only two categories to describe rural and urban. This approach may have masked disparities that occurred within rural or within urban areas. A future report will provide additional detail on potential disparities using more detailed categorizations of rural and urban. Second, some of the population sizes are small. This means that small fluctuations in health outcomes or care could have an inflated impact on the measure results. Third, this report only includes data from health care organizations that are members of WCHQ. Therefore, a subset of individuals throughout the state who are treated in other health systems or who have not recently visited a health system are not included. This particularly impacts patient population groups who receive care through Federally Qualified Health Centers (FQHCs), Indian Health Service clinics and clinics in northwestern Wisconsin. Lastly, due to the varied methods of data submission, statistical significance testing was not able to be performed on the data in this report.

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