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State of Wisconsin
Governor Tony Evers

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September 17, 2024

The Honorable Clint P. Moses
Chair, Committee on Health, Aging and Long-Term Care
Room 12 West, State Capitol
PO Box 8953
Madison, WI 53708

The Honorable Rachael Cabral-Guevara
Chair, Committee on Health
Room 323 South, State Capitol
PO Box 7882
Madison, WI 53707

Dear Representative Moses and Senator Cabral-Guevara:

Wisconsin Stat. § 153.05(2s) directs the Department of Health Services (DHS) and the Department of Employee Trust Funds to jointly prepare an Annual Report on the activities of the Wisconsin Health Information Organization (WHIO). This Report is submitted to the standing committees of the Legislature with jurisdiction over health issues and can also be found online at https://www.dhs.wisconsin.gov/publications/p01067-2023.pdf.

Please find enclosed the 2023 Annual Report on the activities of WHIO. If you have any questions, please contact the Division of Medicaid Services Bureau of Fiscal Accountability and Management data request mailbox DHSBFAMDataRequests@dhs.wisconsin.gov.

Sincerely,

John Voelker, Secretary
Department of Employee Trust Funds

Sincerely,

Kirsten L. Johnson, Secretary-designee
Department of Health Services

Enclosures

WISCONSIN DEPARTMENT of HEALTH SERVICES

2023 Annual Report to the Wisconsin Legislature on the Wisconsin Health Information Organization

Submitted by the Department of Health Services, September 2024

Executive Summary

The Wisconsin Health Information Organization (WHIO) was founded in 2008 as a public private partnership to maintain a claims repository and provide information to the public on behalf of the Wisconsin Department of Health Services (DHS). The purpose of this All-Payer Claims Database (APCD) is to ensure that state government and private health care industry organizations have access to a trusted, neutral source of data and information to improve the quality, safety, and cost-efficiency of health care in Wisconsin. Over time, the WHIO has continued to build on this vision by increasing the amount of data available for analysis, and expanding the products and services it provides.

In 2023, the WHIO supplied multiple Wisconsin customers with de-identified Data Marts, access to pre-built reports, as well as custom data extracts and reports. Information was also provided to the public through several new reports. Key initiatives that benefited from the WHIO's data and services are below.

- Antibiotic stewardship outpatient medical and dental public reports; private reports to health care provider organizations.
- Supplying the WHIO's comprehensive data sets to the Wisconsin Department of Health Services for use in public health monitoring and improvement.
- Publication of the first Wisconsin specific report on low value (unnecessary) care.
- Continued involvement in Healthy Metrics to spotlight health inequities in Wisconsin.

The WHIO is governed by a multi-stakeholder Board of Directors which includes state government, health insurance company, employer, provider organization, clinician, and technology representatives to ensure that all perspectives are heard. Under the public-private partnership model that the WHIO was created under, was the expectation that state government and the private sector would fund the WHIO. The private sector has contributed data, human capital, and financial support throughout the WHIO's existence. WI state government continues to contribute the Medicaid data and representatives to the WHIO's Board of Directors. In 2023, the WHIO obtained project specific funding from state agencies to provide data and services to these agencies. The WHIO is well positioned to support critical information needs of state government so that policy considerations and resource allocation decisions will provide the greatest benefit to Wisconsinites.

Background

In 2008, Wis. Stat. §153.01(3g) established a requirement for the Wisconsin Department of Health Services (DHS) to maintain a health care claims data repository and provide information to the public on the quality and cost efficiency of health care in Wisconsin. The WHIO was established in 2008 as a 501(c)(3), public-private partnership to fulfill this role on behalf of DHS. Founding organizations of WHIO envisioned that: 1) the WHIO data and information would be accessible to all health care stakeholders to answer a variety of questions; 2) the WHIO would serve as a source of unbiased information; and 3) the cost to maintain the WHIO would be shared by state government and the private sector so that access to the WHIO's data would be affordable for all organizations. Over time, the WHIO has grown its volume of data, the sophistication of its technology services, and the number of diverse uses of the WHIO data and information to understand the health care delivery system in Wisconsin and the health of Wisconsinites.

The WHIO is governed by a multi-stakeholder Board of Directors (BOD) that includes state agencies, commercial payers, provider organizations, physicians, business representatives, and technology representatives. The 2023 BOD included representatives from the organizations listed below.

- Department of Health Services
- Department of Employee Trust Funds
- The Alliance
- Ascension Wisconsin
- Benefits Services Group Analytics
- Business Health Care Group
- Medical College of Wisconsin
- Prevea Health
- Quartz Health Solutions
- UnitedHealthcare
- Wisconsin Physicians Service Health Insurance
- Wisconsin Collaborative for Healthcare Quality
- Wisconsin Statewide Health Information Network

WHIO Insights Hub

The WHIO Insights Hub is supported by state-of-the-art, cloud-based technology which is required to house and provide meaningful insights from "big data." In 2023, the WHIO Insights Hub contained:

- 5.36 million insured lives;
- $375 billion in health care spending;
- 661 million medical claims ($331 billion); and
- 207 million pharmacy claims ($44 billion).

The WHIO claims data includes eligibility, medical, and pharmacy data on Medicaid, Medicare Advantage, commercial and self-funded employer health plans. Insurance claims are voluntarily submitted to the WHIO by DHS, multiple health insurance companies, and self-funded employers who are committed to high quality, lower cost, accessible health care in Wisconsin.

The WHIO provides de-identified claims Data Marts, pre-built reports via a secure, web-accessible portal, and custom services including data extracts, analytics, and reports. The WHIO is the largest source of health care data on health care in Wisconsin, and the only data system that can provide objective information on the full spectrum of care provided to Wisconsinites.

2023 WHIO Key Accomplishments

In 2023, the WHIO provided actionable data and information on key public health issues, low value care in Wisconsin, health equity, and many other important topics to Wisconsin residents. Highlights of these accomplishments are below.

Comparing Commercial to Medicaid Prices

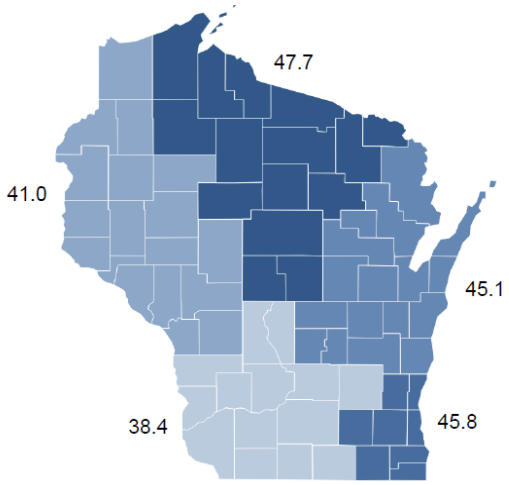
On behalf of the DHS Division of Medicaid Services the WHIO provided a statewide commercial insurance fee schedule so that state government leaders and officials can evaluate the average dollar amount paid by Wisconsin's commercial insurance companies and self-funded employers combined, compared to the amount paid by Medicaid. The commercial fee schedule includes all billable outpatient procedures and inpatient admissions. This is critical information to answer questions like, "What percentage does Medicaid pay for a hospitalization compared to Wisconsin's private insurers?" or "Are Medicaid payments for a procedure (e.g., radiology test, office visit, ambulance ride) too low/high compared to Wisconsin's private insurance payments?" The commercial insurance fee schedule is updated every year.

Antibiotic Stewardship

The overuse of antibiotics to treat infections is the root cause of superbugs – mutated strains for which there are few treatment alternatives – and antibiotic resistance. In addition to this health impact, the overuse of antibiotics is wasteful spending.

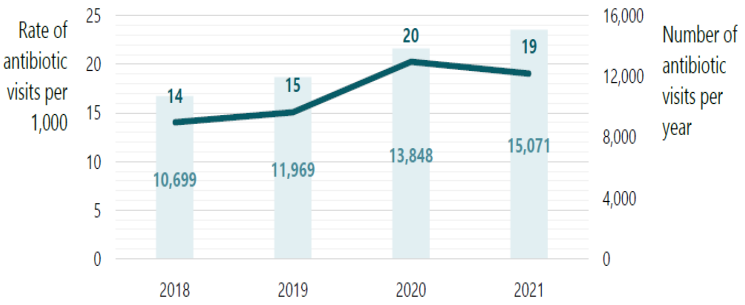
In 2022, the WHIO, in partnership with the DHS Antimicrobial Stewardship Program and the Business Services Group Analytics began to develop a comprehensive reporting system to increase awareness of the overuse of antibiotics by Wisconsin's medical and dental clinicians. In February 2023, the report, *Trends in Outpatient Antibiotic Prescribing in Wisconsin 2018-2021,* was released to the public providing a comprehensive overview of the use of antibiotics in Wisconsin (Sample Graphic in Figure 1). In November 2023, the WHIO began onboarding health care organizations to the WHIO's Applied Insights report portal so that provider organizations can access their organization's results compared to a statewide average, understand

Figure 1. Antibiotic visits per 1,000 visits by WI public health region, 2018-2021



physician level prescribing patterns, and take actions to reduce the unnecessary use of antibiotics.

Figure 2. Number & rate of dental visits with antibiotic prescriptions per 1,000 visits, 2018-2021

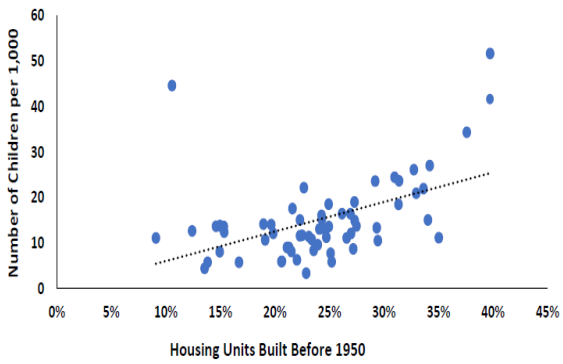


In December 2023, the report, *Trends in Dental Antibiotic Prescribing in Wisconsin 2018-2021*, was released to the public (Sample Graphic in Figure 2). Based on feedback from the Centers for Disease Control and Prevention – a funder of state level antibiotic stewardship programs including Wisconsin – Wisconsin is the first state to have successfully linked prescription and dental services claims data to assess the use of antibiotics by dentist. The full medical and dental reports are available for free at the DHS Website and the WHIO Website.

Advancing Public Health

In 2023, the WHIO began to provide its comprehensive data to the DHS Division of Public Health (DPH) to further advance the DPH's ability to identify, evaluate, and report on critical public health issues in Wisconsin. An example of how the WHIO data can be used to describe public health issues is the *WHIO InfoByte: Childhood Lead Exposure in WI*, published in July 2023 by the WHIO. Figure 3 demonstrates the relationship between lead exposure and the age of housing units. This InfoByte is available on the WHIO Website.

Figure 3. Lead-Related Diagnoses (Under Age 6)



While DPH has multiple content specific databases (e.g., infectious disease registry, immunization registry, cancer registry) and access to the Medicaid data, the addition of the WHIO data brings access to information on all health care services delivered in Wisconsin. This data will be used to quantify the incidence and prevalence of infectious and chronic diseases that shorten life expectancy and reduce the quality of life for people who reside in Wisconsin. In addition to supplying DPH with the WHIO data, the WHIO has provided training to DPH staff and is supporting regular "Office Hours" so that DPH staff can gain the maximal value from the WHIO data.

Reducing Low Value Care

Low value care is defined as "patient care that offers no benefit in specific clinical scenarios, which can lead to patient harm and unnecessary spending" and is a quality, safety, health equity, and cost-efficiency issue that contributes to the inappropriate use of scarce health care workforce resources. In 2020, the WHIO participated in a multi-state research study conducted by V-BID Health to determine if low value care is present in Wisconsin, and if so, how does Wisconsin compare to other states. The results of this study were published in the white paper, *Utilization and Spending on Low Value Medical Care Across Four States, VOL2,* in May 2022.

In 2023, the WHIO received a grant aimed at, 1) developing low value care expertise within provider organizations, physicians, health insurance companies, and the employer sectors, and 2) increasing awareness of the impact of low value care in Wisconsin. These aims were accomplished by convening a multi-stakeholder Low Value Committee that received education on low value care including the impact of low value care in Wisconsin, which in turn, they shared with their respective peers. In addition, a comprehensive report, *Achieving Health Care Value in Wisconsin: A Focus on Low Value Care*, was published in August 2023. The report indicates that one out of every 3 people who received a health care service also received one or more low value care services and that the 48 low value care measures included in the report cost Wisconsin $129 million in 2019. For these 48 low value care measures, Medicaid paid $3.72 per member per month, money that could have been spent on higher value health care services (Figure 4).

Figure 4. Cost of Low Value Care in WI by Insurance Type, 2019

	Member Months	Total Paid All Services PMPM	Low Value Care Services per 1000 People	Total Paid Low Value Care Services PMPM
Commercial	12,223,025	$414.15	266	$2.95
Medicare[a]	1,024,880	$2,198.83	1,309	$24.51
Medicaid	12,986,171	$702.64	265	$3.72

The information in this report was produced using the WHIO data and the 48 low value care measures included in the Milliman Waste Calculator. The full report is available in Appendix A and from the WHIO Website.

Health Equity

Figure 5. Key findings for mild-moderate depression and/or anxiety, 2019-2021

- In 2021, the number of Wisconsinites with visits for mild-moderate depression and/or anxiety increased by more than 63,000 compared to 2019 – an increase of 36% in just two years.
- From 2019 to 2021, the percentage of Wisconsinites who had one or more visits for mild-moderate depression and/or anxiety increased from 8.0% to 8.9%.

In 2023, Healthy Metrics released the *Disparities in Mental Health Care and Outcomes* report which included multiple analytical results completed by the WHIO using the WHIO data. Among other findings, the WHIO determined the changes in mild-moderate depression and/or anxiety disorders between 2019 (pre-COVID19) and 2021 (COVID19), and what populations in Wisconsin were most affected (Figure 5). The full report is available from the WHIO Website.

The Healthy Metric project (www.healthymetric.org) is a collaboration between the WHIO, UW-Madison School of Medicine and Public Health, Medical College of Wisconsin, Marshfield Clinic Research Institute, and the Wisconsin Collaborative for Healthcare Quality. The goal of Healthy Metric is to reduce health disparities and improve health in Wisconsin. This project is

funded by the Wisconsin Partnership Program and Advancing a Healthier Wisconsin Endowment.

Summary

High-quality, safe, affordable health care is a shared goal that all health care leaders agree upon. Advances in diagnostic testing methods, new therapeutic medications, less invasive procedures, and changing care delivery models are improving the health care outcomes of Wisconsinites, but at a higher cost. At the same time, variation, and inefficiencies (e.g., low value care) in the use of health care resources, health care workforce shortages, and the growth in preventable diseases (e.g., Type 2 diabetes) continue to drive the cost of health care in Wisconsin higher relative to similar states.

The WHIO is supporting multiple projects such as antibiotic stewardship, enhanced public health monitoring, reducing low value care, and supplying large data sets to Wisconsin-based organizations and researchers to meet the goals of improved health outcomes and slowing growth in health care spending. But more can be accomplished using the WHIO's comprehensive data and objective information to monitor and improve Wisconsin's health care delivery system. The WHIO, in service to multiple Wisconsin-based organizations, is poised to meet Wisconsin's demands for high quality health care information now and into the future.

Appendix A: Achieving Health Care Value in Wisconsin: A Focus on Low Value Care

WISCONSIN HEALTH
INFORMATION ORGANIZATION

ACHIEVING HEALTH CARE VALUE IN WISCONSIN

A FOCUS ON LOW VALUE CARE

2023

Report Issued
August 2023

ACKNOWLEDGEMENT

THE WHIO WOULD LIKE TO THANK THE ORGANIZATIONS AND INDIVIDUALS THAT HAVE MADE THIS REPORT POSSIBLE.

VBID HEALTH who funded the analysis of the Wisconsin data as a participating state in the second phase of their low value care spending study and the staff at Milliman for their technical assistance.

THE MEMBERS OF THE WHIO LOW VALUE CARE TASK FORCE who reviewed the study results and recommended that the WHIO raise awareness of low value care in Wisconsin through a statewide report.

THE MEMBERS OF THE WHIO LOW VALUE CARE COMMITTEE for their review and input into this report.

ADVANCING A HEALTHIER WISCONSIN ENDOWMENT for the funding to produce this report through the "Eliminating Low Value Care in Wisconsin to Improve Quality, Safety, Health Equity, and Cost Efficiency" grant.

The organizations listed below provided expertise to this report through their participation in the WHIO Low Value Care Task Force and/or the WHIO Low Value Care Committee.

- Ascension Wisconsin
- Baird
- Bellin Health Partners
- Brakebush Brothers
- Business Health Care Group
- Common Ground Health Care
- Marshfield Clinic Health System
- Medical College of Wisconsin
- Mercy Health System
- Network Health
- Northwestern Mutual
- Prevea Health
- ProHealth Care
- Timothy L. Bartholow, LLC
- The Alliance
- UnitedHealthcare
- Wisconsin Department of Health Services
- Wisconsin Department of Employee Trust Funds
- Wisconsin Manufacturers & Commerce
- Wisconsin Medical Society
- Wisconsin Primary Health Care Association
- WPS Health Insurance

WISCONSIN HEALTH INFORMATION ORGANIZATION

About the Wisconsin Health Information Organization

The Wisconsin Health Information Organization (WHIO) maintains Wisconsin's largest health care information system to deliver insights into the health of the people of Wisconsin and inform evaluations of Wisconsin's health care delivery and payment systems. The WHIO information system includes claims data on approximately 4.9 million Medicaid, Medicare, commercial and self-funded insured lives. The WHIO information spans the continuum of care and can be used to evaluate all sites of care (e.g., hospital, clinic), all services (e.g., pharmacy, home health) all providers (e.g., hospitals, physicians) and all geographic areas of Wisconsin.

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EXECUTIVE SUMMARY

The Wisconsin Health Information Organization (WHIO) is pleased to provide this report on low value care in Wisconsin. Low value care contributes to low care quality, patient harm, inefficient use of the health care workforce, unnecessary costs, and health inequities. The WHIO started its evaluation of low value care in Wisconsin by asking the question, "Does low value care exist in Wisconsin, and if so, how does Wisconsin compare to other states?" To answer this question, the WHIO participated in a four-state low value care spending study conducted by VBID Health in 2021, which determined that low value care in Wisconsin is similar to the comparison states. In response, the WHIO supported a multi-stakeholder Low Value Care Task Force in 2022 which recommended that the WHIO distribute a statewide report to increase awareness of low value care, so that together we can begin to address it.

There is more than one way to evaluate low value care. The information in this report is based on an analysis of insured lives in the WHIO database using the Milliman MedInsight Health Waste Calculator™ (Calculator). The Calculator includes 48 measures of common treatments, tests, and procedures considered low value care services. The 48 low value care services included in this report are not the whole story - or even close to it. But these services are actionable and a good place to start.

All health care stakeholders contribute to low value care. While we know that low value care is an unintended by-product of the complexity of our health care system, we believe that all stakeholders should be aware of low value care and work together to reduce it. Now is the time to improve Wisconsin's health care outcomes and financial efficiency through the appropriate use of health care resources. The WHIO is providing this report to the public so that policy makers, state agencies, provider organizations, clinicians, health plans, employers, and consumers can use this information to take actions to address low value care in Wisconsin.

KEY 2019 WISCONSIN FINDINGS IN THIS REPORT ARE BELOW.

- Low value care services are provided in Wisconsin as well as other states included in the VBID Health study
- 1 out of every 3 people received one or more low value care services
- $129 million was spent on 48 low value care services
- Variation exists across provider organizations in the amount paid per person for low value care services

Tim Bartholow, MD
WHIO Board Chair

Dana Richardson, RN, MHA
WHIO Chief Executive Officer

WHY IS LOW VALUE CARE IMPORTANT?

Health care value is commonly defined as the quality of a service received compared to the price that was paid for that service. Today, it is not possible to quantify the value of all health care services, but we do know that certain services improve health outcomes and do not cost a lot (high value care), while other services do not improve health outcomes and therefore, should not be provided (low value care).

High value care includes services like immunizations, screening tests highly graded by the U.S. Preventive Services Task Force, and specific treatments for chronic conditions. Low value care includes tests and treatments that research and expert opinion has determined do not improve the outcome of care, may cause harm, wastes scarce health care staff resources, adds unnecessary costs, and/or contributes to health inequities. To improve health outcomes without increasing the overall cost of health care, Wisconsin should strive to decrease low value care and increase high value care (Figure 1). Wisconsin has several improvement initiatives that are focused on increasing high value care. But there are only a few isolated efforts to address low value care.

Figure 1

In Wisconsin our goal is to:

Reallocate Low Value Care

To Pay for High Value Care

Low value care has many negative effects and hidden costs that are not included in this report as described in Figure 2. For example, current research indicates that when a healthy person has a low risk surgery, routine tests before surgery do not improve the outcome of the surgery. These routine tests may cause patient anxiety, a delay in surgery, or contribute to unnecessary expenses at a time when many consumers are struggling to pay for health care.[1,2]

ANOTHER HIDDEN COST OF LOW VALUE CARE IS THE INEFFICIENT USE OF THE HEALTH CARE WORKFORCE.

Every health care service requires staff time and resources. In the above example, a clinician orders the initial blood test, a staff person directs the patient to the lab, a lab technician draws the blood sample, another technician processes the blood test and inputs the result into the electronic health record, and finally, the physician reviews the test result, contacts the patient, and discusses the test results. While the inefficient use of the health care workforce is never advantageous, Wisconsin's health care workforce is experiencing a higher-than-normal vacancy rate in nearly all occupations. Health care workers already in short supply should be using their expertise and time to provide services that improve the health outcomes of patients.

Figure 2

Hidden Costs of Low Value Care

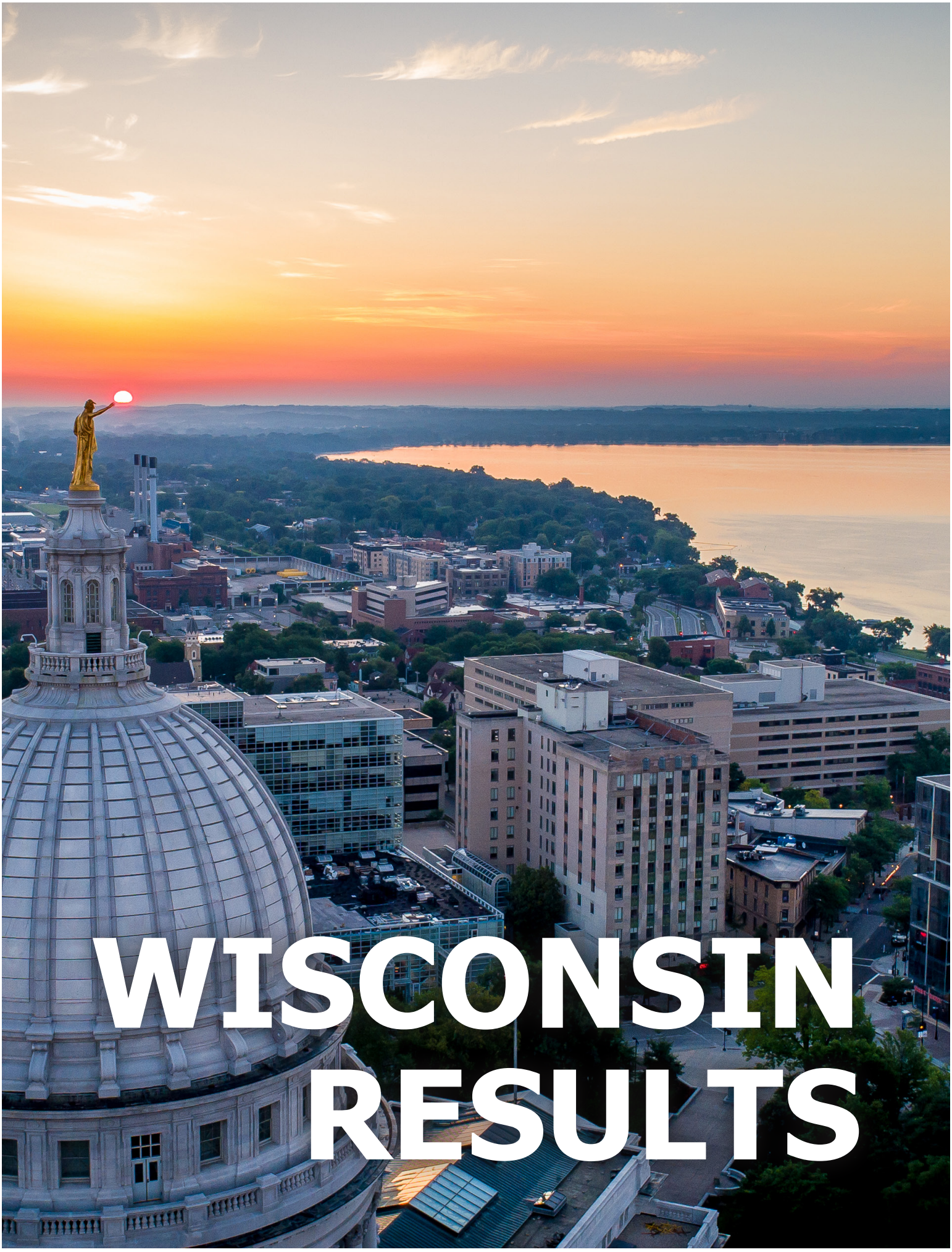
VBID HEALTH STUDY METHODS

In 2021, the WHIO participated in a research study sponsored by VBID Health to compare low value care in Wisconsin to Colorado, Connecticut, and Utah. The results of the VBID Health study are reported in, *Utilization and Spending on Medical Services Across Four States, VOL2.*[3]

While there is more than one way to measure low value care, the Wisconsin results are based on an analysis of 2,824,433 insured lives in the WHIO database using the Milliman MedInsight Health Waste Calculator™ v7 (Calculator). The data was from 2017 through 2020 with a primary report year of 2019 as some of the Calculator measures require data from prior years to calculate the results.

The Calculator includes 48 measures of common treatments and tests known by the medical community as low value care services. The 48 services measured do not represent all low value care services but allow for a multi-state comparison and are specific enough to be actionable. The cost information for Wisconsin is based on standardized prices, which is a very close approximation of the amount that was paid for each service. Refer to Appendix A for more information about the Calculator.

As a participant in the VBID Health study, the WHIO received its data from Milliman with an indicator of a low value care service applied to the data. This data was used to create the information in this report that was not included in the VBID Health study.



WISCONSIN RESULTS

Wisconsin Compared to Other States

The results of the VBID Health study indicate that low value care in Wisconsin is similar to the comparison states of Colorado, Connecticut, and Utah.

In Wisconsin, the amount paid for the 48 measures evaluated in this study was about $129 million dollars and the per member per month (PMPM) cost was $9.77 in 2019. PMPM represents the average of the amount of money paid on a monthly basis for each person enrolled in an insurance plan. (Figure 3)

Additional key learnings from the VBID Health study were that 1 out of every 3 people who received a health care service in Wisconsin received one or more low value care services.

Figure 3: Low Value Care 3 State Comparison, 2019

Colorado

Total Low Value Care Spend (In thousands $)	**Total Low Value Care PMPM**	**Low Value Care as % of Total Health Spend**
$171,610	$10.73	2.10%

Connecticut

Total Low Value Care Spend (In thousands $)	**Total Low Value Care PMPM**	**Low Value Care as % of Total Health Spend**
$161,922	$9.45	1.93%

Utah

Total Low Value Care Spend (In thousands $)	**Total Low Value Care PMPM**	**Low Value Care as % of Total Health Spend**
$168,202	$10.14	2.66%

Wisconsin

Total Low Value Care Spend (In thousands $)	**Total Low Value Care PMPM**	**Low Value Care as % of Total Health Spend**
$129,197	$9.77	2.36%

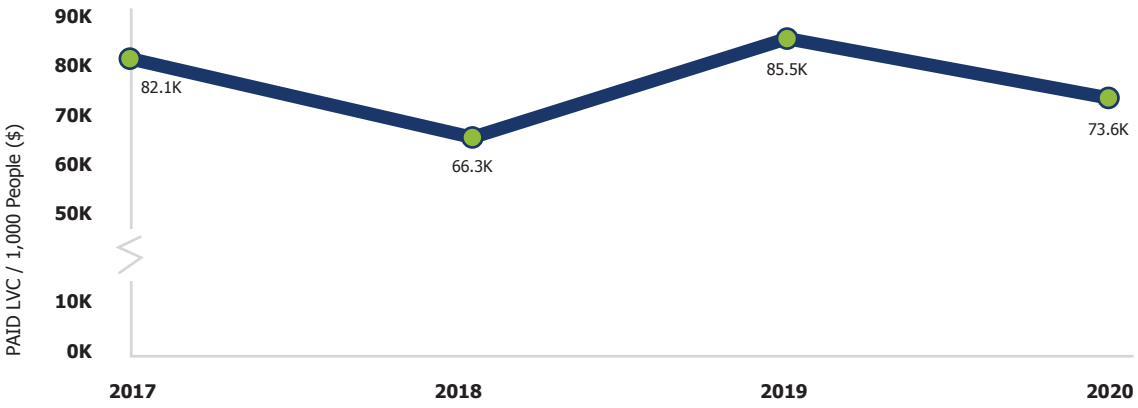
Source: Utilization and Spending on Medical Services Across Four States, VOL 2

Low Value Care Services Over Time

Between 2017 and 2019 the total amount paid per year for low value care services for people with commercial insurance increased and then went down in 2020. The same trend was observed in the number of people with commercial insurance who received one or more low value care service each year. The 2020 service utilization reduction was likely due to the suspension of non-essential health care services in response to the COVID-19 pandemic.

In Figure 4, the total amount paid for low value care services and the number of people with commercial insurance who received one or more low value care service are combined to provide a comparable amount paid for low value care services each year per 1,000 people with commercial insurance. The 2018 drop in the cost of low value care services was due to a higher number of people receiving low value care services, while the reduction in 2020 is consistent with the decrease in service utilization described above. During the COVID-19 pandemic, high value care services also decreased as described in the 2021 WHIO publication, InfoByte Special Edition: The Effects of COVID-19 in Wisconsin.[4]

Figure 4: Amount Paid for Low Value Care per 1,000 People with Commercial Insurance Only ($)



Low Value Care by Insurance

Low value care is not evenly distributed across lines of insurance. People with Medicare insurance received significantly more low value care services and had a higher cost per person than people with commercial or Medicaid insurance.

Figure 5: Cost of Low Value Care in Wisconsin by Type of Insurance, 2019

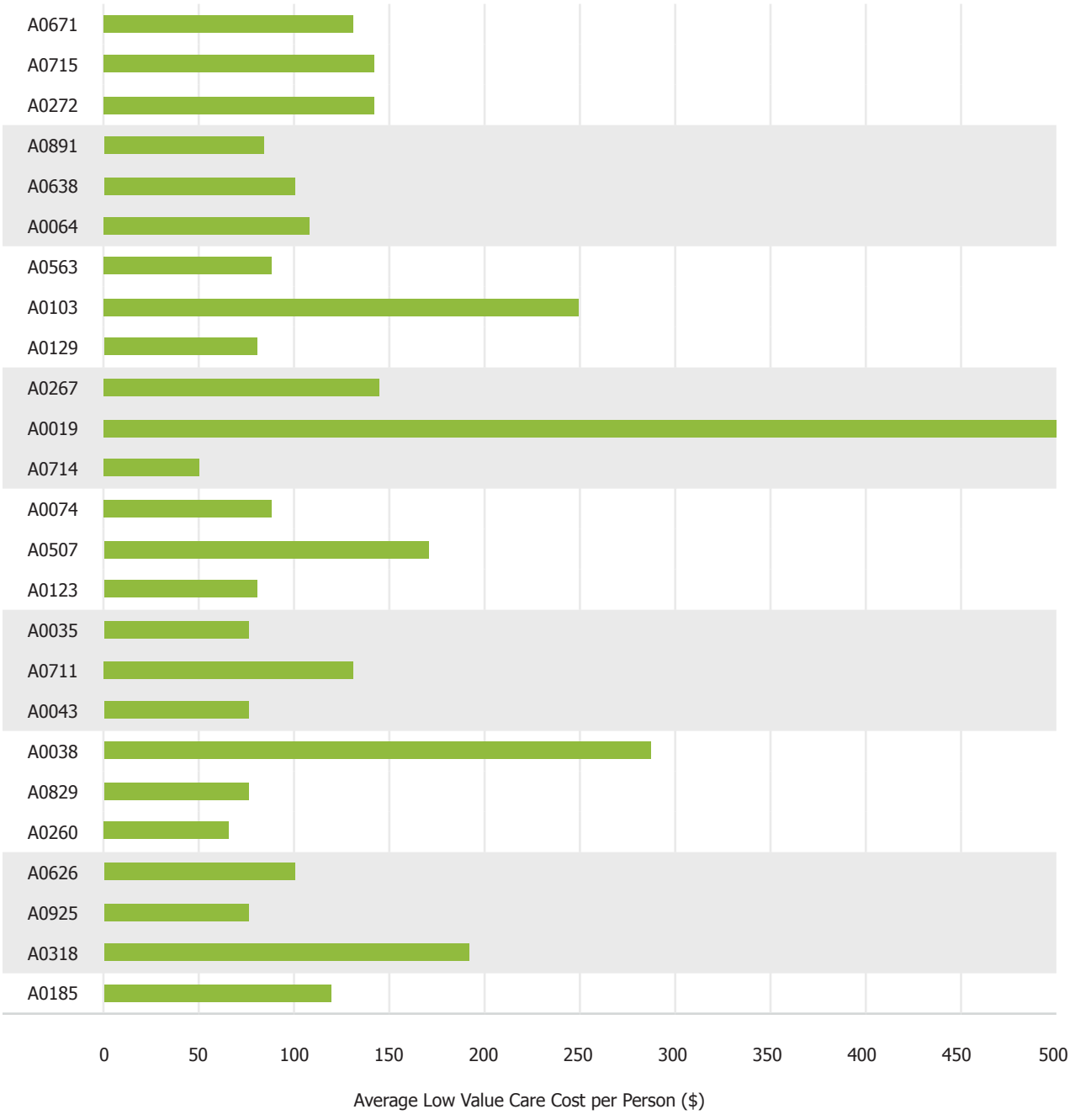
	Member Months	Total Paid All Services PMPM	Low Value Care Services per 1000 People	Total Paid Low Value Care Services PMPM
Commercial	12,223,025	$414.15	266	$2.95
Medicare[a]	1,024,880	$2,198.83	1,309	$24.51
Medicaid	12,986,171	$702.64	265	$3.72

Source: Utilization and Spending on Medical Services Across Four States, VOL 2 (Claims where insurance was not specified were excluded.)
a: Medicare includes Medicare Advantage only.

Differences Across Provider Organizations

Variation exists across provider organizations in the delivery of nearly all health care services including low value care services. Figure 6 shows the amount paid per person in 2019 for 25 Wisconsin provider organizations based on the 48 low value care services measured. The cost of low value care services per provider organization ranged from $100 to $1,700 per person, with the majority of organizations falling into the $150 to $250 per person range. Since these costs are based on standardized prices, a higher cost indicates that more services were provided per person.

Figure 6: Amount Paid per Person to 25 Provider Organizations, 2019

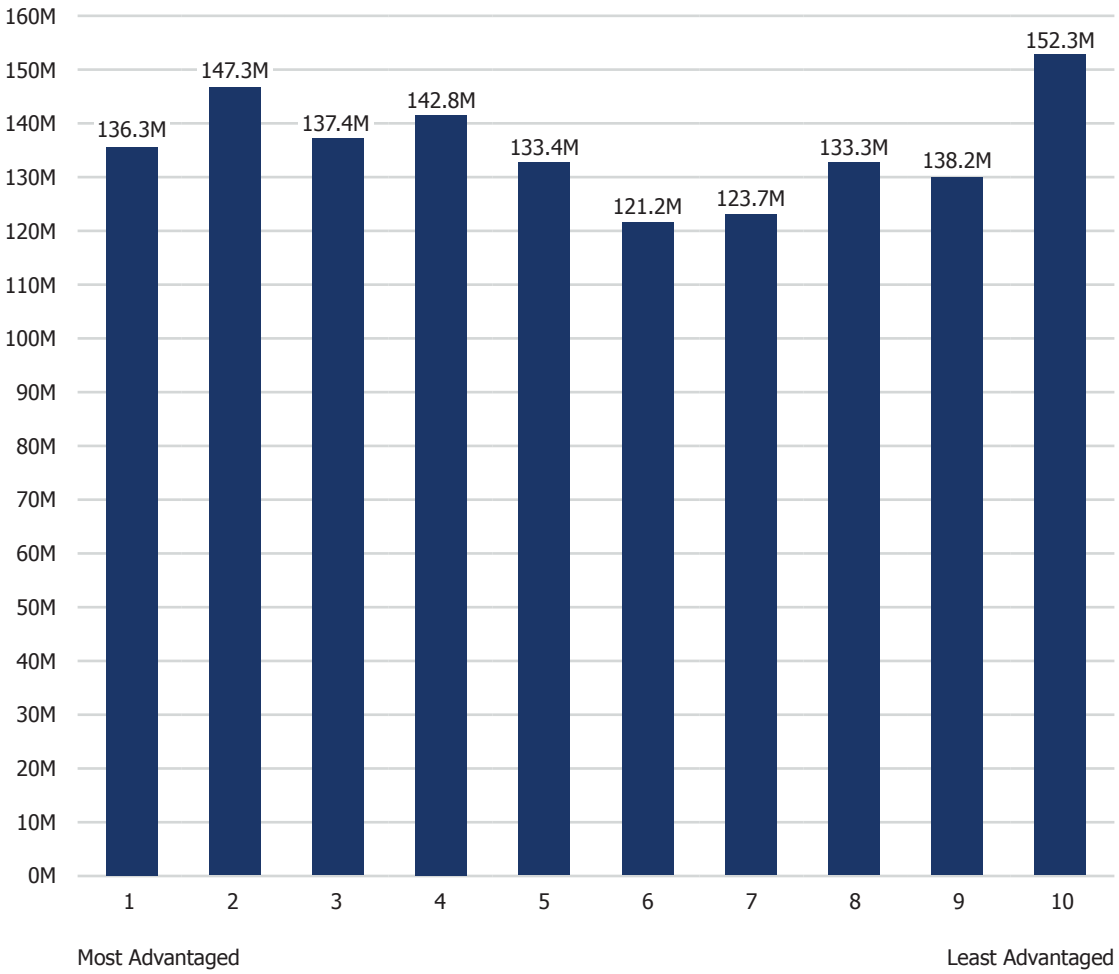


Health Equity

Health equity is an important concern to everyone. Medical waste, including preventable illness and low quality care, has been identified as a major contributor to health inequities.[5] To begin to understand how social factors relate to low value care, the Area Deprivation Index (ADI) was applied.[6] The ADI allows for rankings of neighborhoods by socioeconomic disadvantage based on income, education, employment, and housing quality. An ADI of 1 refers to the most advantaged neighborhoods and an ADI of 10 the most disadvantaged neighborhoods. In the WHIO data, the number of people in each of the indices (1-10) is about equal with slightly more people in indices 1-4. Refer to Appendix B for more information on the ADI and a graphic that demonstrates the distribution of people in the WHIO data by ADI.

Figure 7 reveals that low value care affects all people in Wisconsin regardless of social or economic factors and that people living in neighborhoods with an ADI of 5-8 paid less for low value care services. Additional investigation is needed to determine the contributing factors that lead to low value care services and the impact on sub-populations in Wisconsin.

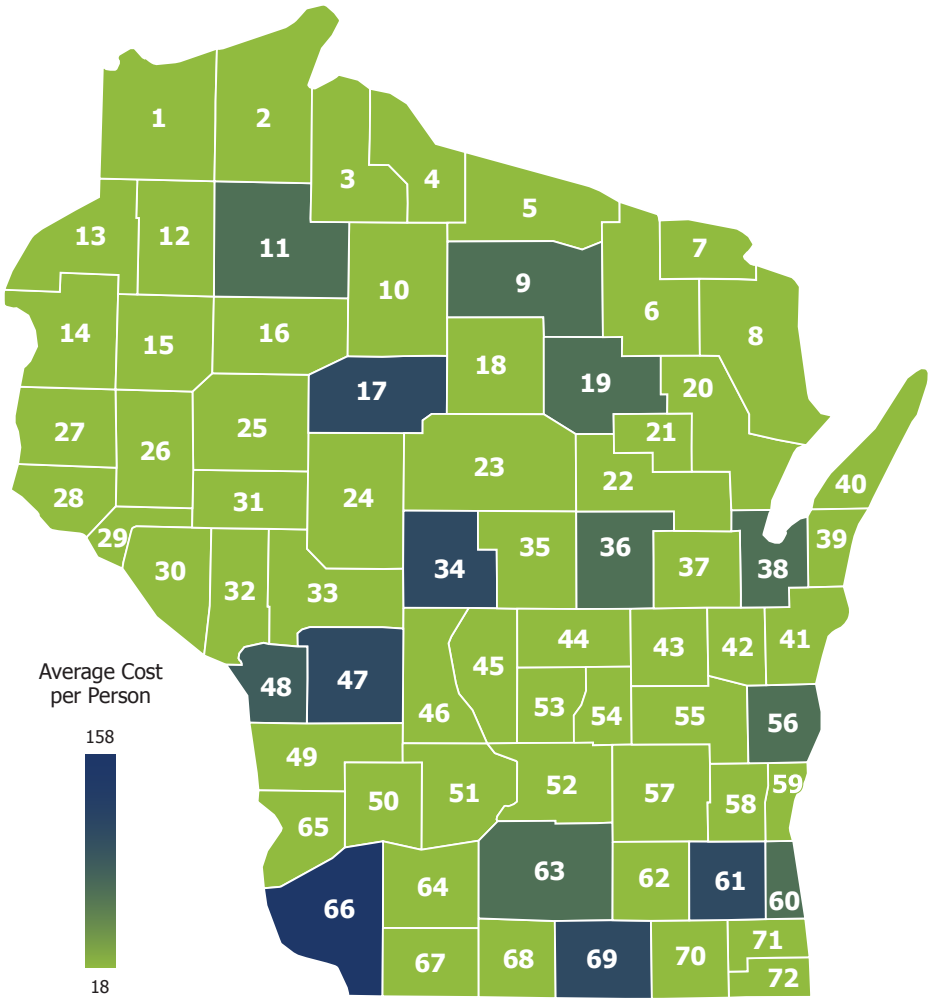
Figure 7: Amount of Low Value Care by WI Area Deprivation Index ($), 2017-2020



Service Level Variation Example: Pre-op Lab Testing

Obtaining blood tests to assess the health of a patient prior to surgery is a common, and in many cases, a necessary practice. However, research has shown that people who are otherwise healthy and who are having low risk surgeries, do not benefit from these pre-surgery tests. In the VBID Health study, pre-operative lab testing in healthy people having low risk surgeries was the most frequent low value care service in Wisconsin. The average cost per person to complete these tests varies from $18 per person in Menominee County to $158 per person in Grant County. The difference in the average cost per person is caused by more tests per person. Figure 9 below shows how the per person cost for pre-operative laboratory testing varies across Wisconsin counties.

Figure 8: Cost of Pre-operative Lab Testing by WI County ($)



County Name & Average Cost ($) Per Person

Adams (#45) – 24
Ashland (#3) – 20
Bayfield (#2) – 20
Barron (#15) – 19
Brown (#38) – 62
Buffalo (#30) – 23
Burnett (#13) – 20
Calumet (#42) – 25
Chippewa (#25) – 24
Clark (#24) – 19
Columbia (#52) – 25
Crawford (#65) – 24
Dane (#63) – 48
Dodge (#57) – 26
Door (#40) – 24
Douglas (#1) – 19
Dunn (#26) – 23
Eau Claire (#31) – 20
Florence (#7) – 21
Fond du Lac (#55) – 26
Forest (#6) – 25
Grant (#66) – 158
Green (#68) – 26
Green Lake (#54) – 27
Iowa (#64) – 28
Iron (#4) – 27
Jackson (#33) – 28
Jefferson (#62) – 25
Juneau (#46) – 25
Kenosha (#72) – 24
Kewaunee (#39) – 25
La Crosse (#48) – 58
Lafayette (#67) – 30
Langlade (#19) – 48
Lincoln (#18) – 23
Manitowoc (#41) – 35
Marathon (#23) – 20
Marinette (#8) – 22
Marquette (#53) – 24
Menominee (#21) – 18
Milwaukee (#60) – 68
Monroe (#47) – 91
Oconto (#20) – 26
Oneida (#9) – 75
Outagamie (#37) – 24
Ozaukee (#59) – 25
Pepin (#29) – 23
Pierce (#28) – 19
Polk (#14) – 24
Portage (#35) – 25
Price (#10) – 23
Racine (#71) – 22
Richland (#50) – 22
Rock (#69) – 103
Rusk (#16) – 23
Sawyer (#11) – 57
Sauk (#51) – 26
Shawano (#22) – 24
Sheboygan (#56) – 49
St. Croix (#27) – 24
Taylor (#17) – 111
Trempealeau (#32) – 26
Vernon (#49) – 26
Vials (#5) – 22
Walworth (#70) – 25
Washburn (#12) – 20
Washington (#58) – 21
Waukesha (#61) – 105
Waupaca (#36) – 73
Waushara (#44) – 26
Winnebago (#43) – 25
Wood (#34) – 105

HOW TO USE THIS INFORMATION

Low value care is an unintended result of a complex health care system that has many contributing factors. Everyone is impacted by low value care and it will take everyone working together to improve the value of health care in Wisconsin. With the potential for patient harm, an unprecedented health care workforce shortage, known health care inequities and high health care costs, now is the time for change. We can take steps to reduce low value care so that there is more capacity for high value care.

POLICY MAKERS – Policy makers can bring attention to the benefits of increasing the overall value of health care in Wisconsin such as improved health outcomes and lower workforce absenteeism, and direct funding to reduce low value care. Policy makers can also enact policies that pay more for high value care and minimize low value care on behalf of their constituents.

PUBLIC AND PRIVATE HEALTH INSURERS – Financial incentives are a strong driver of what services are demanded by consumers and provided by the health care delivery system. Benefit plans and provider organization contracts can incentivize the delivery of high value care and dis-incentivize low value care. Health insurers can determine if low value care services are included in their plan benefits and whether or not they will be paid for.

EMPLOYERS – Employers can work with their advisors to enact benefit plans that drive high value care and discourage low value care. At a time when unemployment is historically low in Wisconsin, employers can remove barriers for employees to be active participants in their health care. For example, employers can provide education to their employees to help them understand that not all health care services positively impact health outcomes and that low value care services can cause harm and hidden costs.

PROVIDER ORGANIZATIONS AND CLINICIANS – To address low value care, provider organizations and clinicians can evaluate their improvement priorities and determine if the elimination of low value care services is getting enough attention. If not, provider organizations and clinicians can re-design processes so that low value care services become a purposeful exception in clinician orders.

CONSUMERS – Consumers can learn about low value care services along with high value care services and incorporate this information in their personal health care goals. Consumers can talk with their health care clinicians about their goals to maximize the benefit of the care they receive.

ALL HEALTH CARE STAKEHOLDERS – Despite the complexity of the health care system, generally accepted measures of the value of health care are evolving through research, discussion, and thoughtful application. While measurement alone will not change the value of health care in Wisconsin, measurement is the first step to improvement. In addition to high value care measures, low value care measures can be included in value based contracts to emphasize that increasing high value care and eliminating low value care are both important. Regularly updated reports on the value of health care in Wisconsin should also be available to all stakeholders so that resources can be allocated to where there is the greatest need for improvement.

WORKING TOGETHER WE CAN ACHIEVE OUR COLLECTIVE GOAL OF HIGHER VALUE HEALTH CARE IN WISCONSIN.

APPENDIX A: MILLIMAN MEDINSIGHTS WASTE CALCULATOR

The Milliman MedInsights Waste Calculator™ v7 (Calculator) is a software tool that analyzes claims data to quantify low value care services that have been identified by national intiatives such as:

- The Choosing Wisely® program (www.choosingwisely.org)
- The U.S. Preventive Services Task Force (www.uspreventiveservicestaskforce.org)

The Calculator identifies health care that is necessary (service was clinically appropriate), likely wasteful (the appropriateness of the service should be questioned), and wasteful (services that are very likely to be unnecessary and should not have occurred). In this report, the likely wasteful and wasteful services are referred to as low value care services. Costs are calculated using either the claim line or all costs associated with a case for each measure depending on which is most appropriate.

LIMITATIONS OF THIS ANALYSIS

- The information in this report is based on the insured lives in the WHIO database which does not include all Wisconsinites that received health care services between 2017 and 2020.
- The use of claims data limits the ability to evaluate all signs and symptoms which may be included in a patient's medical record. Therefore, the Calcualtor is conservative in its assessment of whether or not a service was necessary.
- The Wisconsin costs are based on the standardized prices included in the Milliman Consolidated Health Costs Guidelines Source Database which is a close approximation of what was actually paid for these services.
- The appropriate application of the claim line or case level assignment to a measure may vary depending on the use of the measure and by opinion. The cost of subsequent services that are not reimbursed by insurance are not included.
- The Calculator does not included all low value care services so the results in this report likely understate the frequency and cost of low value care services in Wisconsin.

The 48 measures of low value care services included in the Calculator are listed below.

FIGURE 9: 48 LOW VALUE CARE MEASURES IN THE CALCULATOR

TREATMENTS

Antibiotics for Adenoviral Conjuctivitis

Antibiotics for Acute Upper Respiratory and Ear Infections

Antidepressants Monotherapy in Bipolar Disorder

Arthroscopic Lavage and Debridement for Knee OA

Cough and Cold Medicines in Children <4 Years

CT Scans for Abdominal Pain in Children

Inductions of Labor or Cesarean Deliveries

Multiple Palliative Radiation Treatments in Bone Metastases

NSAIDs for Hypertension, Heart Failure or CKD

Opiates in Acute Disabling Low Back Pain

Oral Antibiotics for Uncomplicated Acute TTO

PICC Stage III-V CKD Patients

Renal Artery Revascularization

Two or More Antipsychotic Medications

Vertebroplasty

Vision Therapy for Patients with Dyslexia

SCREENING AND DIAGNOSTIC TESTING

25-OH-Vitamin D Deficiency

Annual Resting EKGs

Bleeding Time Testing

Coronary Artery Calcium Scoring for Known CAD

Cardiac Stress Testing

Cervical Cancer Screening in Women

CT Head/Brain for Sudden Hearing Loss

Colorectal Cancer Screening in Adults 50 Years and Older

Coronary Angiography

Dexa Scan

Diagnostics Chronic Urticaria

ED CT Scans for Dizziness

Electroencephalography (EEG) for Headaches

Headache Image

Imaging of the Carotid Arteries for Simple Syncope

Imaging for Uncomplicated Acute Rhinosinusitis

Imaging Tests for Eye Disease

Immunoglobin G / Immunoglobin E Testing

Lower Back Pain Image

Pediatric Head Computed Tomography Scans

Postcoital Test for Infertility

Prostate Specific Antigen Screening (PSA)

Repeat CT for Kidney Stones

Routine General Health Checks for Asymptomatic Adults

Sperm Function Testing

Syncope Image

Voiding Cystourethrogram for Urinary Tract Infection

PREOPERATIVE EVALUATION

MRI for Rheumatoid Arthritis

PFT Prior to Cardic Surgery

Preoperative Baseline Laboratory Studies

Preop Cardiac Echocardiography or Stess Testing

Preoperative EKG, Chest X-Ray and PFT

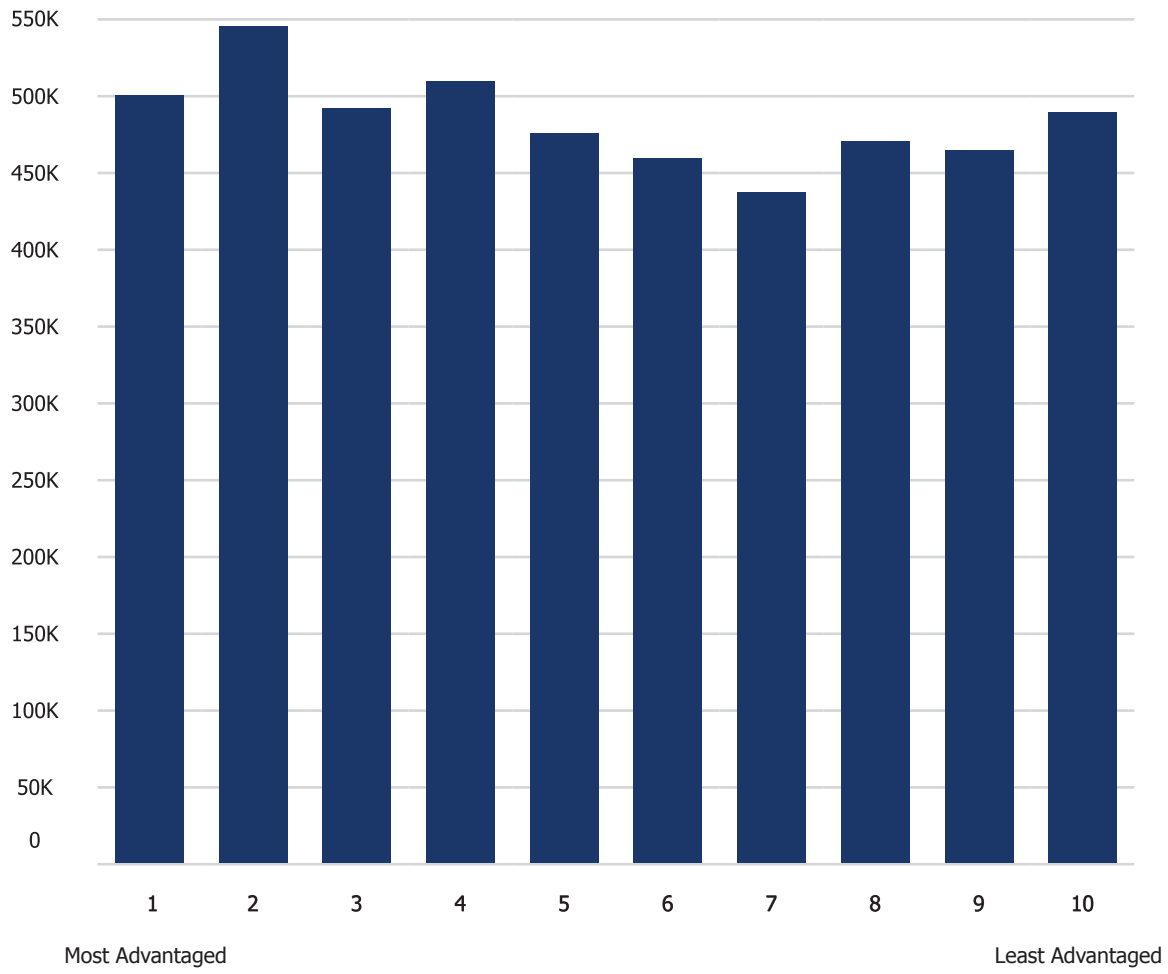
APPENDIX B: AREA DEPRIVATION INDEX

The Area Deprivation Index was created by the University of Wisconsin School of Medicine and Public Health. This report used version 2.0, created in 2015, which was downloaded in October, 2020, from https://www.neighborhoodatlas.medicine.wisc.edu.

The WHIO applied the Area Deprivation Index to each insured life in the WHIO database using the census block location for each insured life. This data was then aligned with the unique WHIO identifier for each insured life in the WHIO database and the census block data was removed to de-identify the data.

Figure 10 shows the distribution of the Area Deprivation Index for the insured lives in the WHIO database for 2017 through 2020 combined.

Figure 10: Count of Unique People in the WHIO Database by Area Deprivation Index, 2017-2020



WISCONSIN HEALTH INFORMATION ORGANIZATION

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Disclaimer: The results included in this report were generated using the Milliman MedInsight Health Waste Calculator (Calculator) and the All-Payer Claims Database of the Wisconsin Health Information Organization (WHIO). The WHIO and Milliman make no warranties regarding the accuracy of the Calculator Intellectual Property, or the results generated by the Calculator and the WHIO data. Neither the WHIO nor Milliman will be held liable for damages of any kind resulting from the use of the results included in this report.

WHIO

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