WISCONSIN HEALTH INFORMATION ORGANIZATION

ACHIEVING HEALTH CARE VALUE IN WISCONSIN

A FOCUS ON LOW VALUE CARE

2023

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- Wisconsin Medical Society
- Wisconsin Primary Health Care Association
- WPS Health Insurance

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.

TABLE OF CONTENTS

Acknowledgement 02

Executive Summary 04

Why is Low Value Care Important? 05

VBID Health Study Methods 07

Wisconsin Results 08

- Wisconsin Compared to Other States 09
- Low Value Care Services Over Time 10
- Low Value Care by Insurance 10
- Differences Across Provider Organizations 11
- Health Equity 12
- Service Level Variation Example 13

How to Use This Information 14

Appendix A: Milliman MedInsights Waste Calculator and Limitations of this Study 16

Appendix B: Area Deprivation Index 18

References 19

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

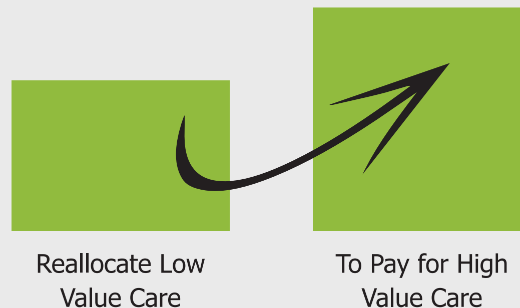
WHY IS LOW VALUE CARE IMPORTANT?

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:



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

Poor use of limited provider **STAFF TIME**

Duplicate or **UNNEEDED** follow up services

Emotional and physical **STRESS**

Higher insurance premiums and out of pocket medical **EXPENSES**

LOST work & personal time

ADDED COST for travel and child care

Health care services and costs **INEQUITIES**

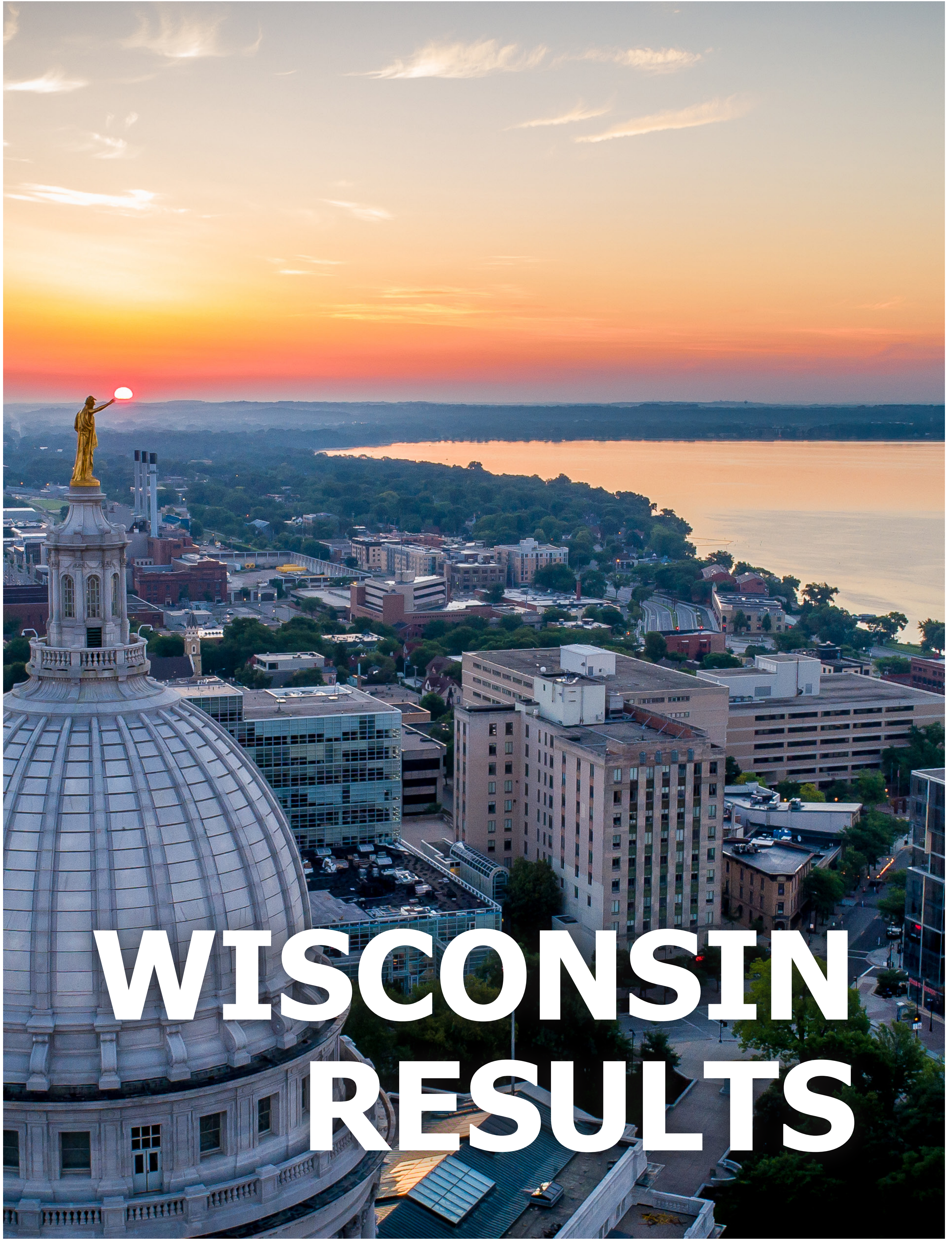
VBID HEALTH STUDY METHODS

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%

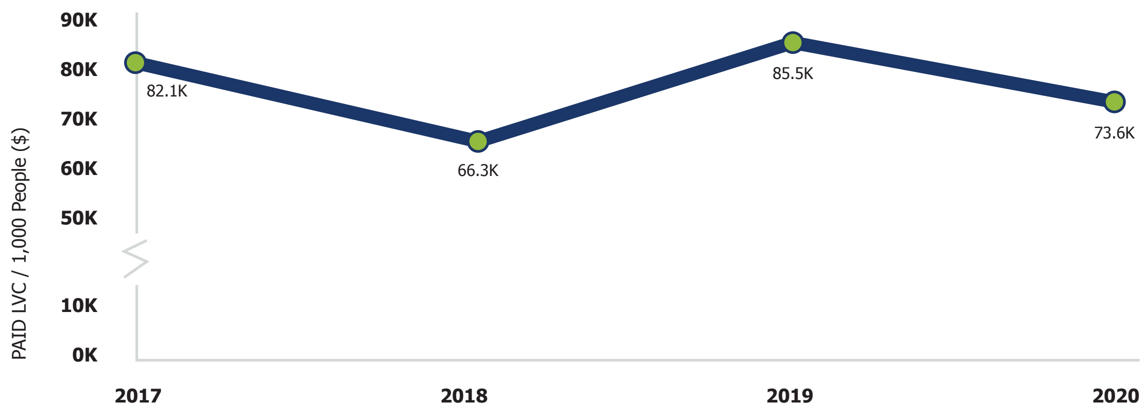
Source: Utilization and Spending on Medical Services Across Four States, VOL 2

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

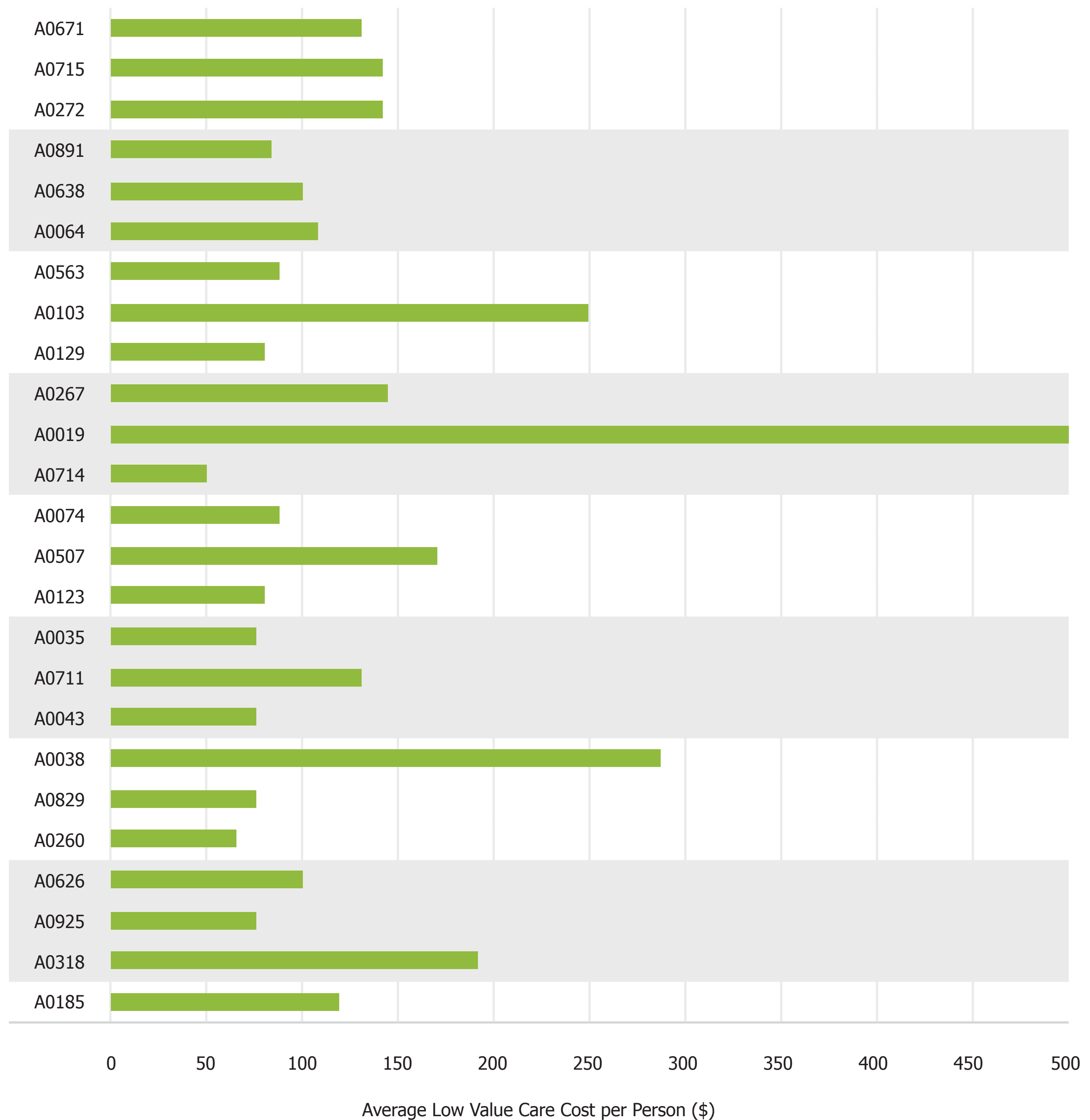
	Member Months	Total Paid All Services PMPM	Low Value Care Services per 1000 People	Total Paid Low Value Care Services PMPM
Commercial	12,223,025	$414.15	266	$2.95
Medicare[a]	1,024,880	$2,198.83	1,309	$24.51
Medicaid	12,986,171	$702.64	265	$3.72

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

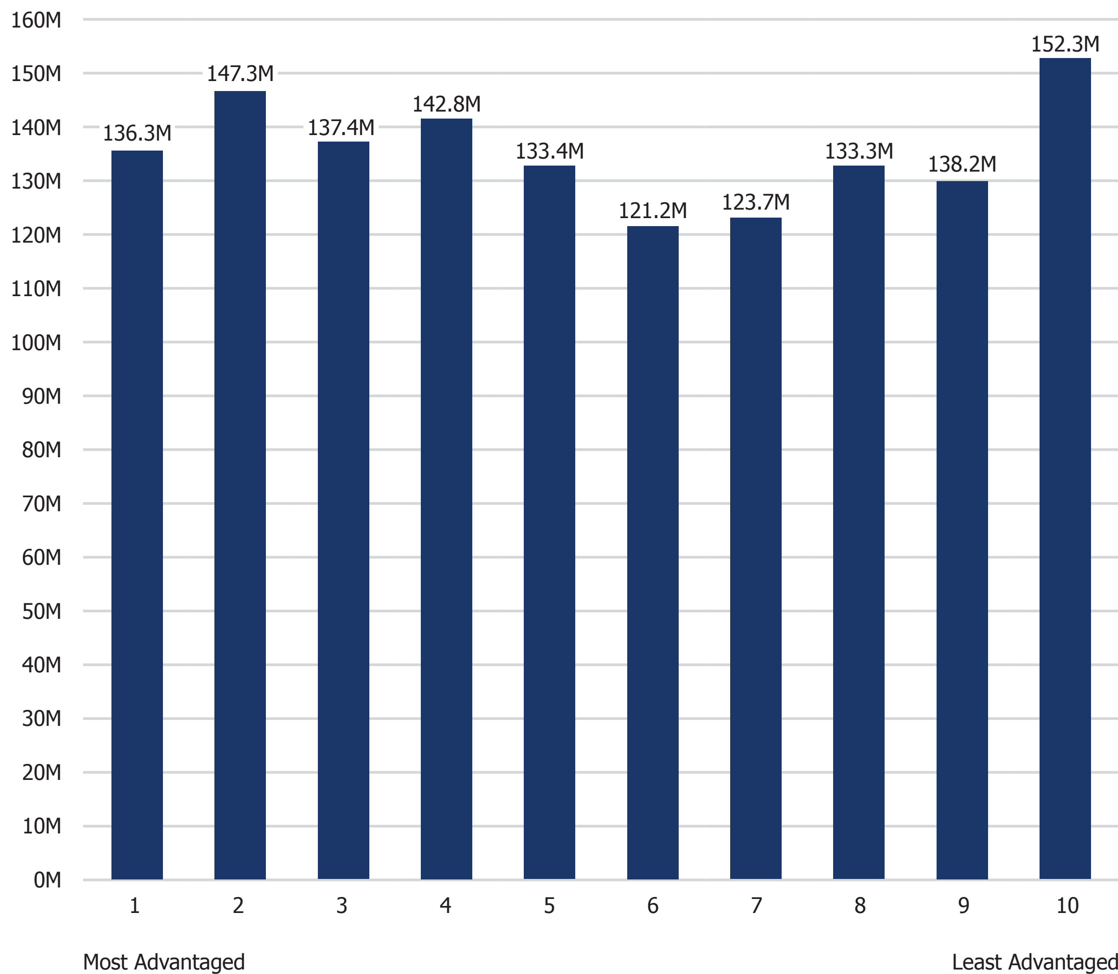


Health Equity

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.

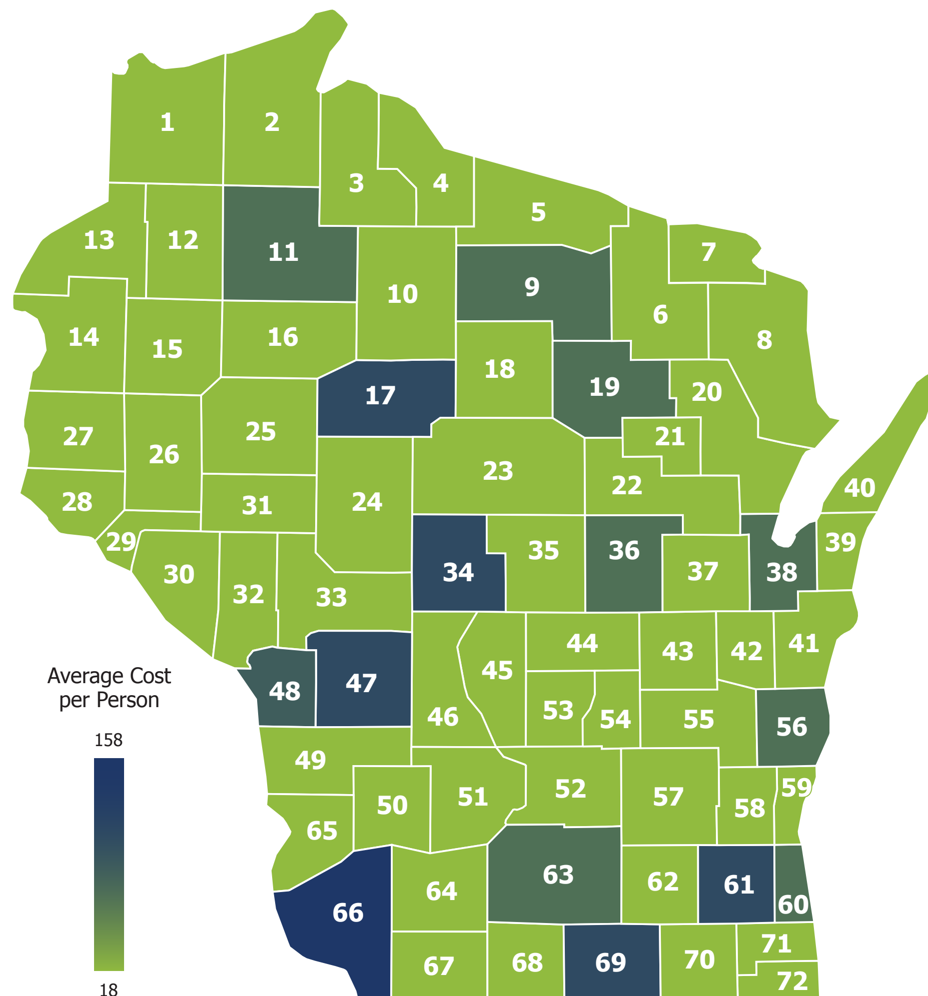
Figure 7: Amount of Low Value Care by WI Area Deprivation Index ($), 2017-2020



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

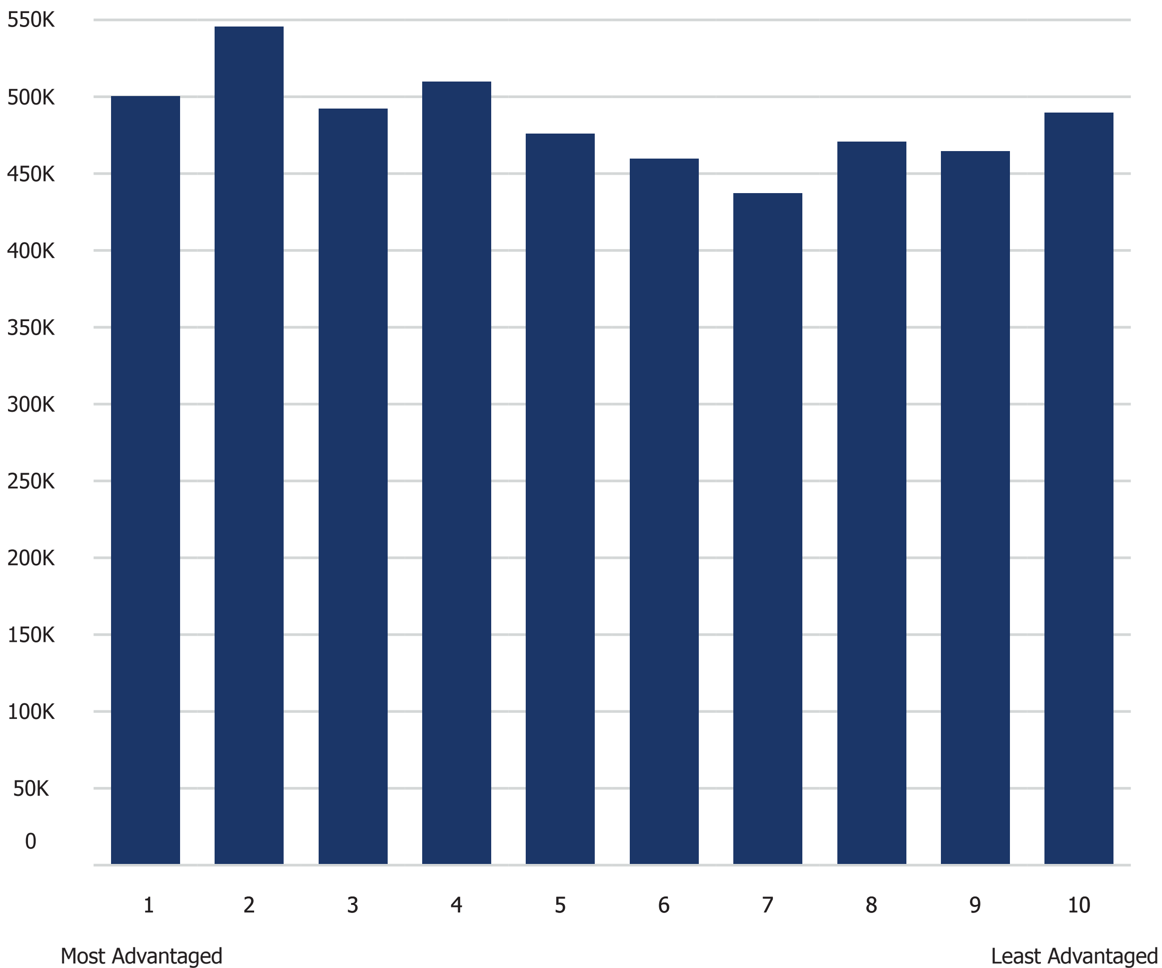
APPENDIX B: AREA DEPRIVATION INDEX

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



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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.

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