Unnecessary Care Costs Millions

Dec. 2023 | Washington State
Health Waste Calculator™

WHA **WASHINGTON HEALTH ALLIANCE**

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For more information about this report, contact the Washington Health Alliance: communitycheckup@wahealthalliance.org.

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Executive Summary

We simply cannot afford to provide wasteful care. Paying closer attention to overuse, underuse and misuse of healthcare services will go a long way to delivering equitable quality, costs and access to Washingtonians and support a resilient and sustainable health care delivery system.

To understand waste in Washington, the Alliance applied the Milliman MedInsight Health Waste Calculator to the commercial population in our voluntary All-Payer Claim Database. Focusing on 48 common measures that our U.S. specialty medical societies consider wasteful, the results cover a three-year period between Jan. 1, 2020, to Dec. 31, 2022. The Alliance is the first nationally to publicly report on how equity — using the Neighborhood Atlas (Area Deprivation Index), which incorporates socioeconomic characteristics such as income, education, and transportation — affects overuse, misuse, and underuse of care.

From 2020, we are seeing some compelling trends. The overall waste index (percent of wasteful services) has remained stable at 38% as the overall direct costs attributed to the wasteful services have decreased. Interestingly, wasteful care during the pandemic year of 2020 was nearly 10 percent lower than what we saw in 2021 and 2022. Wasteful screening tests, such as vitamin D testing, were more common in privileged neighborhoods while misuse of treatments, such as narcotics for low back pain, was more common in neighborhoods with more socioeconomic challenges. Every time inappropriate care is given, there can be resulting complications and additional services resulting in more medical costs.

This is only the tip of the iceberg. Our report on health waste limits the scope to only 48 common services among hundreds of services that some professionals consider wasteful or unnecessary. Nevertheless, the result is $126.5 million in excess spending over the three-year period. **These dollars could provide 2,000 Washington families full insurance every year.** There are many additional areas, representing significant costs, where the health system can make improvements in limiting unnecessary care such as cardiac stenting for stable ischemic heart disease.

To have resilient, sustainable health care delivery we need to open access to care and ease the burden on providers. One way is to eliminate bringing in patients for unneeded care and replace them with those individuals with a gap in evidence-based care – who are more likely to be more vulnerable due to where they live. This is more professionally satisfying and beneficial to the population's health. Amid a nationwide shortage in health care providers, every opportunity to limit waste is a chance to ensure we improve access for all residents of Washington State.

Working in lockstep with well-defined action steps, health care purchasers, health plans, and health care providers can root out health care waste.

Call to Action

As we continue to better understand how where someone lives affects the care they receive, we can use this waste report to further close gaps in care and avoid unnecessary screenings and treatment.

Collective action by employers is needed in addressing healthcare waste. Health care purchasers should hold health plans and provider organizations accountable to meaningfully reduce and eliminate wasteful care. Wasteful care results in millions of dollars in spending, lost productivity for employees and families, and can lead to more unneeded care and adverse health outcomes.

Overall actions we can take include:

Purchasers:
- Steer members to having a trusted, consistent provider of care through team-based primary care practices.
- Require value-based contracts to have risk-based performance guarantees on elimination of wasteful practices for both health plans and contracted providers.
- Target education to specific populations where waste is higher through improved health literacy (e.g., avoid unnecessary vitamin D screening in those most privileged neighborhoods).

Plans:
- Build in performance guarantees with providers through full risk value-based contracting.
- Monitor and report other aspects of healthcare waste such as excessive readmission rates or cardiac stents for stable heart disease that when improved will result in benefits for consumers.
- Consider claim edits to stop payment for wasteful services.

Providers:
- Provide guarantees to the purchasers of care that specific wasteful services will be avoided.
- Implement and transform primary care practices to manage populations, avoid waste and pull in populations with care gaps.
- Model improvement of access when unnecessary care is avoided and implement changes.

Overview

As much as 30% of health care spending in the United States is on low-value care, administrative complexity, revenue cycle management and other inefficiencies. We need to start someplace to make care affordable for all Washingtonians. This report is a small snapshot of the problem. We are not addressing all the harms found with low-value care from over prescribing medication to over-screening individuals from a belief that more is better. Unnecessary care has real impacts on morbidity, mortality, and costs. We need to be mindful to follow evidence to deliver the right care. In this report, we find inequities by the neighborhood you live in, and studies have shown these disparities exist within the same health systems. It is our responsibility to act.

The Alliance is reporting on low-value care over a three-year period, from January 1, 2020, through December 31, 2022, for the commercially-insured population using the Alliance's All-Payer Claims Database and the Milliman Health Waste Calculator™.

The Health Waste Calculator includes 48 measures of common treatments, tests, and procedures identified by the national Choosing Wisely® program and known by the medical community to be overused. **This is a small fraction of the hundreds of different wasteful or likely wasteful treatments, tests and procedures that can happen across care settings.**

This analysis relies on all 48 measures for statewide reporting on health care waste. However, our public reporting incorporating Neighborhood Atlas excludes some measures given the relatively low number of services for certain population groups.

The Health Waste Calculator factors in specific circumstances when services may or may not be appropriate. It not only identifies potentially wasteful services but also defines the degree of appropriateness of care.

Care is categorized as:
- **Necessary (not wasteful):** the service was clinically appropriate.
- **Likely Wasteful:** the appropriateness of the service should be questioned.
- **Wasteful:** the service was very likely unnecessary and should not have occurred

Health care services identified as **Likely Wasteful** and **Wasteful** are combined and reported as low-value care. Of the approximately **2.2 million services** examined for the commercially-insured population over the three-year period: **nearly 40%** were considered low-value and nearly all (98%) of low-value services are categorized as wasteful versus likely wasteful; and, that low-value care impacted on average **196,727** individuals per year at an estimated cost of $126 million over the three years.

For a number of measures, the Health Waste Calculator captures the spending on the individual service considered wasteful, but it does not include a full picture of the ensuing waste that comes from unnecessary testing, procedures and treatment that resulted from the original service. **It can be assumed that the actual spending on low-value, inappropriate care is many times higher.** For other measures, it captures the total spending for a case, which does give a more accurate picture of total wasteful spending.

Statewide Results

Health Waste Calculator Results for Commercially-Insured

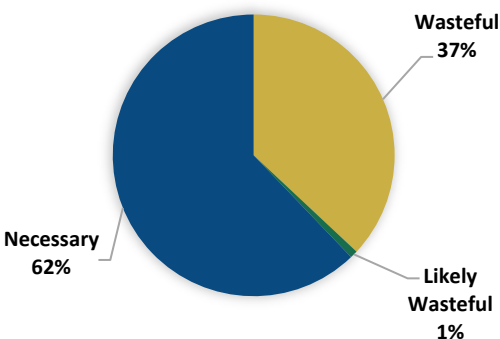|	2020	2021	2022	Combined
Total number of services	680,971	737,957	747,634	2,166,562
Total number of low-value services (wasteful and likely wasteful)	257,678	278,430	281,489	817,597
Waste index	38%	38%	38%	38%
Number of members with at least one low-value service per year	181,532	203,118	205,532	196,727*
Estimated total spending on low-value care	$45,347,343	$41,944,054	$39,249,314	$126,540,711

∗ Given that the Health Waste Calculator records unique individuals with at least one low-value service, this number is presented as an average for the three years instead of a combined total.
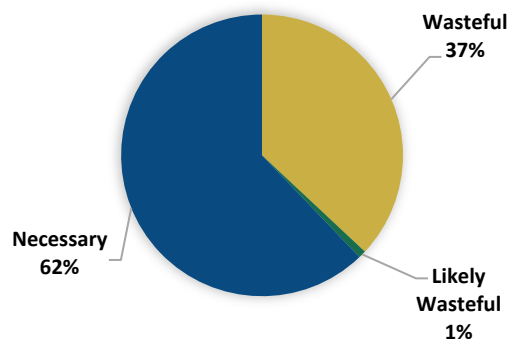
Categorization of Services

Approximately 37% of all the services reviewed in this analysis were considered wasteful. About one percent is considered likely wasteful, and for the purpose of this analysis added to the wasteful services.

	Wasteful	Likely Wasteful	Necessary	Combined
2020	251,727	5,951	423,293	680,971
2021	272,641	5,789	459,527	737,957
2022	276,221	5,268	466,145	747,634
Combined	800,589	17,008	1,348,965	2,166,562

2020 — Wasteful 37%, Likely Wasteful 1%, Necessary 62%
2021 — Wasteful 37%, Likely Wasteful 1%, Necessary 62%
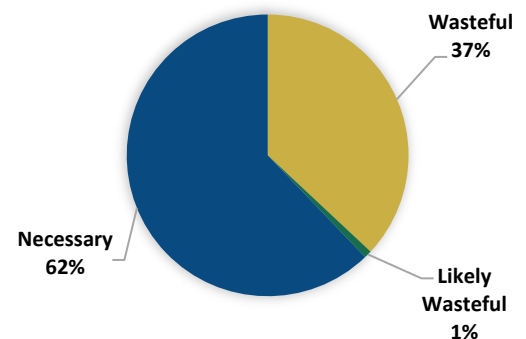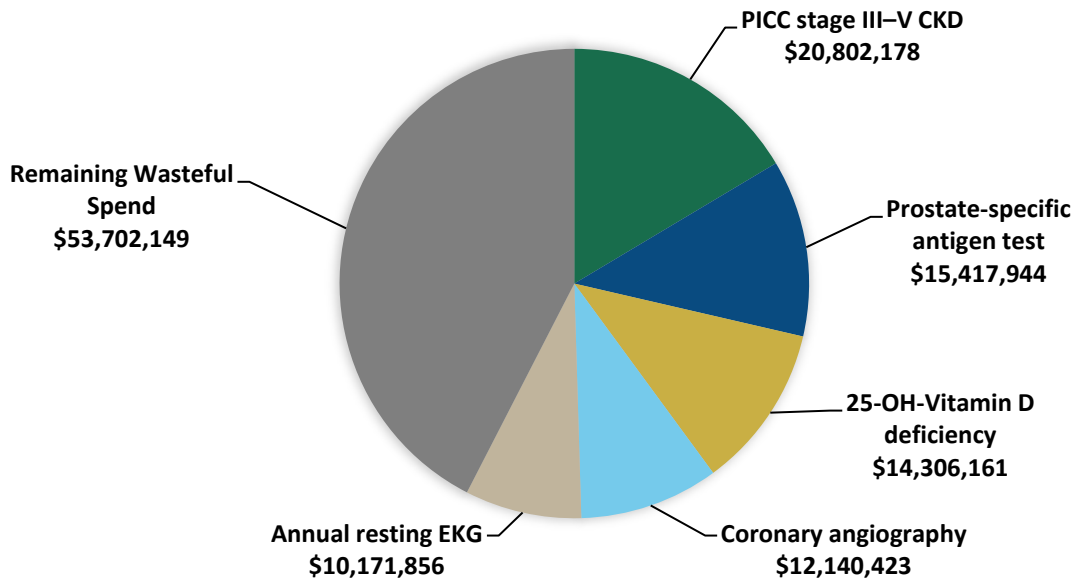2022 — Wasteful 37%, Likely Wasteful 1%, Necessary 62%

Top 5 Areas of Low-Value Care Spending over the Three-Year Reporting Period:

As in the past, the majority of health care waste occurs within a limited number of different services. While the total waste in dollars for these five services represents 57% of the total wasteful spending in the three-year period, it only represents 43% of the total wasteful services.

	Total Services	Wasteful Services	Waste Index	People impacted	Total Waste in Dollars
PICC stage III–V CKD	626	550	88%	513	$20,802,178
Prostate-specific antigen test	126,275	108,411	86%	101,897	$15,417,944
25-OH-Vitamin D deficiency	171,731	55,137	32%	52,866	$14,306,161
Coronary angiography	11,028	825	7%	810	$12,140,423
Annual resting EKG	625,603	195,685	31%	180,264	$10,171,856

TOP FIVE WASTE SERVICES IN DOLLARS FROM 2020 TO 2022

PICC stage III–V CKD
$20,802,178

Remaining Wasteful Spend
$53,702,149

Prostate-specific antigen test
$15,417,944

25-OH-Vitamin D deficiency
$14,306,161

Annual resting EKG
$10,171,856

Coronary angiography
$12,140,423

Results by Area Deprivation Index (Neighborhood Atlas)

This analysis by the Washington Health Alliance couples the results of the Health Waste Calculator with Neighborhood Atlas, a powerful lens through which we can parse our findings by the socioeconomic characteristics of the area in which the individual receiving a service resides. Neighborhood Atlas, also known as Area Deprivation Index or ADI, incorporates socioeconomic characteristics such as income, housing, education, and access to transportation to create 10 groups (deciles) based on these factors. Those considered least deprived are placed in Decile 1. Those in a block considered most deprived are placed in Decile 10. Note: The groups are not equally sized but based on population within blocks. (See a map of Washington's Area Deprivation Index deciles)

The findings from running the results of the Health Waste Calculator through the ADI are clear. We are seeing that residents of our most deprived neighborhoods are receiving more treatment-based services, some of which are exceedingly harmful. In contrast, our least deprived neighborhoods are having an increased number of wasteful tests done. While inappropriate screening carries less risk for harm, it provides avenues for even greater waste and stress on the health care system.

As deprivation increases, the frequency of unnecessary services and the money spent on waste drops. This raises important questions concerning why this disparity exists and whether implicit bias, decreased shared decision-making, patient behavior or other variables are influencing screening and treatment.

Waste Spending per member relative to ADI decile 1 in 2022

The most glaring example comes with the treatment of opiates for acute low-back pain. An individual living in the highest decile (facing the most deprivation) is 4.5 times more likely than an individual in the lowest decile (facing the least deprivation) to receive prescription opiates for back pain, our analysis shows. While studies show that opioids are not an effective course of treatment for acute low back pain, the medication's potential for harm of addiction is well known. This potentially may involve implicit bias on the part of the prescriber.

In other areas there appears to be no impact from where the patient lives. Particularly, the measures related to pre-operative testing such as labs, imaging ECGs and/or pulmonary function testing. Waste appears consistent across groups and therefore may be protocol driven versus any active provider decision making. The positive is that those same protocols can and should be modified to reduce wasteful services as well.

In the face of crucial questions of why such clear disparities exist, highlighting these harmful trends helps inform our path forward. We know our health system must reduce waste in all categories to improve affordability, quality, and equity of care. With a sharp focus on these disparities in screenings and treatments, **we can ensure that we limit the harm done to those residents who are currently on the margins of our health care system.**
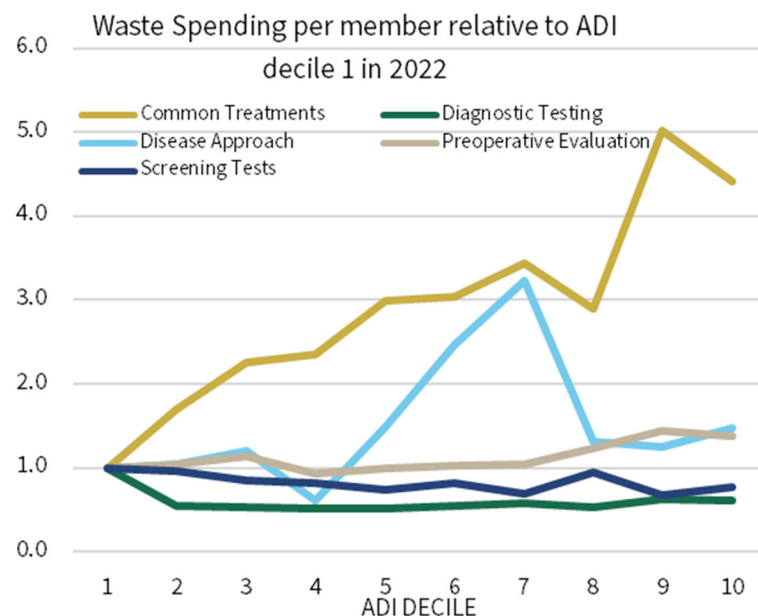
Aggregated Area Deprivation Index Results for 2022:

Below is a review of health care waste across Area Deprivation Index deciles. Decile 1 has the lowest deprivation, while Decile 10 has the highest deprivation. The table is broken into measures that rise with deprivation, those that fall with deprivation and those where it remains relatively stable across deciles.

ADI decile:	Unknown	1	2	3	4	5	6	7	8	9	10
Rising with ADI:											
Total PMPM:	$534	**$506**	$497	$497	$488	$500	$493	$506	$517	$524	**$514**
Declining with ADI:											
Percent of Total Members with 1+ Wasteful Services:	7.3%	**10.5%**	9.6%	9.1%	8.9%	8.6%	8.6%	8.2%	8.1%	8.0%	**7.7%**
Waste Services per 1,000	156.7	**165.2**	156.5	149.7	148.8	144.5	150.1	143.2	144.4	145.3	**142.7**
Waste Index	38.6%	**39.4%**	39.1%	38.1%	37.9%	36.3%	36.4%	34.9%	35.1%	35.5%	**35.5%**
Total Waste Dollars (millions)	$16.1	**$3.2**	$2.7	$2.7	$2.3	$2.3	$2.6	$2.5	$2.1	$1.6	**$1.1**
Flat:											
Total Waste Dollars PMPM	$2.00	**$1.91**	$1.65	$1.56	$1.40	$1.47	$1.78	$1.81	$1.70	$1.49	**$1.62**
Percent of Waste Dollars relative to Total Dollars	0.37%	**0.38%**	0.33%	0.31%	0.29%	0.29%	0.36%	0.36%	0.33%	0.28%	**0.31%**

Change Across Area Deprivation Index for 2022:

Below is a table showing the results of specific health waste measures per 1,000 members across deciles. It includes a column that shows the percentage in which the variation is explained by the Area Deprivation Index decile. It does not include all measures but provides many measures in which there was sufficient data to report all 10 deciles.

Waste Services per 1,000	1	2	3	4	5	6	7	8	9	10	Change in waste services as ADI rises:	Percent of variation explained by ADI decile:
ALL MEASURES	165.2	156.5	149.7	148.8	144.5	150.1	143.2	144.4	145.3	142.7	LESS	68.3%
Common Treatments (5 measures)	11.5	15.7	17.5	19.0	20.0	22.3	24.5	25.8	27.6	30.5	MORE	98.5%
Opiates in acute disabling low back pain	4.1	6.3	7.4	8.4	9.7	11.2	13.3	14.1	16.2	18.2	MORE	99.1%
Antibiotics for Acute Upper Respiratory and Ear Infections	7.1	8.8	9.3	10.0	9.7	10.5	10.7	10.9	11.0	12.0	MORE	87.8%
Diagnostic Testing (19 measures)	19.0	18.7	19.4	20.3	21.7	22.7	22.9	24.0	24.3	23.2	MORE	88.9%
Imaging tests for eye disease	12.6	12.4	12.5	13.3	15.4	15.4	16.3	17.4	17.7	16.2	MORE	84.6%
Disease Approach (11 measures)	4.0	3.6	4.7	5.2	4.7	6.8	5.7	6.2	6.9	8.0	MORE	85.0%
Preoperative Evaluation (4 measures)	21.2	20.6	20.4	20.4	21.0	21.9	20.5	21.0	21.0	20.3	about the same	0.3%
Preoperative EKG, Chest X ray and PFT	1.4	1.4	1.4	1.4	1.3	1.7	1.7	1.8	1.8	2.1	about the same	76.7%
Preoperative Baseline Laboratory Studies	19.8	19.1	18.9	18.9	19.6	20.1	18.7	19.2	19.2	18.1	about the same	17.9%
Screening Tests (8 measures)	109.5	97.9	87.7	83.8	77.0	76.4	69.7	67.4	65.4	60.8	LESS	93.3%
Routine general health checks	7.4	7.0	6.0	5.5	4.9	5.3	4.6	4.4	3.9	3.0	LESS	94.3%
25-OH-Vitamin D deficiency	13.9	12.9	12.2	11.4	10.0	10.6	9.5	9.1	9.3	7.9	LESS	93.9%
PSA	23.0	20.2	18.9	18.6	17.7	17.6	15.4	15.3	15.1	14.0	LESS	93.3%
Annual Resting EKGs	52.0	46.0	39.9	37.4	34.4	33.7	30.4	28.9	28.6	27.7	LESS	90.1%
Cervical Cancer Screening in Women	10.4	9.2	8.1	8.2	7.5	6.8	7.1	7.0	6.5	6.2	LESS	86.5%
Colorectal Cancer Screening in Adults 50 Years and Older	2.3	2.1	2.0	2.3	2.1	2.0	2.4	2.3	1.7	1.6	about the same	25.8%

Important Questions and Areas for Future Research

As we mention in this report, the Health Waste Calculator is the "tip of the iceberg" when it comes to the money spent on unnecessary medical services. Similarly, it offers a glimpse into inequities and other trends in care that could prove to be even greater areas of concern.

With further research and investigation, some of what is highlighted in this report could lead to significant areas of improvement within our health care system to ensure equitable high-quality care that is accessible and affordable.

Questions raised:

- What is the root cause for lower waste spending for individuals living in less privileged areas?
- Regarding inappropriate prescribing of opiates for low-back pain for people living in more deprived areas, does their occupation and need to return to work influence the doctor's prescribing pattern?
- Does shared decision-making occur more or less often by neighborhood?
- Does implicit bias determine whether a doctor will engage the patient in shared decision-making?
- Does shared decision-making result in more or less waste?
- What factors influence a patient's decision when they are given a choice to receive a wasteful service or screening?

Appendices

Appendix A: About the MedInsight Heath Waste Calculator™

The Milliman MedInsight Health Waste Calculator is a standalone software tool designed to analyze insurance claims data to identify and quantify overused low-value health care services as defined by national initiatives such as the Choosing Wisely® campaign and the U.S. Preventive Services Task Force. For more information: http://www.medinsight.milliman.com/MedInsight/Products/Medinsight-Tools/?prid=71832.

The Calculator, Version 7.1, was used for this analysis. The Health Waste Calculator includes 48 measures of common treatments, tests, and procedures known by the medical community to be overused. The following is a list of the measures included in the Calculator at the time that this report was completed. All measures are tied directly to one or more Choosing Wisely® recommendations. The list is organized by distinct types of care and the measures are not listed in any priority order.

Common Treatments

1. Antibiotics for Acute Upper Respiratory and Ear Infections
2. Antibiotics for adenoviral conjunctivitis
3. Cough and cold medicines in children<4 years
4. Opiates in acute disabling low back pain
5. Oral antibiotics for uncomplicated acute TTO

Diagnostic Testing

6. Bleeding Time Testing
7. Cardiac Stress Testing
8. Coronary artery calcium scoring for known CAD
9. CT head/brain for sudden hearing loss.
10. Diagnostics chronic urticaria
11. ED CT Scans For Dizziness
12. Electroencephalography (EEG) for headaches.
13. Headache Image
14. Imaging for uncomplicated acute rhinosinusitis
15. Imaging of the carotid arteries for simple syncope
16. Imaging tests for eye disease
17. Immunoglobulin G / immunoglobulin E testing
18. Lower back pain image
19. Pediatric Head Computed Tomography Scans
20. Postcoital Test for Infertility
21. Repeat CT for kidney stones
22. Sperm Function Testing
23. Syncope Image
24. Voiding Cystourethrogram for Urinary Tract Infection

Disease Approach

25. Two or more antipsychotic medications

26. Antidepressants Monotherapy in Bipolar Disorder
27. Arthroscopic Lavage and Debridement for Knee OA
28. CT Scans for Abdominal Pain in Children
29. Inductions of labor or Cesarean deliveries
30. Multiple Palliative Radiation Treatments in Bone Metastases
31. NSAIDs for hypertension, heart failure or CKD
32. PICC stage III–V CKD
33. Renal Artery Revascularization
34. Vertebroplasty
35. Vision therapy for patients with dyslexia

Preoperative evaluation

36. PFT prior to cardiac surgery
37. Preop Cardiac Echocardiography or Stress Testing
38. Preoperative Baseline Laboratory Studies
39. Preoperative EKG, Chest X ray and PFT

Routine FU/Monitoring

40. MRI for Rheumatoid Arthritis

Screening Tests

41. 25-OH-Vitamin D deficiency
42. Annual Resting EKGs
43. Cervical Cancer Screening in Women
44. Colorectal Cancer Screening in Adults 50 Years and Older
45. Coronary angiography
46. Dexa
47. PSA
48. Routine general health checks

Appendix B: Area Deprivation Index

The Neighborhood Atlas is based on a measure created by the Health Resources & Services Administration over two decades ago for primarily county-level use. It was refined, adapted, and validated to the census-block group/neighborhood level by Amy Kind, MD, PhD., and her research team at the University of Wisconsin School of Medicine and Public Health called the Area Deprivation Index (ADI). It allows for rankings (groupings) of neighborhoods by socioeconomic disadvantage in a region of interest, e.g., statewide, based on factors including income, education, employment, and housing quality. The Washington Health Alliance uses it to rank socioeconomic advantage and disadvantage within the state of Washington. For more on the Neighborhood Atlas, visit the University of Wisconsin School of Medicine and Public Health's Center for Health Disparities Research.

ADI determines advantage based on the following 17 census-based measures:

• Percent of population aged >=25 years with <9 years of education	• Percent of civilian labor force population >=16 years of age unemployed
• Percent of population aged >=25 years with less than a high school diploma	• Percent of families below the poverty level
• Percent of employed persons >=16 years of age in white-collar occupations	• Percent of population below 150% of the poverty threshold
• Median family income	• Percent of single-parent households with children <18 years of ag
• Income disparity	• Percent of households without a motor vehicle
• Median home value	• Percent of households without a telephone
• Median gross rent	• Percent of occupied housing units without complete plumbing
• Median monthly mortgage	• Percent of households with more than one person per room
• Percent owner-occupied housing units	

For a visual representation of Area Deprivation Index, with deciles by census block, please visit:
https://www.neighborhoodatlas.medicine.wisc.edu/mapping

ABOUT THE WASHINGTON HEALTH ALLIANCE

The Washington Health Alliance is a purchaser-led multistakeholder organization that shares the most reliable data on health care quality and value in the state to help employers, union trusts, health plans and health care providers drive market change to improve equitable quality and cost of care.

Learn more about the Alliance at: www.wahealthalliance.org.
For the Community Checkup reports visit: www.wacommunitycheckup.org.

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