

Advancing Racial Equity in U.S. Health Care

The Commonwealth Fund
2024 State Health Disparities Report

APPENDICES

The following appendices are part of a Commonwealth Fund report, David C. Radley et al., *Advancing Racial Equity in U.S. Health Care: The Commonwealth Fund 2024 State Health Disparities Report* (Commonwealth Fund, Apr. 2024).

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REPORT METHODS

The methods for this report build on the Commonwealth Fund's annual *Scorecard on State Health System Performance* series.¹ They were developed in 2021 with feedback and review from an external advisory group that included Cara James (Grantmakers In Health); Zinzi Bailey (University of Miami Miller School of Medicine); Dolores Acevedo-Garcia (Brandeis University); and Marc Elliott (RAND Corporation). We are extremely grateful to this group for their feedback and recommendations, as well as their prior work around equity measurement which helped guide the methods for this analysis.² All final decisions around the methods and data indicators used were made by the Commonwealth Fund.

The report evaluates state health system performance for five different racial and ethnic populations across 25 different data indicators, grouped into three dimensions:

- **Health Outcomes (9 indicators):** includes measures of treatable and preventable death, health status, and health risk behaviors.
- **Health Care Access (5 indicators):** includes rates of insurance coverage for children and adults, as well as individuals' out-of-pocket expenses for medical care and cost-related barriers to receiving care.
- **Quality and Use of Health Care Services (11 indicators):** includes measures of receipt of preventive care, indicators of hospital and emergency department use that might be reduced with timely and effective care and follow-up care, and estimates of primary care spending as a share of total Medicare spending.

Populations included in the state-level analysis are Black (non-Hispanic); white (non-Hispanic); Hispanic (any race); Asian American, Native Hawaiian, or Pacific Islander (AANHPI; non-Hispanic); and American Indian and Alaska Native (AIAN; non-Hispanic).

1. David C. Radley et al., *2023 Scorecard on State Health System Performance* (Commonwealth Fund, June 2023).

2. Including: Dolores Acevedo-Garcia et al., "Racial and Ethnic Inequities in Children's Neighborhoods: Evidence from the New Child Opportunity Index 2.0," *Health Affairs* 39, no. 10 (Oct. 2020): 1693–701; Denis Agniel et al., "Incentivizing Excellent Care to At-Risk Groups with a Health Equity Summary Score," *Journal of General Internal Medicine* 36, no. 7 (July 2021): 1847–57; and Cara V. James et al., *Putting Women's Health Care Disparities on the Map: Examining Racial and Ethnic Disparities at the State Level* (KFF, June 2009).

GUIDING PRINCIPLES

Performance metrics: Almost all metrics used in the report are also used in the Commonwealth Fund's 2023 *Scorecard on State Health System Performance*. The 25 measures selected represent important dimensions and measurable aspects of health care system performance, and the indicators can be stratified by race and ethnicity within each state (see [Appendix A1](#) and [Appendix A2](#) for a full list of indicators and the available race and ethnicity populations within each data source).

Data sources: Indicators draw from publicly available data sources, including government-sponsored surveys, publicly reported quality indicators, vital statistics, mortality data, and administrative databases. The most current data available are used in this report whenever possible. To increase the number of data points for different racial and ethnic populations within states, we aggregate data across the two most recent years for 18 of the 25 indicators (e.g., 2021–22). [Appendix A1](#) identifies the data source and time frame used for each indicator used in this report.

Data inclusion: Data used in this report come from numerous sources, each with their own guidance for suppressing estimates based on sample size. For example, guidance from the CDC for deriving estimates from the Behavioral Risk Factor Surveillance System (BRFSS) advises that subpopulation estimates be suppressed when the relative standard error (standard error divided by the estimate) is less than 30 percent; the CDC also advises that rates derived from the restricted-use detailed mortality files used for our preventable mortality measure are suppressed when there are fewer than 10 underlying deaths. In all instances, we follow each data source's suppression guidance, and in some cases use even stricter suppression criteria (e.g., we suppress preventable mortality rates if there are fewer than 20 deaths) to ensure the stability of our estimates.

To further ensure data stability, we do not include any estimates for a state population group in our scoring calculations if they: a) do not make up at least 2 percent of the state's total population, and b) there are less than 40,000 total estimated people from that group in the state.

Scoring methods: For each of the 25 data indicators, we gather all available point estimates for the different racial and ethnic populations in each state and calculate a standardized z-score for each state/population group (e.g., all Texas residents who identify as Hispanic). To illustrate, for adult uninsured rates we have point estimates available for 211 state/population groups (51 white, 48 Hispanic, 41 Black, 40 AANHPI, and 31 AIAN). For each state/population group, we calculate the

z-score by subtracting the average uninsured rate across all 211 groups from the uninsured rate for the specific state/population group, and then divide by the standard deviation of all observed group rates. This approach is similar to the methods used in our annual *State Scorecard*, but it is applied to each population group within each state rather than the full state population.

The standardized z-scores for each state/population group are averaged across all indicators within the performance dimension (Outcomes, Access, Quality/Use), and dimension scores are then averaged into an overall health system performance score for that particular group. A state/population group does not receive a dimension score (or scores for individual indicators within a dimension) if it is missing data for more than 50 percent of the indicators within that dimension. A state/population group that is missing a dimension score does not receive a final overall health system performance score.

Finally, we take the overall composite z-scores for each state/population group and assign a 1–100 percentile score (we also assign percentile scores for each of the three dimensions). The percentile scoring reflects the observed distribution of health system performance for all the groups measured in this report. It enables users to make comparisons both *across* states (e.g., the health system performance for Black individuals in Massachusetts compared to Black individuals in Georgia) and *within* states (e.g., the gap in health system performance for Black and white individuals in Michigan).

It is important to note that because the scores are set relative to one another rather than to a predefined benchmark, groups at or near the 100th percentile still have room for improvement.

Data limitations: Not all data sources support state-level estimates for all racial and ethnic groups featured in this report. For example, the Medicare LDS, used to create several utilization indicators, can only reliably support estimates for Black and white race, but not ethnicity.

For some populations (particularly AIAN, AANHPI, and Black), several states have insufficient data to produce an overall health system performance score or point estimates for many of the individual indicators. However, we do publish all point estimates meeting data source suppression criteria within the individual state profiles.

Additionally, the five racial and ethnic data categories used for this report often group together populations with different experiences, cultures, immigration barriers, and other socioeconomic factors. These include a wide range of culturally distinct Hispanic communities as well as Asian American communities across the country. Such groupings are imperfect and can mask significant and important differences. For example, past research has shown variability in health insurance coverage rates among Asian American subpopulations and between Asian Americans and Native Hawaiians or Pacific Islanders.³ While use of these categories is necessary to obtain sufficient data sample sizes, states and localities should interpret the findings within the context of their own communities, using them as a starting point to help guide more targeted research and policy solutions.

3. Munira Z. Gunja et al., *Gap Closed: The Affordable Care Act's Impact on Asian Americans' Health Coverage* (Commonwealth Fund, July 2020).

APPENDIX A1. State Equity Report Data Years and Databases

Indicator	Data years	Database
Health Outcomes		
1 Deaths before age 75 from health care–treatable causes per 100,000 population	2020–21	CDC National Vital Statistics System (NVSS): Restricted Use Mortality Microdata
2 Deaths before age 75 from preventable causes per 100,000 population	2020–21	CDC National Vital Statistics System (NVSS): Restricted Use Mortality Microdata
3 Infant mortality, deaths per 1,000 live births	2020–21	CDC National Vital Statistics System (NVSS): WONDER
4 Breast cancer deaths per 100,000 female population	2020–21	CDC National Vital Statistics System (NVSS): WONDER
5 Colorectal cancer deaths per 100,000 population	2020–21	CDC National Vital Statistics System (NVSS): WONDER
6 30-day hospital readmissions, Medicare beneficiaries age 65 and older, per 1,000 beneficiaries	2021	CMS Limited Data Set (LDS)
7 Adults age 18 and older who smoke	2021–22	Behavioral Risk Factor Surveillance System (BRFSS)
8 Adults ages 18–64 who are obese (BMI >= 30)	2021–22	Behavioral Risk Factor Surveillance System (BRFSS)
9 Adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease	2020–22	Behavioral Risk Factor Surveillance System (BRFSS)
Health Care Access		
10 Adults ages 19–64 uninsured	2022	American Community Survey, Public Use Microdata Sample (ACS PUMS)
11 Children ages 0–18 uninsured	2022	American Community Survey, Public Use Microdata Sample (ACS PUMS)
12 Adults age 18 and older who went without care because of cost in the past year	2021–22	Behavioral Risk Factor Surveillance System (BRFSS)
13 Individuals under age 65 with high out-of-pocket medical costs relative to their annual household income	2021–22	Current Population Survey Annual Social and Economic Supplement (CPS ASEC)
14 Adults age 18 and older with a usual source of care	2021–22	Behavioral Risk Factor Surveillance System (BRFSS)
Quality and Use of Health Care Services		
15 Hospital admissions for ambulatory care–sensitive conditions, Medicare beneficiaries age 65 and older, per 1,000 beneficiaries	2021	Chronic Conditions Data Warehouse (CCW), via CMS Geographic Variation Public Use File
16 Potentially avoidable emergency department visits, Medicare beneficiaries age 65 and older, per 1,000 beneficiaries	2021	CMS Limited Data Set (LDS)
17 Adult women ages 50–74 who received a mammogram in the past two years	2020–22	Behavioral Risk Factor Surveillance System (BRFSS)
18 Adult women ages 25–64 who received a cervical cancer screening test in the past three years	2020–22	Behavioral Risk Factor Surveillance System (BRFSS)
19 Adults ages 50–74 with a recent colon cancer screening test	2020–22	Behavioral Risk Factor Surveillance System (BRFSS)
20 Adults age 18 and older who received a flu shot in the past year	2021–22	Behavioral Risk Factor Surveillance System (BRFSS)
21 Adults age 65 and older who have ever gotten a pneumonia vaccine	2021–22	Behavioral Risk Factor Surveillance System (BRFSS)
22 Children with age-appropriate medical and dental preventive care visits in the past year	2021–22	National Survey of Children’s Health (NSCH)
23 Children ages 19–35 months who received all recommended doses of seven key vaccines	2021	National Immunization Survey (NIS)
24 Adults age 18 and older without a dental visit in the past year	2020–22	Behavioral Risk Factor Surveillance System (BRFSS)
25 Primary care spending as share of total health care spending among Medicare beneficiaries age 65 and older	2021	CMS Limited Data Set (LDS)

APPENDIX A2. National Rates, by Race and Ethnicity, for State Equity Report on Health System Performance Indicators

Indicator	Data year	U.S. rate	AIAN rate	AANHPI rate	Black rate	Hispanic rate	White rate
Health Outcomes							
1 Deaths before age 75 from health care–treatable causes per 100,000 population	2020–21	88.8	125.1	49.7	164.3	72.9	82.7
2 Deaths before age 75 from preventable causes per 100,000 population	2020–21	231.9	478.9	104.2	347.0	225.2	224.8
3 Infant mortality, deaths per 1,000 live births	2020–21	5.4	7.6	3.6	10.5	4.7	4.4
4 Breast cancer deaths per 100,000 female population	2020–21	19.4	14.2	11.7	26.5	13.4	19.6
5 Colorectal cancer deaths per 100,000 population	2020–21	13.4	13.1	9.3	17.2	10.7	13.3
6 30-day hospital readmissions, Medicare beneficiaries age 65 and older, per 1,000 beneficiaries	2021	33.1	–	–	44.1	–	26.3
7 Adults age 18 and older who smoke	2021–22	13%	25%	7%	15%	11%	14%
8 Adults ages 18–64 who are obese (BMI >= 30)	2021–22	34%	41%	14%	44%	37%	34%
9 Adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease	2020–22	9%	17%	3%	11%	6%	9%
Health Care Access							
10 Adults ages 19–64 uninsured	2022	11%	22%	7%	12%	23%	8%
11 Children ages 0–18 uninsured	2022	5%	12%	4%	4%	8%	4%
12 Adults age 18 and older who went without care because of cost in the past year	2021–22	11%	14%	8%	13%	19%	8%
13 Individuals under age 65 with high out-of-pocket medical costs relative to their annual household income	2021–22	10%	14%	9%	12%	13%	9%
14 Adults age 18 and older with a usual source of care	2021–22	82%	79%	82%	85%	67%	87%
Quality and Use of Health Care Services							
15 Hospital admissions for ambulatory care–sensitive conditions, Medicare beneficiaries age 65 and older, per 1,000 beneficiaries	2021	28.6	–	–	44.8	–	28.2
16 Potentially avoidable emergency department visits, Medicare beneficiaries age 65 and older, per 1,000 beneficiaries	2021	141.3	–	–	205.9	–	139.6
17 Adult women ages 50–74 who received a mammogram in the past two years	2020–22	77%	65%	74%	84%	77%	77%
18 Adult women ages 25–64 who received a cervical cancer screening test in the past three years	2020–22	82%	82%	87%	90%	87%	84%
19 Adults ages 50–74 with a recent colon cancer screening test	2020–22	60%	53%	50%	65%	50%	68%
20 Adults age 18 and older who received a flu shot in the past year	2021–22	45%	39%	50%	38%	34%	50%
21 Adults age 65 and older who have ever gotten a pneumonia vaccine	2021–22	70%	63%	62%	62%	55%	73%
22 Children with age-appropriate medical and dental preventive care visits in the past year	2021–22	64%	–	–	61%	59%	69%
23 Children ages 19–35 months who received all recommended doses of seven key vaccines	2021	72%	–	–	65%	71%	74%
24 Adults age 18 and older without a dental visit in the past year	2020–22	36%	45%	34%	41%	44%	32%
25 Primary care spending as share of total health care spending among Medicare beneficiaries age 65 and older	2021	5%	–	–	5%	–	5%

Notes: – = stratification by race or ethnicity is not available. AIAN = American Indian and Alaska Native. AANHPI = Asian American, Native Hawaiian, and Pacific Islander.

APPENDIX B1a. Summary of State Health System Performance Rankings and Scores for American Indian and Alaska Native (AIAN) Populations

State	Overall		Outcomes		Access		Quality and Use	
	Percentile score (1-100)	Rank among AIAN populations	Percentile score (1-100)	Rank among AIAN populations	Percentile score (1-100)	Rank among AIAN populations	Percentile score (1-100)	Rank among AIAN populations
Alabama	—	—	—	—	—	—	—	—
Alaska	2	8	3	7	24	6	10	7
Arizona	4	6	24	2	11	9	7	9
Arkansas	—	—	—	—	—	—	—	—
California	17	3	26	1	46	1	2	11
Colorado	—	—	—	—	—	—	—	—
Connecticut	—	—	—	—	—	—	—	—
Delaware	—	—	—	—	—	—	—	—
District of Columbia	—	—	—	—	—	—	—	—
Florida	—	—	—	—	—	—	—	—
Georgia	—	—	—	—	—	—	—	—
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	—	—	—	—	—	—	—	—
Indiana	—	—	—	—	—	—	—	—
Iowa	—	—	—	—	—	—	—	—
Kansas	—	—	—	—	—	—	—	—
Kentucky	—	—	—	—	—	—	—	—
Louisiana	—	—	—	—	—	—	—	—
Maine	—	—	—	—	—	—	—	—
Maryland	—	—	—	—	—	—	—	—
Massachusetts	—	—	—	—	—	—	—	—
Michigan	—	—	—	—	—	—	—	—
Minnesota	—	—	—	—	—	—	—	—
Mississippi	—	—	—	—	—	—	—	—
Missouri	—	—	—	—	—	—	—	—
Montana	3	7	2	8	26	4	18	6
Nebraska	—	—	—	—	—	—	—	—
Nevada	—	—	—	—	—	—	—	—
New Hampshire	—	—	—	—	—	—	—	—
New Jersey	—	—	—	—	—	—	—	—
New Mexico	22	2	21	3	18	8	58	2
New York	—	—	—	—	—	—	—	—
North Carolina	28	1	8	6	44	2	60	1
North Dakota	2	9	2	9	8	10	28	4
Ohio	—	—	—	—	—	—	—	—
Oklahoma	11	4	8	5	25	5	44	3
Oregon	—	—	—	—	—	—	—	—
Pennsylvania	—	—	—	—	—	—	—	—
Rhode Island	—	—	—	—	—	—	—	—
South Carolina	—	—	—	—	—	—	—	—
South Dakota	1	10	1	10	8	10	3	10
Tennessee	—	—	—	—	—	—	—	—
Texas	—	—	—	—	20	7	27	5
Utah	—	—	—	—	—	—	—	—
Vermont	—	—	—	—	—	—	—	—
Virginia	—	—	—	—	—	—	—	—
Washington	8	5	9	4	33	3	9	8
West Virginia	—	—	—	—	—	—	—	—
Wisconsin	—	—	—	—	—	—	—	—
Wyoming	—	—	—	—	—	—	—	—

Notes: — = insufficient data to produce an overall or dimension-specific score. In each state, groups missing at least one dimension score were not eligible for a group-specific overall performance score. “Percentile score” is the 1-100 percentile (higher values indicate better performance) that the state/population group falls in among the full distribution of all groups with available data. Refer to [Appendix C](#) for methodological detail. AIAN = American Indian and Alaska Native.

APPENDIX B1b. Summary of State Health System Performance Rankings and Scores for Asian American, Native Hawaiian, and Pacific Islander (AANHPI) Populations

State	Overall		Outcomes		Access		Quality and Use	
	Percentile score (1-100)	Rank among AANHPI populations	Percentile score (1-100)	Rank among AANHPI populations	Percentile score (1-100)	Rank among AANHPI populations	Percentile score (1-100)	Rank among AANHPI populations
Alabama	—	—	—	—	12	34	43	27
Alaska	35	31	55	32	18	32	27	33
Arizona	66	20	87	23	41	24	43	27
Arkansas	37	30	41	33	12	33	75	13
California	89	10	92	15	84	6	59	19
Colorado	80	14	91	17	70	12	52	21
Connecticut	78	16	98	4	61	14	46	24
Delaware	—	—	—	—	38	26	55	20
District of Columbia	—	—	—	—	—	—	89	7
Florida	70	19	89	21	52	19	45	26
Georgia	55	26	94	11	47	22	5	41
Hawaii	95	5	83	25	90	4	95	3
Idaho	—	—	—	—	—	—	—	—
Illinois	92	9	96	7	74	11	77	12
Indiana	61	22	95	10	29	29	33	30
Iowa	80	14	88	22	69	13	64	16
Kansas	60	23	90	18	37	27	23	35
Kentucky	—	—	—	—	—	—	22	37
Louisiana	—	—	—	—	43	23	33	30
Maine	—	—	—	—	—	—	—	—
Maryland	97	2	95	9	91	3	81	10
Massachusetts	99	1	100	1	97	1	84	8
Michigan	84	12	91	16	53	18	78	11
Minnesota	57	24	80	28	48	21	23	36
Mississippi	—	—	—	—	—	—	—	—
Missouri	65	21	87	23	39	25	50	23
Montana	—	—	—	—	—	—	—	—
Nebraska	—	—	—	—	—	—	98	2
Nevada	56	25	70	31	57	16	19	40
New Hampshire	—	—	—	—	—	—	94	4
New Jersey	97	2	99	2	91	2	71	14
New Mexico	—	—	—	—	—	—	—	—
New York	84	12	96	7	81	8	38	29
North Carolina	71	18	97	5	51	20	20	38
North Dakota	—	—	—	—	—	—	—	—
Ohio	93	7	97	5	59	15	93	5
Oklahoma	44	29	72	30	21	31	46	25
Oregon	88	11	90	19	82	7	64	16
Pennsylvania	96	4	93	12	78	9	91	6
Rhode Island	—	—	89	20	—	—	99	1
South Carolina	—	—	—	—	—	—	27	33
South Dakota	—	—	—	—	—	—	—	—
Tennessee	47	28	81	27	28	30	20	38
Texas	74	17	92	14	57	16	31	32
Utah	54	27	74	29	30	28	52	21
Vermont	—	—	—	—	—	—	—	—
Virginia	94	6	99	3	77	10	81	9
Washington	93	7	93	13	89	5	68	15
West Virginia	—	—	—	—	—	—	—	—
Wisconsin	—	—	83	26	—	—	60	18
Wyoming	—	—	—	—	—	—	—	—

Notes: — = insufficient data to produce an overall or dimension-specific score. In each state, groups missing at least one dimension score were not eligible for a group-specific overall performance score. “Percentile score” is the 1-100 percentile (higher values indicate better performance) that the state/population group falls in among the full distribution of all groups with available data. Refer to [Appendix C](#) for methodological detail. AANHPI = Asian American, Native Hawaiian, and Pacific Islander.

APPENDIX B1c. Summary of State Health System Performance Rankings and Scores for Black Populations

State	Overall		Outcomes		Access		Quality and Use	
	Percentile score (1-100)	Rank among Black populations	Percentile score (1-100)	Rank among Black populations	Percentile score (1-100)	Rank among Black populations	Percentile score (1-100)	Rank among Black populations
Alabama	27	23	14	23	43	28	46	20
Alaska	—	—	35	3	—	—	16	37
Arizona	23	28	18	16	23	39	62	9
Arkansas	13	35	5	37	45	26	30	31
California	39	14	17	18	79	4	33	29
Colorado	38	15	23	11	59	18	31	30
Connecticut	52	5	21	12	68	11	66	6
Delaware	57	4	30	5	80	3	57	12
District of Columbia	49	8	12	26	79	4	68	5
Florida	23	27	20	14	31	35	44	21
Georgia	30	20	20	13	35	31	43	22
Hawaii	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—
Illinois	17	30	6	35	61	16	18	36
Indiana	14	34	12	27	57	20	9	40
Iowa	27	23	11	29	50	21	37	25
Kansas	17	30	11	28	31	36	48	18
Kentucky	32	18	6	34	67	12	53	15
Louisiana	31	19	10	31	63	14	36	27
Maine	—	—	—	—	—	—	—	—
Maryland	67	3	23	10	93	1	74	3
Massachusetts	69	2	37	2	86	2	62	9
Michigan	19	29	4	39	74	8	16	37
Minnesota	27	23	28	6	61	16	4	41
Mississippi	5	39	4	38	35	31	9	39
Missouri	11	37	7	33	32	33	27	33
Montana	—	—	—	—	—	—	—	—
Nebraska	49	9	26	8	45	25	71	4
Nevada	13	35	17	18	32	34	18	35
New Hampshire	—	—	—	—	—	—	—	—
New Jersey	36	16	18	17	76	6	21	34
New Mexico	—	—	—	—	—	—	—	—
New York	52	6	28	7	71	9	53	15
North Carolina	40	13	14	24	49	22	80	1
North Dakota	—	—	—	—	2	40	30	31
Ohio	29	21	9	32	62	15	37	25
Oklahoma	10	38	5	36	27	38	38	24
Oregon	47	11	26	9	49	22	61	11
Pennsylvania	42	12	13	25	75	7	56	13
Rhode Island	72	1	53	1	64	13	74	2
South Carolina	35	17	15	22	43	28	64	8
South Dakota	—	—	—	—	—	—	—	—
Tennessee	29	21	11	29	48	24	52	17
Texas	15	32	16	20	29	37	43	22
Utah	—	—	—	—	—	—	—	—
Vermont	—	—	—	—	—	—	—	—
Virginia	50	7	20	14	69	10	66	6
Washington	49	9	34	4	58	19	34	28
West Virginia	24	26	15	21	37	30	48	18
Wisconsin	14	33	3	40	44	27	55	14
Wyoming	—	—	—	—	—	—	—	—

Notes: — = insufficient data to produce an overall or dimension-specific score. In each state, groups missing at least one dimension score were not eligible for a group-specific overall performance score. “Percentile score” is the 1-100 percentile (higher values indicate better performance) that the state/population group falls in among the full distribution of all groups with available data. Refer to [Appendix C](#) for methodological detail.

APPENDIX B1d. Summary of State Health System Performance Rankings and Scores for Hispanic Populations

State	Overall		Outcomes		Access		Quality and Use	
	Percentile score (1-100)	Rank among Hispanic populations	Percentile score (1-100)	Rank among Hispanic populations	Percentile score (1-100)	Rank among Hispanic populations	Percentile score (1-100)	Rank among Hispanic populations
Alabama	8	41	52	35	6	40	8	42
Alaska	59	4	72	18	45	5	50	9
Arizona	18	35	48	38	13	31	12	38
Arkansas	7	43	72	18	4	43	2	49
California	45	12	67	25	37	9	14	33
Colorado	33	21	47	39	23	19	22	28
Connecticut	55	8	70	20	27	15	69	4
Delaware	32	23	81	7	10	35	31	22
District of Columbia	58	5	79	10	43	6	39	15
Florida	37	19	73	16	16	26	29	23
Georgia	7	42	84	5	3	45	4	47
Hawaii	74	2	70	20	81	1	53	8
Idaho	27	27	63	29	25	17	5	46
Illinois	42	15	76	13	25	16	27	25
Indiana	25	28	59	32	21	21	7	43
Iowa	42	16	70	20	30	13	16	31
Kansas	33	21	51	37	13	31	48	10
Kentucky	22	29	31	47	17	25	35	18
Louisiana	21	31	76	13	7	38	27	25
Maine	—	—	33	46	—	—	78	1
Maryland	20	32	83	6	2	47	43	13
Massachusetts	75	1	84	4	57	2	72	2
Michigan	45	12	40	42	40	7	35	18
Minnesota	31	24	70	20	15	29	14	34
Mississippi	6	45	29	48	5	42	29	23
Missouri	35	20	51	36	16	26	39	16
Montana	22	29	33	45	28	14	13	36
Nebraska	19	34	65	28	11	33	11	39
Nevada	17	36	63	29	10	34	12	37
New Hampshire	69	3	70	20	52	3	68	5
New Jersey	38	18	78	11	19	23	21	29
New Mexico	42	16	37	43	38	8	34	20
New York	54	9	73	16	34	11	39	16
North Carolina	13	37	86	2	3	45	16	31
North Dakota	12	38	28	49	33	12	3	48
Ohio	28	26	65	27	15	28	10	41
Oklahoma	4	46	46	41	6	40	1	50
Oregon	50	10	85	3	20	22	48	10
Pennsylvania	55	7	52	34	36	10	64	6
Rhode Island	57	6	66	26	46	4	45	12
South Carolina	3	47	78	11	1	48	7	43
South Dakota	—	—	—	—	22	20	54	7
Tennessee	9	40	63	29	7	38	6	45
Texas	6	44	47	39	4	44	11	39
Utah	19	33	74	15	9	36	17	30
Vermont	—	—	80	8	—	—	72	3
Virginia	44	14	87	1	14	30	40	14
Washington	47	11	79	9	24	18	33	21
West Virginia	—	—	—	—	—	—	—	—
Wisconsin	30	25	56	33	18	24	14	34
Wyoming	10	39	35	44	9	37	24	27

Notes: — = insufficient data to produce an overall or dimension-specific score. In each state, groups missing at least one dimension score were not eligible for a group-specific overall performance score. “Percentile score” is the 1-100 percentile (higher values indicate better performance) that the state/population group falls in among the full distribution of all groups with available data. Refer to [Appendix C](#) for methodological detail.

APPENDIX B1e. Summary of State Health System Performance Rankings and Scores for White Populations

State	Overall		Outcomes		Access		Quality and Use	
	Percentile score (1-100)	Rank among white populations	Percentile score (1-100)	Rank among white populations	Percentile score (1-100)	Rank among white populations	Percentile score (1-100)	Rank among white populations
Alabama	61	43	33	43	66	38	74	36
Alaska	65	37	64	8	50	50	57	47
Arizona	73	31	50	23	69	36	76	34
Arkansas	47	48	22	50	61	44	57	46
California	87	14	67	7	92	14	83	27
Colorado	92	7	77	4	84	23	96	7
Connecticut	98	4	76	5	98	4	97	5
Delaware	85	17	45	28	96	7	90	15
District of Columbia	100	1	98	1	99	2	100	1
Florida	63	41	42	33	55	46	72	38
Georgia	67	36	40	36	55	45	82	29
Hawaii	94	6	86	2	93	12	85	23
Idaho	75	29	55	19	72	32	74	36
Illinois	82	21	48	26	88	18	84	25
Indiana	64	38	30	45	77	29	71	39
Iowa	87	14	49	24	95	10	92	11
Kansas	72	32	39	38	78	28	76	33
Kentucky	52	46	22	49	71	34	59	45
Louisiana	63	41	31	44	76	30	68	41
Maine	78	26	42	33	86	20	86	22
Maryland	96	5	56	18	98	5	97	4
Massachusetts	98	3	73	6	99	3	98	3
Michigan	76	27	38	39	89	17	86	21
Minnesota	90	10	64	8	96	8	89	17
Mississippi	37	51	24	48	55	46	24	51
Missouri	61	43	36	41	66	38	66	42
Montana	68	34	63	10	62	43	61	44
Nebraska	79	24	45	29	84	24	90	15
Nevada	64	38	36	40	66	37	69	40
New Hampshire	91	8	59	15	96	8	94	9
New Jersey	91	8	60	12	97	6	92	12
New Mexico	71	33	46	27	64	41	80	30
New York	89	11	59	15	95	10	87	20
North Carolina	82	21	44	30	72	33	96	6
North Dakota	84	18	60	12	88	18	84	25
Ohio	68	35	34	42	83	25	66	42
Oklahoma	47	49	28	47	53	48	55	48
Oregon	80	23	54	21	82	26	85	24
Pennsylvania	79	24	44	30	85	22	89	17
Rhode Island	99	2	63	10	100	1	99	2
South Carolina	74	30	40	36	66	38	91	13
South Dakota	76	27	55	20	79	27	82	28
Tennessee	59	45	29	46	63	42	78	32
Texas	64	38	43	32	52	49	75	35
Utah	88	12	79	3	74	31	93	10
Vermont	84	18	59	15	92	13	80	30
Virginia	87	14	49	24	89	16	95	8
Washington	87	13	60	12	90	15	91	14
West Virginia	40	50	17	51	70	35	49	50
Wisconsin	82	20	53	22	86	21	89	17
Wyoming	51	47	41	35	40	51	50	49

Notes: – = insufficient data to produce an overall or dimension-specific score. In each state, groups missing at least one dimension score were not eligible for a group-specific overall performance score. “Percentile score” is the 1-100 percentile (higher values indicate better performance) that the state/population group falls in among the full distribution of all groups with available data. Refer to [Appendix C](#) for methodological detail.

APPENDIX B2. Deaths Before Age 75 from Preventable and Treatable Causes, by Race and Ethnicity

State	Deaths before age 75 from preventable causes per 100,000 population					Deaths before age 75 from health care-treatable causes per 100,000 population				
	AANHPI	AIAN	Black	Hispanic	White	AANHPI	AIAN	Black	Hispanic	White
United States	104	479	347	225	225	50	125	164	73	83
Alabama	96	—	358	197	294	46	—	171	47	102
Alaska	194	603	233	133	207	78	147	123	49	68
Arizona	128	766	351	298	242	53	158	156	84	83
Arkansas	224	—	405	203	315	93	—	220	62	127
California	103	379	348	233	191	52	112	164	75	73
Colorado	116	—	330	276	186	49	—	141	79	61
Connecticut	78	—	290	202	174	35	—	123	65	60
Delaware	69	—	295	170	236	32	—	134	51	78
District of Columbia	78	—	523	199	78	57	—	194	49	35
Florida	105	—	316	172	267	48	—	153	60	84
Georgia	96	—	293	165	255	46	—	152	52	93
Hawaii	119	—	—	186	157	70	—	—	79	62
Idaho	—	—	—	181	202	—	—	—	55	70
Illinois	80	—	412	195	187	40	—	181	62	77
Indiana	106	—	405	213	262	46	—	173	64	96
Iowa	130	—	383	165	201	55	—	179	57	81
Kansas	114	—	407	230	226	58	—	191	75	88
Kentucky	104	—	402	173	328	58	—	171	57	119
Louisiana	143	—	425	184	293	65	—	192	62	101
Maine	—	—	—	101	215	—	—	—	—	70
Maryland	77	—	292	171	199	43	—	135	47	75
Massachusetts	76	—	222	183	165	34	—	100	61	58
Michigan	94	—	440	258	219	48	—	208	85	85
Minnesota	169	—	324	179	153	70	—	115	59	57
Mississippi	—	—	431	212	331	—	—	220	58	124
Missouri	111	—	458	193	253	45	—	187	61	96
Montana	—	878	—	226	212	—	209	—	68	72
Nebraska	109	—	329	189	181	40	—	145	59	75
Nevada	169	—	390	220	278	69	—	167	67	96
New Hampshire	57	—	—	112	179	30	—	—	46	66
New Jersey	88	—	323	199	168	39	—	158	60	68
New Mexico	—	768	—	334	258	—	137	—	96	86
New York	120	—	308	222	167	46	—	151	69	69
North Carolina	99	400	309	172	240	44	114	157	55	85
North Dakota	—	775	216	301	179	—	273	93	104	68
Ohio	88	—	395	212	257	40	—	176	67	93
Oklahoma	156	523	414	261	318	78	175	202	82	122
Oregon	99	—	328	164	206	45	—	141	54	69
Pennsylvania	97	—	385	217	208	43	—	167	75	79
Rhode Island	125	—	226	158	196	53	—	96	47	65
South Carolina	111	—	364	185	282	45	—	170	51	89
South Dakota	—	1,066	—	161	182	—	328	—	53	70
Tennessee	118	—	425	229	322	53	—	186	59	111
Texas	96	137	318	267	246	47	38	165	92	95
Utah	175	—	—	186	162	91	—	—	65	67
Vermont	—	—	—	124	186	—	—	—	—	66
Virginia	72	—	281	131	200	38	—	145	45	78
Washington	104	478	276	186	186	54	145	120	61	70
West Virginia	—	—	447	—	371	—	—	183	—	129
Wisconsin	150	—	461	221	182	65	—	200	62	67
Wyoming	—	—	—	295	255	—	—	—	80	83

Notes: — = stratification by race or ethnicity is not available. AANHPI = Asian American, Native Hawaiian, and Pacific Islander. AIAN = American Indian and Alaska Native. Number of deaths before age 75 per 100,000 population that resulted from causes that can be mainly avoided through timely and effective prevention and treatment. Methodology developed by the Organisation for Economic Co-operation and Development (OECD) and Eurostat, as published in *Avoidable Mortality: OECD/Eurostat Lists of Preventable and Treatable Causes of Death (January 2022 Version)*. Refer to [Appendix C](#) for methodological detail.

APPENDIX B3. Select Health Care Access Measures, by Race and Ethnicity

State	Adults ages 19–64 uninsured					Adults age 18 and older who went without care because of cost in the past year				
	AANHPI	AIAN	Black	Hispanic	White	AANHPI	AIAN	Black	Hispanic	White
United States	7%	22%	12%	23%	8%	8%	14%	13%	19%	8%
Alabama	12	—	17	37	10	—	—	15	23	11
Alaska	16	33	—	12	10	17	9	15	14	10
Arizona	6	25	14	23	9	11	10	11	17	9
Arkansas	15	—	10	31	9	21	—	14	24	11
California	5	14	7	15	5	7	9	9	15	6
Colorado	9	—	10	18	6	6	—	11	17	8
Connecticut	7	—	8	16	4	7	—	9	20	5
Delaware	4	—	9	24	5	—	—	7	21	6
District of Columbia	—	—	5	6	2	—	—	7	19	3
Florida	10	—	17	22	12	—	—	15	19	10
Georgia	11	—	16	41	13	10	—	17	25	12
Hawaii	4	—	—	9	5	5	—	—	8	5
Idaho	—	—	—	24	10	—	—	—	17	9
Illinois	9	—	10	22	6	9	—	12	19	8
Indiana	8	—	12	21	8	12	—	13	18	8
Iowa	4	—	9	15	5	7	—	13	18	5
Kansas	12	—	19	30	9	8	—	16	17	9
Kentucky	8	—	8	28	6	—	—	10	9	9
Louisiana	10	—	10	35	8	—	—	13	16	10
Maine	—	—	—	—	10	—	—	—	17	7
Maryland	6	—	7	33	4	5	—	9	27	5
Massachusetts	2	—	4	6	2	5	—	7	16	6
Michigan	5	—	8	15	6	—	—	9	16	7
Minnesota	7	—	9	23	4	7	—	12	17	6
Mississippi	—	—	18	38	13	—	—	17	22	11
Missouri	9	—	13	25	11	6	—	16	20	10
Montana	—	27	—	10	11	—	12	—	18	8
Nebraska	—	—	14	27	6	—	—	19	23	7
Nevada	11	—	16	26	9	12	—	16	20	10
New Hampshire	—	—	—	17	6	—	—	—	10	7
New Jersey	6	—	9	24	4	7	—	12	21	6
New Mexico	—	19	—	15	8	—	10	—	11	7
New York	7	—	7	14	4	9	—	9	18	5
North Carolina	10	20	14	39	10	—	9	13	20	10
North Dakota	—	32	45	—	6	—	13	23	18	6
Ohio	7	—	10	20	7	8	—	13	19	8
Oklahoma	13	28	18	35	13	17	12	20	26	12
Oregon	6	—	6	22	7	7	—	14	18	7
Pennsylvania	8	—	8	15	6	7	—	13	18	6
Rhode Island	9	—	13	12	3	—	—	10	17	5
South Carolina	9	—	15	36	11	—	—	15	27	10
South Dakota	—	40	—	23	8	—	15	—	14	6
Tennessee	12	—	14	43	11	—	—	13	19	11
Texas	11	18	19	35	13	11	—	17	23	10
Utah	13	—	—	27	7	10	—	—	22	9
Vermont	—	—	—	—	6	—	—	—	13	6
Virginia	7	—	9	27	6	7	—	9	19	7
Washington	6	19	11	23	6	6	11	12	19	7
West Virginia	—	—	13	—	9	—	—	8	—	10
Wisconsin	8	—	12	27	5	—	—	14	18	6
Wyoming	—	—	—	25	15	—	—	—	21	10

Notes: — = stratification by race or ethnicity is not available. AANHPI = Asian American, Native Hawaiian, and Pacific Islander. AIAN = American Indian and Alaska Native.

APPENDIX B3. Select Health Care Access Measures, by Race and Ethnicity (continued)

State	Adults age 18 and older without a usual source of care				
	AANHPI	AIAN	Black	Hispanic	White
United States	19%	21%	15%	33%	13%
Alabama	29	—	16	41	14
Alaska	34	22	17	26	23
Arizona	33	28	17	35	17
Arkansas	25	—	14	35	13
California	16	12	13	28	13
Colorado	19	—	16	32	15
Connecticut	13	—	14	30	8
Delaware	24	—	12	38	11
District of Columbia	22	—	13	23	13
Florida	22	—	18	31	15
Georgia	23	—	17	45	17
Hawaii	9	—	—	14	12
Idaho	—	—	—	26	15
Illinois	21	—	15	32	13
Indiana	34	—	18	37	12
Iowa	26	—	26	42	14
Kansas	25	—	17	25	13
Kentucky	19	—	15	28	12
Louisiana	24	—	13	30	13
Maine	—	—	—	14	8
Maryland	11	—	11	41	8
Massachusetts	14	—	10	23	6
Michigan	19	—	12	17	10
Minnesota	27	—	21	41	15
Mississippi	—	—	18	39	16
Missouri	23	—	19	31	15
Montana	—	22	—	26	19
Nebraska	19	—	16	43	12
Nevada	20	—	24	41	18
New Hampshire	10	—	—	16	9
New Jersey	14	—	12	33	10
New Mexico	—	38	—	29	20
New York	16	—	14	27	11
North Carolina	28	9	15	47	13
North Dakota	—	25	32	26	16
Ohio	25	—	16	29	13
Oklahoma	35	17	18	42	16
Oregon	23	—	21	35	16
Pennsylvania	21	—	9	21	10
Rhode Island	20	—	10	24	7
South Carolina	32	—	15	54	15
South Dakota	—	25	—	29	14
Tennessee	37	—	18	37	16
Texas	25	34	18	39	17
Utah	23	—	—	37	17
Vermont	—	—	—	15	10
Virginia	18	—	15	36	13
Washington	15	12	16	34	13
West Virginia	—	—	17	—	12
Wisconsin	34	—	14	31	12
Wyoming	—	—	—	33	24

Notes: — = stratification by race or ethnicity is not available. AANHPI = Asian American, Native Hawaiian, and Pacific Islander. AIAN = American Indian and Alaska Native.

APPENDIX C. Indicator Descriptions and Source Notes

ABBREVIATIONS

ACS PUMS = American Community Survey, Public Use Micro Sample

BRFSS = Behavioral Risk Factor Surveillance System

CDC = Centers for Disease Control and Prevention

CMS = Centers for Medicare and Medicaid Services

CPS ASEC = Current Population Survey, Annual Social and Economic Supplement

LDS = Limited Data Set

NCCDPHP = National Center for Chronic Disease Prevention and Health Promotion

NCHS = National Center for Health Statistics

NCIRD = National Center for Immunization and Respiratory Diseases

NIS-PUF = National Immunization Survey, Public Use Data File

NSCH = National Survey of Children's Health

NVSS-I = National Vital Statistics System—Linked Birth and Infant Death Data

NVSS-M = National Vital Statistics System—Mortality Data

WONDER = Wide-ranging ONline Data for Epidemiologic Research

DEFINITIONS FOR INDICATORS

Health Outcomes

1. Deaths before age 75 from health care–treatable causes per 100,000 population (age-adjusted): Number of deaths before age 75 per 100,000 population that resulted from causes that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment (i.e., after the onset of diseases, to reduce case-fatality). These include causes such as diabetes (50%); heart disease (50%); appendicitis; certain types of cancer; and maternal mortality. Based on the methods and categories developed by the Organisation for Economic Co-operation and Development (OECD) and Eurostat, as published in *Avoidable Mortality: OECD/Eurostat Lists of Preventable and Treatable Causes of Death (January 2022 Version)*; see link for full list of all causes contributing to the measure. Authors' analysis of mortality data from CDC restricted-use Multiple Cause-of-Death file (NCHS) and U.S. Census Bureau population data, 2018–2019 and 2020–2021.

2. Deaths before age 75 from preventable causes per 100,000 population (age-adjusted): Number of deaths before age 75 per 100,000 population that resulted from causes that can be mainly avoided through effective public health and primary prevention interventions (i.e., before the onset of diseases/injuries, to reduce incidence). These include deaths from COVID-19 as well as causes such as measles, HIV/AIDS, and other infectious diseases; certain preventable cancers; personal injuries; and alcohol- and drug-related mortality. Based on the methods and categories developed by the Organisation for Economic Co-operation and Development (OECD) and Eurostat, as published in *Avoidable Mortality: OECD/Eurostat Lists of Preventable and Treatable Causes of Death (January 2022 Version)*; see link for full list of all causes contributing to the measure. Authors' analysis of mortality data from CDC restricted-use Multiple Cause-of-Death file (NCHS) and U.S. Census Bureau population data, 2018–2019 and 2020–2021.

3. Infant mortality, deaths per 1,000 live births: Authors' analysis of NVSS-I, 2020–2021 (NCHS), retrieved using CDC WONDER.

4. Breast cancer age-adjusted deaths per 100,000 female population: Authors' analysis of NVSS–M, 2021 (NCHS), retrieved using CDC WONDER.

5. Colorectal cancer age-adjusted deaths per 100,000 population: Authors' analysis of NVSS–M, 2021(NCHS), retrieved using CDC WONDER.

6. 30-day hospital readmissions for adults age 65 and older, per 1,000 Medicare beneficiaries: All hospital admissions among fee-for-service Medicare beneficiaries age 65 and older who were readmitted within 30 days of an acute hospital stay for any cause. A correction was made to account for likely transfers between hospitals. Analysis of the 2021 LDS 5% sample of Medicare claims (CMS) by report authors with support from Caitlin Burbank, Center for Evidence-Based Policy at Oregon Health and Science University. Race data only available for Black and white populations; ethnicity is unknown.

7. Adults who smoke: Percent of adults age 18 and older who ever smoked 100 or more cigarettes (five packs) and currently smoke every day or some days. Authors' analysis of 2021–22 BRFSS (CDC, NCCDPHP).

APPENDIX C. Indicator Descriptions and Source Notes (continued)

8. Adults who are obese: Percent of adults ages 18–64 who are obese (Body Mass Index [BMI] ≥ 30). BMI was calculated based on reported height and weight. Authors' analysis of 2021–22 BRFSS (CDC, NCCDPHP).

9. Adults who have lost six or more teeth: Percent of adults ages 18–64 who have lost six or more teeth due to tooth decay, infection, or gum disease. Authors' analysis of 2020 and 2022 BRFSS (CDC, NCCDPHP).

Health Care Access

10. Adults ages 19–64 uninsured: Percent of adults ages 19–64 without health insurance coverage. Authors' analysis of 2022 1-year ACS PUMS (U.S. Census Bureau).

11. Children ages 0–18 uninsured: Percent of children ages 0–18 without health insurance coverage. Authors' analysis of 2022 1-year ACS PUMS (U.S. Census Bureau).

12. Adults who went without care because of cost in the past year: Percent of adults age 18 and older who reported a time in the past 12 months when they needed to see a doctor but could not because of cost. Authors' analysis of 2021–22 BRFSS (CDC, NCCDPHP).

13. Individuals with high out-of-pocket medical spending: Percent of individuals residing in households where all residents are under age 65 with out-of-pocket medical spending that equaled 10 percent or more of income, or five percent or more of income if low-income (under 200% of federal poverty level), not including over-the-counter drug costs or health insurance premiums. This measure is limited to individuals who are insured and is different from a similar measure reported in our *State Scorecard* that includes insured and uninsured individuals. Two years of data are combined to ensure adequate sample size for state-level estimation. Analysis of 2022 and 2023 CPS ASEC (U.S. Census Bureau) by Dong Ding, Robert F. Wagner Graduate School of Public Service, New York University.

14. Adults with a usual source of care: Percent of adults age 18 and older who had one (or more) person they think of as their personal health care provider. Authors' analysis of 2021–22 BRFSS (CDC, NCCDPHP).

Quality and Use of Health Care Services

15. Admissions for ambulatory care–sensitive conditions for adults age 65 and older, per 1,000 Medicare beneficiaries: Hospital admissions for one of the following eight ambulatory care–sensitive (ACS) conditions: long-term diabetes complications, lower extremity amputation among patients with diabetes, asthma or chronic

obstructive pulmonary disease, hypertension, congestive heart failure, dehydration, bacterial pneumonia, and urinary tract infection. Analysis of the 2021 LDS 5% sample of Medicare claims (CMS) by report authors with support from Caitlin Burbank, Center for Evidence-Based Policy at Oregon Health and Science University. Race data only available for Black and white populations; ethnicity is unknown.

16. Potentially avoidable emergency department (ED) visits for adults age 65 and older, per 1,000 Medicare beneficiaries: Potentially avoidable ED visits were those that, based on diagnoses recorded during the visit and the health care service the patient received, were considered to be either nonemergent (care was not needed within 12 hours), or emergent (care needed within 12 hours) but that could have been treated safely and effectively in a primary care setting. This definition excludes any ED visit that resulted in an admission, as well as ED visits where the level of care provided in the ED was clinically indicated. This approach uses the New York University Center for Health and Public Service Research emergency department algorithm developed by John Billings, Nina Parikh, and Tod Mijanovich (see: *Emergency Room Use — The New York Story*, Commonwealth Fund, Nov. 2000). Analysis of the 2021 LDS 5% sample of Medicare claims (CMS) by report authors with support from Caitlin Burbank, Center for Evidence-Based Policy at Oregon Health and Science University. Race data only available for Black and white populations; ethnicity is unknown.

17. Adult women who received a mammogram: Percent of women ages 50–74 who received a mammogram in the past two years. Authors' analysis of 2020 and 2022 BRFSS (CDC, NCCDPHP).

18. Adult women who received a cervical cancer screening test: Percent of women ages 25–64 who received a Pap test in the past three years. Authors' analysis of 2020 and 2022 BRFSS (CDC, NCCDPHP).

19. Adults who received a colon cancer screening test: Percent of adults ages 45–74 who received a sigmoidoscopy or a colonoscopy in the past 10 years or a fecal occult blood test in the past two years. Authors' analysis of 2020 and 2022 BRFSS (CDC, NCCDPHP).

20. Adults who received a recent flu vaccine: Percent of adults age 18 and older who received a flu shot in the past year. Authors' analysis of 2021–22 BRFSS (CDC, NCCDPHP).

21. Older adults who received the pneumonia vaccine: Percent of adults age 65 and older who ever received a pneumonia vaccine. Authors' analysis of 2021–22 BRFSS (CDC, NCCDPHP).

APPENDIX C. Indicator Descriptions and Source Notes (continued)

22. Children with a medical and dental preventive care visit in the past year: Percent of children ages 0–17 who had a preventive medical visit and, if ages 1–17, a preventive dental visit in the past year, according to parents' reports. For more information, see www.childhealthdata.org. Authors' analysis of 2021–22 NSCH (U.S. Census Bureau and Data Resource Center for Child and Adolescent Health). Race/ethnicity data available for this report for Black (non-Hispanic), white (non-Hispanic) and Hispanic (any race) populations.

23. Children ages 19–35 months who received all recommended vaccines: Percent of children ages 19–35 months who received at least 4 doses of diphtheria, tetanus, and acellular pertussis (DTaP/DT/DTP) vaccine; at least 3 doses of poliovirus vaccine; at least 1 dose of measles-containing vaccine (including mumps-rubella (MMR) vaccine); the full series of Haemophilus influenza type b (Hib) vaccine (3 or 4 doses depending on product type); at least 3 doses of hepatitis B vaccine (HepB); at least 1 dose of varicella vaccine; and at least 4 doses of pneumococcal conjugate vaccine (PCV). Data from the 2021 NIS-PUF (CDC, NCIRD). Race/ethnicity data available for this report for Black (non-Hispanic), white (non-Hispanic) and Hispanic (any race) populations.

24. Adults without a dental visit in past year: Percent of adults age 18 and older who did not visit a dentist or dental clinic within the past year. Authors' analysis of 2020 BRFSS (CDC, NCCDPHP).

25. Primary care as a share of total Medicare spending for adults age 65 and older, Medicare beneficiaries: Share of Medicare fee-for-service health care spending attributed to primary care for each population group within a state. We based our approach on the methods used by Reid, Damberg, and Friedberg (*JAMA* 2019) that characterize a “broad” definition for primary care provider types and a “broad” definition of included services. Under this “broad/broad” definition, we include all professional services billed by physicians, physician assistants, and nurse practitioners in family medicine, internal medicine, general practice, geriatric medicine, and obstetrics and gynecology; hospitalists are excluded. Analysis of the 2021 LDS 5% sample of Medicare claims (CMS) by report authors with support from Caitlin Burbank, Center for Evidence-Based Policy at Oregon Health and Science University. Race data only available for Black and white populations; ethnicity is unknown.

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