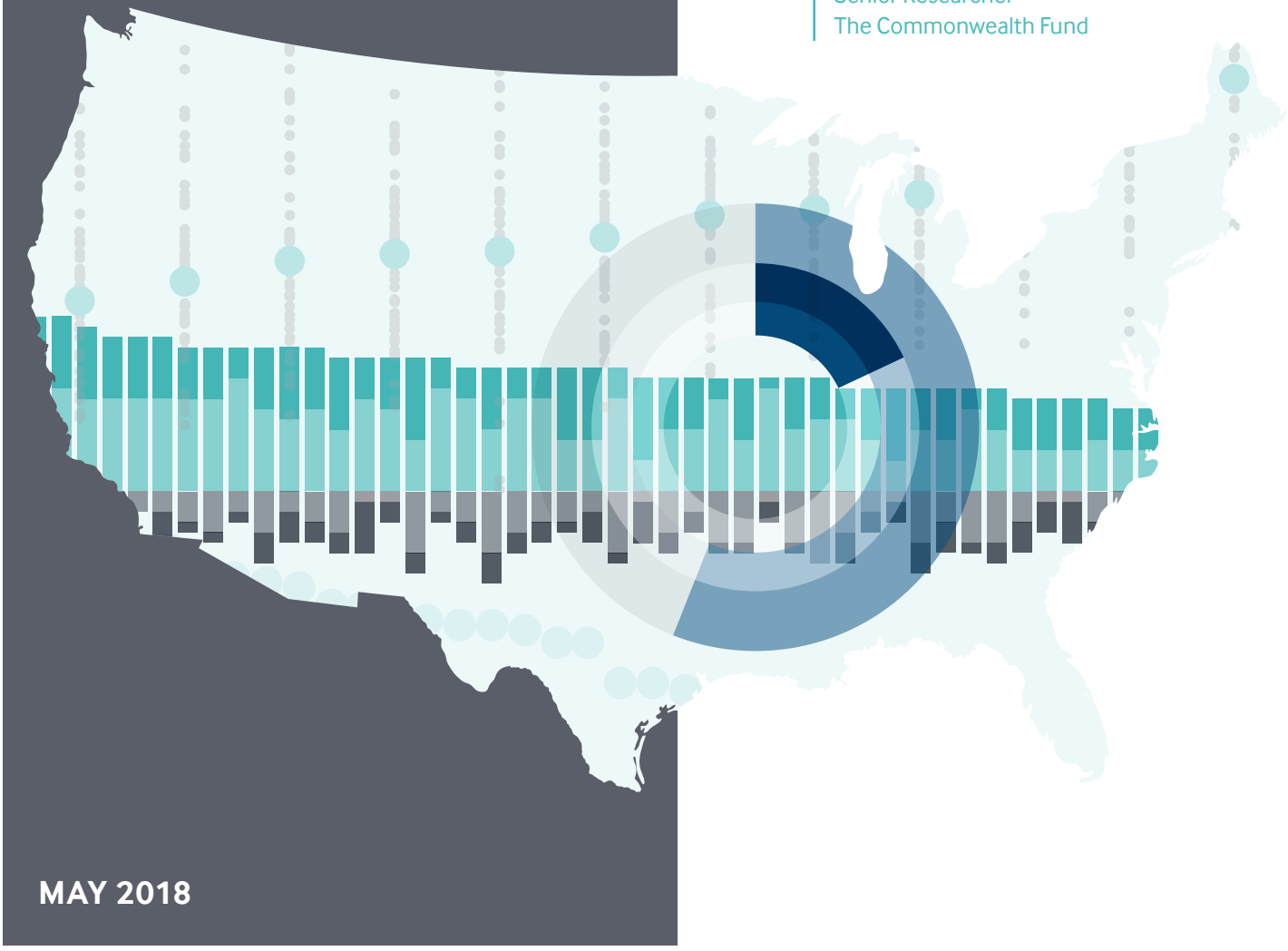
The Commonwealth Fund

# 2018 Scorecard on State Health System Performance

**David C. Radley**
Senior Scientist
The Commonwealth Fund

**Douglas McCarthy**
Senior Research Director
The Commonwealth Fund

**Susan L. Hayes**
Senior Researcher
The Commonwealth Fund



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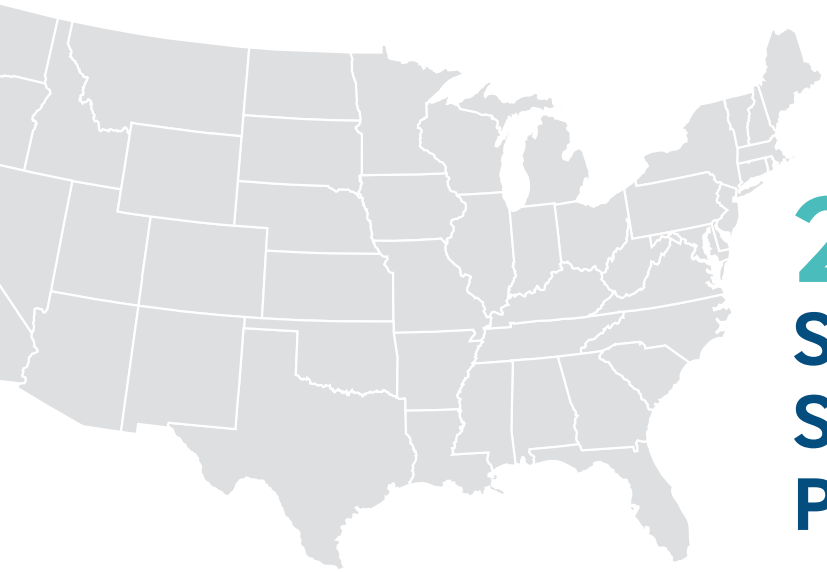

# 2018 Scorecard on State Health System Performance

## OVERVIEW

Hawaii, Massachusetts, Minnesota, Vermont, and Utah are the top-ranked states according to the Commonwealth Fund's *2018 Scorecard on State Health System Performance*, which assesses all 50 states and the District of Columbia on more than 40 measures of access to health care, quality of care, efficiency in care delivery, health outcomes, and income-based health care disparities.

The 2018 *Scorecard* reveals that states are losing ground on key measures related to life expectancy. On most other measures, performance continues to vary widely across states; even within individual states, large disparities are common.

Still, on balance, the *Scorecard* finds more improvement than decline between 2013 and 2016 in the functioning of state health care systems. This represents a reversal of sorts from the first decade of the century, when stagnating or worsening performance was the norm.

**Overall, four major trends emerge from our analysis of the *Scorecard* results:**

- **Rising death rates, high levels of obesity, and gaps in care are pressing challenges for states**
- **Regional differences in performance persist, as do within-state disparities**
- **Many states are not getting good value for their health care dollars**
- **States made progress in areas that were the target of efforts to improve**

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## SCORECARD HIGHLIGHTS

***Which states lead the rankings?*** Hawaii, Massachusetts, Minnesota, Vermont, and Utah.

***Which states are ranked at the bottom?*** Louisiana, Oklahoma, and Mississippi.

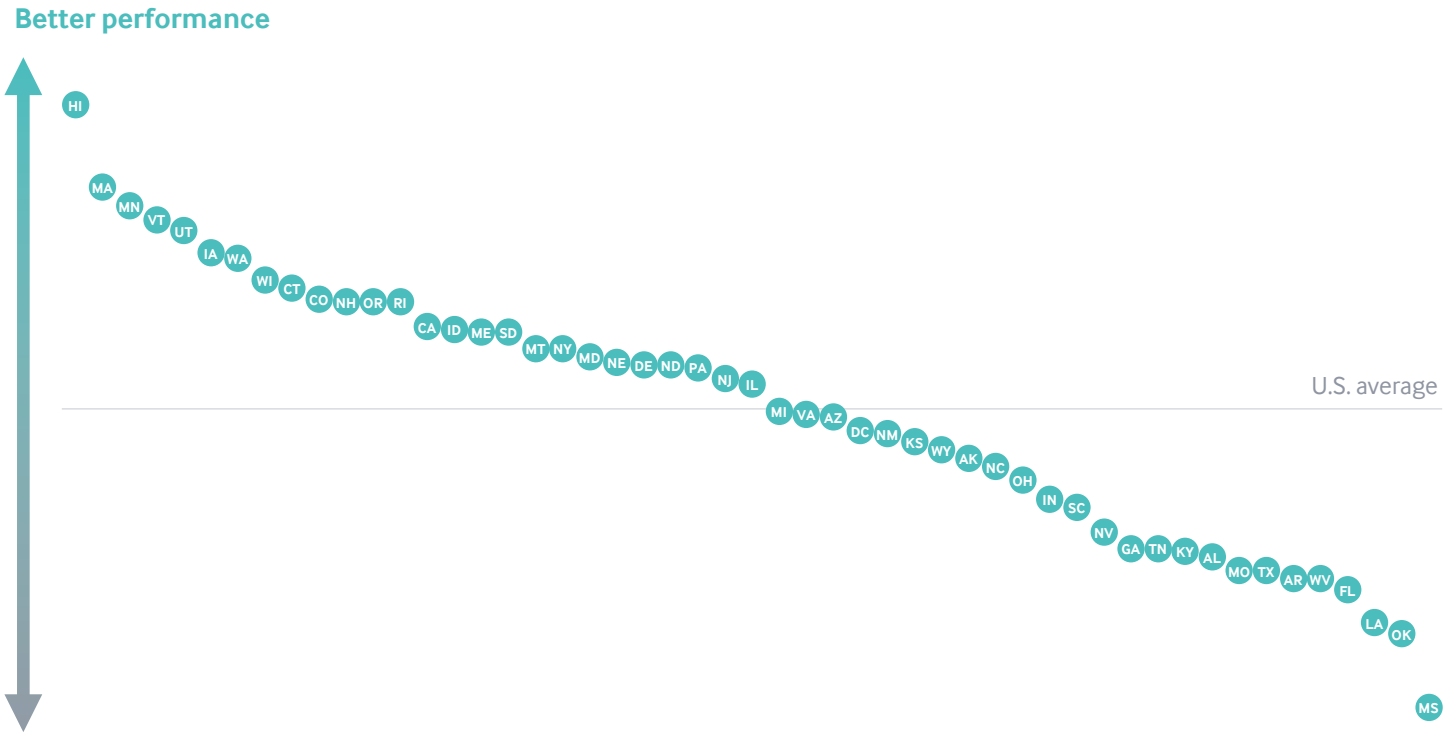
***Which states moved up the most in the rankings between 2013 and 2016?*** California and Oregon rose the highest, jumping 9 and 10 spots, respectively. Both states expanded eligibility for Medicaid.

***Which states improved on the most indicators?*** New York improved on 18 of the 37 indicators we track over time — the most of any state. Arkansas, Louisiana, Oklahoma, and West Virginia each improved on 17 indicators.

***Did the Medicaid expansion make a difference?*** In 47 states, the uninsured rate for adults ages 19 to 64 was at least five percentage points lower in 2016 than it had been in 2013. Eleven of the 13 states with at least a 10-point drop had expanded Medicaid by January 2016. During this time, there was also a drop in the percentage of people reporting they had not gone to the doctor when needed because of the cost. States that expanded Medicaid saw greater improvement, on average, than states that did not.

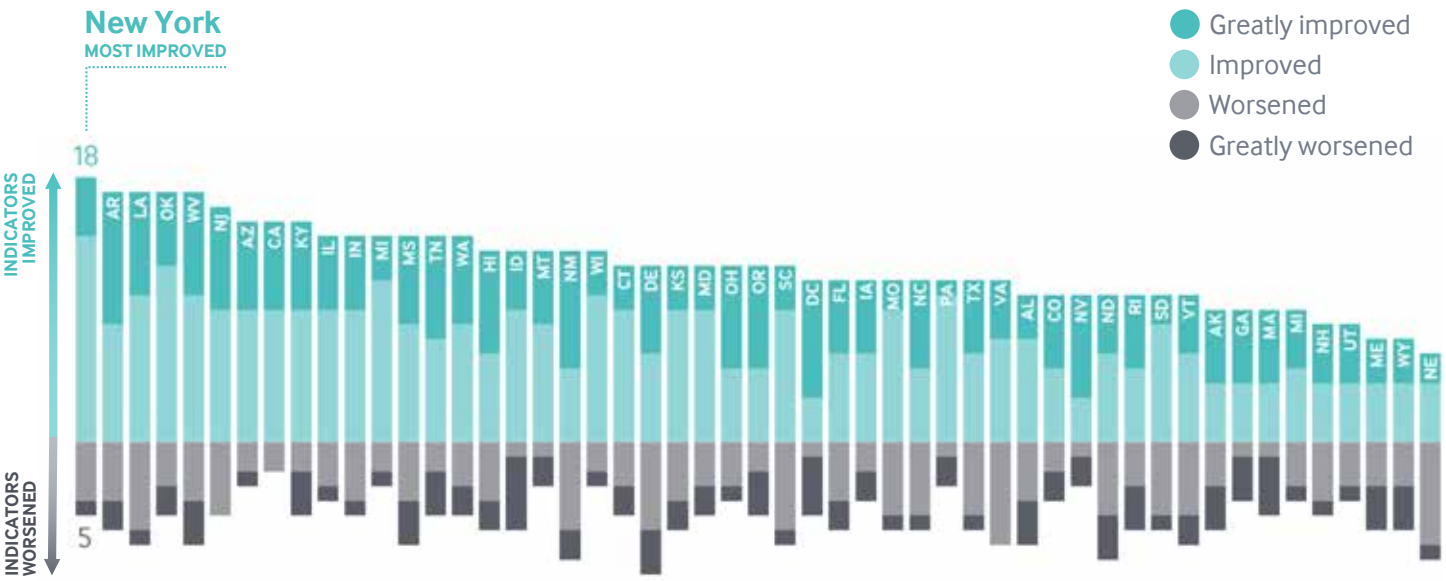
***How does performance vary regionally?*** New England, the Upper Midwest, and several states in the West are at the top of our overall

### Overall health system performance varies greatly among states




States are arranged in rank order from left (best) to right (worst), based on their overall 2018 *Scorecard* rank.

## More improvement than decline



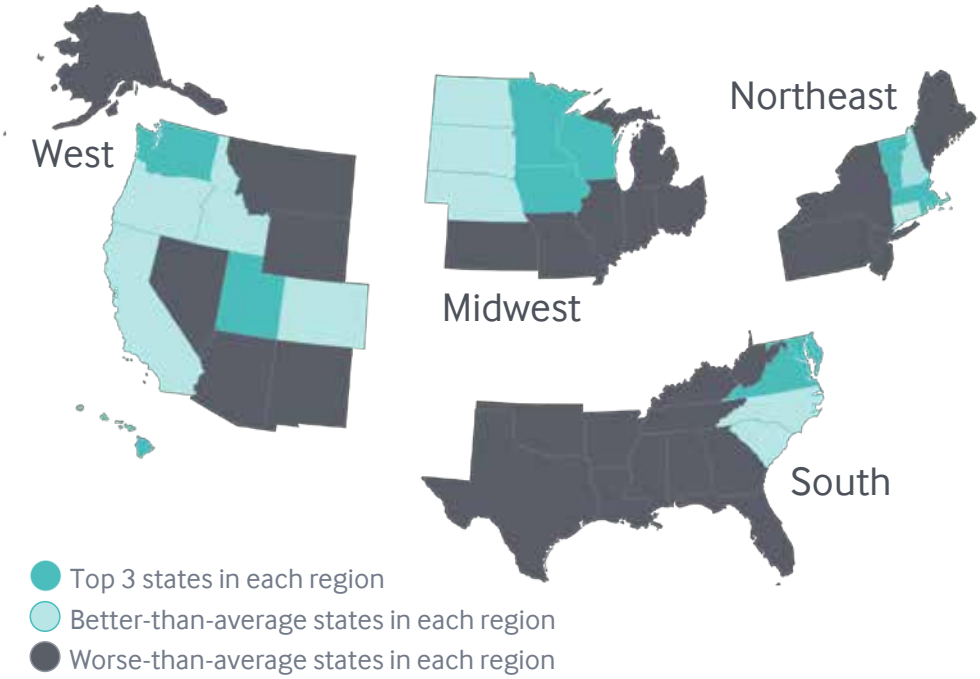

Notes: Based on trends for 37 of 43 total indicators (Disparity dimension not included); trend data are not available for all indicators. Bar length equals the total number of indicators with any improvement or worsening with an absolute value greater than 0.5 standard deviations (StDev) of the state distribution. Lighter portion of bars represents the number of indicators with a change of 0.5–0.9 StDevs between baseline and current time periods, darker portions represent indicators with 1.0 or greater StDev change.

rankings. Southern states generally rank at the bottom. The *Scorecard* shows how states perform relative to their geographic neighbors.

***What's the trend?***

Following a long period of decline, premature death rates are flattening or trending upward in many states. Nonetheless, across all dimensions of performance there was more improvement than decline between 2013 and 2016 — a reversal of what happened during the 2000s, when progress stalled or worsened.

## State health system performance varies within regions




Note: Regions are U.S. Census regions. Regional shading is based on performance among states within the region only. See Scorecard Methods for additional detail.

## KEY TRENDS

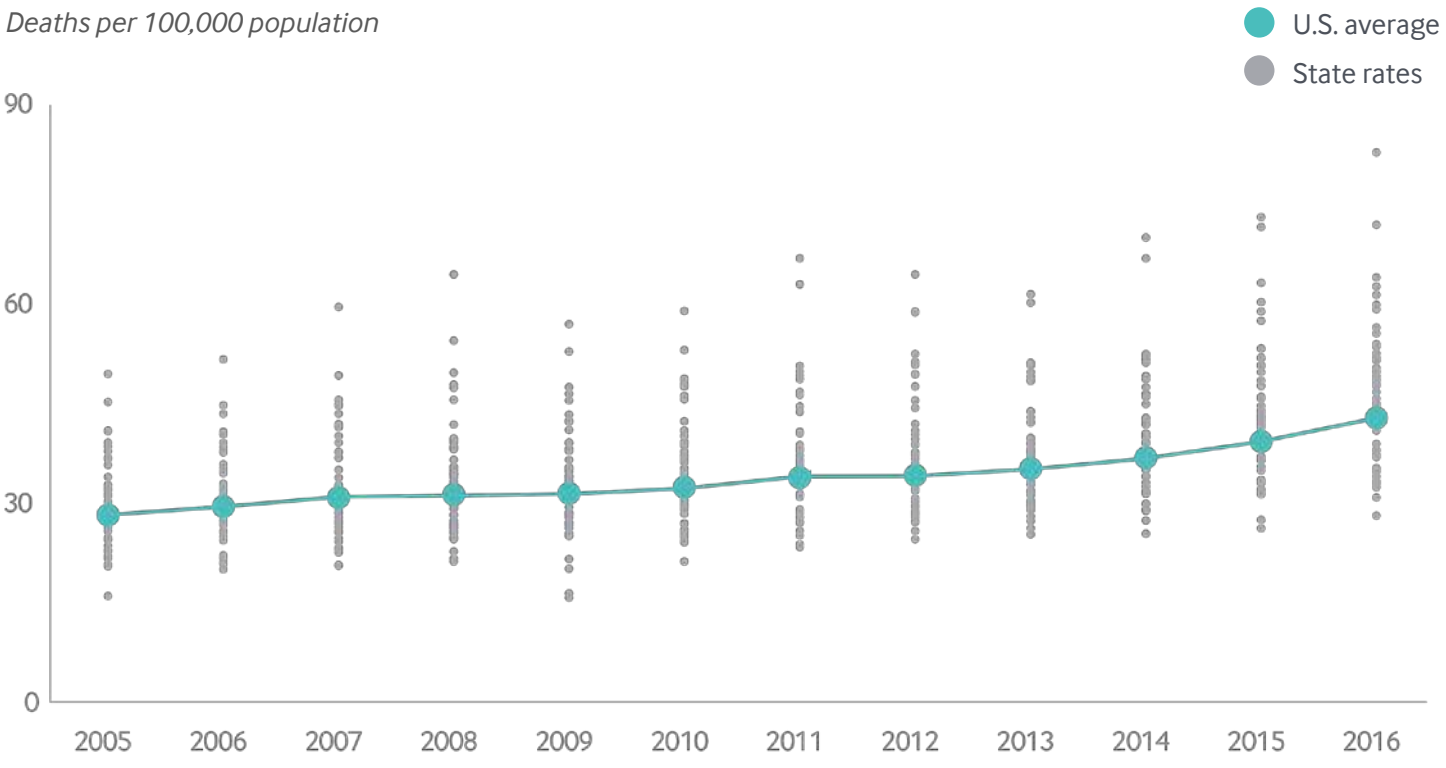
# Rising death rates, high levels of obesity, and gaps in care are pressing challenges for states.

*Deaths from suicide, alcohol, and drug use are at an all-time high.* In 2016, average life expectancy at birth in the United States declined for a second year in a row, driven in large part by a spike in deaths from opioid and other substance abuse as well as suicide.[1] The combined rate of deaths from suicide, alcohol, and drug use — sometimes referred to as "deaths of despair"[2] — increased 50 percent from 2005 to 2016. Rates rose in all states, doubling or more in Delaware, New Hampshire, New York, Ohio, and West Virginia.

*Premature deaths are on the rise.* After trending downward for most of the past decade, rates of premature death from preventable or treatable causes (a measure called "mortality amenable to health care"[3]) ticked upward nationally. Two-thirds of states experienced an increase in 2014–15. In six states — Colorado, Maine, Nebraska, Oklahoma, Vermont, and Wyoming — the increase was greater than 5 percent. Compared to mortality rates in 2012–13, the higher rates in 2014–15 represented a sobering number of additional premature deaths: 351 in Colorado, 643 in Oklahoma, and 988 in Texas, for example.

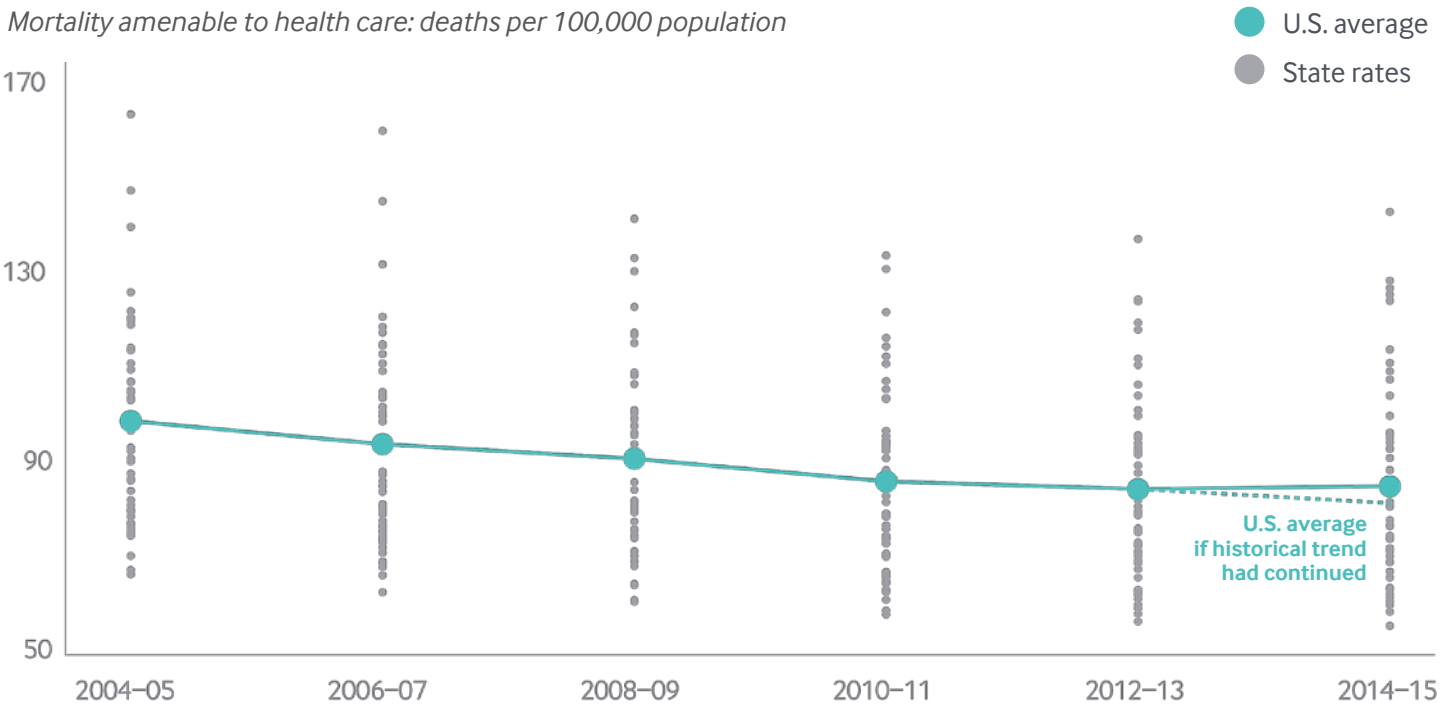
*Obesity represents a rising public health threat.* In Mississippi and West Virginia, the proportion of obese adults reached 39 percent in 2016. Even in states with the lowest rates, a quarter of adults are obese.

## Deaths from suicide, alcohol, and drug overdose on the rise and differences between states widening




Data: 2004–2016 National Vital Statistics System (NVSS), via CDC WONDER.

## Premature death rates from treatable medical conditions rose slightly following decade-long decline




Notes: Y-axis starts at 50 deaths per 100,000. Dashed line represents the expected premature death rate if the historical trend from 2004–05 to 2012–13 had continued in 2014–15. Premature deaths reported here do not include deaths from suicide, alcohol, or drug use; see Appendix H for a complete list of health care–amenable deaths.

Data: 2004–2015 National Vital Statistics System (NVSS) Mortality All-County Micro Data Files.

*Gaps in mental health care are pervasive.* Up to one-quarter of adults with a mental illness reported a need for care that wasn't met during the 2013–15 period. Meanwhile, up to one-third of children needing mental health treatment in 2016 did not receive it, according to their parents. Across states, 41 percent to 66 percent of adults with symptoms of a mental illness (some of whom may not have been diagnosed) received no treatment in 2013–15.

**What Can Be Done?** Reversing these trends and closing gaps in care will likely require cooperation across sectors as well as greater integration of medical, behavioral, public health, and social services.[4]

**56%** of adults with mental illness received no treatment

**18%** of children with mental health needs received no treatment

**In the worst-performing states:**

**66%** of adults in Nevada received no treatment

**34%** of children in Georgia received no treatment

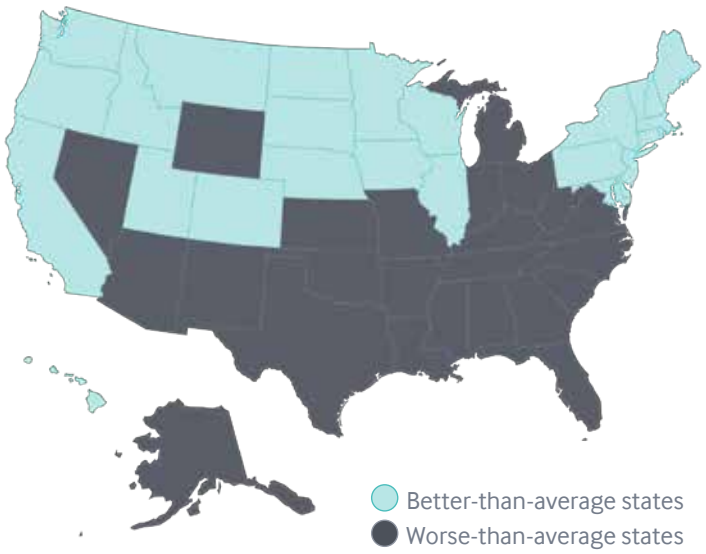
Data: 2013–15 National Survey of Drug Use and Health, as reported in *The State of Mental Health Care in America,* 2017; 2016 National Survey of Children's Health, as reported by the Child and Adolescent Health Measurement Initiative.

**What Are States Doing?** Some states and Medicaid managed care organizations are realizing the importance of investing in, and fostering linkages to, social services in the community that can address the "social determinants of health," such as stable housing and access to nutritious food.[5] Medicaid programs are starting to integrate behavioral and physical health care, for example, by establishing "health homes" where teams of health professionals deliver coordinated care for patients with chronic illnesses and provide screenings, referrals to substance abuse treatment, and other services.[6]

## Regional differences in performance persist, as do within-state disparities.

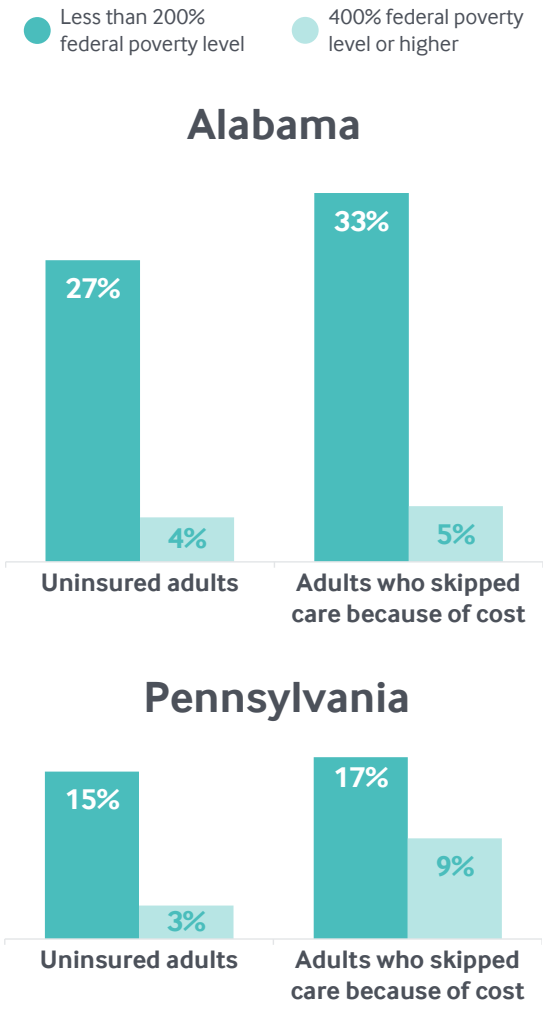
*Geographic disparities persist.* As previous Commonwealth Fund scorecards have documented, the highest-ranked state generally performs two to three times better overall than the lowest-ranked state. It's a stark reminder that where you live can affect both your ability to access high-quality health care and your prospects for a healthy life. Differences between states are most pronounced for hospital admission rates among children with asthma: Vermont had 11 times fewer admissions per 100,000 children than New York did (22 vs. 243).

### America's health care divide




*The magnitude of health care disparities within states varies widely when comparing low- and high-income residents.* In Alabama, for example, low-income adults are nearly seven times more likely than high-income residents to report skipping needed care because of the cost (33% vs. 5%). In Pennsylvania, the disparity is much narrower (17% vs. 9%). This pattern of disparities in access to care is mirrored in uninsured rates, which reflect differences in state policies such as Medicaid eligibility.[7] Income-related disparities are evident across all the *Scorecard*'s dimensions of health system performance.

### Income-related disparities in health care access differ across states




Data: Uninsured (ages 19–64): U.S. Census Bureau, 2016 One-Year American Community Surveys. Public Use Micro Sample (ACS PUMS); Cost barriers (age 18 and older): 2016 Behavioral Risk Factor Surveillance System (BRFSS).

**What Can Be Done?** Socioeconomic disadvantages are a major contributor to disparities in health care and health outcomes across the country.[8] In general, people of color are disproportionately more likely than whites to have lower incomes and to be at risk for health care disparities.[9] Measuring disparities in health care can help to raise awareness of the need for action, but this is only a first step toward achieving equal opportunity for health.[10]

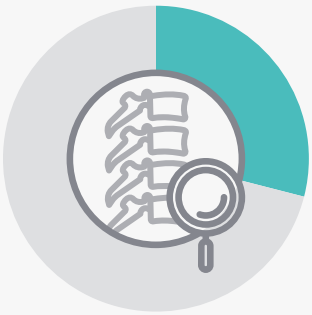
**What Are States Doing?** Many states are promoting health equity by expanding Medicaid eligibility, engaging in multisector partnerships, increasing health care workforce diversity, promoting standards for culturally appropriate services, and addressing the social determinants of health.[11] Oregon's Medicaid Coordinated Care Organizations, for example, demonstrate how state policy can help narrow disparities in access to care by improving how health services are delivered to patients.[12]

## Many states are not getting good value for their health care dollars.

*Quality of care is not in line with the level of state health spending.* Health care spending in the United States is much greater than in other wealthy countries, but U.S. health outcomes are not better.[13] Our analysis finds that for every state, health spending exceeds median per capita spending in each of 10 other high-income countries.[14] In general, research shows that higher spending in the U.S. is attributable to higher prices.[15]

Here are just a few examples of gaps in quality across the U.S.:

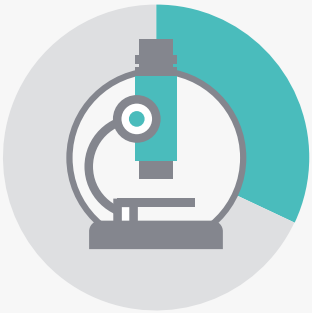
- Among working-age adults with employer-sponsored insurance, nearly one in three (29%) who were newly diagnosed with lower back pain in 2015 received potentially inappropriate medical imaging. That means the scans these patients received are not associated with improved outcomes when there is no underlying condition; some tests would expose them to unnecessary radiation.[16] In Alabama, the worst-performing state on this measure, the rate is 41 percent.
- One in three adults were not up to date on recommended cancer screenings in 2016. Even in the best-performing state, the shortfall was 24 percent. As many as 40 percent of adults in Idaho, New Mexico, Oklahoma, and Wyoming did not get these screenings.
- Even when they have insurance coverage, Americans visit the emergency department (ED) for nonemergency care at high rates. Similarly high rates among Medicare- and employer-insured adults suggest there may be factors other than coverage or age, such as inadequate access to primary care, driving the behavior.



**29%** of adults received potentially inappropriate lower back imaging at diagnosis

**In the worst-performing state:**

**41%** of adults in Alabama received potentially inappropriate imaging at diagnosis



**32%** of adults failed to receive all recommended cancer screenings

**In the worst-performing states:**

**40%** of adults in Idaho, New Mexico, Oklahoma, and Wyoming failed to get recommended cancer screenings

Note: Lower back pain imaging is measured among newly diagnosed working-age patients ages 18–50 with employer-sponsored insurance.

Data: Lower back imaging, 2015 Truven MarketScan Database, analysis by M. Chernew, Harvard University; Cancer screenings, 2016 Behavioral Risk Factor Surveillance System (BRFSS).

*Mixed findings on health care spending.* The average amount Medicare spends on care for each beneficiary has leveled off in recent years across all states. Spending per enrollee in employer-sponsored insurance plans was nearly flat nationally from 2013 to 2015. However, 18 states saw increases of at least $300 per enrollee during this time, or 5 percent on average — more than twice the rate of general inflation.[17] These data do not include prescription drug costs, which have been rising rapidly in recent years. Both across states and within individual states, there is often no consistent relationship between health care spending by Medicare and by employer-sponsored insurance.[18]

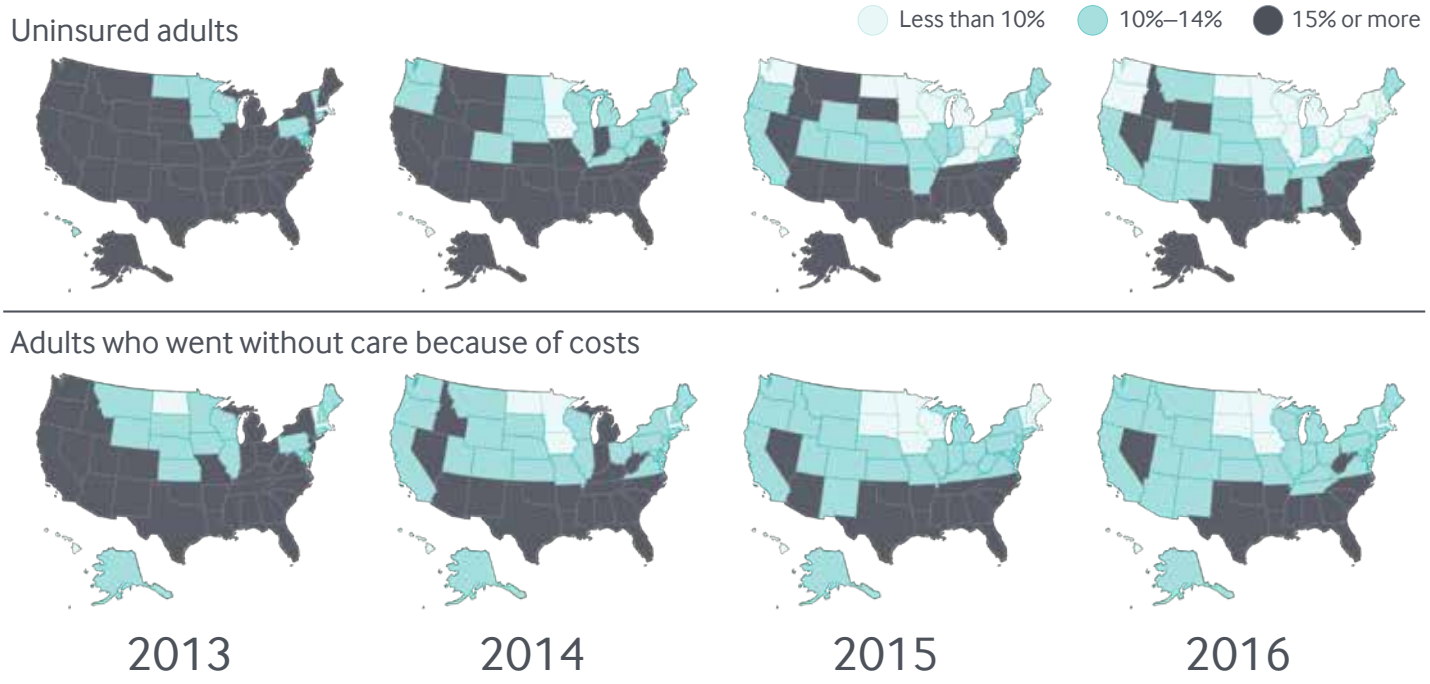
**What Can Be Done?** Efforts to control health care costs must be tailored to reflect the unique characteristics of each market.[19] Greater pricing transparency, coupled with value-based benefit design and payment approaches, could encourage better-informed choices and movement toward higher-value health services and providers.[20] Evidence from states and from countries around the world show that health systems with a strong primary care orientation generally achieve better health outcomes at lower cost.[21] Making primary care more accessible and patient-centered also can help reduce use of the ED for conditions that could be treated in primary care settings.[22]

**What Are States Doing?** Several states participate in initiatives involving both public and private insurers to foster the transformation of primary care practices into patient-centered medical homes, which can improve patient care and reduce costs.[23] State and federal partnerships to integrate care for Medicare and Medicaid beneficiaries aim to reduce hospitalizations and ED use among patients with complex care needs while improving their quality of life.[24] In Rhode Island, health plans are required to measure and increase the proportion of health care spending devoted to primary care, without increasing medical costs or premiums.[25]

## States made progress in areas that were the target of efforts to improve.

*There have been widespread gains in health care access.* During the first three years of the Affordable Care Act's major insurance coverage expansions, the adult uninsured rate declined by at least five percentage points in 47 states. And in nearly three-quarters of states, substantially fewer adults skipped needed care because of costs. States that expanded their Medicaid programs have made the largest gains.[26]

### Cost barriers to receiving care fell as uninsured rates fell following ACA coverage expansions




Data: Uninsured (ages 19–64): U.S. Census Bureau, 2011–2016 One-Year American Community Surveys. Public Use Micro Sample (ACS PUMS). Cost barriers (age 18 and older): 2011–2016 Behavioral Risk Factor Surveillance System (BRFSS).

## NEW HAMPSHIRE AND MAINE: TWO STATES WHERE MEDICAID EXPANSION IS IN FLUX

Before the Affordable Care Act expanded coverage, New Hampshire greatly lagged Maine in terms of access to health care for low-income adults. But in August 2014, New Hampshire expanded its Medicaid program and has since caught up to its New England neighbor, matching Maine on its uninsured rate among low-income adults and nearly closing the gap on several other key *Scorecard* measures of health care access. Maine has not only failed to take advantage of its early lead, it has lost ground on some measures.

In November 2017, Maine residents voted to expand Medicaid under a citizen-initiated ballot referendum. The expansion is estimated to extend Medicaid coverage to 70,000 to 80,000 Mainers[45] with incomes up to 138 percent of the federal poverty level ($16,753 for a single person in 2018), although implementation has been stalled because of funding conditions set by the governor. New Hampshire is facing the expiration of its Medicaid expansion in December 2018, and it's not clear whether the state legislature will reauthorize it. The result could be a loss of coverage for an estimated 50,000 Granite State adults.[46]

The *Scorecard* offers an inkling of what New Hampshire could lose by dropping Medicaid expansion and what Maine might gain by adding it.

### Adult uninsured rates drop more in New Hampshire than in Maine

Although the low-income adult uninsured rate fell to 20 percent in both states in 2016, in New Hampshire, this represented a 14 percentage point drop from its 2013 rate. Maine saw a 6 percentage point decline in the same time period (see chart).

### Number of people skipping care because of costs drops in New Hampshire, increases in Maine

New Hampshire saw a 9 percentage point reduction in the share of low-income adults age 18 and older who reported not going to the doctor when needed because costs were too high. In Maine, the share of adults with low incomes who said they skipped needed care because they couldn't afford it increased 4 percentage points between 2013 and 2016.

### Share of low-income adults without a usual source of care drops in New Hampshire, stays the same in Maine

New Hampshire also nearly caught up with Maine on another key measure of health care access: having a regular doctor or health care provider. The share of low-income adults age 18 and older who did not have a usual source of care decreased 6 percentage points in New Hampshire between 2013 and 2016; the rate remained unchanged in Maine.

### Premature death rates rise in Maine, decrease in New Hampshire

In Maine, the rate of premature death from preventable or treatable causes — a measure called "mortality amenable to health care" in the *Scorecard* — increased from 62.3 to 66.2 per 100,000 people between 2012–2013 and 2014–2015. This represented a 6.3 percent increase — one of the highest in the nation. Only three states saw larger relative increases. New Hampshire, on the other hand, was one of only 14 states that saw a decline in this rate, with a drop from 58.4 to 57.7 per 100,000 people, about a 1.1 percent decline.

| | New Hampshire | | Maine | |
|---|---|---|---|---|
| **Percentage of low-income adults** | **2013** | **2016** | **2013** | **2016** |
| Uninsured (ages 19–64) | 34% | 20% | 26% | 20% |
| Went without needed care because of costs in past year (age 18 and older) | 28% | 19% | 13% | 17% |
| Without a usual source of care (age 18 and older) | 19% | 13% | 12% | 12% |
| ***Total population*** | | | | |
| Rate of premature death from preventable or treatable conditions, per 100,000 people | **2012–2013** 58.4 | **2014–2015** 57.7 | **2012–2013** 62.3 | **2014–2015** 66.2 |

Notes: Low-income is < 200% of the federal poverty level. The difference between the 2013 and 2016 rates in New Hampshire on all three access indicators among low-income adults meet the *Scorecard*'s threshold for improvement for these indicators, as does the does the difference in Maine in uninsured rates. The increase in low-income adults who went without care because of costs in Maine meets the *Scorecard*'s threshold for worsening on this measure. See Scorecard Methods and Appendix H for more detail.

Data: Uninsured, U.S. Census Bureau, 2013 and 2016 One-Year American Community Surveys. Public Use Micro Sample (ACS PUMS); Cost barriers, 2013 and 2016 Behavioral Risk Factor Surveillance System (BRFSS); Premature death, 2012–2015 National Vital Statistics System (NVSS) Mortality All-County Micro Data Files.

*Nursing home care has improved, and home health patients have gained physical mobility.* The percentage of home health patients who got better at walking or moving around — a key measure of quality of care — rose substantially in every state. In nursing homes, the potentially harmful use of antipsychotic drugs as "chemical restraints" has fallen in nearly all states. This change likely reflects the goals of the National Partnership to Improve Dementia Care in Nursing Homes, which supports state-based coalitions in efforts to reduce inappropriate antipsychotic drug use and improve care for residents with dementia.[27]

*Tobacco use continues to wane.* Adult smoking rates fell by at least three percentage points in all but four states between 2011 and 2016. States with some of the highest rates, such as Nevada and Oklahoma, saw the largest declines.[28] States like California with long-standing comprehensive tobacco control policies have seen substantial reductions in health care spending because of lower smoking rates.[29] Limiting tobacco use continues to represent a major opportunity for states to improve public health.[30]

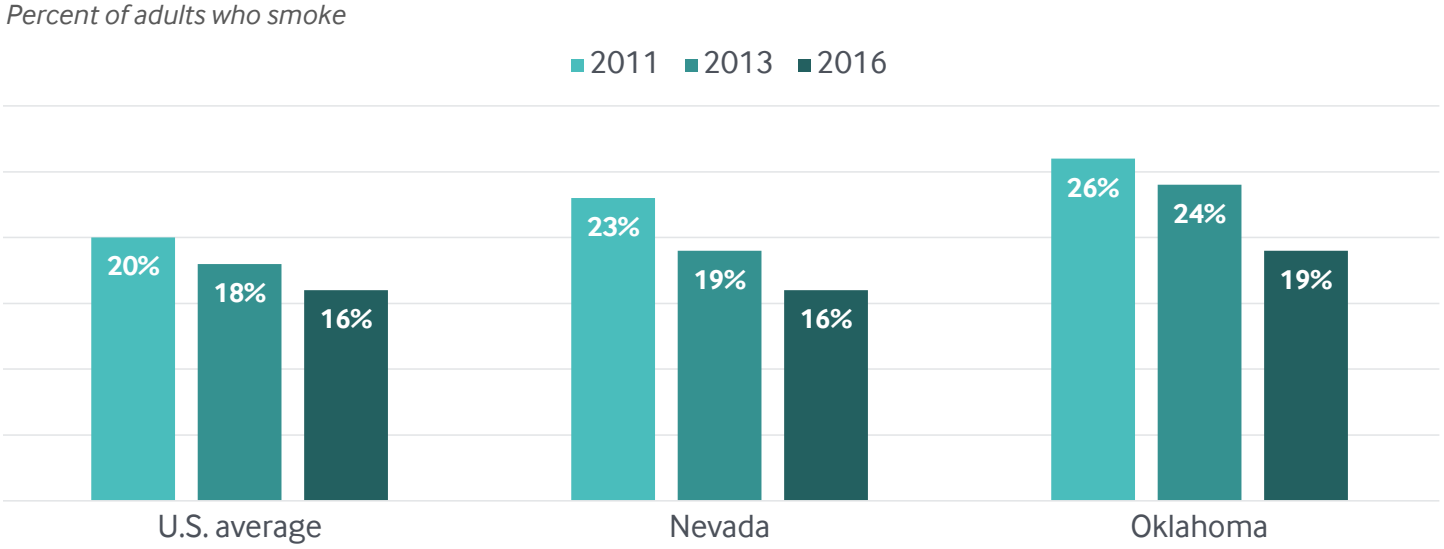
**50 STATES AND D.C.**
increased the number of home health patients who got better at walking or moving around

**48 STATES AND D.C.**
decreased the use of chemical restraints in nursing homes

Note: Chemical restraints means use of antipsychotic medication.

Data: OASIS (via CMS Home Health Compare); MDS (via CMS Nursing Home Compare).

## Tobacco use continues to decline: Nevada and Oklahoma had among the largest reductions in adult smoking between 2011 and 2016




Data: 2011, 2013, and 2016 Behavioral Risk Factor Surveillance System (BRFSS).

*Avoidable hospital use has declined.* Hospital readmission rates for elderly Medicare beneficiaries continued to fall in nearly half the states (particularly those with the highest rates) during the 2012–15 period. This reduction was the goal of federal financial penalties, as well as initiatives that brought hospitals and postacute care providers together to improve patients' transitions in care.[31] There was also a continuing reduction in potentially preventable hospital admissions in several states, possibly because of better ambulatory care management.

**What Is Being Done?** States' gains likely reflect the influence of government policies, regulatory actions, and collaborative improvement efforts, all of which may be reinforced by the public reporting of performance data by the federal government, states, and other groups. With federal assistance, many states also are working with health plans, care providers, and other stakeholders to promote quality measurement and improvement in Medicaid and to spread payment and delivery system transformation more broadly.[32]

At the same time, recognition that performance incentives can sometimes be gamed, or can unfairly penalize providers treating a large share of vulnerable or high-need patients, is prompting discussions of how to improve these incentives.[33]

## CONCLUSION

All states can improve their health care performance, including those that topped the *Scorecard* rankings. On certain health system indicators, states ranked lower overall performed better than the overall leaders. This suggests that even the lower-ranking states have something to teach.

If every state achieved the performance of the top-ranked state on each *Scorecard* indicator, the gains in health care access, quality, efficiency, and outcomes would be dramatic. At current rates of improvement, however, it may take many years or decades for states and the nation to see such progress.

### National gains if all states achieved top rates* of performance

| | |
|---|---|
| 18 million | more adults and children insured, beyond those who already gained coverage through the ACA |
| 14 million | fewer adults skipping care because of its cost |
| 26 million | more adults with a usual source of care |
| 11 million | more adults receiving recommended cancer screenings |
| 837,000 | more young children receiving all recommended vaccines |
| 1 million | fewer Medicare beneficiaries receiving a high-risk prescription drug |
| 440,000[a] | fewer hospital readmissions |
| 5.7 million[a] | fewer emergency room visits for nonemergency care or conditions treatable with primary care |
| 89,000 | fewer deaths before age 75 from treatable diseases |

* Performance benchmarks set at the level achieved by the top-performing state with available data for this indicator.
[a] Estimate based on working-age population ages 18–64 with employer-sponsored insurance and Medicare beneficiaries age 65 and older.

States have many opportunities to lead and to collaborate with other stakeholders to promote health system improvement.[34] Many states are already doing so by:

- expanding Medicaid eligibility under the Affordable Care Act (ACA)[35]
- establishing rules to ensure well-functioning insurance markets[36]
- using "value-based purchasing" in Medicaid and state employee benefits programs in order to promote higher-quality, lower-cost care[37]
- promoting secure and efficient methods for care providers, health plans, and state programs to share electronic health information for quality improvement[38]
- supporting sustainable efforts to address the social determinants of health[39]
- ensuring an adequate primary care workforce, especially in underserved areas.[40]

Some states are in better economic shape than others and have more resources to support improvement. But the gains in access to care and narrowing of disparities associated with the ACA's coverage expansions highlight the role that public programs can play in equalizing opportunity across and within states.[41] (For example, see box on New York's improvement on next page.)

These gains in access to care may be compromised, however, by the repeal of the ACA's individual mandate penalty and by regulatory changes to state insurance markets currently under way.[42] Although states have tools to strengthen their individual insurance markets, such as reinsurance mechanisms that can help moderate premium increases,[43] there are limits to what the health law can do. Insurance coverage is a necessary but not sufficient condition for improving health care and outcomes. Urgent concerns such as the opioid crisis may call for new initiatives.[44]

With states assuming ever greater responsibility for the future of health policy, it will be more important than ever to continue tracking the performance of the health system throughout the country.

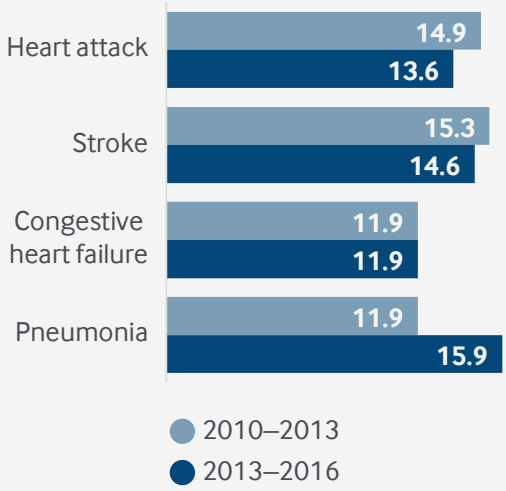
### A CLOSER LOOK AT HOSPITAL MORTALITY

The *Scorecard* measures deaths within 30 days of hospital discharge among Medicare beneficiaries who were treated for four common conditions: heart attack, stroke, congestive heart failure, and pneumonia. Hospital 30-day mortality rates rose in nearly all states between the two measurement periods reported in the *Scorecard,* driving the national average from 13.2 percent to 14.1 percent.[47] The increase in this rate, which represents a reversal in an earlier improvement trend, appears to be driven by a sharp uptick in mortality among pneumonia patients.

## Hospital mortality has risen among patients admitted for pneumonia

**Average 30-day mortality among patients discharged for heart attack, stroke, congestive heart failure, or pneumonia (%)**


**Average 30-day hospital mortality by condition (%)**




Data: CMS Hospital Compare, 2014 and 2017 4th Quarter, National-Level Summary Estimates.

## NEW YORK MOVES TO IMPROVE

If the *Scorecard* gave out awards, New York would walk home with the trophy for "Most Improved." The Empire State, home to about 20 million people, met or exceeded the *Scorecard*'s threshold for improvement on nearly half the indicators that could be tracked over time (18 of 37) — more than any other state.

New York made strides in four areas of health system performance tracked by the *Scorecard*. This included a few indicators where the state was among only a handful to make notable progress (see chart).

Some improvements suggest that older New Yorkers may be receiving better care. Fewer elderly patients received a high-risk drug. In addition, hospital admissions for ambulatory care–sensitive (ACS) conditions, which are generally regarded as potentially preventable with good primary care, were down among Medicare beneficiaries. New York also improved on all three of the *Scorecard*'s indicators related to nursing home care. This included lowering the percentage of long-stay nursing home residents with a hospital admission, an indicator where only a few states measurably improved.

"New York has undertaken significant reforms to create a high-performing long-term services and supports system, implementing strategies to improve care transitions, support community living, and reduce long nursing home stays and avoidable hospitalizations," noted the SCAN Foundation in awarding New York a "Pacesetter Prize" last year for progress made in improving the lives of older adults, people with disabilities, and family caregivers.[48]

What other steps has New York taken? Even before the Affordable Care Act's coverage expansions, New York extended Medicaid coverage to parents at higher income levels and to some childless adults. It also prohibited insurers selling plans in the individual market from denying coverage to people with preexisting conditions or from charging them higher premiums. Under the ACA, New York expanded Medicaid eligibility still further and created a state-run insurance marketplace. Between 2013 and 2016, New York's adult uninsured rate dropped 6 percentage points while the share of adults who skipped needed care because of costs fell 4 points.

Shortly after expanding Medicaid in 2014, the state received federal approval to reinvest savings generated through its Medicaid redesign initiative to implement a Delivery System Reform Incentive Program (DSRIP). The program, which just wrapped up its third year, aims to improve the way care is delivered and paid for — initially for Medicaid beneficiaries but ultimately for all state residents.[49] One of the program's main goals is to reduce avoidable hospital use by 25 percent within five years. A program within DSRIP called Medicaid Accelerated Exchange, or the MAX project, which deploys multidisciplinary "action teams" to improve care for high utilizers and has shown promising results, may be key to helping the state achieve that goal.[50]

In addition to DSRIP, New York also is implementing a State Innovation Models grant and a Medicaid Health Home program.[51] Given all these initiatives, the state may be positioning itself to improve on even more indicators in the next *Scorecard*.

| Indicator | New York improved | Total states improved |
|---|---|---|
| **ACCESS & AFFORDABILITY** | | |
| Adults ages 19–64 uninsured | ✓ | 47 |
| Adults who went without care because of cost in the past year | ✓ | 37 |
| Individuals with high out-of-pocket medical spending | ✓ | 26 |
| Employee health insurance contributions as a share of median income | ✓ | 6 |
| **PREVENTION & TREATMENT** | | |
| Home health patients who did not get better at walking or moving around | ✓ | 51 |
| Nursing home residents with an antipsychotic medication | ✓ | 49 |
| Medicare beneficiaries who received a high-risk prescription drug | ✓ | 46 |
| Adults with mental illness who did not receive treatment | ✓ | 28 |
| Hospital patients discharged without instructions for home recovery | ✓ | 27 |
| Adults without all age-appropriate vaccines | ✓ | 7 |
| **AVOIDABLE HOSPITAL USE & COST** | | |
| 30-day hospital readmissions, age 65 and older | ✓ | 23 |
| Short-stay nursing home residents with a 30-day readmission to the hospital | ✓ | 20 |
| Admissions for ACS conditions, ages 65–74, per 100,000 Medicare beneficiaries | ✓ | 12 |
| Admissions for ACS conditions, age 75 and older, per 100,000 Medicare beneficiaries | ✓ | 10 |
| Long-stay nursing home residents with a hospital admission | ✓ | 5 |
| **HEALTHY LIVES** | | |
| Colorectal cancer deaths per 100,000 population | ✓ | 39 |
| Adults who smoke | ✓ | 32 |
| Adults who report fair/poor health | ✓ | 4 |

Note: For the purposes of the *Scorecard*, we count the District of Columbia as a state, and it may be included in tally of number of states that improved.

## SCORECARD METHODS

The *2018 Scorecard on State Health System Performance,* evaluates 43 performance indicators grouped into four dimensions:

- **Access and Affordability (7 indicators):** includes rates of insurance coverage for children and adults, as well as individuals' out-of-pocket expenses for health insurance and medical care, cost-related barriers to receiving care, and dental visits.
- **Prevention and Treatment (16 indicators):** includes measures of receiving preventive care and needed mental health care, as well as measures of quality in ambulatory, hospital, postacute, and long-term care settings.
- **Potentially Avoidable Hospital Use and Cost (10 indicators; including several measures reported separately for distinct age groups):** includes indicators of hospital and emergency department use that might be reduced with timely and effective care and follow-up care, as well as estimates of per-person spending among Medicare beneficiaries and working-age adults with employer-sponsored insurance.
- **Healthy Lives (10 indicators):** includes measures of premature death, health status, health risk behaviors including smoking and obesity, and tooth loss.

**DISPARITY DIMENSION.** The 2018 *Scorecard* evaluates performance differences within states associated with individuals' income level for a subset of 19 indicators that span the other four dimensions of performance. For each state and indicator, we evaluate the difference in rates for the state's low-income population (generally under 200% of the federal poverty level) and higher-income population (generally over 400% of the federal poverty level). States are ranked on the relative magnitude of the resulting disparities in performance. This method represents a change from that used in previous scorecard editions. Racial and ethnic disparities in state health system performance will be evaluated separately in a forthcoming report.

The following principles guided the development of the *Scorecard*:

**PERFORMANCE METRICS.** The 43 metrics selected for this report span health care system performance, representing important dimensions and measurable aspects of care. Where possible, indicators align with those used in previous state scorecards. Several indicators used in previous versions of the scorecard have been dropped either because all states improved to the point where no meaningful variations existed (e.g., hospital quality process-of-care measures) or the data to construct the measures were no longer available. New indicators have been added to the scorecard series over time, ensuring the *Scorecard* reflects current and evolving priorities. See below for more detail on changes in indicators.

**MEASURING CHANGE OVER TIME.** We were able to construct a time series for 37 indicators. Not all indicators could be trended over time because of changes in the underlying data or measure definitions.

There were generally two to three years between indicators' baseline and current year data observation, though the starting and ending points depended on data availability. We chose this short time horizon to capture the immediate effects of changes relative to the policy and delivery system environment, such as recent coverage expansions under the Affordable Care Act, and other reforms as they are or may be enacted and implemented in the future.

We considered a change in an indicator's value between the baseline and current year data points to be meaningful if it was at least one-half (0.5) of a standard deviation larger than the indictor's combined distribution over the two time points — a common approach used in social science research.

To assess change over time in the Disparity dimension, we counted how often the within-state disparity narrowed, so long as there was also an improvement in observed rate for the state's low-income population.

**DATA SOURCES.** Indicators draw from publicly available data sources, including government-sponsored surveys, registries, publicly reported quality indicators, vital statistics, mortality data, and administrative databases. The most current data available were used in this report whenever possible. Appendix B provides detail on the data sources and time frames.

**SCORING AND RANKING METHODS.** For the 2018 *Scorecard*, we introduce a new method of ranking states based on a standardized measure of variation known as the "z-score."

For each indicator, a state's standardized z-score is calculated by subtracting the 51-state average (including the District of Columbia as if it were a state) from the state's observed rate, and dividing by the standard deviation of all observed state rates. States' standardized z-scores are averaged across all performance indicators within the performance dimension, and dimension scores are averaged into an overall score. Ranks are assigned based on the overall score. This approach gives each dimension equal weight, and within dimensions weights the indicators equally.

The z-score more precisely portrays differences in performance across states (as shown in Exhibit 1) than our prior simple ranking approach used in prior scorecards. It is also better suited to accommodate the different scales used across Scorecard indicators (e.g., percentages, dollars, and population-based rates). This method also aligns with methods used in Commonwealth Fund international health system ranking reports.

As in previous state scorecards, if historical data were not available for a particular indicator in the baseline period, the current year data point was used as a substitute, thus ensuring that ranks in each time period were based on the same number of indicators. Three indicators in the Avoidable Hospital Use and Cost dimension are stratified by age: preventable hospitalizations, 30-day

readmissions, and avoidable emergency room visits. For these indicators, states' z-scores are averaged across age groups into a single, measure-specific composite before determining the state's dimension score.

**Because of changes in indicators and methods, the 2018 *Scorecard* rankings are not comparable to those reported in previous scorecard reports.**

## CHANGES IN SCORECARD INDICATORS

The 2018 *Scorecard* includes several changes to the set of performance measures on which each state is evaluated. New performance indicators were added, including:

- two new measures of access to and use of mental health services by adults
- a new measure of employee contributions to the cost of their employer-sponsored health insurance costs
- several new quality and utilization measures to better capture the health care experience of working-age adults with employer-sponsored insurance:
  - adult diabetics with an annual hemoglobin A1c test
  - potentially inappropriate medical imaging for low-back pain
  - potentially avoidable hospital admissions for ambulatory care–sensitive conditions
  - potentially avoidable emergency department use for nonemergency conditions
  - 30-day hospital readmissions.

We expanded our previously reported measure of suicide deaths to also include death from alcohol and drug use — collectively called "deaths of despair."

Finally, we dropped several performance measures that no longer differentiated state-level performance or for methodological reasons, including:

- At-risk adults without a routine doctor visit in past two years
- Medicare beneficiaries with dementia, hip/pelvic fracture, or chronic renal failure who received a prescription drug that is contraindicated for that condition
- Medicare fee-for-service patients whose health provider always listens, explains, shows respect, and spends enough time with them
- Home health patients whose wounds improved or healed after an operation
- High-risk nursing home residents with pressure sores
- Years of potential life lost before age 75.

Additional information regarding the rationale for these changes is available upon request.

## NOTES

[1] David Blumenthal, "Drop in U.S. Life Expectancy Is an 'Indictment of the American Health Care System,'" *STAT,* Jan. 4, 2018, https://www.statnews.com/2018/01/04/life-expectancy-us-health-care/; and Kenneth D. Kochanek et al., *Mortality in the United States, 2016,* NCHS Data Brief No. 293 (National Center for Health Statistics, Dec. 2017), https://www.cdc.gov/nchs/data/databriefs/db293.pdf.

[2] Anne Case and Angus Deaton, "Rising Morbidity and Mortality in Midlife Among White Non-Hispanic Americans in the 21st Century," *Proceedings of the National Academy of Sciences of the United States of America* 112, no. 49 (Dec. 8, 2015): 15078–83, http://www.pnas.org/content/112/49/15078.

[3] Ellen Nolte and Martin McKee, "Variations in Amenable Mortality — Trends in 16 High-Income Nations," *Health Policy* 103, no. 1 (Nov. 2011): 47–52, http://www.commonwealthfund.org/publications/in-the-literature/2011/sep/variations-in-amenable-mortality.

[4] Melinda K. Abrams and Donald Moulds, "Integrating Medical and Social Services: A Pressing Priority for Health Systems and Payers," *Health Affairs Blog,* July 5, 2016, https://www.healthaffairs.org/do/10.1377/hblog20160705.055717/full/; KPMG Government Institute, *Investing in Social Services as a Core Strategy for Healthcare Organizations* (The Commonwealth Fund, Mar. 2018), http://www.commonwealthfund.org/publications/other/2018/investing-in-social-services; and Institute of Medicine, *Primary Care and Public Health: Exploring Integration to Improve Population Health* (National Academies Press, 2012), http://www.nationalacademies.org/hmd/Reports/2012/Primary-Care-and-Public-Health.aspx.

[5] Anna Spencer et al., *Measuring Social Determinants of Health Among Medicaid Beneficiaries: Early State Lessons* (Center for Health Care Strategies, Dec. 2016), https://www.chcs.org/resource/measuring-social-determinants-health-among-medicaid-beneficiaries-early-state-lessons; Laura M. Gottlieb et al., "Clinical Interventions Addressing Nonmedical Health Determinants in Medicaid Managed Care," *American Journal of Managed Care* 22, no. 5 (May 2016): 370–76, http://www.commonwealthfund.org/publications/in-brief/2016/jun/addressing-nonmedical-health-determinants-medicaid; and Deborah Bachrach et al., *Enabling Sustainable Investment in Social Interventions: A Review of Medicaid Managed Care Rate-Setting Tools* (The Commonwealth Fund, Jan. 2018), http://www.commonwealthfund.org/publications/fund-reports/2018/jan/social-inteventions-medicaid-managed-care-rate-setting.

[6] Deborah Bachrach, Stephanie Anthony, and Andrew Detty, *State Strategies for Integrating Physical and Behavioral Health Services in a Changing Medicaid Environment* (The Commonwealth Fund, Aug. 2014), http://www.commonwealthfund.org/publications/fund-reports/2014/aug/state-strategies-behavioral-health; Deborah Bachrach, Patricia M. Boozang, and Hailey E. Davis, *How Arizona Medicaid Accelerated the Integration of Physical and Behavioral Health Services* (The Commonwealth Fund, May 2017), http://www.commonwealthfund.org/publications/issue-briefs/2017/may/arizona-medicaid-integration-behavioral-health; Hannah Dorr, *State Strategies for Integrating Substance Use Disorder Treatment and Primary Care* (National Academy for State Health Policy, Mar. 2017), https://nashp.org/state-strategies-for-integrating-substance-use-disorder-treatment-and-primary-care; and Lisa Clemans-Cope et al., "Experiences of Three States Implementing the Medicaid Health Home Model to Address Opioid Use Disorder — Case Studies in Maryland, Rhode Island, and Vermont," *Journal of Substance Abuse Treatment* 83 (Dec. 2017): 27–35, http://www.journalofsubstanceabusetreatment.com/article/S0740-5472(17)30195-2/fulltext.

[7] Henry J. Kaiser Family Foundation, *Where Are States Today? Medicaid and CHIP Eligibility Levels for Children, Pregnant Women, and Adults* (KFF, Mar. 2018), https://www.kff.org/medicaid/fact-sheet/where-are-states-today-medicaid-and-chip.

[8] Nancy Adler et al., *Reaching for a Healthier Life: Facts on Socioeconomic Status and Health in the U.S.* (John D. and Catherine T. MacArthur Foundation Research Network on Socioeconomic Status and Health, n.d.), http://www.macses.ucsf.edu/downloads/Reaching_for_a_Healthier_Life.pdf.

[9] Jessica L. Semega, Kayla R. Fontenot, and Melissa A. Kollar, *Income and Poverty in the United States: 2016* (Current Population Reports, U.S. Government Printing Office, Sept. 2017), https://census.gov/content/dam/Census/library/publications/2017/demo/P60-259.pdf; and Agency for Healthcare Research and Quality, *2016 National Healthcare Quality and Disparities Report: Executive Summary* (U.S. Department of Health and Human Services, July 2017), http://www.ahrq.gov/research/findings/nhqrdr/nhqdr16/summary.html.

[10] John E. McDonough et al., *A State Policy Agenda to Eliminate Racial and Ethnic Disparities* (The Commonwealth Fund, June 2004), http://www.commonwealthfund.org/programs/minority/mcdonough_statepolicyagenda_746.pdf; and National Partnership for Action to End Health Disparities, *National Stakeholder Strategy for Achieving Health Equity* (U.S. Department of Health and Human Services, Office of Minority Health, n.d.), https://minorityhealth.hhs.gov/npa/files/Plans/NSS/CompleteNSS.pdf.

[11] National Conference of State Legislatures, *State Approaches to Reducing Health Disparities* (NCSL, June 2017), http://www.ncsl.org/research/health/state-approaches-to-reducing-health-disparities.aspx; Association of State and Territorial Health Officials, *Health Equity Snapshots* (ASTHO, 2014), http://www.astho.org/Programs/Health-Equity/Minority-Health-Survey/2014/State-Snapshots/Map/; and Office of Minority Health, *National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care: Compendium of State-Sponsored National CLAS Standards Implementation Activities* (U.S. Department of Health and Human Services, 2016), https://www.thinkculturalhealth.hhs.gov/assets/pdfs/CLASCompendium.pdf.

[12] K. John McConnell et al., "Oregon's Emphasis on Equity Shows Signs of Early Success for Black and American Indian Medicaid Enrollees," *Health Affairs* 37, no. 3 (Mar. 2018): 386–93, https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2017.1282.

[13] Eric C. Schneider et al., *Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care* (The Commonwealth Fund, July 2017), http://www.commonwealthfund.org/interactives/2017/july/mirror-mirror/.

[14] Centers for Medicare and Medicaid Services, *Health Expenditures by State of Residence, 1991–2014* (CMS, n.d.), https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsStateHealthAccountsResidence.html.

[15] Austin Frakt and Aaron E. Carroll, "Why the U.S. Spends So Much More Than Other Nations on Health Care," *The Upshot* (blog), *New York Times,* Jan. 2, 2018, https://www.nytimes.com/2018/01/02/upshot/us-health-care-expensive-country-comparison.html; and Joseph L. Dieleman et al., "Factors Associated with Increases in U.S. Health Care Spending, 1996–2013," *JAMA* 318, no. 17 (Nov. 7, 2017): 1668–78, https://jamanetwork.com/journals/jama/article-abstract/2661579.

[16] The measure specification excludes patients with underlying conditions for which imaging may be appropriate, to the degree these conditions are captured in claims data; see National Quality Measures Clearinghouse, *Measure Summary: Use of Imaging Studies for Low Back Pain: Percentage of Members with a Primary Diagnosis of Low Back Pain Who Did Not Have an Imaging Study (Plain X-ray, MRI, CT Scan) Within 28 Days of the Diagnosis* (Agency for Healthcare Research and Quality, 2016), https://www.qualitymeasures.ahrq.gov/summaries/summary/49748 (site discontinued as of July 17, 2018).

[17] Bureau of Labor Statistics, *Consumer Price Index* (U.S. Department of Labor, 2018), https://data.bls.gov.

[18] Kevin Quealy and Margot Sanger-Katz, "The Experts Were Wrong About the Best Places for Better and Cheaper Health Care," *The Upshot* (blog), *New York Times,* Dec. 15, 2015, https://www.nytimes.com/interactive/2015/12/15/upshot/the-best-places-for-better-cheaper-health-care-arent-what-experts-thought.html; and Zack Cooper et al., *The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured,* NBER Working Paper No. 21815 (National Bureau of Economic Research, Dec. 2015), https://www.nber.org/papers/w21815.

[19] Dominique Hall and Mark A. Zezza, "McAllen, Texas: Tailored Solutions to High Spending Are Needed," *To the Point* (blog), The Commonwealth Fund, May 5, 2015, http://www.commonwealthfund.org/publications/blog/2015/may/mcallen-texas-health-spending.

[20] Anna D. Sinaiko, Karen E. Joynt, and Meredith B. Rosenthal, "Association Between Viewing Health Care Price Information and Choice of Health Care Facility," *JAMA Internal Medicine* 176, no. 12 (Dec. 1, 2016): 1868–70, https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2571612; Suzanne F. Delbanco et al., *Benefit Designs: How They Work* (Urban Institute and the Catalyst for Payment Reform, Apr. 2016), https://www.urban.org/research/publication/benefit-designs-how-they-work; Mark B. McClellan et al., *Payment Reform for Better Value and Medical Innovation: A Vital Direction for Health and Health Care* (National Academy of Medicine, Mar. 2017), https://nam.edu/wp-content/uploads/2017/03/Payment-Reform-for-Better-Value-and-Medical-Innovation.pdf; and Zirui Song et al., "Changes in Health Care Spending and Quality 4 Years into Global Payment," *New England Journal of Medicine* 371, no. 18 (Oct. 30, 2014): 1704–14, http://www.nejm.org/doi/10.1056/NEJMsa1404026.

[21] Barbara Starfield, Leiyu Shi, and James Macinko, "Contribution of Primary Care to Health Systems and Health," *Milbank Quarterly* 83, no. 3 (2005): 457–502, http://www.commonwealthfund.org/usr_doc/Starfield_Milbank.pdf; and Mark W. Friedberg, Peter S. Hussey, and Eric C. Schneider, "Primary Care: A Critical Review of the Evidence on Quality and Costs of Health Care," *Health Affairs* 29, no. 5 (May 2010): 766–72, https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2010.0025.

[22] Cathy Schoen et al., "Access, Affordability, and Insurance Complexity Are Often Worse in the United States Compared to Ten Other Countries," *Health Affairs* 32, no. 12 (Dec. 2013): 2205–15, http://www.commonwealthfund.org/publications/in-the-literature/2013/nov/access-affordability-and-insurance; and John Billings, Nina Parikh, and Tod Mijanovich, *Emergency Department Use in New York City: A Substitute for Primary Care?* (The Commonwealth Fund, March 2000), http://www.commonwealthfund.org/publications/issue-briefs/2000/mar/emergency-department-use-in-new-york-city--a-substitute-for-primary-care.

[23] Marci Nielsen et al., *The Patient-Centered Medical Home's Impact on Cost and Quality: Annual Review of Evidence, 2014–2015* (Patient-Centered Primary Care Collaborative, Feb. 2016), https://www.pcpcc.org/resource/patient-centered-medical-homes-impact-cost-and-quality-2014-2015; and Amanda R. Markovitz et al., "Patient-Centered Medical Home Implementation and Use of Preventive Services," *JAMA Internal Medicine* 175, no. 4 (Apr. 2015): 598–606, https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2110999.

[24] Sarah Klein, Martha Hostetter, and Douglas McCarthy, *The "One Care" Program at Commonwealth Care Alliance: Partnering with Medicare and Medicaid to Improve Care for Nonelderly Dual Eligibles* (The Commonwealth Fund, Dec. 2016), http://www.commonwealthfund.org/publications/case-studies/2016/dec/commonwealth-care-alliance; and Alexandra Kruse, Stephanie Gibbs, and Leah Smith, *Advancing Medicare and Medicaid Integration: Key Program Features and Factors Driving State Investment* (Center for Health Care Strategies, Nov. 2017), https://www.chcs.org/resource/advancing-medicare-medicaid-integration-key-program-features-factors-driving-state-investment.

[25] Christopher F. Koller and Dhruv Khullar, "Primary Care Spending Rate — A Lever for Encouraging Investment in Primary Care," *New England Journal of Medicine* 377, no. 18 (Nov. 2, 2017): 1709–11, http://www.nejm.org/doi/10.1056/NEJMp1709538; and Office of the Health Insurance Commissioner, *Primary Care Spending in Rhode Island: Commercial Health Insurer Compliance* (State of Rhode Island, Jan. 2014), http://www.ohic.ri.gov/documents/Primary-Care-Spending-generalprimary-care-Jan-2014.pdf.

[26] Susan L. Hayes et al., *What's at Stake: States' Progress on Health Coverage and Access to Care, 2013–2016* (The Commonwealth Fund, Dec. 2017), http://www.commonwealthfund.org/publications/issue-briefs/2017/dec/states-progress-health-coverage-and-access.

[27] Centers for Medicare and Medicaid Services, *National Partnership to Improve Dementia Care in Nursing Homes* (CMS, n.d.), https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/National-Partnership-to-Improve-Dementia-Care-in-Nursing-Homes.html. The Partnership built on the Advancing Excellence in America's Nursing Homes Campaign, launched in 2007 with support from the Commonwealth Fund; see: National Nursing Home Quality Improvement Campaign, *Campaign History* (NNHQIC, n.d.), https://www.nhqualitycampaign.org/history.aspx.

[28] Rebekah R. Rhoades and Laura A. Beebe, "Tobacco Control and Prevention in Oklahoma: Best Practices in a Preemptive State," *American Journal of Preventive Medicine* 48, no. 1, Suppl. 1 (Jan. 2015): S6–S12, http://www.ajpmonline.org/article/S0749-3797(14)00497-8/fulltext.

[29] James Lightwood and Stanton A. Glantz, "The Effect of the California Tobacco Control Program on Smoking Prevalence, Cigarette Consumption and Healthcare Costs: 1989–2008," *PLoS ONE* 8, no. 2 (Feb. 2013), https://doi.org/10.1371/journal.pone.0047145.

[30] National Center for Chronic Disease Prevention and Health Promotion, *Best Practices for Comprehensive Tobacco Control Programs — 2014* (Centers for Disease Control and Prevention, 2014), https://www.cdc.gov/tobacco/stateandcommunity/best_practices/index.htm?s_cid=cs_3281; and National Governors Association, *Health Investments That Pay Off: Taking a Comprehensive Approach to Tobacco Control* (NGA Center for Best Practices, Aug. 16, 2016), https://www.nga.org/files/live/sites/NGA/files/pdf/2016/1608HealthInvestmentsTobacco.pdf.

[31] Robert Fornango et al., *Project Evaluation Activity in Support of Partnership for Patients Interim Evaluation Report, Final September 2015* (Centers for Medicare and Medicaid Services, revised Dec. 29, 2015), https://downloads.cms.gov/files/cmmi/pfp-interimevalrpt.pdf; and David Ruiz et al., *Evaluation of the Community-Based Care Transitions Program: Final Evaluation Report* (Centers for Medicare and Medicaid Services, Nov. 2017), https://downloads.cms.gov/files/cmmi/cctp-final-eval-rpt.pdf.

[32] Lauren S. Hughes, Alon Peltz, and Patrick H. Conway, "State Innovation Model Initiative: A State-Led Approach to Accelerating Health Care System Transformation," *JAMA* 313, no. 13 (Apr. 7, 2015): 1317–18, https://jamanetwork.com/journals/jama/article-abstract/2190630; Julia C. Martinez, Martha P. King, and Richard Cauchi, *Improving the Health Care System: Seven State Strategies* (National Conference of State Legislatures, July 2016), http://www.ncsl.org/Portals/1/Documents/Health/ImprovingHealthSystemsBrief16.pdf; Martha Hostetter, Sarah Klein, and Douglas McCarthy, *Hennepin Health: A Care Delivery Paradigm for New Medicaid Beneficiaries* (The Commonwealth Fund, Oct. 2016), http://www.commonwealthfund.org/publications/case-studies/2016/oct/hennepin-health; and Sara Rosenbaum et al., *Medicaid Payment and Delivery System Reform: Early Insights from 10 Medicaid Expansion States* (The Commonwealth Fund, Oct. 2017), http://www.commonwealthfund.org/publications/issue-briefs/2017/oct/medicaid-payment-reform-10-expansion-states.

[33] Qian Gu et al., "The Medicare Hospital Readmissions Reduction Program: Potential Unintended Consequences for Hospitals Serving Vulnerable Populations," *Health Services Research* 49, no. 3 (June 2014): 818–37, https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-6773.12150; Andrew M. Ibrahim et al., "Association of Coded Severity with Readmission Reduction After the Hospital Readmissions Reduction Program," *JAMA Internal Medicine* 178, no. 2 (Feb. 1, 2018): 290–92, https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2663252; and Ashish K. Jha, "To Fix the Hospital Readmissions Program, Prioritize What Matters," *JAMA* 319, no. 5 (Feb. 6, 2018): 431–33, https://jamanetwork.com/journals/jama/fullarticle/2671454.

[34] Sharon Silow-Carroll and Greg Moody, *Lessons from High- and Low-Performing States for Raising Overall Health System Performance* (The Commonwealth Fund, May 2011), http://www.commonwealthfund.org/publications/issue-briefs/2011/may/high-and-low-performing-states.

[35] Benjamin D. Sommers et al., "Changes in Utilization and Health Among Low-Income Adults After Medicaid Expansion or Expanded Private Insurance," *JAMA Internal Medicine,* published online Aug. 8, 2016, http://www.commonwealthfund.org/publications/in-the-literature/2016/aug/changes-utilization-health-low-income; and Benjamin D. Sommers et al., "Three-Year Impacts of the Affordable Care Act: Improved Medical Care and Health Among Low-Income Adults," *Health Affairs* Web First, published online May 17, 2017; http://www.commonwealthfund.org/publications/in-the-literature/2017/may/aca-improved-medical-care-and-health.

[36] Sabrina Corlette, Kevin Lucia, and Maanasa Kona, "States Step Up to Protect Consumers in Wake of Cuts to ACA Cost-Sharing Reduction Payments," *To the Point* (blog), The Commonwealth Fund, Oct. 27, 2017, http://www.commonwealthfund.org/publications/blog/2017/oct/states-protect-consumers-in-wake-of-aca-cost-sharing-payment-cuts; Justin Giovannelli and Ashley Williams, "Regulation of Narrow Networks: With Federal Protections in Jeopardy, State Approaches Take on Added Significance," *To the Point* (blog), The Commonwealth Fund, Jan. 31, 2017, http://www.commonwealthfund.org/publications/blog/2017/feb/regulation-of-narrow-networks.

[37] Bailit Health and National Association of Medicaid Directors, *The Role of State Medicaid Programs in Improving the Health Care System* (NAMD, Mar. 22, 2016), http://medicaiddirectors.org/wp-content/uploads/2016/03/NAMD_Bailit-Health_Value-Based-Purchasing-in-Medicaid.pdf; and Michael Bailit, Megan Burns, and Mary Beth Dyer, *Value-Based-Innovation by State Public Employee Health Benefits Programs* (State Health and Value Strategies, Princeton University Woodrow Wilson School of Public and International Affairs, Nov. 2017), https://www.shvs.org/resource/value-based-innovation-by-state-public-employee-health-benefits-programs.

[38] Kate Johnson et al., *Getting the Right Information to the Right Health Care Providers at the Right Time: A Road Map for States to Improve Health Information Flow Between Providers* (National Governors Association Center for Best Practices, Dec. 2016), https://www.nga.org/cms/center/publications/health/health-information-flow.

[39] Deborah Bachrach, Jocelyn Guyer, and Ariel Levin, *Medicaid Coverage of Social Interventions: A Road Map for States* (Milbank Memorial Fund, July 2016), https://www.milbank.org/publications/medicaid-coverage-social-interventions-road-map-states.

[40] National Conference of State Legislatures, *Primary Care Workforce: A Health Care Safety-Net Toolkit for State Legislators* (NCSL, 2013), http://www.ncsl.org/documents/health/PCWorkforceTK13.pdf.

[41] Michelle M. Doty, Munira Z. Gunja, and Sara R. Collins, "Coverage Gains Among Lower-Income Blacks and Latinos Highlight ACA's Successes and Areas for Improvement," *To the Point* (blog), The

Commonwealth Fund, Aug. 15, 2017, http://www.commonwealthfund.org/publications/blog/2017/aug/coverage-gains-blacks-and-latinos; and Susan L. Hayes et al., *Reducing Racial and Ethnic Disparities in Access to Care: Has the Affordable Care Act Made a Difference?* (The Commonwealth Fund, Aug. 2017), http://www.commonwealthfund.org/publications/issue-briefs/2017/aug/racial-ethnic-disparities-care.

[42] David Blumenthal, "The ACA at Eight: Resilient But Still at Risk," *To the Point* (blog), The Commonwealth Fund, Mar. 23, 2018, http://www.commonwealthfund.org/publications/blog/2018/mar/aca-at-eight.

[43] Kevin Lucia et al., *State Regulation of Coverage Options Outside of the Affordable Care Act: Limiting the Risk to the Individual Market* (The Commonwealth Fund, Mar. 2018), http://www.commonwealthfund.org/publications/fund-reports/2018/mar/state-regulation-coverage-options-outside-aca; and Michael Ollove, "To Curb Rising Health Insurance Costs, Some States Try 'Reinsurance Pools'," *Stateline* (blog), Pew Charitable Trusts, Apr. 9, 2018, http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/04/09/to-curb-rising-health-insurance-costs-some-states-try-reinsurance-pools.

[44] Kelly Murphy et al., *Finding Solutions to the Prescription Opioid and Heroin Crisis: A Road Map for States* (National Governors Association Center for Best Practices, July 2016), https://www.nga.org/cms/finding-solutions-to-the-prescription-opioid-and-heroin-crisis-a-road-map-for-states.

[45] April Grady, Patricia M. Boozang, and Cindy Mann, *Estimated Budget Impacts of Expanding MaineCare, Prepared for the Maine Health Access Foundation* (Manatt Health, Feb. 28, 2018), https://www.manatt.com/Insights/White-Papers/2018/Estimated-Budget-Impacts-of-Expanding-MaineCare; Elizabeth H. Kilbreth, *The Real Impact of Medicaid Expansion in Maine* (Maine Equal Justice Partners, Sept. 26, 2017), http://www.mejp.org/sites/default/files/Medicaid-Expansion-The-Real-Impact-Kilbreth-Sep2017.pdf; and Yes on 2, Mainers for Health Care, "Get the Facts on Question 2: Medicaid Expansion Will Help Maine," (see question 14 in document), http://mejp.org/sites/default/files/Medicaid-Expansion-Get-the-Facts-10-5-17.pdf.

[46] New Hampshire Fiscal Policy Institute, "Medicaid Expansion in New Hampshire and the State Senate's Proposed Changes," Mar. 30, 2018, http://nhfpi.org/research/health-policy/medicaid-expansion-in-new-hampshire-and-the-state-senates-proposed-changes.html.

[47] The Centers for Medicare and Medicaid Services reports hospital mortality over a three-year time frame.

[48] SCAN Foundation Pacesetter Prize winners are selected based on data in the AARP LTSS State Scorecard, published with support from the Commonwealth Fund, http://www.thescanfoundation.org/new-york-wins-pacesetter-prize-effective-transitions.

[49] Deborah Bachrach et al., *Implementing New York's DSRIP Program: Implications for Medicaid Payment and Delivery System Reform* (The Commonwealth Fund, Apr. 2016), http://www.commonwealthfund.org/publications/fund-reports/2016/apr/new-york-dsrip-medicaid.

[50] "MAX: Achieving Large-Scale Transformation By Engaging Front-Line Action Teams," *Health Affairs Blog,* Mar. 30, 2018, https://www.healthaffairs.org/do/10.1377/hblog20180327.761736/full/.

[51] New York State Department of Health, *The New York State Health Innovation Plan* (NYSDOH, n.d.), https://www.health.ny.gov/technology/innovation_plan_initiative/; and New York State Department of Health, *Medicaid Health Homes — Comprehensive Care Management* (NYSDOH, n.d.), https://www.health.ny.gov/health_care/medicaid/program/medicaid_health_homes/.

## ABOUT THE AUTHORS

**David C. Radley, Ph.D., M.P.H.**, is senior scientist for the Commonwealth Fund's Tracking Health System Performance initiative, working on the Scorecard project. Dr. Radley and his team develop national, state, and substate regional analyses on health care system performance and related insurance and care system market structure analyses. He is also a senior study director at Westat, a research firm that supports the Scorecard project. Previously, he was associate in domestic health policy for Abt Associates, with responsibility for a number of projects related to measuring long-term care quality and evaluating health information technology initiatives. Dr. Radley received his Ph.D. in health policy from the Dartmouth Institute for Health Policy and Clinical Practice, and holds a B.A. from Syracuse University and an M.P.H. from Yale University.

**Douglas McCarthy, M.B.A.**, is senior research director for the Commonwealth Fund. He leads a team that has conducted more than 100 case studies of promising practices and innovations in health care delivery. He helped develop the Fund's Scorecards on State Health System Performance and led their production from 2014 to 2018. His 30-year career has spanned roles in government, corporate, and nonprofit organizations, including the Institute for Healthcare Improvement and UnitedHealth Group's Center for Health Care Policy and Evaluation. He was a public policy fellow at the University of Minnesota's Humphrey School of Public Affairs and a leadership fellow of the Denver-based Regional Institute for Health and Environmental Leadership. He serves on the board of Colorado's Center for Improving Value in Health Care.

**Susan L. Hayes, M.P.A.**, is senior researcher for the Commonwealth Fund's Tracking Health System Performance initiative. In this role she supports the Scorecard project, actively participating in the selection/development, research, and analysis of national, state, local, and special-population-level health system performance measures, and coauthoring Scorecard reports and related publications. Ms. Hayes holds an M.P.A. from New York University's Wagner School of Public Service, where she won the Martin Dworkis Memorial Award for academic achievement and public service. She graduated from Dartmouth College with an A.B. in English and began a distinguished career in journalism, working as an editorial assistant at *PC Magazine* and a senior editor at *National Geographic Kids* and later at *Woman's Day* magazine. Following that period, Ms. Hayes was a freelance health writer and a contributing editor to *Parent & Child* magazine and cowrote a book on raising bilingual children with a pediatrician at Tufts Medical Center.

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## APPENDIX A1. State Scorecard Data Years and Databases

| | Indicator | Past year | Current year | Database |
|---|---|---|---|---|
| | **Access and Affordability** | | | |
| 1 | Adults ages 19–64 uninsured | 2013 | 2016 | ACS PUMS |
| 2 | Children ages 0–18 uninsured | 2013 | 2016 | ACS PUMS |
| 3 | Adults without a usual source of care | 2013 | 2016 | BRFSS |
| 4 | Adults who went without care because of cost in past year | 2013 | 2016 | BRFSS |
| 5 | Individuals with high out-of-pocket medical spending | 2013-14 | 2015-16 | CPS ASEC |
| 6 | Employee insurance costs as a share of median income | 2013 | 2016 | MEPS-IC |
| 7 | Adults without a dental visit in past year | 2012 | 2016 | BRFSS |
| | **Prevention and Treatment** | | | |
| 8 | Adults without all age- and gender-appropriate cancer screenings | 2012 | 2016 | BRFSS |
| 9 | Adults without all age-appropriate recommended vaccines | 2013 | 2016 | BRFSS |
| 10 | Diabetic adults ages 18–64 without a hemoglobin A1c test | -- | 2015 | Truven MarketScan |
| 11 | Medicare beneficiaries received a high-risk drug | 2012 | 2014 | 5% Medicare enrolled in Part D |
| 12 | Children without all components of a medical home | -- | 2016 | NSCH |
| 13 | Children without both a medical and dental preventive care visit in past year | -- | 2016 | NSCH |
| 14 | Children who did not receive needed mental health treatment | -- | 2016 | NSCH |
| 15 | Children ages 19–35 months without all recommended vaccines | 2013 | 2016 | NIS |
| 16 | Hospital 30-day mortality | 07/2010 - 06/2013 | 07/2013 - 06/2016 | CMS Hospital Compare |
| 17 | Central line-associated bloodstream infection (CLABSI) | -- | 2015 | CDC HAI Progress Report |
| 18 | Hospital patients discharged without instructions for home recovery | 2013 | 2016 | HCAHPS (via CMS Hospital Compare) |
| 19 | Hospital patients who did not receive patient-centered care | 2013 | 2016 | HCAHPS (via CMS Hospital Compare) |
| 20 | Home health patients who did not get better at walking or moving around | 2013 | 2016 | OASIS (via CMS Home Health Compare) |
| 21 | Nursing home residents with an antipsychotic medication | 2013 | 2016 | MDS (via CMS Nursing Home Compare) |
| 22 | Adults with any mental illness reporting unmet need | 2009-2011 | 2013-2015 | NSDUH (via State of Mental Health in America report) |
| 23 | Adults with any mental illness who did not receive treatment | 2009-2011 | 2013-2015 | NSDUH (via State of Mental Health in America report) |
| | **Avoidable Hospital Use and Cost** | | | |
| 24 | Hospital admissions for pediatric asthma, per 100,000 children | 2012 | 2014 | HCUP (via AHRQ National Healthcare Quality Report) |
| 25 | Potentially avoidable emergency department visits | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | -- | 2015 | Truven MarketScan |
| | Age 65 and older, per 1,000 Medicare beneficiaries | 2012 | 2015 | Medicare SAF |
| 26 | Admissions for ambulatory care–sensitive conditions | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | -- | 2015 | Truven MarketScan |
| | Ages 65–74, per 1,000 Medicare beneficiaries | 2012 | 2015 | CCW (via CMS Geographic Variation Public Use File) |
| | Age 75 and older, per 1,000 Medicare beneficiaries | 2012 | 2015 | CCW (via CMS Geographic Variation Public Use File) |
| 27 | 30-day hospital readmissions | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | 2015 | 2015 | Truven MarketScan |
| | Age 65 and older, per 1,000 Medicare beneficiaries | 2012 | 2015 | CCW (via CMS Geographic Variation Public Use File) |
| 28 | Short-stay nursing home residents with a 30-day readmission to the hospital | 2012 | 2014 | MedPAR, MDS |
| 29 | Long-stay nursing home residents with a hospital admission | 2012 | 2014 | MedPAR, MDS |
| 30 | Home health patients also enrolled in Medicare with a hospital admission | 2013 | 2016 | OASIS (via CMS Home Health Compare) |
| 31 | Adults ages 18–50 with low back pain who had an imaging study at diagnosis | -- | 2015 | Truven MarketScan |
| 32 | Total reimbursements per enrollee (ages 18–64) with employer-sponsored insurance | 2013 | 2015 | Truven MarketScan |
| 33 | Total Medicare (Parts A & B) reimbursements per enrollee | 2012 | 2015 | CCW (via CMS Geographic Variation Public Use File) |
| | **Healthy Lives** | | | |
| 34 | Mortality amenable to health care, deaths per 100,000 population | 2012-13 | 2014-15 | CDC NVSS: Mortality Restricted Use File |
| 35 | Breast cancer deaths per 100,000 female population | 2013 | 2016 | CDC NVSS: WONDER |
| 36 | Colorectal cancer deaths per 100,000 population | 2013 | 2016 | CDC NVSS: WONDER |
| 37 | Deaths from suicide, alcohol, and drug use per 100,000 population | 2013 | 2016 | CDC NVSS: WONDER |
| 38 | Infant mortality, deaths per 1,000 live births | 2012 | 2015 | CDC NVSS: WONDER |
| 39 | Adults ages 18–64 who report fair/poor health | 2013 | 2016 | BRFSS |
| 40 | Adults who smoke | 2013 | 2016 | BRFSS |
| 41 | Adults who are obese | 2013 | 2016 | BRFSS |
| 42 | Children who are overweight or obese | -- | 2016 | NSCH |
| 43 | Adults who have lost six or more teeth | 2012 | 2016 | BRFSS |

Note: (--) Previous data not available or its definition is not comparable over time. See Appendix H for definitions.

## APPENDIX A2. List of 43 Indicators in the 2018 Scorecard on State Health System Performance

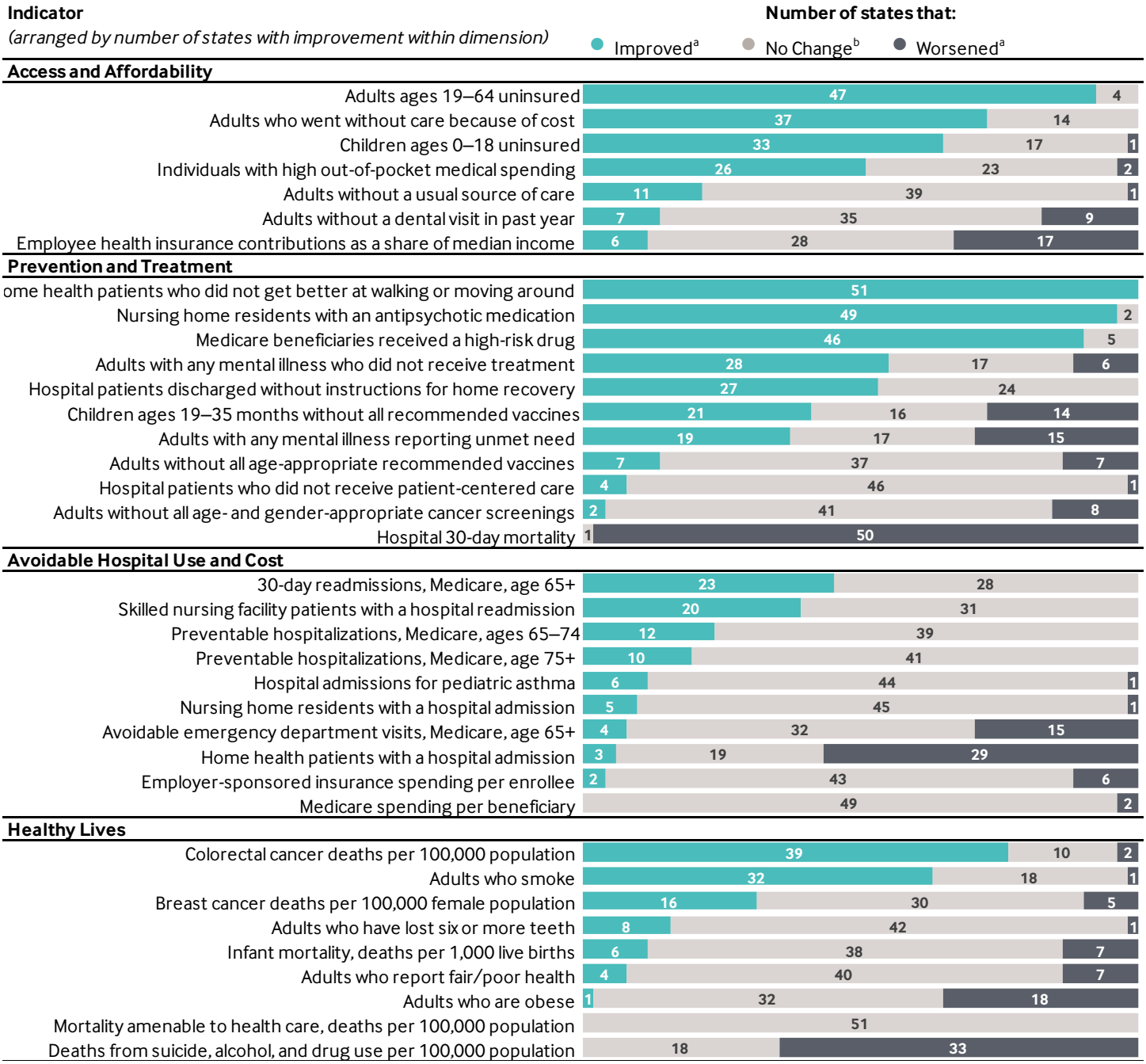
| | Indicator | Data years represented | | U.S. average rate | | | Range of state performance | |
|---|---|---|---|---|---|---|---|---|
| | | Baseline | 2018 Scorecard | Baseline | 2018 Scorecard | | Baseline | 2018 Scorecard |
| | **Access and Affordability** | | | | | | | |
| 1 | Adults ages 19–64 uninsured | 2013 | 2016 | 20 | 12 | ** | 5 - 30 | 4 - 23 |
| 2 | Children ages 0–18 uninsured | 2013 | 2016 | 8 | 5 | ** | 2 - 14 | 1 - 11 |
| 3 | Adults without a usual source of care | 2013 | 2016 | 24 | 22 | | 12 - 35 | 11 - 32 |
| 4 | Adults who went without care because of cost | 2013 | 2016 | 16 | 13 | * | 7 - 22 | 7 - 19 |
| 5 | Individuals with high out-of-pocket medical spending | 2013-14 | 2015-16 | 15 | 14 | | 10 - 22 | 9 - 19 |
| 6 | Employee insurance costs as a share of median income | 2013 | 2016 | 6 | 6 | | 3 - 8 | 4 - 9 |
| 7 | Adults without a dental visit in past year | 2012 | 2016 | 15 | 16 | | 10 - 20 | 10 - 20 |
| | **Prevention and Treatment** | | | | | | | |
| 8 | Adults without all age- and gender-appropriate cancer screenings | 2012 | 2016 | 31 | 32 | | 21 - 40 | 24 - 40 |
| 9 | Adults without all age-appropriate recommended vaccines | 2013 | 2016 | 64 | 63 | | 53 - 72 | 54 - 70 |
| 10 | Diabetic adults ages 18–64 without a hemoglobin A1c test | -- | 2015 | -- | 17 | | -- | 11 - 24 |
| 11 | Medicare beneficiaries received a high-risk drug | 2012 | 2014 | 17 | 13 | ** | 9 - 24 | 7 - 21 |
| 12 | Children without all components of a medical home | -- | 2016 | -- | 51 | | -- | 40 - 66 |
| 13 | Children without both a medical and dental preventive care visit | -- | 2016 | -- | 32 | | -- | 20 - 41 |
| 14 | Children who did not receive needed mental health treatment | -- | 2016 | -- | 18 | | -- | 5 - 34 |
| 15 | Children ages 19–35 months without all recommended vaccines | 2013 | 2016 | 30 | 29 | | 18 - 43 | 15 - 42 |
| 16 | Hospital 30-day mortality | 2010-2013 | 2013-2016 | 13.2 | 14.1 | ** | 12.2 - 14.1 | 13 - 15.4 |
| 17 | Central line-associated bloodstream infection (CLABSI) | -- | 2015 | -- | 0.99 | | -- | 0.32 - 1.43 |
| 18 | Hospital patients discharged without instructions | 2013 | 2016 | 14 | 13 | | 10 - 22 | 9 - 18 |
| 19 | Hospital patients who did not receive patient-centered care | 2013 | 2016 | 32 | 32 | | 28 - 42 | 27 - 43 |
| 20 | Home health patients without improved mobility | 2013 | 2016 | 39 | 29 | ** | 34 - 51 | 23 - 40 |
| 21 | Nursing home residents with an antipsychotic medication | 2013 | 2016 | 21 | 16 | ** | 11 - 27 | 8 - 20 |
| 22 | Adults with any mental illness reporting unmet need | 2009-2011 | 2013-2015 | 21 | 20 | | 14 - 30 | 14 - 25 |
| 23 | Adults with any mental illness who did not receive treatment | 2009-2011 | 2013-2015 | 59 | 56 | * | 45 - 73 | 41 - 66 |
| | **Avoidable Hospital Use and Cost** | | | | | | | |
| 24 | Hospital admissions for pediatric asthma, per 100,000 children | 2012 | 2014 | 143 | 106 | * | 28 - 231 | 22 - 243 |
| 25 | Potentially avoidable emergency department visits [a] | | | | | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | -- | 2015 | -- | 159 | | -- | 130 - 203 |
| | Age 65 and older, per 1,000 Medicare beneficiaries | 2012 | 2015 | 188 | 197 | | 131 - 248 | 138 - 251 |
| 26 | Admissions for ambulatory care–sensitive conditions[a] | | | | | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | -- | 2015 | -- | 5 | | -- | 3 - 6 |
| | Ages 65–74, per 1,000 Medicare beneficiaries | 2012 | 2015 | 29 | 26 | | 13 - 51 | 14 - 45 |
| | Age 75 and older, per 1,000 Medicare beneficiaries | 2012 | 2015 | 70 | 66 | | 41 - 100 | 33 - 93 |
| 27 | 30-day hospital readmissions [a] | | | | | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | -- | 2015 | -- | 2.9 | | -- | 1.2 - 5.46 |
| | Age 65 and older, per 1,000 Medicare beneficiaries | 2012 | 2015 | 49 | 42 | * | 26 - 65 | 21 - 55 |
| 28 | Skilled nursing facility patients with a hospital readmission | 2012 | 2014 | 20 | 19 | | 13 - 26 | 11 - 25 |
| 29 | Long-stay nursing home residents with a hospital admission | 2012 | 2014 | 17 | 16 | | 7 - 30 | 5 - 28 |
| 30 | Home health patients with a hospital admission | 2013 | 2016 | 16 | 16.4 | | 14 - 18 | 14 - 18.4 |
| 31 | Adults with inappropriate lower back imaging | -- | 2015 | 29 | 29 | | 16 - 41 | 16 - 41 |
| 32 | Total employer-sponsored insurance spending per enrollee | 2013 | 2015 | $4,697 | $4,736 | | 3117 - 7186 | 3347 - 8902 |
| 33 | Total Medicare (Parts A & B) reimbursements per enrollee | 2012 | 2015 | $8,854 | $9,025 | | 5399 - 10868 | 5586 - 10851 |
| | **Healthy Lives** | | | | | | | |
| 34 | Mortality amenable to health care, deaths per 100,000 population | 2012-13 | 2014-15 | 83.7 | 84.3 | | 55.6 - 136.7 | 54.7 - 142.4 |
| 35 | Breast cancer deaths per 100,000 female population | 2013 | 2016 | 21 | 20 | | 15.5 - 29.8 | 13.6 - 23.7 |
| 36 | Colorectal cancer deaths per 100,000 population | 2013 | 2016 | 14.6 | 13.1 | * | 10.9 - 19.8 | 10.1 - 17.4 |
| 37 | Deaths from suicide, alcohol, and drug use per 100,000 population | 2013 | 2016 | 35.6 | 43.2 | * | 25.7 - 61.8 | 28.5 - 83.1 |
| 38 | Infant mortality, deaths per 1,000 live births | 2012 | 2015 | 6.0 | 5.9 | | 4.2 - 8.9 | 4.1 - 9.5 |
| 39 | Adults who report fair/poor health | 2013 | 2016 | 16 | 16 | | 10 - 22 | 10 - 24 |
| 40 | Adults who smoke | 2013 | 2016 | 18 | 16 | * | 10 - 27 | 9 - 25 |
| 41 | Adults who are obese | 2013 | 2016 | 29 | 30 | | 22 - 37 | 22 - 39 |
| 42 | Children who are overweight or obese | -- | 2016 | -- | 31 | | -- | 19 - 38 |
| 43 | Adults who have lost six or more teeth | 2012 | 2016 | 10 | 10 | | 6 - 23 | 6 - 21 |

Notes: (a) State rates are averaged across age cohorts for purposes of scoring, but indicators are counted separately for evaluating change over time. (--) Previous data are not shown because of changes in the indicators' definitions or data were not available. * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more.

## APPENDIX A3. National and Regional Performance Benchmarks

| | | National | | Midwest | | Northeast | | South | | West | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Indicator | Rate | Best state(s)[a] | Rate | Best state(s)[a] | Rate | Best state(s)[a] | Rate | Best state(s)[a] | Rate | Best state(s)[a] |
| | **Access and Affordability** | | | | | | | | | | |
| 1 | Adults ages 19–64 uninsured | 4 | MA | 6 | IA, MN | 4 | MA | 5 | DC | 5 | HI |
| 2 | Children ages 0–18 uninsured | 1 | MA | 2 | IA | 1 | MA | 2 | WV | 2 | HI |
| 3 | Adults without a usual source of care | 11 | MA | 15 | MI | 11 | MA | 15 | MD | 15 | HI |
| 4 | Adults who went without care because of cost | 7 | HI | 8 | IA, ND | 8 | VT | 9 | DC | 7 | HI |
| 5 | Individuals with high out-of-pocket medical spending | 9 | DC, RI | 10 | MN | 9 | RI | 9 | DC | 11 | HI |
| 6 | Employee insurance costs as a share of median income | 4 | HI, MI | 4 | MI | 5 | CT, MA, NH, NJ, NY, PA, VT | 5 | DC, MD | 4 | HI |
| 7 | Adults without a dental visit in past year | 10 | CT | 12 | IA, MN, WI | 10 | CT | 14 | DC, DE, VA | 12 | HI |
| | **Prevention and Treatment** | | | | | | | | | | |
| 8 | Adults without all age- and gender-appropriate cancer screenings | 24 | CT | 28 | WI | 24 | CT | 25 | DC | 26 | HI |
| 9 | Adults without all age-appropriate recommended vaccines | 54 | SD | 54 | SD | 56 | RI | 58 | MD, NC, WV | 59 | CO |
| 10 | Diabetic adults ages 18–64 without a hemoglobin A1c test | 11 | MN | 11 | MN | 16 | MA | 13 | NC, TN | 13 | WA |
| 11 | Medicare beneficiaries received a high-risk drug | 7 | MN | 7 | MN | 9 | MA, NY, RI, VT | 11 | DE | 9 | HI |
| 12 | Children without all components of a medical home | 40 | VT | 42 | IA | 40 | VT | 42 | MD | 43 | UT |
| 13 | Children without both a medical and dental preventive care visit | 20 | VT | 28 | IL | 20 | VT | 25 | SC | 27 | WA |
| 14 | Children who did not receive needed mental health treatment | 5 | NH | 7 | IA, MI | 5 | NH | 9 | DE | 7 | WY |
| 15 | Children ages 19–35 months without all recommended vaccines | 15 | MA | 19 | NE | 15 | MA | 22 | DE, NC | 24 | CO, WA |
| 16 | Hospital 30-day mortality | 13 | DE, MA | 13.6 | OH | 13 | MA | 13 | DE | 13.7 | CA |
| 17 | Central line-associated bloodstream infection (CLABSI) | 0.32 | HI | 0.65 | SD | 0.75 | MA | 0.74 | WV | 0.32 | HI |
| 18 | Hospital patients discharged without instructions | 9 | VT | 10 | NE, WI | 9 | VT | 12 | NC, SC, VA | 10 | ID, UT |
| 19 | Hospital patients who did not receive patient-centered care | 27 | LA, SD | 27 | SD | 29 | ME | 27 | LA | 29 | ID, MT, WY |
| 20 | Home health patients without improved mobility | 23 | MS | 28 | MO, ND | 27 | PA | 23 | MS | 25 | UT |
| 21 | Nursing home residents with an antipsychotic medication | 8 | HI | 13 | MI, WI | 12 | NJ | 12 | DC | 8 | HI |
| 22 | Adults with any mental illness reporting unmet need | 14 | HI | 19 | NE, WI | 16 | MA | 17 | DE, TX | 14 | HI |
| 23 | Adults with any mental illness who did not receive treatment | 41 | ME | 44 | MN | 41 | ME | 50 | NC | 48 | MT |
| | **Avoidable Hospital Use and Cost** | | | | | | | | | | |
| 24 | Hospital admissions for pediatric asthma, per 100,000 children | 22 | VT | 61 | ND | 22 | VT | 74 | TN | 48 | OR |
| 25 | Potentially avoidable emergency department visits [a] | | | | | | | | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | 130 | CA | 139 | MN | 142 | MA | 148 | MD | 130 | CA |
| | Age 65 and older, per 1,000 Medicare beneficiaries | 138 | HI | 155 | SD | 174 | VT | 179 | DE | 138 | HI |
| 26 | Admissions for ambulatory care–sensitive conditions[a] | | | | | | | | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | 3 | WA | 4 | IA, MN, ND, SD, WI | 4 | CT, MA, ME, NH, RI, VT | 4 | NC | 3 | WA |
| | Ages 65–74, per 1,000 Medicare beneficiaries | 14 | CO, UT | 19 | MN | 20 | VT | 23 | VA | 14 | CO, UT |
| | Age 75 and older, per 1,000 Medicare beneficiaries | 33 | HI | 52 | MN | 58 | VT | 62 | SC, VA | 33 | HI |
| 27 | 30-day hospital readmissions [a] | | | | | | | | | | |
| | Ages 18–64, per 1,000 employer-insured enrollees | 1.2 | AL | 2.68 | IA | 2.14 | ME | 1.2 | AL | 1.37 | UT |
| | Age 65 and older, per 1,000 Medicare beneficiaries | 21 | HI | 31 | SD | 32 | VT | 37 | SC | 21 | HI |
| 28 | Skilled nursing facility patients with a hospital readmission | 11 | AK | 14 | ND, SD | 15 | VT | 18 | NC | 11 | AK |
| 29 | Nursing home residents with a hospital admission | 5 | HI | 7 | MN | 9 | RI | 16 | DE, MD, NC | 5 | HI |
| 30 | Home health patients with a hospital admission | 14 | UT | 16.2 | WI | 16.3 | RI | 15.9 | FL, TX | 14 | UT |
| 31 | Adults with inappropriate lower back imaging | 16 | ND | 16 | ND | 23 | ME, VT | 28 | DE | 20 | OR |
| 32 | Total employer-sponsored insurance spending per enrollee | 3347 | MS | $3,818 | MI | $4,333 | RI | $3,347 | MS | $3,667 | HI |
| 33 | Total Medicare (Parts A & B) reimbursements per enrollee | 5586 | HI | $7,682 | SD | $7,231 | VT | $8,172 | VA | $5,586 | HI |
| | **Healthy Lives** | | | | | | | | | | |
| 34 | Mortality amenable to health care, deaths per 100,000 population | 54.7 | MN | 54.7 | MN | 57.7 | NH | 80.2 | VA | 60.7 | UT |
| 35 | Breast cancer deaths per 100,000 female population | 13.6 | VT | 17 | MN | 14 | VT | 19 | FL | 15 | HI |
| 36 | Colorectal cancer deaths per 100,000 population | 10.1 | UT | 11.9 | MN | 10.4 | CT | 12.4 | NC | 10.1 | UT |
| 37 | Deaths from suicide, alcohol, and drug use per 100,000 population | 28.5 | NE | 28.5 | NE | 32.8 | NY | 35.1 | GA | 31.2 | HI |
| 38 | Infant mortality, deaths per 1,000 live births | 4.1 | NH | 4.2 | IA | 4.1 | NH | 5.7 | TX | 4.4 | CA |
| 39 | Adults who report fair/poor health | 10 | DC | 11 | MN, SD | 12 | VT | 10 | DC | 11 | UT |
| 40 | Adults who smoke | 9 | UT | 15 | MN | 13 | CT | 14 | MD, TX | 9 | UT |
| 41 | Adults who are obese | 22 | DC | 28 | MN | 23 | MA | 22 | DC | 23 | CO |
| 42 | Children who are overweight or obese | 19 | UT | 27 | IL | 22 | VT | 27 | VA | 19 | UT |
| 43 | Adults who have lost six or more teeth | 6 | CA, DC, HI, UT | 7 | MN, NE | 7 | CT | 6 | DC | 6 | CA, HI, UT |

## APPENDIX A4. Change in State Health System Performance by Indicator



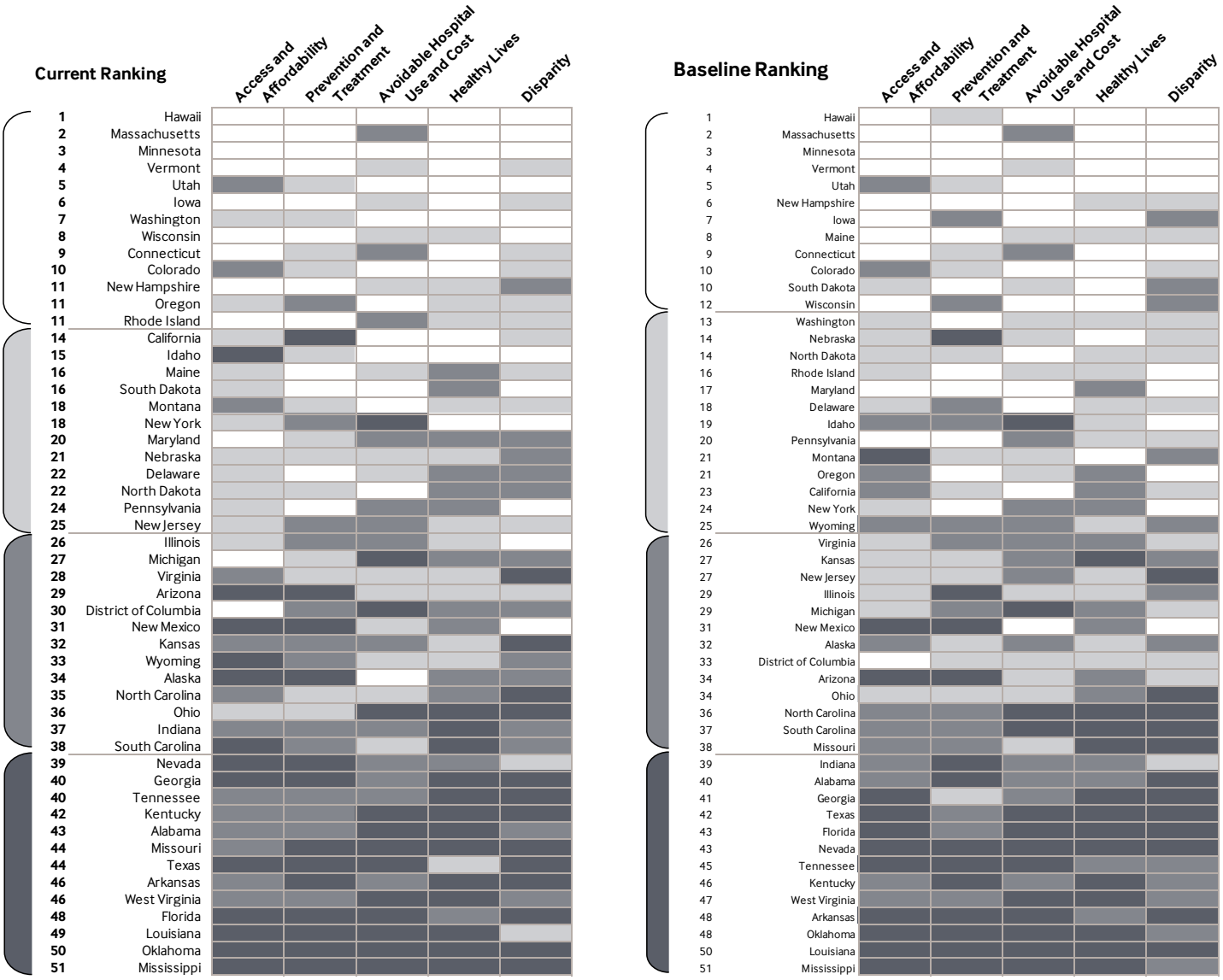

Notes: Only Scorecard indicators with trends are shown. Trend data generally reflect the two- to three-year period ending in 2015 or 2016 — refer to Appendix A1 for additional detail (trend data were not available for all indicators). For purposes of this analysis we count the District of Columbia as a state. (a) Improvement or worsening refers to a change between the baseline and current time periods of at least 0.5 standard deviations. (b) Includes the number of states with no change or without sufficient data for this subpopulation to assess change over time.

## APPENDIX A5. National Cumulative Impact if All States Achieved Top State Rate

| Indicator | If all states improved their performance to the level of the best-performing state* for this indicator, then: | |
|---|---|---|
| Insured adults | **15,435,831** | more adults (ages 19–64) would be covered by health insurance (public or private), and therefore would be more likely to receive health care when needed. |
| Insured children | **3,126,010** | more children (ages 0–18) would be covered by health insurance (public or private), and therefore would be more likely to receive health care when needed. |
| Went without care because of cost | **14,779,499** | fewer adults (age 18 and older) would go without needed health care because of cost. |
| High out-of-pocket medical spending | **13,554,907** | fewer individuals would be burdened by high out-of-pocket spending on medical care. |
| Adult usual source of care | **26,451,243** | more adults (age 18 and older) would have a usual source of care to help ensure that care is coordinated and accessible when needed. |
| Adult cancer screening | **11,063,985** | more adults would receive age- and gender-appropriate recommended cancer screenings, including tests for colon, breast, and cervical cancers. |
| Adult vaccines | **24,308,576** | more adults would receive age- appropriate recommended vaccines. |
| Children with a medical home | **8,470,792** | more children (ages 0–17) would have a medical home to help ensure that care is coordinated and accessible when needed. |
| Children vaccines | **837,144** | more children (ages 19–35 months) would receive all recommended vaccines. |
| Children with preventive medical and dental visits | **9,332,953** | more children (ages 0–17) would receive annual preventive medical and dental care visits each year. |
| Medicare received a high-risk drug | **1,066,097** | fewer Medicare beneficiaries would receive an inappropriately prescribed medication. |
| Preventable hospital admissions among children | **62,199** | fewer children (ages 2–17) would be hospitalized for asthma exacerbations. |
| Hospital readmissions | **440,000** | fewer hospital readmissions would occur.[a] |
| Potentially avoidable emergency department visits | **5.7 million** | fewer emergency department visits for nonemergent or primary care–treatable conditions would occur.[a] |
| Mortality amenable to health care | **89,462** | fewer premature deaths (before age 75) might occur from causes that are potentially treatable or preventable with timely and appropriate health care. |
| Breast cancer deaths | **10,623** | fewer women would die from breast cancer. |
| Colon cancer deaths | **9,611** | fewer individuals would die from colon cancer. |
| Deaths of despair | **47,095** | fewer deaths from alcohol, suicide, alcohol, and drug use. |
| Infant mortality | **7,161** | more infants would live to see their first birthday. |
| Adults who smoke | **17,242,749** | fewer adults would smoke, reducing their risk of lung and heart disease. |
| Adults who are obese | **15,764,091** | fewer adults would be obese, with body weights that increase their risk for disease and long-term complications. |
| Children who are overweight or obese | **4,049,354** | fewer children (ages 10–17) would be overweight or obese, thus reducing the potential for poor health as they transition into adulthood. |
| Adults with tooth loss | **7,882,045** | fewer adults (ages 18–64) would have lost six or more teeth to decay, infection, or gum disease. |

* Performance benchmarks set at the level achieved by the top-performing state with available data for this indicator.
[a] Estimate based on working-age population ages 18–64 with employer-sponsored insurance and Medicare beneficiaries age 65 and older.

## APPENDIX B1. State Scorecard Summary of Health System Performance Across Dimensions



## APPENDIX B2. Summary of State Rankings in 2018 Scorecard

| State | 2018 Scorecard rankings | | | | | | Overall ranking in the baseline time period[a] |
|---|---|---|---|---|---|---|---|
| | Overall ranking | Access and Affordability | Prevention and Treatment | Avoidable Hospital Use and Cost | Healthy Lives | Disparity | |
| Alabama | 43 | 38 | 34 | 42 | 44 | 34 | 40 |
| Alaska* | 34 | 39 | 48 | 10 | 30 | 33 | 32 |
| Arizona* | 29 | 42 | 39 | 17 | 17 | 13 | 34 |
| Arkansas* | 46 | 35 | 43 | 38 | 49 | 39 | 48 |
| California* | 14 | 23 | 40 | 11 | 5 | 22 | 23 |
| Colorado* | 10 | 26 | 17 | 7 | 9 | 21 | 10 |
| Connecticut* | 9 | 5 | 14 | 32 | 6 | 14 | 9 |
| Delaware* | 22 | 16 | 6 | 22 | 36 | 27 | 18 |
| District of Columbia* | 30 | 8 | 38 | 43 | 38 | 28 | 33 |
| Florida | 48 | 49 | 49 | 49 | 31 | 49 | 43 |
| Georgia | 40 | 46 | 41 | 31 | 40 | 47 | 41 |
| Hawaii* | 1 | 1 | 9 | 1 | 2 | 1 | 1 |
| Idaho | 15 | 39 | 24 | 5 | 11 | 5 | 19 |
| Illinois* | 26 | 21 | 26 | 34 | 23 | 8 | 29 |
| Indiana* | 37 | 28 | 35 | 37 | 41 | 38 | 39 |
| Iowa* | 6 | 6 | 4 | 14 | 12 | 19 | 7 |
| Kansas | 32 | 27 | 30 | 30 | 25 | 44 | 27 |
| Kentucky* | 42 | 30 | 30 | 47 | 48 | 41 | 46 |
| Louisiana | 49 | 47 | 47 | 50 | 47 | 19 | 50 |
| Maine | 16 | 17 | 5 | 19 | 32 | 18 | 8 |
| Maryland* | 20 | 10 | 13 | 26 | 27 | 31 | 17 |
| Massachusetts* | 2 | 2 | 1 | 29 | 3 | 2 | 2 |
| Michigan* | 27 | 12 | 15 | 39 | 37 | 32 | 29 |
| Minnesota* | 3 | 9 | 2 | 8 | 4 | 7 | 3 |
| Mississippi | 51 | 50 | 50 | 51 | 50 | 43 | 51 |
| Missouri | 44 | 34 | 44 | 44 | 39 | 51 | 38 |
| Montana* | 18 | 33 | 22 | 6 | 15 | 25 | 21 |
| Nebraska | 21 | 22 | 19 | 16 | 16 | 35 | 14 |
| Nevada* | 39 | 45 | 51 | 28 | 35 | 17 | 43 |
| New Hampshire* | 11 | 7 | 7 | 21 | 14 | 35 | 6 |
| New Jersey* | 25 | 14 | 26 | 36 | 19 | 24 | 27 |
| New Mexico* | 31 | 44 | 42 | 15 | 29 | 8 | 31 |
| New York* | 18 | 13 | 29 | 46 | 10 | 4 | 24 |
| North Carolina | 35 | 37 | 16 | 24 | 33 | 44 | 36 |
| North Dakota* | 22 | 24 | 23 | 9 | 27 | 26 | 14 |
| Ohio* | 36 | 18 | 19 | 39 | 43 | 47 | 34 |
| Oklahoma | 50 | 48 | 44 | 45 | 46 | 50 | 48 |
| Oregon* | 11 | 19 | 36 | 4 | 13 | 15 | 21 |
| Pennsylvania* | 24 | 15 | 12 | 33 | 34 | 11 | 20 |
| Rhode Island* | 11 | 4 | 11 | 27 | 18 | 22 | 16 |
| South Carolina | 38 | 41 | 32 | 23 | 42 | 35 | 37 |
| South Dakota | 16 | 25 | 10 | 12 | 26 | 12 | 10 |
| Tennessee | 40 | 36 | 33 | 35 | 44 | 42 | 45 |
| Texas | 44 | 51 | 46 | 39 | 24 | 40 | 42 |
| Utah | 5 | 32 | 21 | 2 | 1 | 3 | 5 |
| Vermont* | 4 | 3 | 8 | 13 | 6 | 15 | 4 |
| Virginia | 28 | 29 | 18 | 25 | 19 | 44 | 26 |
| Washington* | 7 | 20 | 25 | 3 | 8 | 6 | 13 |
| West Virginia* | 46 | 31 | 28 | 48 | 51 | 29 | 47 |
| Wisconsin | 8 | 11 | 3 | 18 | 21 | 10 | 12 |
| Wyoming | 33 | 42 | 36 | 20 | 22 | 29 | 25 |

Notes: (*) Indicates state implemented Medicaid expansion under the Affordable Care Act as of January 1, 2016. Louisiana subsequently implemented Medicaid expansion, in July 2016. (a) The baseline period generally reflects two to three years prior to the time of observation for the latest year of data available. This is not the same ranking as reported in our 2017 State Scorecard and should not be compared to the 2017 ranking because of changes in the underlying set of performance indicators evaluated in the two reports.

## APPENDIX B3. Summary of Indicator Rankings by State

| Overall ranking | State | No. of indicators scored (of 43) | Top 5 states | Top quartile | 2nd quartile | 3rd quartile | Bottom 5 states |
|---|---|---|---|---|---|---|---|
| 43 | Alabama | 42 | 3 | 7 | 6 | 13 | 12 |
| 34 | Alaska* | 42 | 5 | 12 | 9 | 7 | 8 |
| 29 | Arizona* | 43 | 2 | 7 | 15 | 12 | 3 |
| 46 | Arkansas* | 43 | 2 | 3 | 8 | 13 | 13 |
| 14 | California* | 43 | 9 | 16 | 11 | 9 | 5 |
| 10 | Colorado* | 43 | 8 | 18 | 15 | 8 | 1 |
| 9 | Connecticut* | 43 | 10 | 21 | 10 | 5 | 2 |
| 22 | Delaware* | 42 | 3 | 10 | 17 | 13 | 2 |
| 30 | District of Columbia* | 38 | 9 | 13 | 5 | 9 | 10 |
| 48 | Florida | 43 | 0 | 5 | 5 | 11 | 13 |
| 40 | Georgia | 43 | 0 | 5 | 4 | 19 | 8 |
| 1 | Hawaii* | 43 | 23 | 31 | 7 | 2 | 2 |
| 15 | Idaho | 42 | 6 | 18 | 7 | 11 | 4 |
| 26 | Illinois* | 43 | 1 | 6 | 14 | 19 | 1 |
| 37 | Indiana* | 43 | 1 | 2 | 9 | 23 | 1 |
| 6 | Iowa* | 43 | 13 | 22 | 18 | 1 | 1 |
| 32 | Kansas | 43 | 1 | 4 | 18 | 15 | 3 |
| 42 | Kentucky* | 43 | 2 | 8 | 5 | 12 | 11 |
| 49 | Louisiana | 43 | 1 | 2 | 6 | 11 | 17 |
| 16 | Maine | 42 | 3 | 16 | 13 | 10 | 0 |
| 20 | Maryland* | 43 | 7 | 17 | 11 | 11 | 1 |
| 2 | Massachusetts* | 42 | 20 | 26 | 9 | 6 | 0 |
| 27 | Michigan* | 43 | 4 | 9 | 11 | 18 | 1 |
| 3 | Minnesota* | 43 | 16 | 31 | 5 | 4 | 0 |
| 51 | Mississippi | 42 | 2 | 5 | 1 | 4 | 25 |
| 44 | Missouri | 43 | 0 | 2 | 6 | 23 | 5 |
| 18 | Montana* | 43 | 4 | 16 | 12 | 10 | 6 |
| 21 | Nebraska | 43 | 8 | 16 | 14 | 10 | 3 |
| 39 | Nevada* | 43 | 0 | 1 | 11 | 11 | 12 |
| 11 | New Hampshire* | 42 | 12 | 21 | 12 | 4 | 2 |
| 25 | New Jersey* | 43 | 6 | 14 | 7 | 13 | 4 |
| 31 | New Mexico* | 43 | 1 | 6 | 14 | 11 | 8 |
| 18 | New York* | 43 | 7 | 11 | 17 | 9 | 5 |
| 35 | North Carolina | 43 | 2 | 8 | 15 | 12 | 2 |
| 22 | North Dakota* | 43 | 7 | 15 | 14 | 8 | 4 |
| 36 | Ohio* | 42 | 1 | 5 | 16 | 12 | 2 |
| 50 | Oklahoma | 43 | 0 | 2 | 6 | 12 | 12 |
| 11 | Oregon* | 43 | 7 | 17 | 15 | 5 | 4 |
| 24 | Pennsylvania* | 43 | 1 | 11 | 15 | 12 | 1 |
| 11 | Rhode Island* | 42 | 10 | 20 | 8 | 9 | 2 |
| 38 | South Carolina | 40 | 0 | 3 | 12 | 16 | 5 |
| 16 | South Dakota | 43 | 10 | 14 | 14 | 9 | 1 |
| 40 | Tennessee | 43 | 1 | 5 | 9 | 13 | 6 |
| 44 | Texas | 43 | 3 | 6 | 6 | 13 | 10 |
| 5 | Utah | 42 | 15 | 20 | 8 | 11 | 1 |
| 4 | Vermont* | 42 | 15 | 24 | 9 | 4 | 1 |
| 28 | Virginia | 43 | 0 | 5 | 21 | 14 | 0 |
| 7 | Washington* | 43 | 8 | 21 | 14 | 4 | 1 |
| 46 | West Virginia* | 43 | 3 | 5 | 8 | 11 | 11 |
| 8 | Wisconsin | 43 | 7 | 19 | 17 | 6 | 1 |
| 33 | Wyoming | 43 | 4 | 10 | 15 | 6 | 10 |

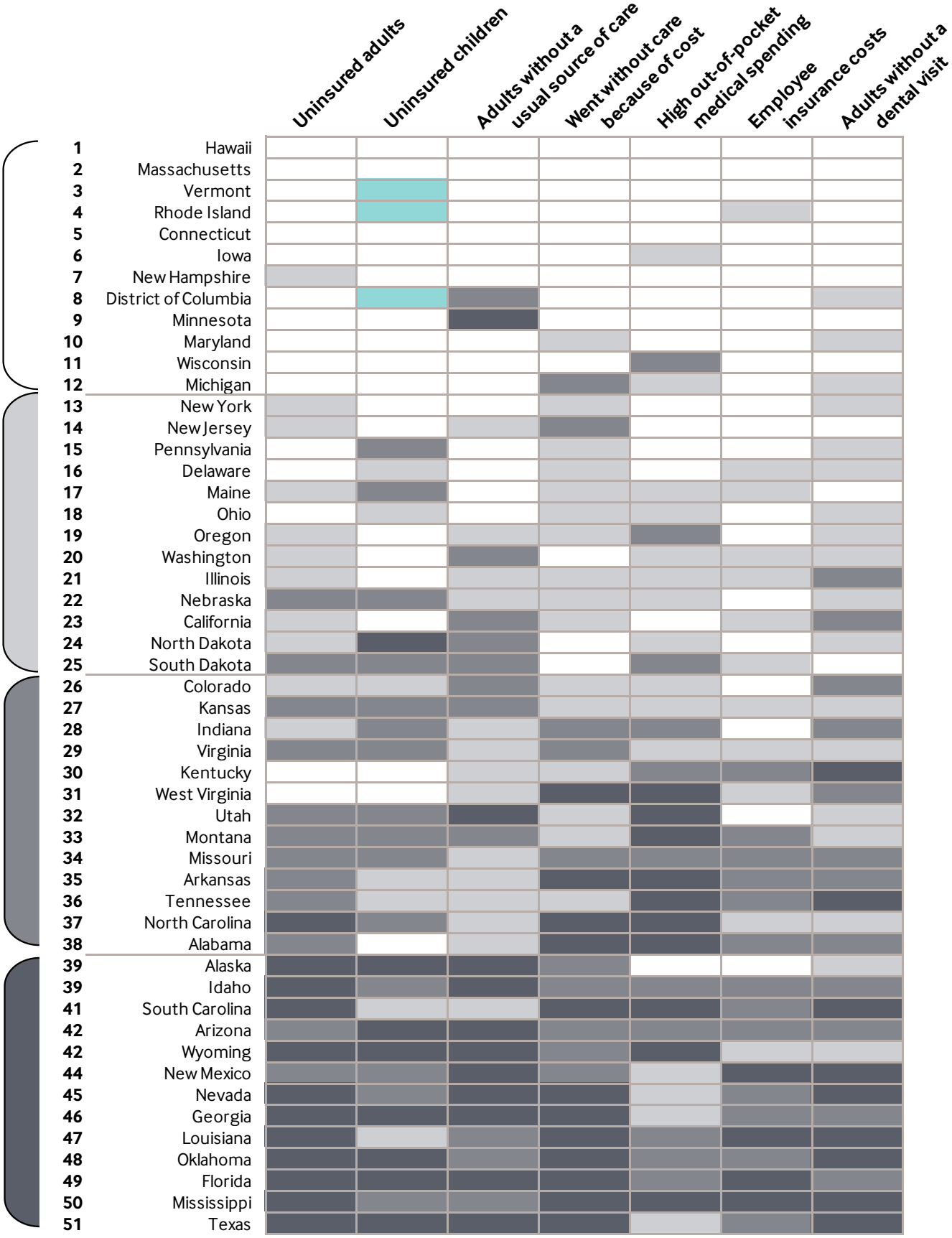
Notes: (*) Indicates state implemented Medicaid expansion under the Affordable Care Act as of January 1, 2016. Louisiana subsequently implemented Medicaid expansion, in July 2016. (a) The baseline period generally reflects two to three years prior to the time of observation for the latest year of data available. This is not the same ranking as reported in our 2017 State Scorecard and should not be compared to the 2017 ranking because of changes in the underlying set of performance indicators evaluated in the two reports.

## APPENDIX B3. Summary of Indicator Rankings by State (continued)

| Overall ranking | State | No. of indicators with trend (of 37) | No. of indicators improved | No. of indicators worsened | Net change |
|---|---|---|---|---|---|
| 43 | Alabama | 36 | 10 | 7 | 3 |
| 34 | Alaska* | 33 | 9 | 6 | 3 |
| 29 | Arizona* | 37 | 15 | 3 | 12 |
| 46 | Arkansas* | 37 | 17 | 6 | 11 |
| 14 | California* | 37 | 15 | 2 | 13 |
| 10 | Colorado* | 37 | 10 | 4 | 6 |
| 9 | Connecticut* | 37 | 12 | 5 | 7 |
| 22 | Delaware* | 36 | 13 | 9 | 4 |
| 30 | District of Columbia* | 30 | 11 | 5 | 6 |
| 48 | Florida | 37 | 11 | 5 | 6 |
| 40 | Georgia | 37 | 10 | 4 | 6 |
| 1 | Hawaii* | 34 | 13 | 5 | 8 |
| 15 | Idaho | 36 | 13 | 5 | 8 |
| 26 | Illinois* | 37 | 14 | 4 | 10 |
| 37 | Indiana* | 37 | 14 | 4 | 10 |
| 6 | Iowa* | 37 | 11 | 4 | 7 |
| 32 | Kansas | 37 | 12 | 6 | 6 |
| 42 | Kentucky* | 37 | 15 | 5 | 10 |
| 49 | Louisiana | 37 | 17 | 6 | 11 |
| 16 | Maine | 36 | 7 | 5 | 2 |
| 20 | Maryland* | 37 | 12 | 5 | 7 |
| 2 | Massachusetts* | 36 | 9 | 5 | 4 |
| 27 | Michigan* | 37 | 14 | 3 | 11 |
| 3 | Minnesota* | 37 | 9 | 4 | 5 |
| 51 | Mississippi | 36 | 14 | 7 | 7 |
| 44 | Missouri | 37 | 11 | 6 | 5 |
| 18 | Montana* | 36 | 13 | 2 | 11 |
| 21 | Nebraska | 37 | 6 | 8 | -2 |
| 39 | Nevada* | 37 | 10 | 3 | 7 |
| 11 | New Hampshire* | 36 | 8 | 5 | 3 |
| 25 | New Jersey* | 37 | 16 | 5 | 11 |
| 31 | New Mexico* | 36 | 13 | 7 | 6 |
| 18 | New York* | 37 | 18 | 5 | 13 |
| 35 | North Carolina | 37 | 11 | 5 | 6 |
| 22 | North Dakota* | 36 | 10 | 8 | 2 |
| 36 | Ohio* | 36 | 12 | 3 | 9 |
| 50 | Oklahoma | 37 | 17 | 5 | 12 |
| 11 | Oregon* | 37 | 12 | 6 | 6 |
| 24 | Pennsylvania* | 36 | 11 | 3 | 8 |
| 11 | Rhode Island* | 36 | 10 | 5 | 5 |
| 38 | South Carolina | 36 | 12 | 7 | 5 |
| 16 | South Dakota | 36 | 10 | 5 | 5 |
| 40 | Tennessee | 37 | 14 | 5 | 9 |
| 44 | Texas | 37 | 11 | 5 | 6 |
| 5 | Utah | 36 | 8 | 4 | 4 |
| 4 | Vermont* | 35 | 10 | 6 | 4 |
| 28 | Virginia | 37 | 11 | 7 | 4 |
| 7 | Washington* | 37 | 14 | 5 | 9 |
| 46 | West Virginia* | 37 | 17 | 7 | 10 |
| 8 | Wisconsin | 37 | 13 | 2 | 11 |
| 33 | Wyoming | 35 | 7 | 6 | 1 |

Notes: (*) Indicates state implemented Medicaid expansion under the Affordable Care Act as of January 1, 2016. Louisiana subsequently implemented Medicaid expansion, in July 2016. Improvement or worsening refers to a change between the baseline and current time periods of at least 0.5 standard deviations.

## APPENDIX C1. Access & Affordability: Dimension and Indicator Ranking



## APPENDIX C2. Access & Affordability: Dimension Ranking and Indicator Rates

| | Adults ages 19–64 uninsured | | Children ages 0–18 uninsured | | Adults without a usual source of care | | Adults who went without care because of cost | |
|---|---|---|---|---|---|---|---|---|
| | 2013 | 2016 | 2013 | 2016 | 2013 | 2016 | 2013 | 2016 |
| **United States** | **20%** | **12% **** | **8%** | **5% **** | **24%** | **22%** | **16%** | **13% *** |
| Alabama | 20 | 14 * | 5 | 3 * | 22 | 21 | 16 | 16 |
| Alaska | 24 | 18 * | 12 | 11 | 33 | 32 | 14 | 13 |
| Arizona | 24 | 14 ** | 13 | 8 ** | 32 | 27 * | 17 | 14 * |
| Arkansas | 24 | 12 ** | 6 | 4 * | 23 | 20 * | 21 | 15 ** |
| California | 24 | 10 ** | 8 | 3 ** | 29 | 24 * | 16 | 11 ** |
| Colorado | 19 | 10 ** | 9 | 4 ** | 24 | 26 | 15 | 12 * |
| Connecticut | 13 | 7 * | 4 | 3 | 15 | 15 | 12 | 10 * |
| Delaware | 14 | 8 * | 5 | 4 | 14 | 17 * | 12 | 11 |
| District of Columbia | 8 | 5 | -- | -- | 24 | 25 | 11 | 9 * |
| Florida | 29 | 18 ** | 12 | 7 ** | 27 | 28 | 21 | 17 ** |
| Georgia | 26 | 18 ** | 10 | 7 ** | 28 | 27 | 20 | 17 * |
| Hawaii | 10 | 5 * | 3 | 2 | 15 | 15 | 9 | 7 * |
| Idaho | 23 | 15 ** | 9 | 5 ** | 28 | 28 | 16 | 14 * |
| Illinois | 18 | 9 ** | 5 | 3 * | 20 | 18 | 14 | 11 * |
| Indiana | 19 | 11 ** | 9 | 6 ** | 20 | 18 | 16 | 13 * |
| Iowa | 12 | 6 * | 5 | 2 ** | 19 | 17 | 10 | 8 * |
| Kansas | 18 | 12 * | 7 | 5 * | 22 | 23 | 14 | 12 * |
| Kentucky | 21 | 7 ** | 6 | 3 ** | 22 | 20 | 19 | 12 ** |
| Louisiana | 25 | 15 ** | 6 | 4 * | 26 | 25 | 20 | 18 * |
| Maine | 16 | 11 * | 5 | 5 | 13 | 12 | 10 | 11 |
| Maryland | 14 | 8 * | 5 | 3 * | 21 | 15 ** | 13 | 11 * |
| Massachusetts | 5 | 4 | 2 | 1 | 12 | 11 | 9 | 9 |
| Michigan | 16 | 8 ** | 5 | 3 * | 17 | 15 | 15 | 13 * |
| Minnesota | 11 | 6 * | 6 | 3 ** | 27 | 27 | 10 | 9 |
| Mississippi | 25 | 18 ** | 8 | 5 ** | 23 | 23 | 22 | 19 * |
| Missouri | 18 | 13 * | 7 | 5 * | 21 | 22 | 16 | 13 * |
| Montana | 23 | 12 ** | 11 | 5 ** | 30 | 26 * | 14 | 11 * |
| Nebraska | 15 | 12 | 6 | 6 | 21 | 19 | 13 | 12 |
| Nevada | 27 | 15 ** | 14 | 6 ** | 35 | 31 * | 17 | 16 |
| New Hampshire | 16 | 9 ** | 4 | 3 | 12 | 12 | 12 | 10 * |
| New Jersey | 19 | 11 ** | 6 | 3 ** | 19 | 18 | 15 | 13 * |
| New Mexico | 28 | 13 ** | 9 | 6 ** | 31 | 30 | 18 | 13 ** |
| New York | 15 | 9 * | 4 | 3 | 19 | 17 | 15 | 11 ** |
| North Carolina | 23 | 15 ** | 6 | 5 | 27 | 21 ** | 18 | 16 * |
| North Dakota | 14 | 9 * | 8 | 10 * | 27 | 26 | 7 | 8 |
| Ohio | 16 | 8 ** | 5 | 4 | 19 | 17 | 15 | 11 ** |
| Oklahoma | 25 | 20 * | 11 | 8 ** | 26 | 25 | 17 | 15 * |
| Oregon | 21 | 9 ** | 7 | 3 ** | 26 | 22 * | 18 | 11 ** |
| Pennsylvania | 14 | 8 * | 5 | 5 | 14 | 14 | 12 | 11 |
| Rhode Island | 17 | 6 ** | 6 | -- | 16 | 13 * | 14 | 10 ** |
| South Carolina | 23 | 15 ** | 7 | 4 ** | 24 | 22 | 19 | 16 * |
| South Dakota | 17 | 12 * | 7 | 5 * | 24 | 24 | 10 | 9 |
| Tennessee | 20 | 14 * | 6 | 4 * | 23 | 22 | 18 | 12 ** |
| Texas | 30 | 23 ** | 13 | 10 ** | 33 | 31 | 19 | 18 |
| Utah | 18 | 12 * | 9 | 6 ** | 28 | 27 | 15 | 12 * |
| Vermont | 10 | 5 * | -- | -- | 13 | 12 | 9 | 8 |
| Virginia | 17 | 12 * | 6 | 5 | 24 | 22 | 15 | 13 * |
| Washington | 20 | 9 ** | 7 | 3 ** | 28 | 24 * | 15 | 10 ** |
| West Virginia | 20 | 8 ** | 5 | 2 ** | 23 | 20 * | 18 | 15 * |
| Wisconsin | 13 | 7 * | 5 | 3 * | 19 | 17 | 12 | 10 * |
| Wyoming | 18 | 15 | 7 | 8 | 31 | 31 | 14 | 14 |
| **Change** | | | | | | | | |
| States Improved | | 47 | | 33 | | 11 | | 37 |
| States Worsened | | 0 | | 1 | | 1 | | 0 |

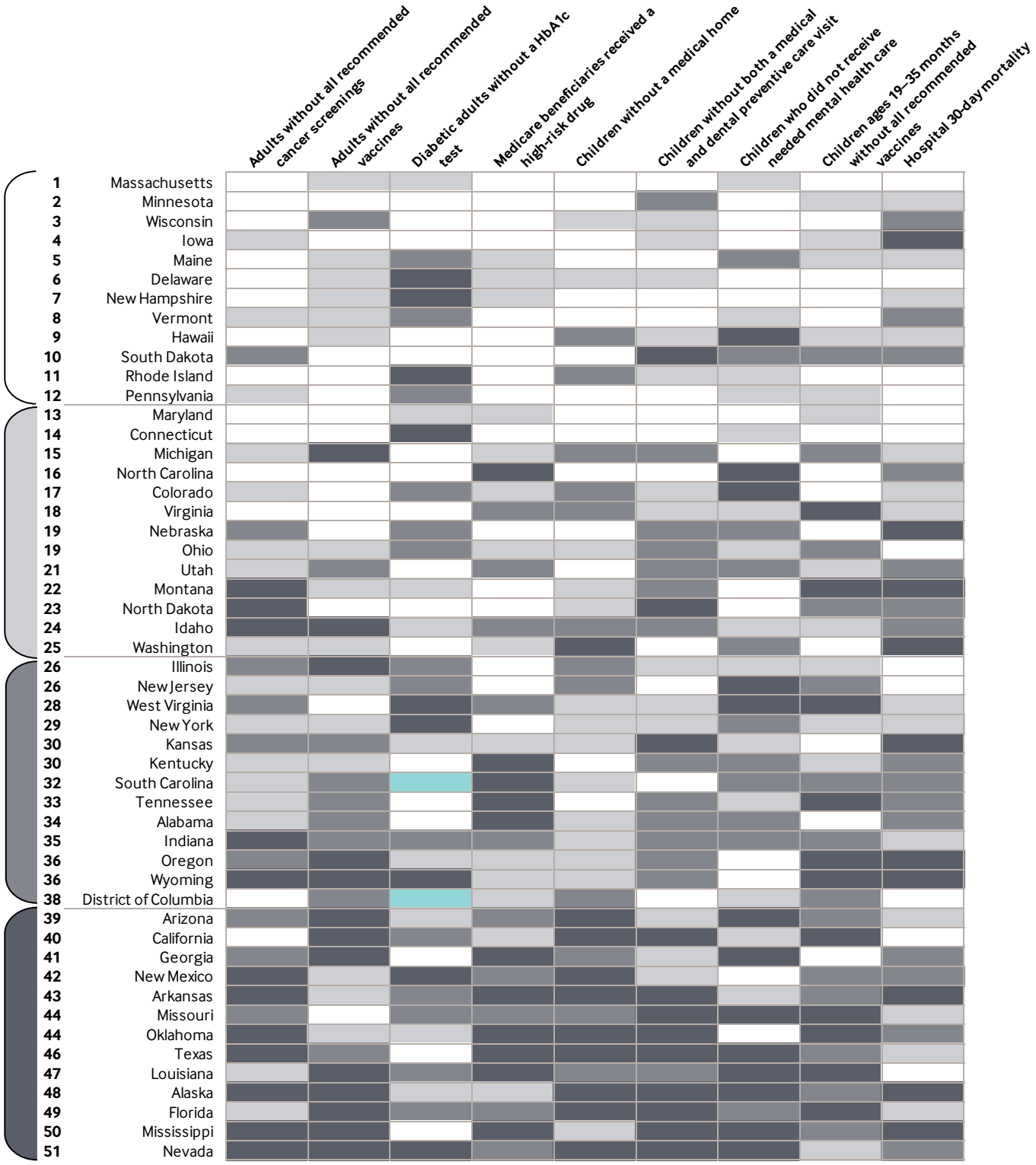
Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX C2. Access & Affordability: Dimension Ranking and Indicator Rates (continued)

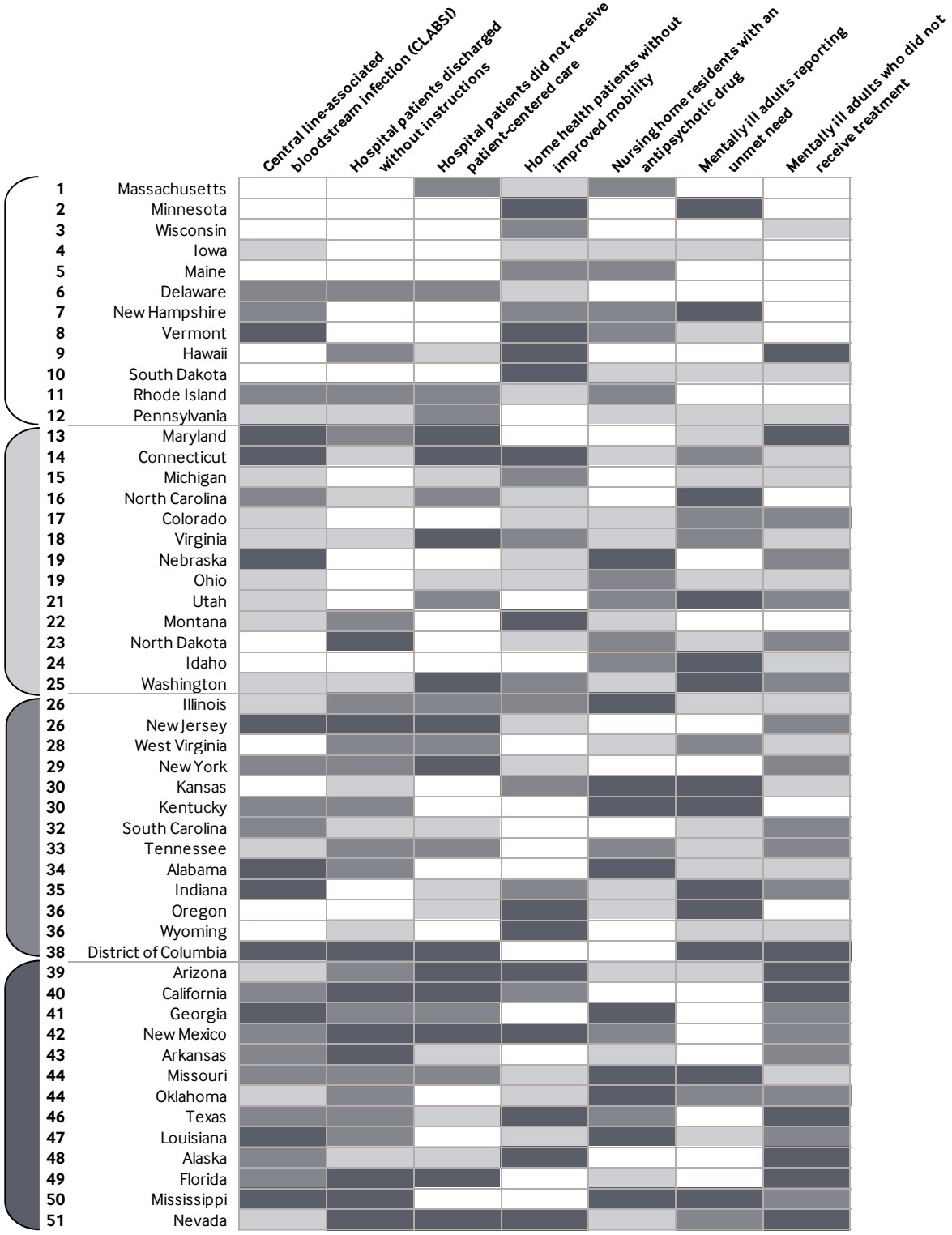
| | Individuals with high out-of-pocket medical spending | | | Employee health insurance contributions as a share of median income | | | Adults without a dental visit in past year | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2013-14 | 2015-16 | | 2013 | 2016 | | 2012 | 2016 | |
| **United States** | **15%** | **14%** | | **6%** | **6%** | | **15%** | **16%** | |
| Alabama | 16 | 19 | ** | 6 | 7 | * | 18 | 16 | * |
| Alaska | 18 | 12 | ** | 5 | 5 | | 14 | 15 | |
| Arizona | 16 | 15 | | 7 | 7 | | 17 | 17 | |
| Arkansas | 21 | 18 | ** | 7 | 7 | | 19 | 16 | ** |
| California | 13 | 12 | | 6 | 6 | | 16 | 16 | |
| Colorado | 15 | 14 | | 5 | 5 | | 16 | 16 | |
| Connecticut | 13 | 12 | | 5 | 5 | | 11 | 10 | |
| Delaware | 13 | 11 | * | 7 | 6 | * | 12 | 14 | * |
| District of Columbia | 11 | 9 | * | 5 | 5 | | 16 | 14 | * |
| Florida | 15 | 16 | | 8 | 8 | | 18 | 17 | |
| Georgia | 15 | 14 | | 7 | 7 | | 16 | 17 | |
| Hawaii | 14 | 11 | ** | 3 | 4 | * | 15 | 12 | ** |
| Idaho | 22 | 16 | ** | 5 | 7 | ** | 13 | 16 | ** |
| Illinois | 13 | 13 | | 6 | 6 | | 15 | 17 | * |
| Indiana | 16 | 15 | | 6 | 5 | * | 15 | 16 | |
| Iowa | 15 | 13 | * | 5 | 5 | | 12 | 12 | |
| Kansas | 15 | 14 | | 6 | 6 | | 13 | 14 | |
| Kentucky | 18 | 15 | ** | 7 | 7 | | 16 | 18 | * |
| Louisiana | 19 | 16 | ** | 7 | 8 | * | 20 | 20 | |
| Maine | 15 | 13 | * | 6 | 6 | | 13 | 13 | |
| Maryland | 10 | 10 | | 5 | 5 | | 13 | 15 | * |
| Massachusetts | 11 | 11 | | 5 | 5 | | 11 | 12 | |
| Michigan | 15 | 13 | * | 5 | 4 | * | 14 | 14 | |
| Minnesota | 12 | 10 | * | 4 | 5 | * | 11 | 12 | |
| Mississippi | 20 | 17 | ** | 7 | 9 | ** | 19 | 18 | |
| Missouri | 17 | 15 | * | 6 | 7 | * | 15 | 17 | * |
| Montana | 19 | 17 | * | 5 | 7 | ** | 17 | 15 | * |
| Nebraska | 15 | 13 | * | 5 | 5 | | 15 | 14 | |
| Nevada | 18 | 13 | ** | 7 | 7 | | 20 | 19 | |
| New Hampshire | 12 | 12 | | 5 | 5 | | 10 | 11 | |
| New Jersey | 13 | 11 | * | 5 | 5 | | 15 | 13 | * |
| New Mexico | 16 | 14 | * | 7 | 8 | * | 18 | 19 | |
| New York | 12 | 10 | * | 6 | 5 | * | 15 | 15 | |
| North Carolina | 18 | 18 | | 7 | 6 | * | 15 | 15 | |
| North Dakota | 17 | 13 | ** | 4 | 5 | * | 15 | 14 | |
| Ohio | 15 | 14 | | 5 | 5 | | 14 | 15 | |
| Oklahoma | 19 | 16 | ** | 7 | 7 | | 18 | 18 | |
| Oregon | 20 | 15 | ** | 6 | 5 | * | 15 | 14 | |
| Pennsylvania | 12 | 12 | | 5 | 5 | | 13 | 15 | * |
| Rhode Island | 13 | 9 | ** | 5 | 6 | * | 12 | 11 | |
| South Carolina | 17 | 17 | | 6 | 7 | * | 18 | 18 | |
| South Dakota | 16 | 16 | | 6 | 6 | | 11 | 13 | * |
| Tennessee | 22 | 17 | ** | 7 | 7 | | 17 | 18 | |
| Texas | 17 | 14 | ** | 7 | 7 | | 18 | 19 | |
| Utah | 16 | 17 | | 4 | 5 | * | 16 | 14 | * |
| Vermont | 12 | 11 | | 5 | 5 | | 11 | 12 | |
| Virginia | 12 | 14 | * | 5 | 6 | * | 12 | 14 | * |
| Washington | 13 | 13 | | 4 | 6 | ** | 14 | 15 | |
| West Virginia | 17 | 17 | | 5 | 6 | * | 18 | 17 | |
| Wisconsin | 16 | 15 | | 5 | 5 | | 12 | 12 | |
| Wyoming | 18 | 17 | | 5 | 6 | * | 15 | 15 | |
| **Change** | | | | | | | | | |
| States Improved | | 26 | | | 6 | | | 7 | |
| States Worsened | | 2 | | | 17 | | | 9 | |

Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX D1. Prevention & Treatment: Dimension and Indicator Ranking



## APPENDIX D1. Prevention & Treatment: Dimension and Indicator Ranking (continued)



## APPENDIX D2. Prevention & Treatment: Dimension Ranking and Indicator Rates

| | Adults without all age- and gender-appropriate cancer screenings | | Adults without all age-appropriate recommended vaccines | | Diabetic adults ages 18–64 without a hemoglobin A1c test | Medicare beneficiaries received a high-risk drug | | Children without all components of a medical home | Children without both a medical and dental preventive care visit |
|---|---|---|---|---|---|---|---|---|---|
| | 2012 | 2016 | 2013 | 2016 | 2015 | 2012 | 2014 | 2016 | 2016 |
| **United States** | **31%** | **32%** | **64%** | **63%** | **17%** | **17%** | **13% **** | **51%** | **32%** |
| Alabama | 32 | 32 | 62 | 65 * | 15 | 24 | 18 ** | 49 | 32 |
| Alaska | 37 | 36 | 67 | 67 | 16 | 17 | 12 ** | 52 | 37 |
| Arizona | 37 | 35 | 69 | 66 * | 16 | 17 | 13 ** | 55 | 31 |
| Arkansas | 39 | 36 * | 63 | 63 | 18 | 17 | 16 | 52 | 41 |
| California | 27 | 28 | 66 | 66 | 19 | 16 | 11 ** | 58 | 39 |
| Colorado | 31 | 32 | 58 | 59 | 17 | 16 | 12 ** | 51 | 29 |
| Connecticut | 25 | 24 | 63 | 59 * | 21 | 13 | 10 * | 46 | 23 |
| Delaware | 25 | 28 * | 57 | 61 * | 21 | 16 | 11 ** | 48 | 28 |
| District of Columbia | 25 | 25 | 64 | 64 | -- | 13 | 12 | 51 | 26 |
| Florida | 32 | 33 | 72 | 68 * | 19 | 16 | 14 * | 58 | 38 |
| Georgia | 28 | 34 ** | 68 | 66 | 15 | 21 | 16 ** | 51 | 28 |
| Hawaii | 30 | 26 * | 57 | 63 ** | 15 | 21 | 9 ** | 50 | 31 |
| Idaho | 39 | 40 | 68 | 67 | 16 | 16 | 13 * | 50 | 33 |
| Illinois | 33 | 34 | 66 | 66 | 18 | 13 | 10 * | 50 | 28 |
| Indiana | 37 | 37 | 67 | 64 * | 18 | 17 | 13 ** | 47 | 32 |
| Iowa | 29 | 31 | 56 | 55 | 15 | 12 | 9 * | 42 | 30 |
| Kansas | 32 | 34 | 60 | 64 * | 16 | 15 | 12 * | 49 | 36 |
| Kentucky | 35 | 33 | 62 | 63 | 14 | 23 | 17 ** | 46 | 33 |
| Louisiana | 33 | 32 | 61 | 69 ** | 17 | 24 | 21 * | 51 | 32 |
| Maine | 27 | 29 | 59 | 60 | 17 | 12 | 12 | 46 | 22 |
| Maryland | 25 | 29 * | 58 | 58 | 16 | 15 | 12 * | 42 | 26 |
| Massachusetts | 21 | 26 ** | 53 | 60 ** | 16 | 9 | 9 | 42 | 22 |
| Michigan | 29 | 31 | 67 | 66 | 15 | 14 | 12 * | 50 | 33 |
| Minnesota | 27 | 29 | 56 | 57 | 11 | 10 | 7 * | 45 | 35 |
| Mississippi | 37 | 36 | 65 | 66 | 15 | 22 | 19 * | 49 | 41 |
| Missouri | 34 | 35 | 60 | 59 | 18 | 16 | 14 * | 51 | 38 |
| Montana | 40 | 38 | 63 | 62 | 16 | 13 | 10 * | 47 | 32 |
| Nebraska | 34 | 35 | 57 | 57 | 19 | 13 | 10 * | 45 | 35 |
| Nevada | 37 | 36 | 71 | 70 | 20 | 17 | 13 ** | 66 | 38 |
| New Hampshire | 25 | 27 | 61 | 60 | 21 | 13 | 11 * | 42 | 21 |
| New Jersey | 31 | 31 | 66 | 63 * | 19 | 15 | 10 ** | 50 | 26 |
| New Mexico | 37 | 40 * | 64 | 62 | 20 | 18 | 13 ** | 55 | 28 |
| New York | 28 | 31 * | 65 | 62 * | 21 | 12 | 9 * | 48 | 31 |
| North Carolina | 29 | 28 | 56 | 58 | 13 | 20 | 15 ** | 46 | 27 |
| North Dakota | 36 | 36 | 61 | 59 | 15 | 11 | 8 * | 49 | 41 |
| Ohio | 33 | 33 | 62 | 63 | 18 | 17 | 12 ** | 48 | 32 |
| Oklahoma | 39 | 40 | 59 | 61 | 16 | 22 | 18 ** | 55 | 36 |
| Oregon | 33 | 34 | 67 | 66 | 16 | 16 | 11 ** | 49 | 33 |
| Pennsylvania | 31 | 33 | 63 | 59 * | 19 | 13 | 10 * | 45 | 26 |
| Rhode Island | 24 | 26 | 58 | 56 | 24 | 11 | 9 * | 50 | 28 |
| South Carolina | 32 | 33 | 63 | 64 | -- | 20 | 17 * | 49 | 25 |
| South Dakota | 32 | 34 | 53 | 54 | 13 | 10 | 8 * | 46 | 39 |
| Tennessee | 33 | 33 | 58 | 65 ** | 13 | 21 | 16 ** | 46 | 34 |
| Texas | 34 | 37 * | 66 | 65 | 15 | 19 | 16 * | 59 | 36 |
| Utah | 32 | 33 | 65 | 65 | 15 | 18 | 13 ** | 43 | 34 |
| Vermont | 27 | 30 * | 58 | 60 | 19 | 11 | 9 * | 40 | 20 |
| Virginia | 28 | 29 | 59 | 59 | 14 | 17 | 13 ** | 51 | 28 |
| Washington | 31 | 32 | 61 | 62 | 13 | 16 | 12 ** | 52 | 27 |
| West Virginia | 34 | 35 | 58 | 58 | 20 | 17 | 14 * | 48 | 28 |
| Wisconsin | 29 | 28 | 65 | 65 | 14 | 11 | 9 * | 48 | 31 |
| Wyoming | 39 | 40 | 68 | 67 | 22 | 13 | 12 | 48 | 34 |
| **Change** | | | | | | | | | |
| States Improved | | 2 | | 7 | | | 46 | | |
| States Worsened | | 8 | | 7 | | | 0 | | |

Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX D2. Prevention & Treatment: Dimension Ranking and Indicator Rates (continued)

| | Children who did not receive needed mental health treatment | Children ages 19–35 months who did not receive all recommended vaccines | | Hospital 30-day mortality | | Central line-associated bloodstream infection (CLABSI) | Hospital patients discharged without instructions for home recovery | |
|---|---|---|---|---|---|---|---|---|
| | 2016 | 2013 | 2016 | 2010-2013 | 2013-2016 | 2015 | 2013 | 2016 |
| **United States** | **18%** | **30%** | **29%** | **13.2%** | **14.1% **** | **0.99** | **14%** | **13%** |
| Alabama | 19 | 23 | 23 | 13.7 | 14.6 ** | 1.41 | 15 | 14 |
| Alaska | 24 | 36 | 31 * | 13.7 | 14.9 ** | 1.09 | 12 | 12 |
| Arizona | 22 | 35 | 30 * | 13.1 | 13.9 ** | 0.85 | 14 | 13 |
| Arkansas | 15 | 43 | 32 ** | 14.1 | 15.2 ** | 1.1 | 17 | 15 * |
| California | 16 | 31 | 35 * | 13 | 13.7 * | 0.97 | 16 | 15 |
| Colorado | 27 | 31 | 24 ** | 12.9 | 14.2 ** | 0.9 | 12 | 11 |
| Connecticut | 15 | 22 | 24 | 13 | 13.5 * | 1.16 | 15 | 12 ** |
| Delaware | 9 | 28 | 22 ** | 12.2 | 13 ** | 1.05 | 15 | 13 * |
| District of Columbia | 16 | 23 | 32 ** | 12.4 | 13.6 ** | 1.16 | 22 | 18 ** |
| Florida | 18 | 30 | 33 * | 13.1 | 13.9 ** | 1.1 | 17 | 15 * |
| Georgia | 34 | 30 | 23 ** | 13.4 | 14.4 ** | 1.17 | 16 | 14 * |
| Hawaii | 23 | 34 | 25 ** | 13.4 | 14.3 ** | 0.32 | 15 | 14 |
| Idaho | 13 | 30 | 26 * | 13.6 | 14.6 ** | 0.64 | 12 | 10 * |
| Illinois | 15 | 33 | 29 * | 12.9 | 13.8 ** | 0.82 | 14 | 13 |
| Indiana | 18 | 31 | 31 | 13.4 | 14.3 ** | 1.12 | 13 | 11 * |
| Iowa | 7 | 22 | 27 * | 13.4 | 15 ** | 0.93 | 12 | 11 |
| Kansas | 14 | 31 | 24 ** | 13 | 14.7 ** | 0.8 | 14 | 12 * |
| Kentucky | 18 | 27 | 25 | 13.3 | 14.4 ** | 1.07 | 14 | 13 |
| Louisiana | 25 | 31 | 33 | 13.3 | 13.8 * | 1.43 | 14 | 13 |
| Maine | 17 | 32 | 29 * | 13.4 | 14.2 ** | 0.8 | 11 | 11 |
| Maryland | 11 | 24 | 26 | 12.8 | 13.7 ** | 1.12 | 15 | 14 |
| Massachusetts | 13 | 21 | 15 ** | 12.4 | 13 * | 0.75 | 13 | 11 * |
| Michigan | 7 | 30 | 30 | 13 | 13.9 ** | 0.94 | 13 | 11 * |
| Minnesota | 9 | 26 | 26 | 12.8 | 13.9 ** | 0.78 | 12 | 11 |
| Mississippi | 22 | 25 | 30 * | 13.4 | 14.8 ** | 1.11 | 17 | 15 * |
| Missouri | 22 | 32 | 33 | 13.2 | 14.2 ** | 1.06 | 13 | 13 |
| Montana | 8 | 35 | 36 | 13.2 | 14.9 ** | 0.93 | 15 | 13 * |
| Nebraska | 20 | 21 | 19 | 13.3 | 14.9 ** | 1.16 | 12 | 10 * |
| Nevada | 26 | 39 | 28 ** | 13.8 | 14.5 * | 0.95 | 16 | 15 |
| New Hampshire | 5 | 25 | 22 * | 13.3 | 14 * | 1.04 | 12 | 10 * |
| New Jersey | 23 | 27 | 30 * | 12.7 | 13.3 * | 1.13 | 18 | 16 * |
| New Mexico | 9 | 34 | 32 | 13.3 | 14.5 ** | 1 | 16 | 15 |
| New York | 17 | 28 | 28 | 13.1 | 13.9 ** | 1.07 | 16 | 14 * |
| North Carolina | 30 | 28 | 22 ** | 13.7 | 14.5 ** | 1.06 | 13 | 12 |
| North Dakota | 10 | 28 | 32 * | 12.7 | 14.6 ** | 0.79 | 18 | 15 ** |
| Ohio | 15 | 38 | 32 ** | 12.9 | 13.6 * | 0.88 | 13 | 11 * |
| Oklahoma | 11 | 37 | 33 * | 13.2 | 14.5 ** | 0.95 | 15 | 13 * |
| Oregon | 10 | 33 | 42 ** | 13.9 | 14.9 ** | 0.8 | 14 | 11 ** |
| Pennsylvania | 13 | 24 | 26 | 12.9 | 13.7 ** | 0.94 | 14 | 12 * |
| Rhode Island | 16 | 18 | 24 ** | 13.2 | 13.1 | 1.07 | 14 | 13 |
| South Carolina | 19 | 33 | 30 * | 13.5 | 14.4 ** | 1.1 | 14 | 12 * |
| South Dakota | 17 | 26 | 30 * | 13.1 | 14.6 ** | 0.65 | 13 | 11 * |
| Tennessee | 15 | 32 | 33 | 13.5 | 14.6 ** | 0.9 | 15 | 14 |
| Texas | 24 | 28 | 31 * | 13 | 13.9 ** | 0.97 | 14 | 13 |
| Utah | 18 | 25 | 28 * | 13.5 | 14.6 ** | 0.82 | 10 | 10 |
| Vermont | 16 | 33 | 23 ** | 13.8 | 14.6 ** | 1.13 | 12 | 9 ** |
| Virginia | 14 | 31 | 34 * | 13.5 | 14.1 * | 0.92 | 14 | 12 * |
| Washington | 20 | 29 | 24 * | 13.9 | 14.9 ** | 0.87 | 13 | 12 |
| West Virginia | 24 | 34 | 35 | 13.2 | 14.2 ** | 0.74 | 15 | 13 * |
| Wisconsin | 9 | 27 | 21 ** | 13.5 | 14.4 ** | 0.77 | 11 | 10 |
| Wyoming | 7 | 30 | 37 ** | 13 | 15.4 ** | 0.67 | 12 | 12 |
| **Change** | | | | | | | | |
| States Improved | | | 21 | | 0 | 0 | | 27 |
| States Worsened | | | 14 | | 50 | 0 | | 0 |

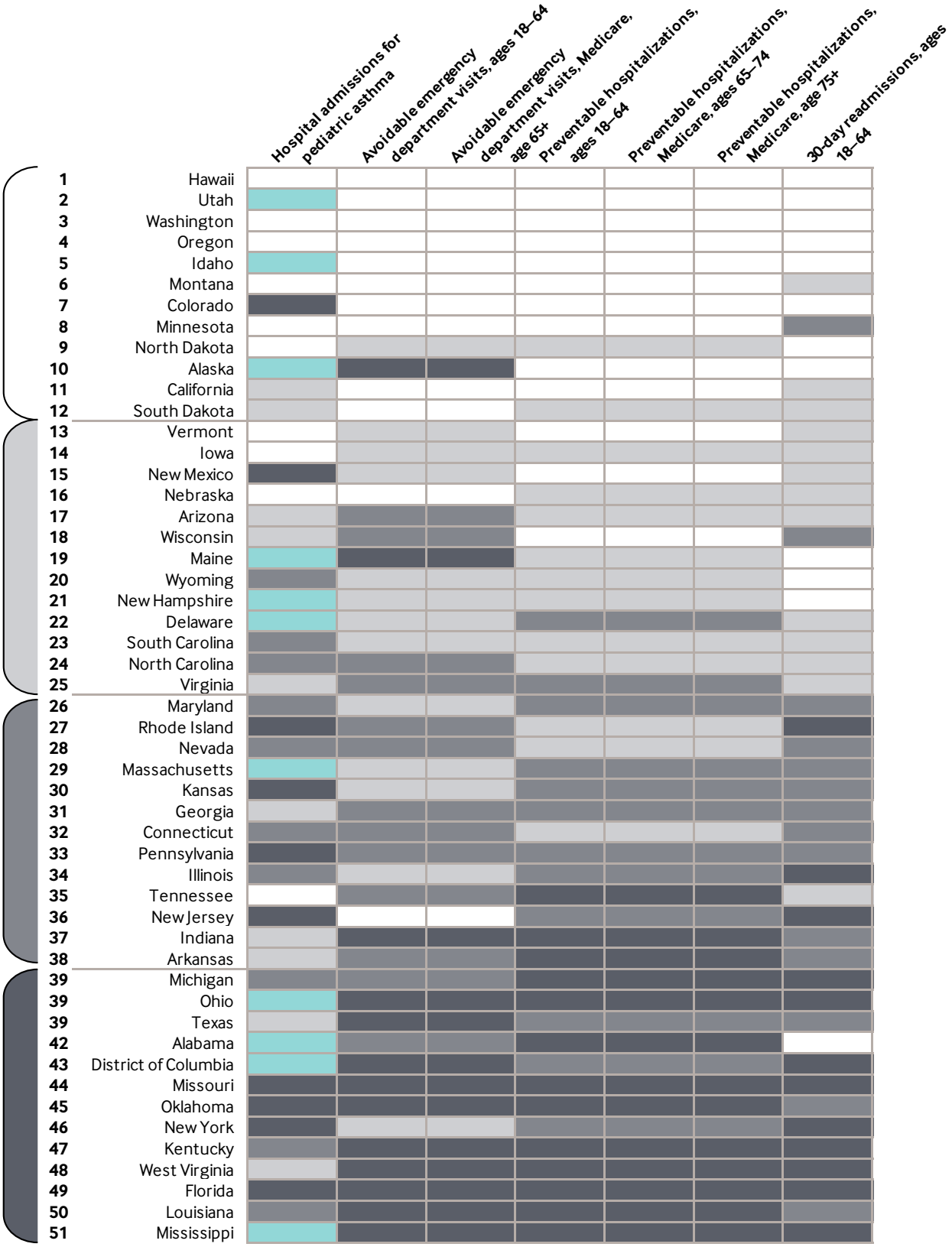
Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX D2. Prevention & Treatment: Dimension Ranking and Indicator Rates (continued)

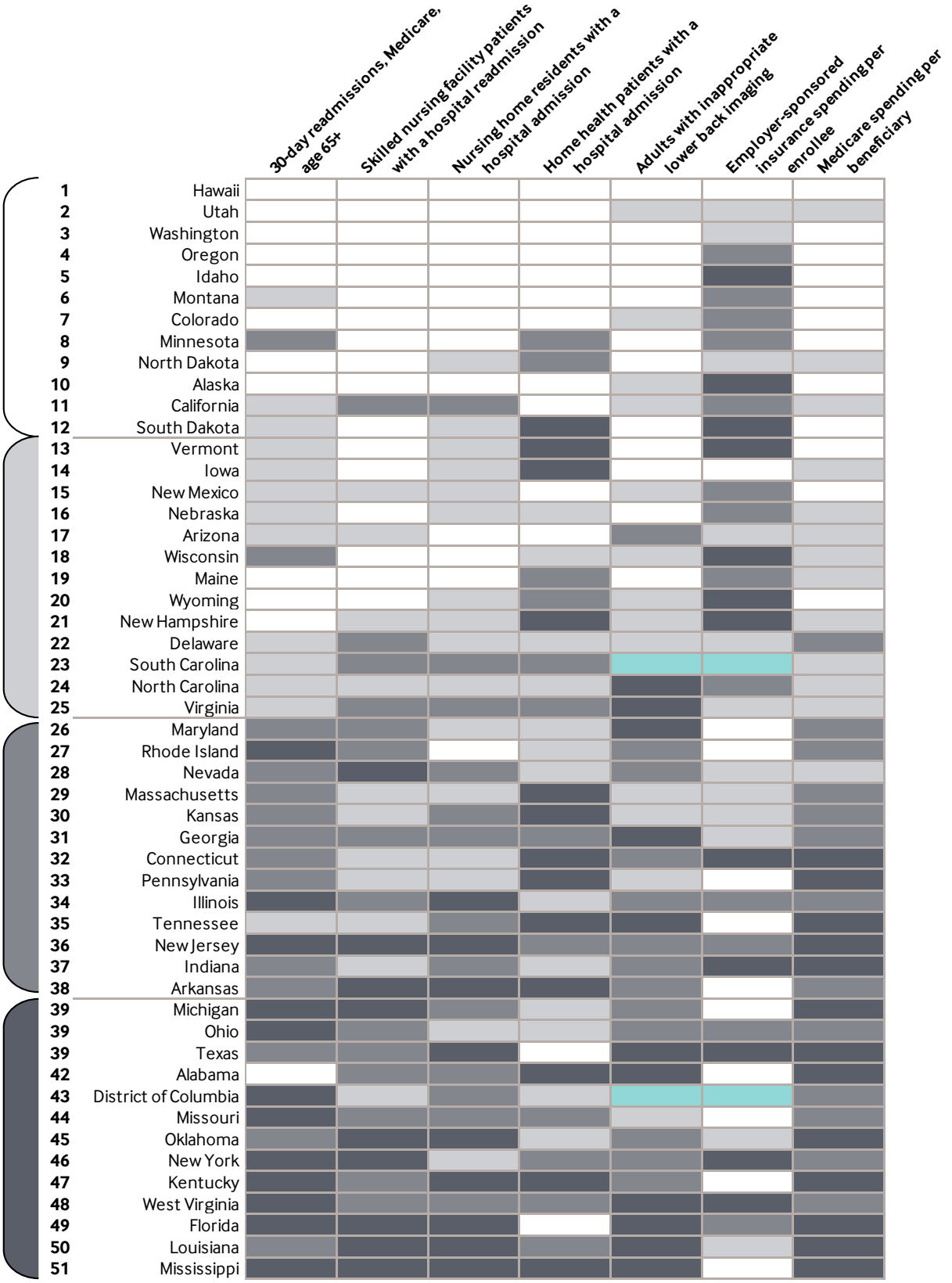
| | Hospital patients who did not receive patient-centered care | | Home health patients who did not get better at walking or moving around | | Nursing home residents with an antipsychotic medication | | Adults with any mental illness reporting unmet need | | Adults with any mental illness who did not receive treatment | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 | 2016 | 2013 | 2016 | 2013 | 2016 | 2009-2011 | 2013-2015 | 2009-2011 | 2013-2015 |
| **United States** | **32%** | **32%** | **39%** | **29% **** | **21%** | **16% **** | **21%** | **20%** | **59%** | **56% *** |
| Alabama | 31 | 30 | 35 | 24 ** | 22 | 19 * | 21 | 20 | 59 | 54 * |
| Alaska | 30 | 31 | 51 | 40 ** | 13 | 12 | 22 | 19 * | 67 | 64 * |
| Arizona | 34 | 34 | 42 | 32 ** | 20 | 16 ** | 30 | 21 ** | 59 | 59 |
| Arkansas | 32 | 31 | 39 | 24 ** | 24 | 16 ** | 28 | 19 ** | 58 | 55 * |
| California | 36 | 36 | 41 | 31 ** | 17 | 12 ** | 21 | 18 * | 64 | 61 * |
| Colorado | 30 | 30 | 38 | 28 ** | 17 | 15 * | 23 | 22 | 55 | 57 |
| Connecticut | 35 | 35 | 41 | 32 ** | 21 | 16 ** | 25 | 22 * | 58 | 53 * |
| Delaware | 34 | 32 * | 42 | 28 ** | 17 | 13 ** | 16 | 17 | 58 | 51 ** |
| District of Columbia | 42 | 43 | 40 | 26 ** | 16 | 12 ** | 24 | 25 | 65 | 59 ** |
| Florida | 37 | 36 | 35 | 26 ** | 22 | 16 ** | 20 | 18 * | 63 | 62 |
| Georgia | 34 | 33 | 39 | 27 ** | 22 | 19 * | 20 | 19 | 59 | 57 |
| Hawaii | 31 | 31 | 45 | 34 ** | 11 | 8 * | 14 | 14 | 73 | 64 ** |
| Idaho | 30 | 29 | 37 | 27 ** | 20 | 17 * | 23 | 25 * | 54 | 52 |
| Illinois | 33 | 32 | 39 | 30 ** | 25 | 19 ** | 22 | 21 | 58 | 53 * |
| Indiana | 31 | 31 | 41 | 30 ** | 21 | 16 ** | 23 | 25 * | 57 | 55 |
| Iowa | 31 | 30 | 38 | 29 ** | 20 | 15 ** | 18 | 21 * | 55 | 46 ** |
| Kansas | 30 | 28 * | 39 | 30 ** | 22 | 20 * | 30 | 23 ** | 49 | 54 * |
| Kentucky | 31 | 30 | 36 | 25 ** | 22 | 20 * | 19 | 23 ** | 55 | 51 * |
| Louisiana | 28 | 27 | 40 | 29 ** | 27 | 19 ** | 23 | 20 * | 65 | 58 ** |
| Maine | 28 | 29 | 38 | 30 ** | 21 | 17 ** | 16 | 19 * | 47 | 41 ** |
| Maryland | 39 | 38 | 37 | 25 ** | 16 | 14 * | 20 | 20 | 57 | 60 * |
| Massachusetts | 33 | 33 | 37 | 28 ** | 22 | 18 ** | 21 | 16 ** | 49 | 46 * |
| Michigan | 32 | 31 | 39 | 30 ** | 15 | 13 * | 23 | 20 * | 60 | 54 ** |
| Minnesota | 29 | 29 | 43 | 33 ** | 16 | 14 * | 25 | 24 | 57 | 44 ** |
| Mississippi | 30 | 30 | 36 | 23 ** | 25 | 20 ** | 21 | 23 * | 67 | 58 ** |
| Missouri | 33 | 33 | 38 | 28 ** | 24 | 19 ** | 27 | 25 * | 56 | 52 * |
| Montana | 33 | 29 ** | 44 | 34 ** | 18 | 15 * | 24 | 18 ** | 51 | 48 * |
| Nebraska | 28 | 28 | 41 | 29 ** | 23 | 19 ** | 16 | 19 * | 53 | 58 * |
| Nevada | 36 | 37 | 40 | 32 ** | 21 | 16 ** | 22 | 22 | 68 | 66 |
| New Hampshire | 31 | 30 | 41 | 30 ** | 21 | 17 ** | 24 | 24 | 57 | 49 ** |
| New Jersey | 37 | 37 | 37 | 28 ** | 16 | 12 ** | 15 | 17 * | 68 | 58 ** |
| New Mexico | 34 | 34 | 41 | 32 ** | 19 | 17 * | 25 | 18 ** | 55 | 57 |
| New York | 37 | 37 | 41 | 29 ** | 19 | 14 ** | 17 | 19 * | 61 | 56 * |
| North Carolina | 31 | 32 | 39 | 28 ** | 16 | 14 * | 22 | 24 * | 59 | 50 ** |
| North Dakota | 30 | 29 | 44 | 28 ** | 19 | 17 * | 17 | 21 ** | 55 | 56 |
| Ohio | 32 | 31 | 39 | 29 ** | 23 | 18 ** | 20 | 20 | 54 | 53 |
| Oklahoma | 30 | 30 | 40 | 28 ** | 23 | 20 * | 18 | 22 ** | 60 | 56 * |
| Oregon | 32 | 31 | 44 | 35 ** | 18 | 16 * | 26 | 25 | 56 | 51 * |
| Pennsylvania | 33 | 32 | 37 | 27 ** | 19 | 16 * | 21 | 21 | 54 | 53 |
| Rhode Island | 33 | 32 | 37 | 28 ** | 18 | 18 | 27 | 18 ** | 47 | 49 |
| South Carolina | 31 | 31 | 36 | 27 ** | 17 | 14 * | 22 | 21 | 54 | 58 * |
| South Dakota | 28 | 27 | 42 | 32 ** | 19 | 16 * | 17 | 20 * | 53 | 54 |
| Tennessee | 32 | 32 | 37 | 26 ** | 24 | 18 ** | 16 | 20 ** | 57 | 58 |
| Texas | 31 | 31 | 44 | 34 ** | 27 | 18 ** | 20 | 17 * | 65 | 60 * |
| Utah | 30 | 32 * | 34 | 25 ** | 25 | 17 ** | 23 | 23 | 57 | 56 |
| Vermont | 31 | 30 | 40 | 32 ** | 20 | 17 * | 24 | 21 * | 45 | 44 |
| Virginia | 34 | 34 | 37 | 30 ** | 20 | 16 ** | 22 | 22 | 53 | 53 |
| Washington | 34 | 34 | 44 | 30 ** | 19 | 15 ** | 26 | 24 * | 53 | 56 * |
| West Virginia | 33 | 32 | 37 | 24 ** | 18 | 16 * | 26 | 22 ** | 48 | 54 ** |
| Wisconsin | 29 | 28 | 41 | 30 ** | 16 | 13 * | 22 | 19 * | 60 | 52 ** |
| Wyoming | 31 | 29 * | 42 | 34 ** | 18 | 13 ** | 17 | 21 ** | 61 | 52 ** |
| **Change** | | | | | | | | | | |
| States Improved | | 4 | | 51 | | 49 | | 19 | | 28 |
| States Worsened | | 1 | | 0 | | 0 | | 15 | | 6 |

Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX E1. Avoidable Hospital Use & Cost: Dimension and Indicator Ranking



## APPENDIX E1. Avoidable Hospital Use & Cost: Dimension and Indicator Ranking (continued)



## APPENDIX E2. Avoidable Hospital Use & Cost: Dimension Ranking and Indicator Rates

| | Hospital admissions for pediatric asthma, per 100,000 children | | Avoidable emergency department visits, ages 18–64 (rate per 1,000) | Avoidable emergency department visits, Medicare, age 65+ (rate per 1,000) | | Preventable hospitalizations, ages 18–64 (rate per 1,000) | Preventable hospitalizations, Medicare, ages 65–74 (rate per 1,000) | |
|---|---|---|---|---|---|---|---|---|
| | 2012 | 2014 | 2015 | 2012 | 2015 | 2015 | 2012 | 2015 |
| **United States** | **143** | **106 *** | **159** | **188** | **197** | **5** | **29** | **26** |
| Alabama | -- | -- | 171 | 192 | 200 | 6 | 38 | 35 |
| Alaska | 62 | -- | 166 | 205 | 213 | 4 | -- | -- |
| Arizona | 125 | 90 * | 176 | 178 | 191 * | 5 | 20 | 17 |
| Arkansas | 81 | 95 | 157 | 185 | 200 * | 5 | 35 | 32 |
| California | 96 | 96 | 130 | 167 | 174 | 4 | 21 | 18 |
| Colorado | 129 | 141 | 147 | 173 | 177 | 4 | 16 | 14 |
| Connecticut | 136 | 130 | 163 | 189 | 208 * | 4 | 26 | 24 |
| Delaware | -- | -- | 151 | 159 | 179 * | 5 | 27 | 27 |
| District of Columbia | -- | -- | -- | 248 | 242 | -- | 37 | -- |
| Florida | 143 | 141 | 178 | 179 | 199 * | 6 | 28 | 28 |
| Georgia | 97 | 81 | 164 | 201 | 197 | 5 | 31 | 28 |
| Hawaii | 69 | 63 | 138 | 131 | 138 | 4 | 13 | -- |
| Idaho | -- | -- | 134 | 162 | 173 | 4 | 17 | 15 |
| Illinois | 119 | 116 | 154 | 192 | 199 | 5 | 31 | 27 * |
| Indiana | 102 | 89 | 171 | 200 | 210 | 6 | 35 | 31 * |
| Iowa | 71 | 70 | 151 | 184 | 186 | 4 | 24 | 22 |
| Kansas | 160 | 159 | 161 | 173 | 189 * | 5 | 27 | 24 |
| Kentucky | 152 | 115 * | 151 | 219 | 236 * | 5 | 51 | 45 * |
| Louisiana | 203 | 129 ** | 174 | 236 | 238 | 6 | 44 | 38 * |
| Maine | 76 | -- | 172 | 233 | 219 * | 4 | 26 | 25 |
| Maryland | 137 | 129 | 148 | 193 | 194 | 5 | 29 | 28 |
| Massachusetts | 141 | -- | 142 | 209 | 208 | 4 | 30 | 29 |
| Michigan | 94 | 122 * | 159 | 214 | 223 | 5 | 34 | 32 |
| Minnesota | 82 | 70 | 139 | 181 | 186 | 4 | 20 | 19 |
| Mississippi | -- | -- | 183 | 231 | 246 * | 6 | 42 | 41 |
| Missouri | 161 | 172 | 203 | 197 | 209 | 5 | 31 | 30 |
| Montana | 77 | 78 | 145 | 158 | 163 | 4 | 21 | 18 |
| Nebraska | 82 | 69 | 140 | 153 | 157 | 5 | 24 | 21 |
| Nevada | 112 | 102 | 187 | 165 | 164 | 5 | 25 | 21 * |
| New Hampshire | -- | -- | 156 | 192 | 183 | 4 | 23 | 24 |
| New Jersey | 163 | 155 | 145 | 170 | 180 | 5 | 27 | 26 |
| New Mexico | -- | 166 | 149 | 170 | 193 * | 4 | 23 | 19 * |
| New York | 231 | 243 | 155 | 173 | 179 | 5 | 29 | 24 * |
| North Carolina | 113 | 109 | 159 | 197 | 217 * | 4 | 29 | 28 |
| North Dakota | -- | 61 | 162 | 187 | 168 * | 4 | 24 | 22 |
| Ohio | 128 | -- | 177 | 219 | 230 | 5 | 38 | 31 * |
| Oklahoma | 189 | 156 * | 172 | 211 | 236 * | 5 | 38 | 34 * |
| Oregon | 41 | 48 | 137 | 162 | 167 | 4 | 17 | 17 |
| Pennsylvania | -- | 157 | 159 | 187 | 194 | 5 | 31 | 28 |
| Rhode Island | 149 | 140 | 158 | 188 | 212 * | 4 | 27 | 29 |
| South Carolina | 133 | 108 * | -- | 176 | 189 * | -- | 27 | 25 |
| South Dakota | 76 | 89 | 143 | 168 | 155 * | 4 | 22 | 22 |
| Tennessee | 73 | 74 | 168 | 200 | 205 | 6 | 37 | 32 * |
| Texas | 114 | 97 | 176 | 186 | 198 | 5 | 31 | 28 |
| Utah | 93 | -- | 132 | 147 | 151 | 4 | 17 | 14 |
| Vermont | 28 | 22 | 163 | 187 | 174 * | 4 | -- | 20 |
| Virginia | 100 | 80 | 168 | 193 | 195 | 5 | 27 | 23 * |
| Washington | 84 | 60 * | 138 | 157 | 175 * | 3 | 18 | 17 |
| West Virginia | 98 | 84 | 182 | 226 | 251 * | 5 | 50 | 41 ** |
| Wisconsin | 86 | 86 | 164 | 182 | 194 | 4 | 22 | 21 |
| Wyoming | 123 | 106 | 166 | 169 | 178 | 5 | -- | 20 |
| **Change** | | | | | | | | |
| States Improved | | 6 | | | 4 | | | 12 |
| States Worsened | | 1 | | | 15 | | | 0 |

Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. Spending estimates exclude prescription drug costs and are adjusted for regional wage differences; Medicare estimates reflect only the age 65+ Medicare fee-for-service population. -- Indicates that estimates are not available.

## APPENDIX E2. Avoidable Hospital Use & Cost: Dimension Ranking and Indicator Rates (continued)

| | Preventable hospitalizations, Medicare, age 75+ (rate per 1,000) | | 30-day readmissions, ages 18–64 (rate per 1,000) | 30-day readmissions, Medicare, age 65+ (rate per 1,000) | | Short-stay nursing home residents with a 30-day readmission to the hospital | | Long-stay nursing home residents with a hospital admission | |
|---|---|---|---|---|---|---|---|---|---|
| | 2012 | 2015 | 2015 | 2012 | 2015 | 2012 | 2014 | 2012 | 2014 |
| **United States** | **70** | **66** | **2.9** | **49** | **42 *** | **20%** | **19%** | **17%** | **16%** |
| Alabama | 82 | 76 | 1.2 | 50 | 45 | 22 | 20 * | 21 | 19 |
| Alaska | 52 | 48 | 2.6 | 29 | 25 | -- | 11 | -- | 11 |
| Arizona | 51 | 47 | 3.32 | 38 | 32 * | 20 | 19 | 9 | 8 |
| Arkansas | 83 | 78 | 2.99 | 51 | 44 * | 25 | 23 * | 26 | 24 |
| California | 55 | 52 | 2.39 | 43 | 37 * | 22 | 20 * | 20 | 19 |
| Colorado | 50 | 45 | 2.29 | 31 | 27 | 16 | 14 * | 10 | 9 |
| Connecticut | 75 | 70 | 2.4 | 52 | 46 * | 20 | 19 | 16 | 14 |
| Delaware | 68 | 65 | 2.68 | 42 | 39 | 20 | 20 | 19 | 16 * |
| District of Columbia | -- | 65 | -- | 65 | 50 ** | -- | 19 | -- | 19 |
| Florida | 68 | 71 | 3.87 | 54 | 51 | 22 | 22 | 23 | 22 |
| Georgia | 73 | 68 | 2.94 | 46 | 40 * | 21 | 20 | 19 | 17 |
| Hawaii | 41 | 33 * | 2.81 | 26 | 21 | -- | 12 | -- | 5 |
| Idaho | 45 | 42 | 2.49 | 26 | 24 | 14 | 14 | 11 | 12 |
| Illinois | 73 | 73 | 3.22 | 59 | 48 ** | 23 | 20 * | 22 | 20 |
| Indiana | 77 | 72 | 3.13 | 51 | 43 * | 20 | 18 * | 19 | 17 |
| Iowa | 64 | 60 | 2.68 | 39 | 35 | 17 | 16 | 15 | 15 |
| Kansas | 71 | 67 | 2.85 | 43 | 39 | 19 | 18 | 20 | 19 |
| Kentucky | 100 | 93 * | 3.02 | 63 | 54 * | 22 | 20 * | 24 | 21 * |
| Louisiana | 97 | 88 * | 2.98 | 56 | 47 * | 26 | 25 | 30 | 27 * |
| Maine | 65 | 64 | 2.14 | 39 | 37 | 17 | 16 | 12 | 12 |
| Maryland | 69 | 65 | 2.63 | 54 | 43 ** | 22 | 20 * | 17 | 16 |
| Massachusetts | 80 | 79 | 2.75 | 54 | 50 | 19 | 19 | 14 | 13 |
| Michigan | 73 | 74 | 3.36 | 61 | 55 * | 23 | 21 * | 18 | 17 |
| Minnesota | 55 | 52 | 3.13 | 41 | 37 | 17 | 16 | 7 | 7 |
| Mississippi | 91 | 91 | 2.88 | 56 | 50 * | 24 | 22 * | 29 | 28 |
| Missouri | 73 | 69 | 3.47 | 51 | 46 | 22 | 20 * | 20 | 19 |
| Montana | -- | 53 | 3.28 | 30 | 27 | 13 | 13 | 12 | 12 |
| Nebraska | 63 | 61 | 2.98 | 39 | 35 | 16 | 15 | 16 | 16 |
| Nevada | 60 | 55 | 3.63 | 41 | 37 | 23 | 22 | 20 | 19 |
| New Hampshire | 64 | 67 | 2.3 | 36 | 36 | 16 | 17 | 14 | 14 |
| New Jersey | 73 | 70 | 3.21 | 57 | 48 * | 24 | 22 * | 21 | 20 |
| New Mexico | 59 | 51 * | 2.92 | 33 | 30 | 18 | 18 | 13 | 15 |
| New York | 73 | 65 * | 5.46 | 59 | 47 ** | 23 | 21 * | 17 | 14 * |
| North Carolina | 67 | 65 | 2.59 | 45 | 40 | 20 | 18 * | 18 | 16 |
| North Dakota | 65 | 63 | 2.7 | 42 | 32 * | 16 | 14 * | 15 | 14 |
| Ohio | 82 | 74 * | 3.36 | 59 | 47 ** | 21 | 20 | 15 | 13 |
| Oklahoma | 80 | 73 * | 3.19 | 49 | 42 * | 23 | 21 * | 24 | 23 |
| Oregon | 48 | 47 | 2.65 | 28 | 28 | 17 | 16 | 8 | 9 |
| Pennsylvania | 74 | 70 | 3.09 | 54 | 46 * | 21 | 19 * | 16 | 14 |
| Rhode Island | 66 | 65 | 3.36 | 50 | 48 | 21 | 20 | 10 | 9 |
| South Carolina | 65 | 62 | -- | 41 | 37 | 20 | 20 | 20 | 19 |
| South Dakota | -- | 61 | 3.38 | 36 | 31 | 15 | 14 | 15 | 16 |
| Tennessee | 84 | 79 | 1.94 | 53 | 45 * | 21 | 19 * | 22 | 19 * |
| Texas | 76 | 70 | 3.45 | 46 | 41 | 22 | 20 * | 23 | 21 |
| Utah | 42 | 38 | 1.37 | 28 | 23 | 14 | 14 | 11 | 11 |
| Vermont | 65 | 58 * | 3.21 | 33 | 32 | 16 | 15 | 15 | 14 |
| Virginia | 71 | 62 * | 2.5 | 48 | 39 * | 21 | 20 | 20 | 18 |
| Washington | 49 | 47 | 2.21 | 35 | 30 | 17 | 16 | 13 | 11 |
| West Virginia | 98 | 88 * | 3 | 64 | 54 * | 23 | 20 * | 19 | 17 |
| Wisconsin | 60 | 56 | 3.24 | 41 | 35 * | 17 | 16 | 12 | 12 |
| Wyoming | -- | -- | 2.86 | 34 | 30 | 15 | 14 | 13 | 16 * |
| **Change** | | | | | | | | | |
| States Improved | | 10 | | | 23 | | 20 | | 5 |
| States Worsened | | 0 | | | 0 | | 0 | | 1 |

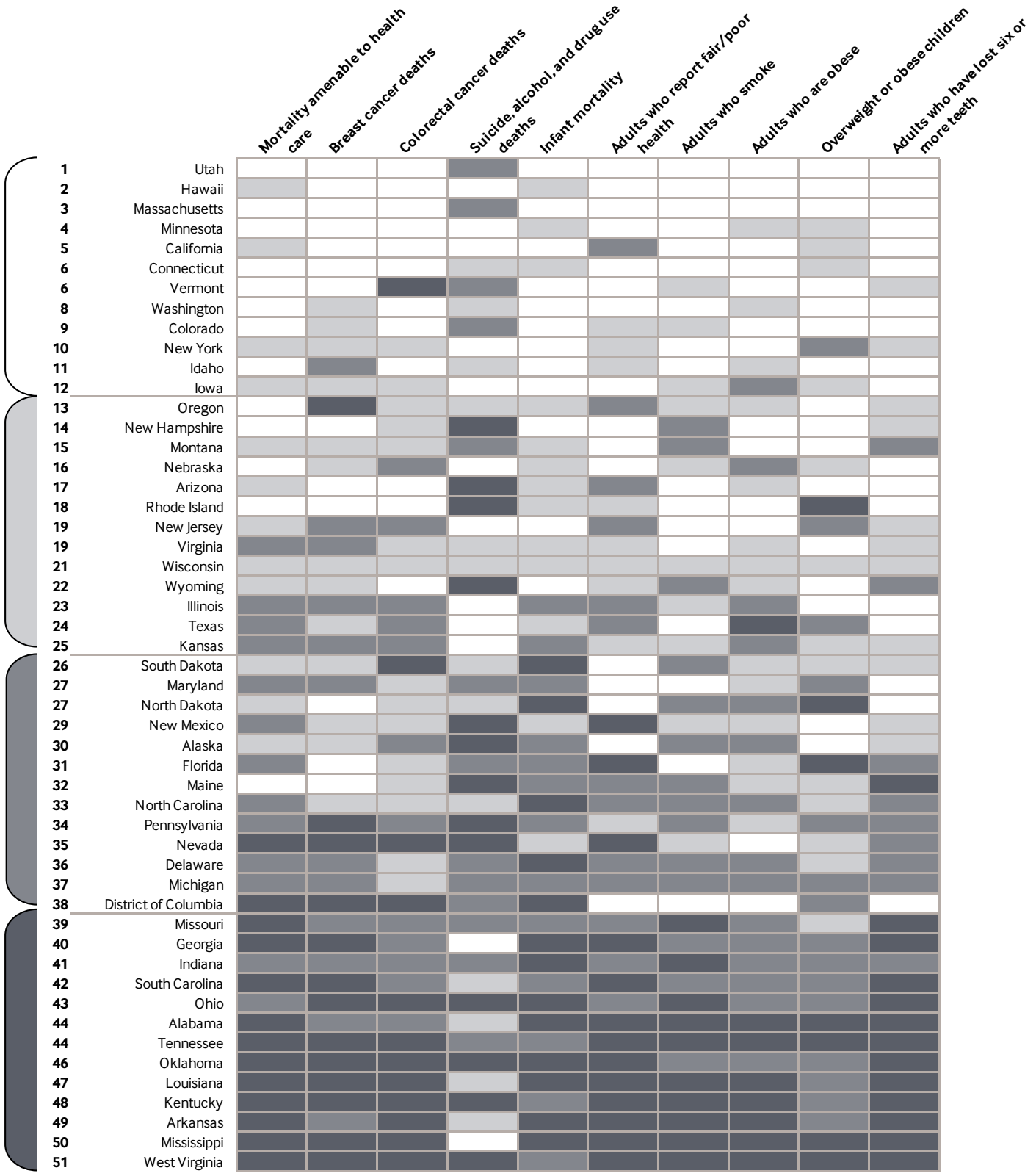
Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. Spending estimates exclude prescription drug costs and are adjusted for regional wage differences; Medicare estimates reflect only the age 65+ Medicare fee-for-service population. -- Indicates that estimates are not available.

## APPENDIX E2. Avoidable Hospital Use & Cost: Dimension Ranking and Indicator Rates (continued)

| | Home health patients with a hospital admission | | Adults with inappropriate lower back imaging | Total employer-sponsored insurance spending per enrollee | | Total Medicare (Parts A & B) reimbursements per enrollee | |
|---|---|---|---|---|---|---|---|
| | 2013 | 2016 | 2015 | 2013 | 2015 | 2012 | 2015 |
| **United States** | **16.0%** | **16.4%** | **29%** | **$4,697** | **$4,736** | **$8,854** | **$9,025** |
| Alabama | 17.0 | 18.0 * | 41 | 3,706 | 3,706 | 9,344 | 9,623 |
| Alaska | 14.0 | 14.4 | 25 | 7,186 | 8,902 ** | 5,399 | 6,318 * |
| Arizona | 15.0 | 14.6 | 32 | 4,453 | 4,509 | 7,998 | 8,168 |
| Arkansas | 17.0 | 18.4 ** | 32 | 3,117 | 3,609 * | 8,619 | 9,022 |
| California | 15.0 | 14.9 | 25 | 4,915 | 5,151 | 8,310 | 8,295 |
| Colorado | 14.0 | 15.3 ** | 26 | 4,625 | 4,811 | 7,460 | 7,635 |
| Connecticut | 16.0 | 17.4 ** | 33 | 5,067 | 5,358 | 8,936 | 9,335 |
| Delaware | 16.0 | 16.5 * | 28 | 4,509 | 4,643 | 8,514 | 8,980 |
| District of Columbia | 18.0 | 16.0 ** | -- | 3,548 | -- | 8,887 | 8,838 |
| Florida | 15.0 | 15.9 * | 35 | 4,748 | 5,050 | 10,597 | 10,638 |
| Georgia | 16.0 | 16.9 * | 35 | 4,951 | 4,507 * | 8,743 | 8,974 |
| Hawaii | 14.0 | 14.4 | 23 | 3,460 | 3,667 | 5,408 | 5,586 |
| Idaho | 14.0 | 15.2 ** | 22 | 4,906 | 5,243 | 7,198 | 7,589 |
| Illinois | 16.0 | 16.3 | 30 | 4,575 | 4,847 | 9,219 | 9,211 |
| Indiana | 16.0 | 16.6 * | 32 | 4,955 | 5,317 | 9,045 | 9,291 |
| Iowa | 16.0 | 17.2 ** | 23 | 3,784 | 4,118 | 7,496 | 7,905 |
| Kansas | 17.0 | 17.7 * | 25 | 4,079 | 4,362 | 8,586 | 9,034 |
| Kentucky | 18.0 | 17.7 | 33 | 4,393 | 4,033 | 9,167 | 9,351 |
| Louisiana | 16.0 | 16.9 * | 39 | 4,404 | 4,452 | 10,868 | 10,851 |
| Maine | 16.0 | 17.1 ** | 23 | 4,661 | 4,868 | 7,606 | 8,083 |
| Maryland | 17.0 | 16.3 * | 34 | 3,683 | 3,848 | 8,472 | 8,927 |
| Massachusetts | 16.0 | 17.6 ** | 27 | 4,659 | 4,648 | 9,041 | 9,158 |
| Michigan | 16.0 | 16.4 | 33 | 3,903 | 3,818 | 9,565 | 9,714 |
| Minnesota | 16.0 | 16.9 * | 21 | 4,483 | 4,726 | 7,225 | 7,791 |
| Mississippi | 17.0 | 18.2 ** | 37 | 3,982 | 3,347 * | 10,046 | 10,352 |
| Missouri | 16.0 | 17.0 * | 29 | 4,266 | 4,187 | 8,698 | 8,976 |
| Montana | 15.0 | 15.4 | 23 | 4,553 | 4,858 | 6,585 | 7,004 |
| Nebraska | 16.0 | 16.5 * | 24 | 4,507 | 4,972 * | 8,062 | 8,654 * |
| Nevada | 15.0 | 16.1 ** | 32 | 4,022 | 4,400 | 8,328 | 8,488 |
| New Hampshire | 17.0 | 17.6 * | 29 | 5,245 | 5,487 | 7,618 | 7,839 |
| New Jersey | 16.0 | 16.7 * | 32 | 4,771 | 5,101 | 9,556 | 9,757 |
| New Mexico | 15.0 | 15.3 | 26 | 4,407 | 4,716 | 6,791 | 7,183 |
| New York | 17.0 | 17.0 | 30 | 5,279 | 5,866 * | 8,977 | 9,191 |
| North Carolina | 16.0 | 16.1 | 34 | 4,497 | 4,852 | 8,158 | 8,590 |
| North Dakota | 15.0 | 16.8 ** | 16 | 4,306 | 4,438 | 7,529 | 7,867 |
| Ohio | 16.0 | 16.6 * | 32 | 4,464 | 4,770 | 9,492 | 9,254 |
| Oklahoma | 16.0 | 16.5 * | 32 | 4,312 | 4,356 | 9,182 | 9,721 |
| Oregon | 14.0 | 15.5 ** | 20 | 4,300 | 4,721 * | 6,300 | 6,827 |
| Pennsylvania | 17.0 | 17.4 | 27 | 4,185 | 4,344 | 9,391 | 9,432 |
| Rhode Island | 15.0 | 16.3 ** | 30 | 4,018 | 4,333 | 8,557 | 8,803 |
| South Carolina | 16.0 | 16.7 * | -- | -- | -- | 8,529 | 8,671 |
| South Dakota | 17.0 | 17.3 | 18 | 5,042 | 5,278 | 7,204 | 7,682 |
| Tennessee | 17.0 | 17.4 | 36 | 4,081 | 4,134 | 9,197 | 9,316 |
| Texas | 15.0 | 15.9 * | 35 | 5,110 | 5,424 | 10,135 | 10,364 |
| Utah | 14.0 | 14.0 | 26 | 4,322 | 4,508 | 8,011 | 8,207 |
| Vermont | 16.0 | 17.2 ** | 23 | 5,384 | 5,660 | 6,816 | 7,231 |
| Virginia | 17.0 | 16.7 | 34 | 4,203 | 4,498 | 8,000 | 8,172 |
| Washington | 15.0 | 15.0 | 22 | 4,545 | 4,596 | 7,106 | 7,361 |
| West Virginia | 18.0 | 16.9 ** | 35 | 5,345 | 5,389 | 8,637 | 8,904 |
| Wisconsin | 16.0 | 16.2 | 27 | 5,871 | 6,149 | 7,615 | 7,905 |
| Wyoming | 17.0 | 16.8 | 27 | 5,779 | 6,312 * | 6,818 | 7,269 |
| **Change** | | | | | | | |
| States Improved | | 3 | | | 2 | | 0 |
| States Worsened | | 29 | | | 6 | | 2 |

Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. Spending estimates exclude prescription drug costs and are adjusted for regional wage differences; Medicare estimates reflect only the age 65+ Medicare fee-for-service population. -- Indicates that estimates are not available.

## APPENDIX F1. Healthy Lives: Dimension and Indicator Ranking



## APPENDIX F2. Healthy Lives: Dimension Ranking and Indicator Rates

| | Mortality amenable to health care, deaths per 100,000 population | | Breast cancer deaths per 100,000 female population | | Colorectal cancer deaths per 100,000 population | | Deaths from suicide, alcohol, and drug use per 100,000 population | | Infant mortality, deaths per 1,000 live births | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2012-13 | 2014-15 | 2013 | 2016 | 2013 | 2016 | 2013 | 2016 | 2012 | 2015 |
| **United States** | **83.7** | **84.3** | **20.8** | **20.1** | **14.6** | **13.1 *** | **35.6** | **43.2 *** | **6.0** | **5.9** |
| Alabama | 111.3 | 110.4 | 21.4 | 21.1 | 17.7 | 14.3 ** | 36.7 | 44.7 * | 8.9 | 8.3 |
| Alaska | 71.6 | 73.2 | 19.3 | 20.0 | 16.4 | 14.0 ** | 51.4 | 60.2 * | 5.1 | 6.9 ** |
| Arizona | 72.4 | 73.5 | 20.6 | 18.9 * | 13.3 | 11.6 * | 50.1 | 52.9 | 5.8 | 5.5 |
| Arkansas | 118.9 | 123.6 | 21.4 | 20.6 | 17.7 | 15.7 ** | 36.9 | 43.2 * | 7.1 | 7.5 |
| California | 72.0 | 70.8 | 20.1 | 18.5 * | 13.2 | 11.8 * | 32.3 | 33.3 | 4.5 | 4.4 |
| Colorado | 59.2 | 62.7 | 18.1 | 19.5 * | 12.3 | 11.2 * | 44.2 | 48.0 | 4.6 | 4.7 |
| Connecticut | 61.3 | 59.1 | 18.7 | 18.3 | 11.9 | 10.4 * | 32.0 | 45.3 ** | 5.3 | 5.7 |
| Delaware | 85.0 | 83.4 | 21.3 | 21.1 | 13.8 | 12.6 * | 38.2 | 49.0 ** | 7.6 | 9.1 ** |
| District of Columbia | 123.9 | 127.9 | 29.8 | 23.7 ** | 14.3 | 16.4 ** | 27.7 | 51.8 ** | 7.9 | 8.8 * |
| Florida | 80.0 | 80.9 | 19.6 | 18.8 | 13.7 | 12.6 * | 35.5 | 48.3 ** | 6.1 | 6.2 |
| Georgia | 100.4 | 103.5 | 22.5 | 21.7 | 14.9 | 14.3 | 30.6 | 35.1 | 6.2 | 7.8 ** |
| Hawaii | 75.3 | 76.1 | 15.5 | 14.5 * | 14.2 | 11.5 ** | 28.4 | 31.2 | 4.9 | 5.7 * |
| Idaho | 66.7 | 64.9 | 22.1 | 21.4 | 13.4 | 11.7 * | 42.5 | 44.6 | 5.4 | 4.7 * |
| Illinois | 87.1 | 87.7 | 22.2 | 21.0 * | 15.9 | 13.8 ** | 30.1 | 38.3 * | 6.5 | 6.0 |
| Indiana | 91.0 | 92.2 | 21.8 | 20.7 * | 15.4 | 13.6 * | 40.2 | 50.1 * | 6.7 | 7.3 |
| Iowa | 71.8 | 70.6 | 18.7 | 19.2 | 15.6 | 13.4 ** | 31.6 | 33.7 | 5.3 | 4.2 * |
| Kansas | 78.1 | 80.1 | 18.5 | 21.4 ** | 15.4 | 13.6 * | 33.7 | 37.3 | 6.3 | 6.0 |
| Kentucky | 105.8 | 108.6 | 21.1 | 21.7 | 17.1 | 15.9 * | 48.9 | 61.7 ** | 7.2 | 6.7 |
| Louisiana | 123.5 | 124.9 | 23.9 | 22.2 * | 18.4 | 15.5 ** | 39.5 | 45.3 * | 8.1 | 7.6 |
| Maine | 62.3 | 66.2 | 18.8 | 18.8 | 12.5 | 13.4 | 38.0 | 53.9 ** | 7.0 | 6.6 |
| Maryland | 88.7 | 90.3 | 21.5 | 21.3 | 14.3 | 13.4 | 30.0 | 48.8 ** | 6.4 | 6.6 |
| Massachusetts | 60.4 | 59.9 | 18.4 | 16.9 * | 13.1 | 11.0 ** | 30.8 | 50.2 ** | 4.2 | 4.3 |
| Michigan | 91.3 | 92.2 | 21.2 | 20.5 | 14.8 | 13.1 * | 37.7 | 47.1 * | 6.9 | 6.5 |
| Minnesota | 55.6 | 54.7 | 19.6 | 17.0 ** | 12.8 | 11.9 | 29.3 | 34.4 | 5.0 | 5.2 |
| Mississippi | 136.7 | 142.4 | 23.3 | 23.3 | 18.8 | 17.2 * | 33.2 | 35.5 | 8.9 | 9.5 |
| Missouri | 95.1 | 95.7 | 22.0 | 21.1 | 15.7 | 13.8 * | 40.0 | 49.5 * | 6.6 | 6.5 |
| Montana | 70.3 | 71.2 | 19.9 | 19.4 | 12.4 | 12.2 | 48.8 | 50.2 | 5.9 | 5.8 |
| Nebraska | 64.9 | 68.2 | 21.0 | 20.1 | 15.2 | 13.6 * | 26.6 | 28.5 | 4.7 | 5.7 * |
| Nevada | 91.7 | 95.5 | 22.5 | 21.6 | 16.8 | 16.4 | 49.4 | 52.3 | 4.9 | 5.2 |
| New Hampshire | 58.4 | 57.7 | 19.8 | 19.0 | 12.8 | 12.6 | 34.7 | 64.3 ** | 4.2 | 4.1 |
| New Jersey | 75.1 | 73.1 | 23.2 | 21.2 ** | 14.9 | 13.7 * | 29.7 | 37.7 * | 4.4 | 4.7 |
| New Mexico | 78.6 | 80.0 | 17.3 | 20.3 ** | 14.5 | 12.2 ** | 61.8 | 72.2 * | 6.8 | 5.1 ** |
| New York | 79.0 | 77.1 | 20.6 | 19.9 | 14.0 | 12.1 * | 25.7 | 32.8 * | 5.0 | 4.6 |
| North Carolina | 92.5 | 93.6 | 20.4 | 20.1 | 13.3 | 12.4 | 34.5 | 41.8 * | 7.4 | 7.4 |
| North Dakota | 70.5 | 73.3 | 17.9 | 17.9 | 15.9 | 12.8 ** | 32.1 | 41.7 * | 6.3 | 7.2 * |
| Ohio | 94.5 | 94.5 | 22.9 | 21.6 * | 16.3 | 15.0 * | 42.6 | 63.0 ** | 7.5 | 7.2 |
| Oklahoma | 117.5 | 126.3 | 22.9 | 22.2 | 17.5 | 16.3 * | 51.1 | 56.8 * | 7.5 | 7.3 |
| Oregon | 61.9 | 62.6 | 19.9 | 21.5 * | 14.4 | 12.7 * | 39.2 | 41.3 | 5.4 | 5.2 |
| Pennsylvania | 82.0 | 82.6 | 21.8 | 21.5 | 15.9 | 14.1 * | 39.4 | 59.5 ** | 7.1 | 6.2 * |
| Rhode Island | 68.5 | 68.2 | 19.4 | 18.4 * | 13.2 | 11.9 * | 43.3 | 54.3 ** | 6.5 | 5.9 |
| South Carolina | 99.2 | 99.2 | 21.3 | 22.4 * | 15.0 | 13.7 * | 38.3 | 45.4 * | 7.5 | 6.9 |
| South Dakota | 74.5 | 75.8 | 19.9 | 19.8 | 16.7 | 14.6 ** | 38.0 | 44.8 * | 8.3 | 7.3 * |
| Tennessee | 110.0 | 113.3 | 22.4 | 22.0 | 16.6 | 14.4 ** | 44.1 | 51.9 * | 7.2 | 7.0 |
| Texas | 93.4 | 95.3 | 20.2 | 19.7 | 14.7 | 13.5 * | 33.1 | 35.7 | 5.8 | 5.7 |
| Utah | 61.4 | 60.7 | 20.3 | 19.0 * | 10.9 | 10.1 | 48.7 | 50.7 | 4.8 | 5.0 |
| Vermont | 57.2 | 61.4 | 18.5 | 13.6 ** | 14.3 | 15.7 * | 39.3 | 46.1 * | 4.3 | 4.6 |
| Virginia | 81.3 | 80.2 | 21.1 | 20.9 | 13.8 | 13.0 | 30.4 | 38.4 * | 6.5 | 5.9 |
| Washington | 62.2 | 62.4 | 20.5 | 19.4 * | 12.8 | 11.6 * | 38.6 | 39.3 | 5.3 | 4.9 |
| West Virginia | 103.5 | 106.9 | 21.6 | 21.9 | 19.8 | 17.4 ** | 60.5 | 83.1 ** | 7.2 | 7.1 |
| Wisconsin | 69.4 | 69.4 | 20.4 | 19.3 * | 14.1 | 12.3 * | 37.3 | 42.9 * | 5.7 | 5.8 |
| Wyoming | 68.0 | 73.8 | 20.5 | 20.3 | 12.6 | 11.0 * | 51.5 | 55.9 | 5.6 | 4.9 * |
| **Change** | | | | | | | | | | |
| States Improved | | 0 | | 16 | | 39 | | 0 | | 6 |
| States Worsened | | 0 | | 5 | | 2 | | 33 | | 7 |

Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX F2. Healthy Lives: Dimension Ranking and Indicator Rates (continued)

| | Adults who report fair/poor health | | Adults who smoke | | Adults who are obese | | Children who are overweight or obese | Adults who have lost six or more teeth | |
|---|---|---|---|---|---|---|---|---|---|
| | 2013 | 2016 | 2013 | 2016 | 2013 | 2016 | 2016 | 2012 | 2016 |
| **United States** | **16%** | **16%** | **18%** | **16% *** | **29%** | **30%** | **31%** | **10%** | **10%** |
| Alabama | 20 | 20 | 21 | 21 | 33 | 37 ** | 35 | 17 | 15 * |
| Alaska | 14 | 13 | 23 | 19 ** | 28 | 31 * | 26 | 9 | 10 |
| Arizona | 16 | 17 | 16 | 15 | 28 | 30 * | 27 | 10 | 8 * |
| Arkansas | 22 | 24 * | 26 | 24 * | 37 | 38 | 34 | 17 | 16 |
| California | 18 | 16 * | 12 | 10 * | 25 | 25 | 31 | 7 | 6 |
| Colorado | 12 | 14 * | 18 | 16 * | 22 | 23 | 27 | 7 | 7 |
| Connecticut | 11 | 13 * | 16 | 13 * | 25 | 26 | 30 | 8 | 7 |
| Delaware | 16 | 15 | 20 | 18 * | 31 | 31 | 31 | 10 | 11 |
| District of Columbia | 11 | 10 | 19 | 15 ** | 23 | 22 | 34 | 7 | 6 |
| Florida | 18 | 18 | 17 | 15 * | 27 | 28 | 37 | 11 | 12 |
| Georgia | 17 | 18 | 19 | 18 | 31 | 32 | 32 | 13 | 13 |
| Hawaii | 12 | 13 | 13 | 13 | 23 | 26 * | 25 | 6 | 6 |
| Idaho | 13 | 14 | 17 | 15 * | 30 | 28 * | 26 | 9 | 8 |
| Illinois | 15 | 16 | 18 | 16 * | 30 | 32 * | 27 | 9 | 8 |
| Indiana | 16 | 17 | 22 | 21 | 32 | 33 | 34 | 13 | 12 |
| Iowa | 12 | 12 | 19 | 17 * | 32 | 32 | 30 | 9 | 8 |
| Kansas | 14 | 14 | 20 | 17 * | 31 | 32 | 31 | 10 | 9 |
| Kentucky | 21 | 20 | 26 | 25 | 34 | 35 | 34 | 16 | 17 |
| Louisiana | 20 | 19 | 24 | 23 | 33 | 36 * | 34 | 17 | 14 * |
| Maine | 13 | 15 * | 20 | 20 | 29 | 30 | 28 | 14 | 14 |
| Maryland | 13 | 13 | 16 | 14 * | 29 | 30 | 34 | 9 | 7 * |
| Massachusetts | 12 | 13 | 17 | 14 * | 24 | 23 | 27 | 9 | 8 |
| Michigan | 16 | 17 | 21 | 20 | 32 | 33 | 32 | 11 | 11 |
| Minnesota | 11 | 11 | 18 | 15 * | 26 | 28 * | 28 | 7 | 7 |
| Mississippi | 21 | 20 | 25 | 23 * | 37 | 39 * | 37 | 18 | 18 |
| Missouri | 17 | 17 | 22 | 22 | 31 | 32 | 29 | 12 | 14 * |
| Montana | 14 | 13 | 19 | 18 | 25 | 26 | 23 | 11 | 11 |
| Nebraska | 12 | 13 | 18 | 17 | 30 | 33 * | 29 | 8 | 7 |
| Nevada | 16 | 20 ** | 19 | 16 * | 27 | 26 | 30 | 11 | 11 |
| New Hampshire | 11 | 13 * | 16 | 18 * | 27 | 27 | 24 | 10 | 10 |
| New Jersey | 15 | 16 | 16 | 14 * | 27 | 27 | 32 | 9 | 9 |
| New Mexico | 19 | 19 | 19 | 16 * | 28 | 30 * | 25 | 10 | 10 |
| New York | 16 | 14 * | 17 | 14 * | 25 | 26 | 32 | 10 | 9 |
| North Carolina | 17 | 17 | 20 | 18 * | 30 | 33 * | 31 | 13 | 12 |
| North Dakota | 12 | 13 | 21 | 20 | 31 | 32 | 37 | 9 | 8 |
| Ohio | 16 | 16 | 23 | 23 | 31 | 32 | 33 | 13 | 14 |
| Oklahoma | 19 | 18 | 24 | 19 ** | 34 | 33 | 34 | 14 | 14 |
| Oregon | 16 | 15 | 17 | 16 | 27 | 29 * | 20 | 10 | 10 |
| Pennsylvania | 15 | 14 | 21 | 18 * | 30 | 30 | 32 | 11 | 11 |
| Rhode Island | 14 | 14 | 17 | 14 * | 27 | 27 | 36 | 9 | 8 |
| South Carolina | 17 | 18 | 22 | 20 * | 33 | 33 | 33 | 15 | 13 * |
| South Dakota | 10 | 11 | 20 | 18 * | 30 | 30 | 31 | 9 | 9 |
| Tennessee | 21 | 18 * | 23 | 22 | 35 | 37 * | 38 | 18 | 13 ** |
| Texas | 17 | 16 | 16 | 14 * | 32 | 34 * | 33 | 8 | 7 |
| Utah | 11 | 11 | 10 | 9 | 24 | 25 | 19 | 6 | 6 |
| Vermont | 11 | 12 | 17 | 17 | 25 | 27 * | 22 | 11 | 10 |
| Virginia | 14 | 14 | 19 | 15 ** | 27 | 30 * | 27 | 11 | 9 * |
| Washington | 15 | 13 * | 16 | 14 * | 27 | 29 * | 25 | 8 | 7 |
| West Virginia | 22 | 24 * | 27 | 25 * | 37 | 39 * | 35 | 23 | 21 * |
| Wisconsin | 14 | 14 | 19 | 17 * | 29 | 30 | 30 | 11 | 10 |
| Wyoming | 14 | 14 | 21 | 19 * | 29 | 28 | 27 | 11 | 12 |
| **Change** | | | | | | | | | |
| States Improved | | 4 | | 32 | | 1 | | | 8 |
| States Worsened | | 7 | | 1 | | 18 | | | 1 |

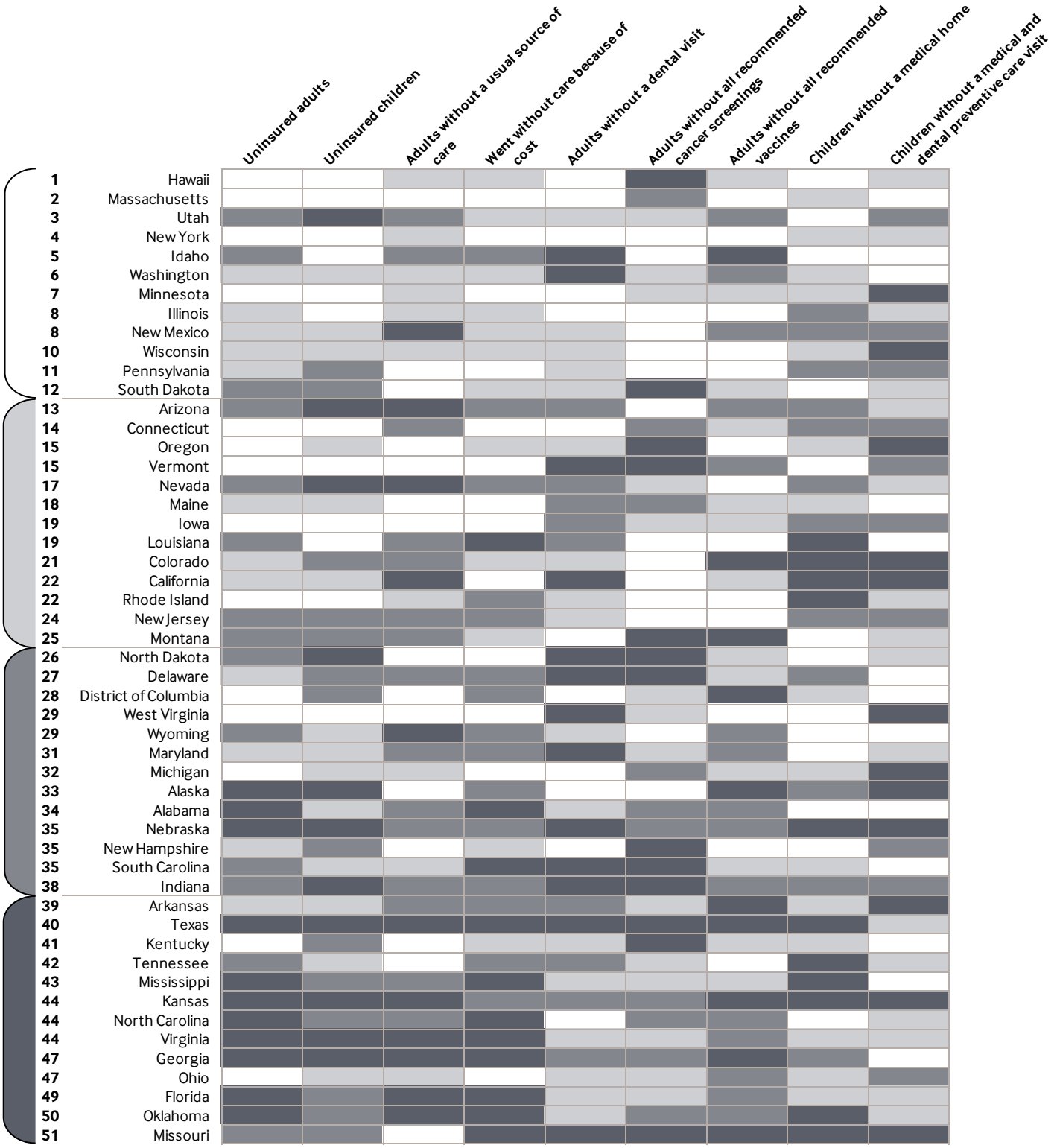
Notes: * Denotes a change of at least 0.5 standard deviations. ** Denotes a change of 1.0 standard deviation or more. -- Indicates that estimates are not available.

## APPENDIX F3. Mortality Amenable to Health Care by Race, Deaths per 100,000 population, 2012–13 & 2014–15

| | Total | | | | White | | | | Black | | | | Hispanic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2012-13 | 2014-15 | Change in rate | % change in rate | 2012-13 | 2014-15 | Change in rate | % change in rate | 2012-13 | 2014-15 | Change in rate | % change in rate | 2012-13 | 2014-15 | Change in rate | % change in rate |
| **United States** | **83.7** | **84.3** | **0.6** | **1%** | **77.4** | **78.4** | **1.0** | **1%** | **155.2** | **154.7** | **-0.6** | **0%** | **66.6** | **66.2** | **-0.4** | **-1%** |
| Alabama | 111.3 | 110.4 | -0.9 | -1% | 97.2 | 95.9 | -1.3 | -1% | 165.5 | 165.3 | -0.2 | 0% | 43.3 | 42.5 | -0.8 | -2% |
| Alaska | 71.6 | 73.2 | 1.6 | 2% | 64.2 | 61.8 | -2.4 | -4% | 97.5 | 96.5 | -1.1 | -1% | -- | 43.8 | -- | -- |
| Arizona | 72.4 | 73.5 | 1.1 | 2% | 69.2 | 71.4 | 2.2 | 3% | 126.5 | 126.2 | -0.3 | 0% | 68.7 | 68.1 | -0.5 | -1% |
| Arkansas | 118.9 | 123.6 | 4.6 | 4% | 110.8 | 116.2 | 5.4 | 5% | 197.3 | 195.8 | -1.5 | -1% | 50.2 | 47.4 | -2.9 | -6% |
| California | 72.0 | 70.8 | -1.2 | -2% | 71.8 | 70.4 | -1.4 | -2% | 147.6 | 148.1 | 0.6 | 0% | 65.8 | 64.5 | -1.3 | -2% |
| Colorado | 59.2 | 62.7 | 3.4 | 6% | 55.9 | 59.3 | 3.4 | 6% | 105.8 | 116.9 | 11.1 | 11% | 70.2 | 73.1 | 2.8 | 4% |
| Connecticut | 61.3 | 59.1 | -2.1 | -3% | 57.0 | 54.8 | -2.1 | -4% | 109.3 | 102.2 | -7.1 | -7% | 61.4 | 59.7 | -1.6 | -3% |
| Delaware | 85.0 | 83.4 | -1.6 | -2% | 75.2 | 77.5 | 2.3 | 3% | 132.6 | 122.7 | -10.0 | -8% | 57.0 | 50.5 | -6.5 | -11% |
| District of Columbia | 123.9 | 127.9 | 4.0 | 3% | 41.4 | 43.2 | 1.8 | 4% | 186.4 | 193.4 | 7.0 | 4% | 49.0 | 49.7 | 0.6 | 1% |
| Florida | 80.0 | 80.9 | 0.9 | 1% | 77.0 | 79.0 | 1.9 | 3% | 138.7 | 136.9 | -1.9 | -1% | 56.2 | 55.5 | -0.7 | -1% |
| Georgia | 100.4 | 103.5 | 3.2 | 3% | 86.4 | 88.5 | 2.1 | 2% | 151.4 | 155.7 | 4.3 | 3% | 38.0 | 43.9 | 5.8 | 15% |
| Hawaii | 75.3 | 76.1 | 0.8 | 1% | 59.3 | 66.2 | 6.9 | 12% | 106.4 | 98.2 | -8.2 | -8% | 84.5 | 91.1 | 6.6 | 8% |
| Idaho | 66.7 | 64.9 | -1.7 | -3% | 67.5 | 66.1 | -1.5 | -2% | -- | -- | -- | -- | 52.9 | 51.0 | -1.9 | -4% |
| Illinois | 87.1 | 87.7 | 0.6 | 1% | 76.4 | 78.6 | 2.2 | 3% | 178.4 | 176.1 | -2.3 | -1% | 59.6 | 58.7 | -1.0 | -2% |
| Indiana | 91.0 | 92.2 | 1.2 | 1% | 86.6 | 88.2 | 1.7 | 2% | 159.3 | 155.5 | -3.8 | -2% | 61.9 | 58.9 | -3.0 | -5% |
| Iowa | 71.8 | 70.6 | -1.2 | -2% | 70.5 | 70.5 | 0.0 | 0% | 151.4 | 129.1 | -22.3 | -15% | 47.4 | 36.4 | -11.0 | -23% |
| Kansas | 78.1 | 80.1 | 2.0 | 3% | 75.0 | 77.2 | 2.2 | 3% | 146.9 | 155.3 | 8.4 | 6% | 63.7 | 60.9 | -2.8 | -4% |
| Kentucky | 105.8 | 108.6 | 2.8 | 3% | 104.0 | 107.0 | 3.0 | 3% | 155.4 | 155.7 | 0.4 | 0% | 36.8 | 43.8 | 7.0 | 19% |
| Louisiana | 123.5 | 124.9 | 1.4 | 1% | 100.8 | 101.5 | 0.7 | 1% | 188.7 | 190.3 | 1.6 | 1% | 43.2 | 52.1 | 9.0 | 21% |
| Maine | 62.3 | 66.2 | 3.9 | 6% | 62.5 | 66.2 | 3.6 | 6% | 98.9 | 83.8 | -15.1 | -15% | -- | -- | -- | -- |
| Maryland | 88.7 | 90.3 | 1.6 | 2% | 76.0 | 78.5 | 2.5 | 3% | 135.2 | 135.1 | -0.1 | 0% | 39.2 | 41.9 | 2.7 | 7% |
| Massachusetts | 60.4 | 59.9 | -0.5 | -1% | 60.0 | 59.9 | -0.1 | 0% | 89.5 | 85.0 | -4.5 | -5% | 54.4 | 55.3 | 0.8 | 2% |
| Michigan | 91.3 | 92.2 | 0.9 | 1% | 77.5 | 79.8 | 2.3 | 3% | 190.3 | 186.8 | -3.5 | -2% | 77.3 | 74.7 | -2.6 | -3% |
| Minnesota | 55.6 | 54.7 | -0.9 | -2% | 53.0 | 51.0 | -2.0 | -4% | 99.6 | 105.5 | 5.9 | 6% | 45.6 | 47.7 | 2.1 | 5% |
| Mississippi | 136.7 | 142.4 | 5.6 | 4% | 109.1 | 114.9 | 5.8 | 5% | 198.4 | 201.6 | 3.2 | 2% | 46.9 | 42.8 | -4.1 | -9% |
| Missouri | 95.1 | 95.7 | 0.7 | 1% | 88.6 | 89.1 | 0.5 | 1% | 165.7 | 168.6 | 2.8 | 2% | 55.8 | 56.2 | 0.5 | 1% |
| Montana | 70.3 | 71.2 | 0.9 | 1% | 66.1 | 66.4 | 0.3 | 0% | -- | -- | -- | -- | 49.4 | -- | -- | -- |
| Nebraska | 64.9 | 68.2 | 3.3 | 5% | 62.3 | 67.3 | 4.9 | 8% | 140.7 | 126.4 | -14.3 | -10% | 44.4 | 51.8 | 7.4 | 17% |
| Nevada | 91.7 | 95.5 | 3.9 | 4% | 97.0 | 99.3 | 2.3 | 2% | 144.7 | 157.1 | 12.4 | 9% | 61.9 | 65.0 | 3.2 | 5% |
| New Hampshire | 58.4 | 57.7 | -0.6 | -1% | 59.7 | 59.0 | -0.6 | -1% | -- | 74.4 | -- | -- | -- | -- | -- | -- |
| New Jersey | 75.1 | 73.1 | -2.0 | -3% | 71.1 | 68.7 | -2.4 | -3% | 143.6 | 140.8 | -2.8 | -2% | 55.5 | 55.2 | -0.4 | -1% |
| New Mexico | 78.6 | 80.0 | 1.3 | 2% | 71.6 | 77.5 | 5.9 | 8% | 105.6 | 130.0 | 24.4 | 23% | 84.0 | 78.5 | -5.5 | -7% |
| New York | 79.0 | 77.1 | -1.9 | -2% | 71.1 | 70.2 | -0.9 | -1% | 139.8 | 135.3 | -4.6 | -3% | 73.6 | 68.8 | -4.8 | -7% |
| North Carolina | 92.5 | 93.6 | 1.0 | 1% | 80.8 | 81.9 | 1.1 | 1% | 151.0 | 150.2 | -0.8 | -1% | 34.7 | 41.7 | 7.0 | 20% |
| North Dakota | 70.5 | 73.3 | 2.8 | 4% | 65.9 | 68.4 | 2.6 | 4% | -- | -- | -- | -- | -- | 68.6 | -- | -- |
| Ohio | 94.5 | 94.5 | 0.1 | 0% | 87.3 | 87.2 | -0.1 | 0% | 163.5 | 164.9 | 1.4 | 1% | 58.9 | 55.8 | -3.1 | -5% |
| Oklahoma | 117.5 | 126.3 | 8.8 | 7% | 112.9 | 120.0 | 7.1 | 6% | 189.2 | 200.5 | 11.3 | 6% | 75.7 | 77.7 | 2.0 | 3% |
| Oregon | 61.9 | 62.6 | 0.7 | 1% | 62.6 | 63.5 | 0.8 | 1% | 112.5 | 104.2 | -8.2 | -7% | 50.7 | 46.0 | -4.7 | -9% |
| Pennsylvania | 82.0 | 82.6 | 0.5 | 1% | 74.6 | 75.7 | 1.1 | 1% | 161.9 | 157.3 | -4.6 | -3% | 67.2 | 75.5 | 8.4 | 12% |
| Rhode Island | 68.5 | 68.2 | -0.2 | 0% | 70.1 | 67.6 | -2.5 | -4% | 102.2 | 102.4 | 0.1 | 0% | 46.9 | 48.8 | 1.9 | 4% |
| South Carolina | 99.2 | 99.2 | 0.0 | 0% | 83.1 | 82.5 | -0.6 | -1% | 156.3 | 155.7 | -0.6 | 0% | 40.0 | 45.6 | 5.6 | 14% |
| South Dakota | 74.5 | 75.8 | 1.3 | 2% | 66.3 | 66.4 | 0.1 | 0% | -- | -- | -- | -- | -- | 55.3 | -- | -- |
| Tennessee | 110.0 | 113.3 | 3.3 | 3% | 101.1 | 105.5 | 4.3 | 4% | 179.1 | 177.1 | -2.0 | -1% | 42.6 | 48.0 | 5.4 | 13% |
| Texas | 93.4 | 95.3 | 1.9 | 2% | 87.9 | 90.0 | 2.1 | 2% | 164.2 | 167.2 | 3.0 | 2% | 85.3 | 86.9 | 1.6 | 2% |
| Utah | 61.4 | 60.7 | -0.7 | -1% | 59.8 | 60.3 | 0.4 | 1% | 160.9 | 122.6 | -38.3 | -24% | 62.0 | 50.7 | -11.3 | -18% |
| Vermont | 57.2 | 61.4 | 4.2 | 7% | 57.5 | 61.7 | 4.3 | 7% | -- | -- | -- | -- | -- | -- | -- | -- |
| Virginia | 81.3 | 80.2 | -1.0 | -1% | 72.1 | 72.8 | 0.8 | 1% | 140.4 | 135.0 | -5.4 | -4% | 35.4 | 38.5 | 3.1 | 9% |
| Washington | 62.2 | 62.4 | 0.2 | 0% | 61.8 | 62.2 | 0.4 | 1% | 99.3 | 110.0 | 10.7 | 11% | 45.7 | 51.3 | 5.6 | 12% |
| West Virginia | 103.5 | 106.9 | 3.4 | 3% | 103.3 | 106.5 | 3.3 | 3% | 154.2 | 153.5 | -0.6 | 0% | -- | -- | -- | -- |
| Wisconsin | 69.4 | 69.4 | 0.0 | 0% | 63.9 | 63.6 | -0.3 | 0% | 159.9 | 171.7 | 11.8 | 7% | 51.9 | 55.6 | 3.7 | 7% |
| Wyoming | 68.0 | 73.8 | 5.8 | 9% | 67.3 | 73.7 | 6.4 | 9% | -- | -- | -- | -- | 61.5 | 52.4 | -9.1 | -15% |

Notes: -- Indicates that estimates are not available.

## APPENDIX G1. Disparity: Dimension and Indicator Ranking



## APPENDIX G1. Disparity: Dimension and Indicator Ranking (continued)

## APPENDIX G2. Disparity: Indicator Rates for Low-Income Population and Difference from Higher-Income Population

| | Adults ages 19–64 uninsured | | Children ages 0–18 uninsured | | Adults without a usual source of care | | Adults who went without care because of cost | | Adults without a dental visit in past year | | Adults without all age- and gender-appropriate cancer screenings | | Adults without all age-appropriate recommended vaccines | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | | 2016 | | 2016 | | 2016 | | 2016 | | 2016 | | 2016 | |
| | Rate | Disparity | Rate | Disparity | Rate | Disparity | Rate | Disparity | Rate | Disparity | Rate | Disparity | Rate | Disparity |
| **United States** | **23%** | **-19** | **6%** | **-4** | **27%** | **-12** | **23%** | **-16** | **24%** | **-13** | **35%** | **-10** | **67%** | **-8** |
| Alabama | 27 * | -23 | 4 * | -3 | 26 | -11 | 33 * | -28 | 25 * | -13 | 37 * | -13 | 71 * | -9 |
| Alaska | 34 * | -24 | 14 * | -10 | 34 * | -6 | 28 * | -20 | 14 * | -5 | 34 * | 1 | 77 * | -16 |
| Arizona | 22 * | -17 | 10 * | -7 | 32 * | -14 | 23 * | -16 | 26 * | -14 | 34 * | -6 | 70 * | -9 |
| Arkansas | 18 * | -13 | 5 | -3 | 23 * | -11 | 23 * | -16 | 23 * | -14 | 38 * | -10 | 70 * | -13 |
| California | 19 * | -15 | 4 * | -3 | 35 * | -19 | 18 * | -11 | 25 * | -15 | 29 * | -6 | 70 | -8 |
| Colorado | 19 * | -15 | 7 * | -5 | 31 | -13 | 21 * | -14 | 24 * | -13 | 34 * | -7 | 65 | -12 |
| Connecticut | 14 * | -11 | 2 * | 0 | 19 * | -10 | 15 * | -9 | 17 * | -10 | 31 * | -11 | 61 * | -7 |
| Delaware | 15 * | -12 | 6 | -4 | 21 * | -10 | 21 * | -17 | 24 * | -16 | 35 * | -16 | 65 * | -8 |
| District of Columbia | 8 * | -6 | 5 * | -4 | 20 * | -3 | 20 * | -16 | 14 * | -4 | 28 * | -8 | 72 * | -17 |
| Florida | 31 * | -24 | 8 * | -5 | 36 | -15 | 29 * | -22 | 26 | -12 | 36 * | -8 | 73 | -10 |
| Georgia | 35 * | -29 | 9 * | -6 | 33 * | -15 | 31 * | -25 | 25 | -14 | 36 | -12 | 73 * | -13 |
| Hawaii | 10 * | -8 | 3 * | -1 | 17 * | -7 | 16 | -12 | 18 | -8 | 36 * | -18 | 66 | -7 |
| Idaho | 27 * | -21 | 6 * | -2 | 33 | -11 | 27 * | -18 | 25 * | -15 | 39 * | -5 | 74 * | -12 |
| Illinois | 19 * | -16 | 3 * | -2 | 19 * | -8 | 17 * | -12 | 21 * | -8 | 33 * | -6 | 68 * | -5 |
| Indiana | 21 * | -17 | 8 * | -6 | 24 * | -11 | 23 * | -17 | 25 * | -15 | 42 * | -14 | 69 | -9 |
| Iowa | 11 * | -9 | 3 * | -2 | 18 * | -4 | 15 * | -11 | 22 * | -14 | 33 * | -8 | 59 * | -7 |
| Kansas | 27 * | -23 | 8 * | -6 | 30 * | -15 | 25 * | -20 | 23 * | -14 | 38 | -11 | 70 | -12 |
| Kentucky | 11 * | -9 | 5 * | -4 | 17 * | 0 | 19 * | -13 | 24 * | -13 | 38 | -14 | 66 * | -8 |
| Louisiana | 26 * | -21 | 4 | -2 | 28 * | -10 | 31 * | -23 | 29 * | -14 | 33 * | -7 | 70 * | -4 |
| Maine | 20 * | -16 | 7 * | -3 | 12 * | -3 | 17 * | -11 | 21 * | -14 | 35 * | -13 | 62 | -7 |
| Maryland | 18 * | -15 | 5 * | -3 | 22 * | -13 | 21 * | -16 | 26 * | -16 | 33 | -8 | 63 * | -11 |
| Massachusetts | 6 * | -4 | 2 | -1 | 11 * | -4 | 12 * | -6 | 17 * | -9 | 33 * | -11 | 61 | -6 |
| Michigan | 14 * | -11 | 4 * | -3 | 16 * | -7 | 18 * | -10 | 19 * | -10 | 35 | -12 | 69 * | -8 |
| Minnesota | 11 * | -9 | 4 * | -2 | 30 * | -7 | 16 * | -10 | 18 * | -10 | 33 * | -9 | 61 * | -8 |
| Mississippi | 31 * | -26 | 6 * | -4 | 26 | -10 | 32 * | -21 | 24 * | -11 | 34 * | -10 | 68 | -8 |
| Missouri | 26 * | -22 | 7 * | -4 | 22 * | -6 | 28 * | -22 | 29 * | -16 | 43 * | -19 | 67 * | -14 |
| Montana | 23 * | -19 | 7 | -4 | 32 * | -10 | 18 * | -13 | 20 * | -6 | 47 * | -15 | 69 * | -15 |
| Nebraska | 29 * | -26 | 10 | -8 | 25 | -13 | 25 | -20 | 24 * | -16 | 39 * | -12 | 61 * | -9 |
| Nevada | 26 * | -20 | 9 * | -7 | 36 * | -15 | 26 * | -19 | 25 * | -14 | 36 * | -8 | 67 * | 1 |
| New Hampshire | 20 * | -16 | 6 | -5 | 13 * | -5 | 19 * | -14 | 15 * | -9 | 38 * | -16 | 62 * | -6 |
| New Jersey | 25 * | -21 | 5 * | -4 | 22 * | -13 | 22 * | -17 | 20 * | -11 | 32 * | -5 | 62 * | -2 |
| New Mexico | 20 * | -15 | 6 | -3 | 37 * | -14 | 19 * | -13 | 24 * | -13 | 39 | -6 | 65 * | -10 |
| New York | 15 * | -11 | 3 * | -2 | 18 * | -8 | 17 * | -11 | 20 * | -9 | 33 * | -7 | 63 * | -4 |
| North Carolina | 29 * | -25 | 6 * | -4 | 27 * | -11 | 31 * | -22 | 19 * | -7 | 33 * | -11 | 63 | -11 |
| North Dakota | 20 * | -17 | 14 * | -11 | 28 * | -6 | 14 * | -10 | 25 * | -15 | 43 | -15 | 62 | -7 |
| Ohio | 14 * | -11 | 4 * | -3 | 20 * | -8 | 18 * | -11 | 22 * | -13 | 36 | -10 | 67 | -9 |
| Oklahoma | 35 * | -28 | 8 * | -4 | 28 * | -14 | 27 * | -22 | 26 * | -13 | 41 * | -11 | 63 * | -10 |
| Oregon | 15 * | -11 | 4 * | -3 | 21 * | -4 | 18 * | -13 | 21 * | -11 | 42 * | -18 | 65 * | -5 |
| Pennsylvania | 15 * | -12 | 7 * | -5 | 17 | -6 | 17 * | -8 | 22 | -11 | 33 * | -6 | 60 * | -3 |
| Rhode Island | 10 * | -8 | 1 * | 0 | 16 * | -9 | 19 * | -15 | 17 * | -11 | 26 * | -5 | 56 * | -6 |
| South Carolina | 27 * | -22 | 5 * | -3 | 24 * | -9 | 27 * | -21 | 27 * | -17 | 38 * | -15 | 67 * | -7 |
| South Dakota | 26 * | -22 | 5 * | -5 | 26 * | -4 | 17 * | -13 | 20 | -11 | 38 | -15 | 56 * | -8 |
| Tennessee | 24 * | -20 | 4 * | -3 | 24 * | -6 | 22 * | -15 | 27 | -14 | 35 * | -10 | 67 | -4 |
| Texas | 42 * | -35 | 12 * | -8 | 41 * | -22 | 32 * | -23 | 31 * | -19 | 44 * | -19 | 70 | -12 |
| Utah | 24 * | -20 | 9 * | -7 | 34 | -11 | 21 * | -13 | 22 * | -12 | 36 * | -10 | 72 * | -10 |
| Vermont | 7 * | -4 | 1 * | 0 | 13 * | -5 | 10 * | -4 | 22 * | -16 | 42 * | -18 | 68 | -11 |
| Virginia | 29 * | -25 | 9 | -7 | 30 * | -16 | 31 * | -25 | 21 * | -12 | 33 * | -9 | 65 * | -11 |
| Washington | 16 * | -13 | 4 * | -3 | 27 * | -9 | 18 * | -12 | 26 | -15 | 35 * | -8 | 65 * | -10 |
| West Virginia | 11 * | -8 | 1 * | -1 | 20 * | -4 | 19 * | -10 | 25 * | -15 | 36 * | -10 | 60 * | -6 |
| Wisconsin | 15 * | -12 | 5 * | -3 | 20 | -9 | 18 | -12 | 17 * | -11 | 29 * | -7 | 69 * | -6 |
| Wyoming | 26 * | -20 | 8 * | -3 | 40 * | -21 | 24 * | -16 | 22 | -12 | 40 * | -6 | 72 * | -10 |

Notes: Rates are for the states' low income population, generally those whose household income is under 200% FPL. Disparity is the difference between the states' low-income and higher-income (400%+ FPL) populations. (*) denotes meaningful improvement or worsening from the baseline period. Baseline data not shown, refer to state profiles at datacenter.commonwealthfund.org for baseline data.

## APPENDIX G2. Disparity: Indicator Rates for Low-Income Population and Difference from Higher-Income Population (continued)

| | Children without all components of a medical home | | Children without a medical and dental preventive care visit | | Children ages 19–35 months without all recommended vaccines | | | Medicare beneficiaries received a high-risk drug | | | Hospital admissions for pediatric asthma (rate per 100,000) | | | Preventable hospitalizations, Medicare duals, age 65+ (rate per 100,000) | | | 30-day readmissions Medicare duals, age 65+ (rate per 100,000) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | | 2016 | | 2016 | | | 2014 | | | 2014 | | | 2015 | | | 2015 | | |
| | Rate | Disparity | Rate | Disparity | Rate | | Disparity | Rate | | Disparity | Rate | | Disparity | Rate | | Disparity | Rate | | Disparity |
| **United States** | **63%** | **-26** | **38%** | **-15** | **33%** | | **-10** | **16%** | | **-4** | **166** | | **-95** | **99** | | **-56** | **63** | | **-33** |
| Alabama | 51 | -12 | 27 | 0 | 27 | * | -14 | 22 | * | -5 | -- | -- | -- | 118 | * | -66 | 69 | * | -36 |
| Alaska | 65 | -27 | 49 | -20 | 42 | | -23 | 13 | * | -1 | -- | -- | -- | 77 | | -52 | 34 | * | -19 |
| Arizona | 65 | -27 | 34 | -13 | 27 | * | 9 | 13 | * | 0 | 115 | * | -62 | 64 | * | -36 | 46 | * | -22 |
| Arkansas | 59 | -23 | 44 | -17 | 36 | | -16 | 21 | * | -6 | 113 | | -- | 120 | | -75 | 70 | * | -41 |
| California | 70 | -32 | 48 | -27 | 38 | | -10 | 13 | * | -2 | 144 | * | -85 | 68 | * | -40 | 51 | * | -28 |
| Colorado | 66 | -28 | 44 | -22 | 23 | | -3 | 13 | * | -1 | 214 | * | -101 | 61 | | -37 | 36 | * | -18 |
| Connecticut | 61 | -27 | 32 | -14 | 30 | * | -13 | 12 | | -3 | -- | -- | -- | 94 | | -51 | 66 | * | -33 |
| Delaware | 60 | -25 | 32 | -8 | 22 | * | -3 | 12 | * | -2 | -- | -- | -- | 109 | | -67 | 70 | * | -43 |
| District of Columbia | 62 | -23 | 30 | -7 | 35 | * | -11 | 15 | | -2 | -- | -- | -- | 109 | * | -72 | 61 | * | -35 |
| Florida | 67 | -22 | 42 | -12 | 41 | | -15 | 18 | | -6 | 192 | | -126 | 122 | * | -75 | 91 | * | -56 |
| Georgia | 62 | -26 | 30 | -8 | 25 | * | -3 | 19 | * | -3 | 103 | * | -46 | 101 | * | -58 | 63 | * | -35 |
| Hawaii | 59 | -14 | 37 | -13 | 28 | | -10 | 13 | * | -5 | -- | -- | -- | 52 | * | -29 | 29 | * | -14 |
| Idaho | 55 | -13 | 36 | -3 | 24 | * | -3 | 15 | * | -3 | -- | -- | -- | 61 | | -36 | 28 | * | -14 |
| Illinois | 62 | -27 | 33 | -10 | 32 | * | -10 | 13 | * | -3 | 197 | | -109 | 119 | * | -70 | 74 | * | -38 |
| Indiana | 60 | -25 | 35 | -15 | 30 | | -6 | 18 | * | -6 | 172 | * | -127 | 112 | | -65 | 69 | * | -40 |
| Iowa | 53 | -26 | 40 | -16 | 32 | | -10 | 14 | * | -6 | 163 | * | -118 | 88 | * | -49 | 43 | * | -20 |
| Kansas | 65 | -30 | 49 | -29 | 33 | * | -14 | 17 | | -6 | 193 | * | -50 | 92 | * | -50 | 53 | * | -28 |
| Kentucky | 52 | -23 | 36 | -8 | 23 | * | 4 | 23 | | -8 | 156 | * | -112 | 146 | * | -88 | 80 | * | -44 |
| Louisiana | 65 | -32 | 33 | -2 | 32 | * | 8 | 23 | | -3 | 165 | | -98 | 115 | | -63 | 61 | * | -29 |
| Maine | 57 | -24 | 25 | -5 | 30 | | -3 | 16 | * | -6 | -- | -- | -- | 93 | * | -55 | 42 | * | -20 |
| Maryland | 55 | -20 | 33 | -12 | 33 | * | -14 | 14 | | -3 | 478 | * | -402 | 99 | * | -54 | 66 | * | -30 |
| Massachusetts | 56 | -24 | 27 | -8 | 19 | | -7 | 12 | | -4 | -- | -- | -- | 97 | * | -44 | 63 | * | -24 |
| Michigan | 63 | -24 | 43 | -27 | 38 | | -19 | 16 | | -5 | 195 | * | -121 | 110 | * | -56 | 77 | * | -36 |
| Minnesota | 57 | -22 | 44 | -18 | 34 | * | -13 | 11 | * | -4 | 162 | | -109 | 68 | * | -28 | 43 | * | -16 |
| Mississippi | 59 | -37 | 40 | -2 | 32 | * | -11 | 22 | * | -4 | -- | -- | -- | 128 | * | -81 | 72 | | -42 |
| Missouri | 63 | -29 | 52 | -29 | 41 | * | -28 | 19 | * | -7 | 271 | * | -162 | 109 | | -62 | 70 | * | -36 |
| Montana | 55 | -19 | 36 | -10 | 40 | * | -5 | 14 | * | -5 | -- | -- | -- | 76 | | -44 | 29 | * | -14 |
| Nebraska | 58 | -28 | 44 | -18 | 26 | * | -12 | 15 | * | -7 | 108 | * | -75 | 98 | * | -60 | 46 | * | -23 |
| Nevada | 75 | -27 | 45 | -13 | 33 | | -13 | 13 | * | 0 | 144 | * | -77 | 85 | | -54 | 58 | * | -34 |
| New Hampshire | 53 | -19 | 30 | -15 | 31 | * | -15 | 16 | * | -6 | -- | -- | -- | 117 | * | -71 | 50 | * | -25 |
| New Jersey | 63 | -26 | 34 | -14 | 39 | * | -20 | 14 | | -5 | 278 | * | -169 | 103 | * | -54 | 77 | * | -40 |
| New Mexico | 66 | -26 | 32 | -15 | 35 | * | -14 | 14 | | -1 | 141 | | -74 | 63 | | -34 | 40 | * | -19 |
| New York | 59 | -24 | 38 | -13 | 32 | * | -8 | 12 | | -3 | 584 | * | -452 | 87 | * | -40 | 59 | * | -21 |
| North Carolina | 53 | -20 | 29 | -10 | 25 | * | -13 | 19 | * | -6 | 131 | * | -85 | 108 | * | -66 | 66 | * | -39 |
| North Dakota | 58 | -15 | 49 | -10 | 40 | | -15 | 14 | | -7 | -- | -- | -- | 83 | * | -42 | 32 | | -13 |
| Ohio | 59 | -23 | 39 | -16 | 43 | * | -28 | 17 | * | -6 | -- | -- | -- | 121 | | -68 | 74 | * | -39 |
| Oklahoma | 69 | -33 | 42 | -11 | 33 | * | -1 | 24 | | -7 | 201 | | -121 | 126 | | -79 | 69 | * | -38 |
| Oregon | 59 | -21 | 45 | -24 | 41 | * | -8 | 15 | | -5 | 51 | | -6 | 62 | * | -33 | 32 | * | -14 |
| Pennsylvania | 57 | -27 | 33 | -15 | 28 | | -2 | 12 | * | -3 | 423 | | -348 | 101 | * | -50 | 64 | * | -28 |
| Rhode Island | 66 | -29 | 34 | -13 | 32 | * | -19 | 13 | * | -4 | 270 | * | -186 | 111 | * | -62 | 61 | * | -22 |
| South Carolina | 57 | -22 | 24 | -2 | 34 | | -9 | 19 | * | -3 | 131 | * | -97 | 101 | | -61 | 69 | * | -42 |
| South Dakota | 56 | -19 | 43 | -12 | 36 | * | -15 | 13 | * | -6 | 94 | | -13 | 89 | | -52 | 39 | | -19 |
| Tennessee | 58 | -30 | 41 | -13 | 41 | * | -28 | 22 | * | -7 | 93 | * | -59 | 121 | | -75 | 73 | * | -42 |
| Texas | 69 | -29 | 39 | -11 | 31 | | -6 | 18 | * | -2 | 126 | * | -70 | 100 | * | -57 | 59 | * | -30 |
| Utah | 47 | -11 | 43 | -15 | 31 | | -10 | 13 | * | -1 | -- | -- | -- | 53 | * | -30 | 38 | * | -21 |
| Vermont | 50 | -16 | 27 | -14 | 29 | | -15 | 13 | | -5 | -- | -- | -- | 75 | | -42 | 30 | * | -11 |
| Virginia | 63 | -21 | 30 | -11 | 37 | * | -6 | 16 | * | -4 | 168 | | -123 | 112 | | -71 | 76 | * | -46 |
| Washington | 65 | -24 | 32 | -8 | 28 | * | -10 | 13 | * | -1 | 50 | | 12 | 70 | * | -40 | 40 | * | -19 |
| West Virginia | 53 | -20 | 33 | -17 | 43 | * | -24 | 17 | * | -3 | 93 | | -- | 132 | | -74 | 68 | * | -30 |
| Wisconsin | 58 | -21 | 41 | -20 | 21 | * | 1 | 12 | | -3 | 215 | * | -153 | 89 | * | -49 | 45 | * | -20 |
| Wyoming | 54 | -17 | 33 | -2 | 48 | * | -20 | 15 | * | -4 | -- | -- | -- | 101 | * | -66 | 48 | * | -29 |

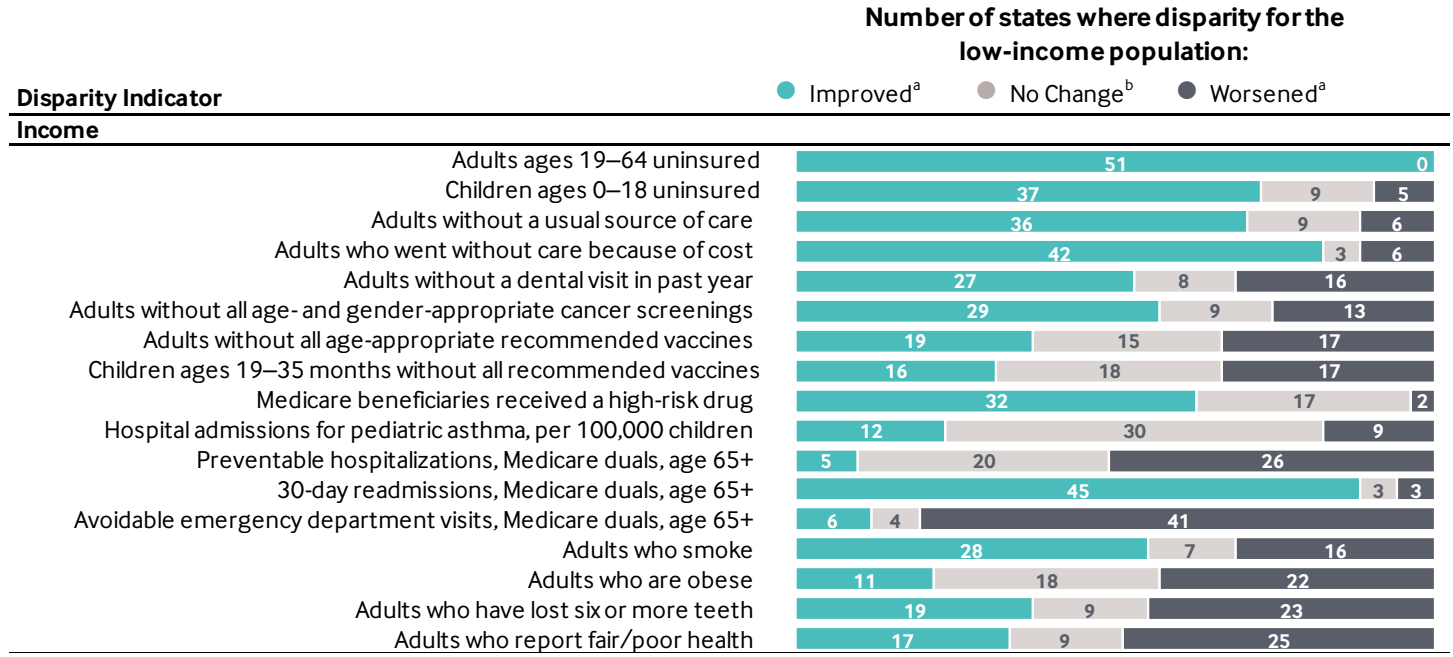
Notes: Rates are for the states' low income population, generally those whose household income is under 200% FPL. Disparity is the difference between the states' low-income and higher-income (400%+ FPL) populations. (*) denotes meaningful improvement or worsening from the baseline period. Baseline data not shown, refer to state profiles at datacenter.commonwealthfund.org for baseline data. Trend data not available for children without all components of a medical home, and children without a medical and dental preventative care visit.

## APPENDIX G2. Disparity: Indicator Rates for Low-Income Population and Difference from Higher-Income Population (continued)

| | Avoidable emergency department visits, Medicare duals, age 65+ (rate per 100,000) | | Adults who smoke | | Adults who are obese | | Adults who have lost six or more teeth | | Adults who report fair/poor health | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2015 | | 2016 | | 2016 | | 2016 | | 2016 | |
| | Rate | Disparity | Rate | Disparity | Rate | Disparity | Rate | Disparity | Rate | Disparity |
| **United States** | **366** | **-191** | **23%** | **-12** | **38%** | **-9** | **17%** | **-12** | **29%** | **-22** |
| Alabama | 396 * | -226 | 31 | -16 | 46 * | -9 | 22 * | -15 | 34 * | -25 |
| Alaska | 453 | -282 | 37 * | -25 | 35 | -4 | 23 * | -18 | 21 * | -14 |
| Arizona | 413 * | -236 | 18 * | -9 | 37 * | -10 | 12 * | -8 | 30 * | -23 |
| Arkansas | 385 * | -215 | 33 * | -21 | 40 * | 0 | 23 | -17 | 34 * | -24 |
| California | 301 * | -156 | 13 * | -5 | 33 * | -11 | 9 * | -6 | 30 * | -23 |
| Colorado | 339 * | -178 | 25 | -15 | 30 * | -8 | 14 * | -11 | 28 * | -22 |
| Connecticut | 379 * | -209 | 21 * | -12 | 36 | -12 | 13 * | -10 | 28 * | -22 |
| Delaware | 385 * | -228 | 25 * | -14 | 34 * | -3 | 18 | -12 | 26 * | -21 |
| District of Columbia | 430 * | -259 | 22 * | -13 | 45 * | -26 | 12 * | -9 | 27 * | -24 |
| Florida | 369 * | -192 | 22 * | -12 | 35 * | -10 | 21 * | -16 | 32 * | -26 |
| Georgia | 396 * | -228 | 24 * | -12 | 45 * | -15 | 22 | -15 | 34 * | -27 |
| Hawaii | 232 * | -101 | 21 * | -12 | 33 | -7 | 12 * | -9 | 20 * | -11 |
| Idaho | 294 * | -135 | 24 * | -17 | 33 * | -7 | 14 * | -12 | 26 * | -19 |
| Illinois | 400 * | -216 | 20 * | -7 | 39 | -7 | 12 * | -7 | 27 | -20 |
| Indiana | 408 * | -223 | 31 * | -18 | 38 * | -5 | 21 * | -15 | 29 * | -21 |
| Iowa | 353 * | -183 | 30 * | -18 | 39 * | -9 | 16 * | -12 | 31 * | -25 |
| Kansas | 349 * | -175 | 28 * | -17 | 41 * | -11 | 16 | -12 | 26 | -20 |
| Kentucky | 427 * | -225 | 39 * | -23 | 44 | -11 | 33 * | -25 | 38 * | -31 |
| Louisiana | 441 | -248 | 27 * | -10 | 41 * | -6 | 22 * | -14 | 30 * | -22 |
| Maine | 355 * | -177 | 31 * | -21 | 36 * | -7 | 25 * | -19 | 26 | -19 |
| Maryland | 358 * | -184 | 22 * | -13 | 40 * | -11 | 14 * | -10 | 30 * | -23 |
| Massachusetts | 343 * | -154 | 20 * | -10 | 33 | -11 | 16 | -12 | 23 * | -17 |
| Michigan | 398 * | -190 | 33 * | -20 | 39 * | -9 | 23 * | -19 | 30 * | -22 |
| Minnesota | 332 * | -156 | 25 * | -15 | 38 * | -12 | 16 * | -13 | 24 * | -18 |
| Mississippi | 466 * | -278 | 28 * | -11 | 48 | -11 | 26 * | -17 | 29 * | -21 |
| Missouri | 411 * | -219 | 37 * | -22 | 36 | -4 | 28 * | -22 | 33 | -25 |
| Montana | 384 * | -239 | 31 | -19 | 33 | -9 | 24 * | -20 | 24 * | -16 |
| Nebraska | 320 * | -175 | 28 | -16 | 39 | -7 | 12 | -8 | 25 | -19 |
| Nevada | 305 * | -158 | 21 * | -9 | 31 | -9 | 16 * | -11 | 29 | -19 |
| New Hampshire | 390 * | -218 | 33 * | -22 | 40 * | -15 | 23 * | -19 | 34 * | -27 |
| New Jersey | 320 * | -157 | 19 * | -8 | 36 * | -9 | 15 * | -9 | 29 * | -21 |
| New Mexico | 348 * | -181 | 22 | -12 | 32 * | -5 | 11 * | -7 | 27 | -20 |
| New York | 283 | -121 | 19 * | -9 | 33 | -9 | 13 | -8 | 25 * | -18 |
| North Carolina | 445 * | -265 | 27 * | -15 | 47 | -15 | 19 * | -13 | 39 * | -33 |
| North Dakota | 358 * | -200 | 32 * | -18 | 41 * | -10 | 18 * | -14 | 24 * | -17 |
| Ohio | 436 * | -227 | 37 * | -24 | 43 * | -13 | 26 * | -21 | 31 * | -24 |
| Oklahoma | 458 * | -247 | 28 * | -17 | 45 * | -14 | 26 * | -20 | 36 * | -29 |
| Oregon | 309 * | -158 | 26 * | -16 | 37 | -10 | 19 * | -16 | 30 * | -25 |
| Pennsylvania | 330 * | -150 | 27 * | -15 | 37 * | -7 | 21 * | -15 | 24 * | -17 |
| Rhode Island | 437 * | -255 | 21 * | -12 | 39 * | -16 | 12 * | -9 | 24 * | -18 |
| South Carolina | 440 * | -274 | 29 * | -18 | 43 * | -12 | 21 | -17 | 29 * | -23 |
| South Dakota | 289 * | -147 | 33 | -19 | 36 | -1 | 17 * | -11 | 22 * | -17 |
| Tennessee | 411 * | -232 | 32 * | -17 | 47 | -11 | 24 * | -18 | 31 * | -23 |
| Texas | 360 * | -182 | 16 * | -5 | 42 | -8 | 10 * | -6 | 24 * | -17 |
| Utah | 276 | -131 | 13 * | -7 | 31 * | -5 | 9 * | -6 | 19 * | -13 |
| Vermont | 321 * | -172 | 31 | -21 | 32 * | -7 | 24 * | -19 | 28 * | -23 |
| Virginia | 423 * | -245 | 24 * | -13 | 38 | -10 | 20 * | -16 | 30 | -22 |
| Washington | 317 * | -160 | 22 * | -13 | 37 * | -10 | 14 * | -11 | 25 * | -19 |
| West Virginia | 444 * | -229 | 38 * | -23 | 42 * | -2 | 33 | -24 | 36 | -26 |
| Wisconsin | 369 * | -190 | 28 * | -16 | 32 * | 0 | 19 * | -15 | 33 * | -26 |
| Wyoming | 341 * | -177 | 31 * | -20 | 36 * | -10 | 19 * | -12 | 29 * | -23 |

Notes: Rates are for the states' low income population, generally those whose household income is under 200% FPL. Disparity is the difference between the states' low-income and higher-income (400%+ FPL) populations. (*) denotes meaningful improvement or worsening from the baseline period. Baseline data not shown, refer to state profiles at datacenter.commonwealthfund.org for baseline data.

## APPENDIX G3. Disparity: Summary of Indicator Change Over Time




Notes: Selected indicators only. Trend data generally reflect the two-year period ending in 2015 or 2016 -- refer to Appendix A1 for additional detail. For the purposes of this analysis we count the District of Columbia as a state. (a) Improvement indicates that the rate for the low-income population within the state improved and the disparity between the low-income population and the higher-income population narrowed. (b) Includes the number of states with no change or without sufficient data for this subpopulation to assess change over time.

## APPENDIX H. State Scorecard Indicator Descriptions and Source Notes

### ABBREVIATIONS

ACS PUMS = American Community Survey, Public Use Micro Sample

AHRQ = Agency for Healthcare Research and Quality

BRFSS = Behavioral Risk Factor Surveillance System

CAHMI = Child and Adolescent Health Measurement Initiative

CCW = Chronic Conditions Warehouse

CDC = Centers for Disease Control and Prevention

CMS = Centers for Medicare and Medicaid Services

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

HCAHPS = Hospital Consumer Assessment of Healthcare Providers and Systems Survey

HCUP NIS = Healthcare Cost and Utilization Project, Nationwide Inpatient Sample

HCUP SID = Healthcare Cost and Utilization Project, State Inpatient Databases

MDS = Minimum Data Set

MedPAR = Medicare Provider and Analytic Review

MEPS IC = Medical Expenditure Panel Survey, Insurance Component

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

NSDUH = National Survey of Drug Use and Health

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

NVSS-M = National Vital Statistics System–Mortality Data

OASIS = Outcome and Assessment Information Set

SAF = Standard Analytic Files

SAMHSA = Substance Abuse and Mental Health Services Administration

WONDER = Wide-ranging Online Data for Epidemiologic Research

### DEFINITIONS FOR INDICATORS

**1. Adults ages 19–64 uninsured:** Percent of adults ages 19–64 without health insurance coverage. Authors' analysis of 2013 and 2016 1-year ACS PUMS (U.S. Census Bureau).

**2. Children ages 0–18 uninsured:** Percent of children ages 0–18 without health insurance coverage. Authors' analysis of 2013 and 2016 1-year ACS PUMS (U.S. Census Bureau).

**3. Adults without a usual source of care:** Percent of adults age 18 and older who did not have one (or more) person they think of as their personal health care provider. Authors' analysis of 2013 and 2016 BRFSS (CDC, NCCDPHP).

**4. 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 2013 and 2016 BRFSS (CDC, NCCDPHP).

**5. Individuals with high out-of-pocket medical spending:** Percent of individuals under age 65 with out-of-pocket medical spending that equaled 10 percent or more of income, or 5 percent or more of income if low-income (under 200% of federal poverty level), not including health insurance premiums if insured. This measure includes both insured and uninsured individuals. Two years of data are combined to ensure adequate sample size for state-level estimation. Ougni Chakraborty, Robert F. Wagner School of Public Service, New York University, analysis of 2014, 2015, 2016, and 2017 CPS ASEC (U.S. Census Bureau).

**6. Employee health insurance contributions as a share of median income:** We compared employees' average contributions to their employer-sponsored health insurance premiums as a percent of state median household incomes for the under-65 population in each state. Premium contribution data are originally reported separately for single-person and family plans; we therefore used a weighted average of single and family premium contributions compared with single and family median household incomes. Authors' analysis of 2013 and 2016 MEPS-IC (AHRQ) and 2014 and 2017 CPS ASEC (U.S. Census Bureau).

## APPENDIX H. State Scorecard Indicator Descriptions and Source Notes (continued)

**7. 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 2012 and 2016 BRFSS (CDC, NCCDPHP).

**8. Adults without all age- and gender-appropriate cancer screenings:** Percent of adults ages 50–74 who did not receive sigmoidoscopy or colonoscopy in the last ten years or a fecal occult blood test in the last two years; a mammogram in the last two years (women ages 50–74 only); and a pap smear in the last three years (women ages 25–64 only). Authors' analysis of 2012 and 2016 BRFSS (CDC, NCCDPHP).

**9. Adults without all age-appropriate vaccines:** Percent of adults age 18 and older who did not receive a flu shot in the past year and a pneumonia vaccine ever if age 65 and older. Authors' analysis of 2013 and 2016 BRFSS (CDC, NCCDPHP).

**10. Diabetic adults ages 18–64 without a hemoglobin A1c test:** The share of adult diabetic patients ages 18–64 who did not have at least one hemoglobin A1c test during the year (expressed as a rate per 100 employer-insured enrollees). Michael E. Chernew and Andrew Hicks, Harvard Medical School Department of Health Care Policy, analysis of the 2015 Truven Marketscan Database.

**11. Medicare beneficiaries received a high-risk drug:** Percent of fee-for-service Medicare beneficiaries ages 65 and older who received at least one drug from a list of 13 classes of high-risk prescriptions that should be avoided by the elderly. Yuting Zhang, University of Pittsburgh, analysis of 2012 and 2014 5% sample of Medicare beneficiaries enrolled in stand-alone Medicare Part D plans.

**12. Children without all components of a medical home:** Percent of children ages 0–17 who did not have all of the following, according to parents' reports: a personal doctor or nurse, a usual source for sick and well care, family-centered care, any problems getting needed referrals, and effective care coordination when needed. For more information, see www.childhealthdata.org. Authors' analysis of 2016 NSCH (CAHMI).

**13. Children without a medical and dental preventive care visit in the past year:** Percent of children ages 0–17 who did not have 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 2016 NSCH (CAHMI).

**14. Children who did not receive needed mental health treatment:** Percent of children ages 3–17 who had any kind of emotional, developmental, or behavioral problem that required treatment or counseling and who did not receive treatment from a mental health professional (as defined) during the past 12 months, according to parents' reports. For more information, see www.childhealthdata.org. Authors' analysis of 2016 NSCH (CAHMI).

**15. Children ages 19–35 months who did not receive all recommended vaccines:** Percent of children ages 19–35 months who did not receive at least 4 doses of diphtheria, tetanus, and accellular 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 2013, 2014, 2015, and 2016 NIS-PUF (CDC, NCIRD).

**16. Hospital 30-day mortality:** Risk-standardized, all-cause 30-day mortality rates for fee-for-service Medicare patients age 65 and older hospitalized with a principal diagnosis of heart attack, heart failure, pneumonia or stroke between July 2010 and June 2013, and July 2013 and June 2016. All-cause mortality is defined as death from any cause within 30 days after the index admission, regardless of whether the patient dies while still in the hospital or after discharge. Authors' analysis of Medicare enrollment and claims data retrieved from 4th Quarter 2017 and 4th Quarter 2014 Hospital Compare (CMS).

**17. Central line-associated bloodstream infections (CLABSI), Standardized Infection Ratio (SIR):** All CLABSIs reported to the National Healthcare Safety Network from all applicable hospital locations, including intensive care units, neonatal intensive care units, and wards. The standardized infection ratio compares the observed number of CLABSIs reported by hospitals within the state to the predicted number of infections based on the referent period, adjusting for key risk factors. Data are from the CDC's 2015 National and State Healthcare-Associated Infections Progress Reports.

**18. Hospital patients discharged without instructions for home recovery:** Percent of hospitalized patients who were not given information about what to do during their recovery at home. Authors' analysis of 2013 and 2016 HCAHPS as administered to adults discharged from acute care hospitals. Retrieved from 4th Quarter 2017 and 4th Quarter 2014 Hospital Compare (CMS).

**19. Hospital patients who did not receive patient-centered care:** Percent of patients who reported hospital staff did not always manage pain well, did not always respond when they needed help to get to the bathroom or pressed a call button, and did not always explain medicines and side effects. Authors' analysis of

## APPENDIX H. State Scorecard Indicator Descriptions and Source Notes (continued)

2013 and 2016 HCAHPS, as administered to adults discharged from acute care hospitals. Retrieved from retrieved from 4th Quarter 2017 and 4th Quarter 2014 Hospital Compare (CMS).

**20. Home health patients who did not get better at walking or moving around:** Percent of all home health episodes in which a person did not improve at walking or moving around compared to a prior assessment. Episodes for which the patient, at start or resumption of care, was able to ambulate independently are excluded. Authors' analysis of 2013 and 2016 OASIS. Data retrieved from 3rd quarter 2017 and 2nd quarter 2014 Home Health Compare (CMS).

**21. Nursing home residents with an antipsychotic medication:** Percent of long-stay nursing home residents who received an antipsychotic medication, excluding residents with Schizophrenia, Tourette's syndrome, and Huntington's disease. Authors' analysis of 2013–2016 MDS. Data retrieved from June 2017 and June 2014 Nursing Home Compare (CMS).

**22. Adults with any mental illness (AMI) reporting unmet need:** Percent of adults ages 18 or older with AMI (defined below) who reported a perceived need for mental health treatment or counseling in the past 12 months that was not received. This measure could include adults who reported that they received some type of mental health service in the past 12 months; an unmet need for services after adults had received some services would indicate a perceived need for additional services that they did not receive. Data are from the 2009–2011 and 2013–2015 NSDUH (SAMHSA), as reported in Mental Health America's *2018 State of Mental Health in America* (http://www.mentalhealthamerica.net).

**23. Adults with any mental illness (AMI) who did not receive treatment:** Percent of adults ages 18 or older with AMI (defined below) who reported they did not receive mental health treatment in the past 12 months. Mental health treatment is defined as receiving treatment or counseling for any problem with emotions, nerves, or mental health in the 12 months prior to the interview in any inpatient or outpatient setting, or the use of prescription medication for treatment of any mental or emotional condition that was not caused by the use of alcohol or drugs. Data are from the 2009–2011 and 2013–2015 NSDUH (SAMHSA), as reported in Mental Health America's *2018 State of Mental Health in America* (http://www.mentalhealthamerica.net).

*Note:* Adults with any mental illness (AMI) is defined as adults ages 18 or older who currently or at any time in the past year have had a diagnosable mental, behavioral, or emotional disorder (other than a developmental or substance use disorder) of sufficient duration to meet diagnostic criteria specified within the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, regardless of the level of impairment in carrying out major life activities. AMI was estimated based on a statistical model of a clinical diagnosis and responses to questions on distress, impairment, past year major depressive episode, past year suicidal thoughts, and age. For more information, see: SAMHSA, NSDUH, Methodological Summary and Definitions, https://www.samhsa.gov/data/sites/default/files/NSDUH-MethodSummDefsHTML-2015/NSDUH-MethodSummDefsHTML-2015/NSDUH-MethodSummDefs-2015.htm.

**24. Hospital admissions for pediatric asthma, per 100,000 children:** Excludes patients with cystic fibrosis or anomalies of the respiratory system, and transfers from other institutions. Authors' analysis of 2012 and 2014 HCUP SID (AHRQ); not all states participate in HCUP. Estimates for total U.S. are from the HCUP NIS (AHRQ).

**25. Potentially avoidable emergency department (ED) visits:** 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,* The Commonwealth Fund, Nov. 2000, http://www.commonwealthfund.org/publications/issue-briefs/2000/nov/emergency-room-use--the-new-york-story).

**Ages 18–64, per 1,000 employer-insured enrollees:** Michael E. Chernew and Andrew Hicks, Harvard Medical School Department of Health Care Policy, analysis of the 2015 Truven Marketscan Database.

**Ages 65 and older, per 1,000 Medicare beneficiaries:** Jie Zheng, Harvard University, analysis of 2012 and 2015 Medicare Enrollment and SAF Claims Data 20% sample of fee-for-service Medicare beneficences ages 65 and older (CMS, CCW).

**26. Admissions for ambulatory care–sensitive conditions:** 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.

## APPENDIX H. State Scorecard Indicator Descriptions and Source Notes (continued)

**Ages 18–64, per 1,000 employer-insured enrollees:** Michael E. Chernew and Andrew Hicks, Harvard Medical School Department of Health Care Policy, analysis of the 2015 Truven Marketscan Database.

**Ages 65–74 and age 75 and older, per 1,000 Medicare beneficiaries:** Admissions of fee-for-service Medicare beneficiaries ages 65–74 or ages 75 and older (measure reported separately for each age group). Authors' analysis of 2012 and 2015 CCW data, retrieved from the April 2017 CMS Geographic Variation Public Use File (CMS, Office of Information Products and Analytics).

**27. 30-day hospital readmissions:** All hospital admissions among patients 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.

**Ages 18–64, per 1,000 employer-insured enrollees:** Michael E. Chernew and Andrew Hicks, Harvard Medical School Department of Health Care Policy, analysis of the 2015 Truven Marketscan Database.

**Age 65 and older, per 1,000 Medicare beneficiaries:** Readmissions among fee-for-service Medicare beneficiaries ages 65 and older. Authors' analysis of 2012 and 2015 CCW data, retrieved from the April 2017 CMS Geographic Variation Public Use File (CMS, Office of Information Products and Analytics).

**28. Short-stay nursing home residents with a 30-day readmission to the hospital:** Percent of newly admitted nursing home residents who are rehospitalized within 30 days of being discharged from a hospital to the nursing home. Vincent Mor, Brown University, analysis of 2012 and 2014 Medicare enrollment data, MDS, and MedPAR File (CMS).

**29. Long-stay nursing home residents with a hospital admission:** Percent of long-stay residents (residing in a nursing home for at least 90 consecutive days) who were hospitalized within six months of baseline assessment. Vincent Mor, Brown University, analysis of 2012 and 2014 Medicare enrollment data, MDS, and MedPAR File (CMS).

**30. Home health patients with a hospital admission:** Percent of home health episodes among fee-for-service Medicare beneficiaries during which the patient was admitted to an acute-care hospital. Authors' analysis data from CMS Medicare claims data. Data retrieved from 4th quarter 2017 and 3rd quarter 2014 Home Health Compare (CMS), representing patient experiences in 2016 and 2013.

**31. Adults ages 18–50 with low back pain who had an imaging study at diagnosis:** The share of employer-insured adults ages 18–50 who had a new primary diagnosis of low back pain with an imaging study (plain X-ray, MRI, or CT scan) within 28 days of the diagnosis (expressed as a rate per 100 enrollees). Enrollees who have a diagnosis for which an imaging study may be clinically appropriate (cancer, recent trauma, IV drug abuse, or neurologic impairment) are excluded. Michael E. Chernew and Andrew Hicks, Harvard Medical School Department of Health Care Policy, analysis of the 2015 Truven Marketscan Database.

**32. Total employer-sponsored insurance spending per enrollee:** Total spending per enrollee in employer-sponsored insurance plans estimated from a regression model of reimbursed costs for health care services from all sources of payment including the health plan, enrollee, and any third party payers incurred in 2013 and in 2015. Outpatient prescription drug charges are excluded. Enrollees with capitated plans and their associated claims are also excluded. Estimates for each state were adjusted for enrollees' age and sex, the interaction of age and sex, partial year enrollment and regional wage differences. Michael E. Chernew and Andrew Hicks, Harvard Medical School Department of Health Care Policy, analysis of the 2015 Truven Marketscan Database.

**33. Total Medicare (Parts A and B) reimbursements per enrollee:** Total Medicare fee-for-service reimbursements include payments for both Part A and Part B but exclude Part D (prescription drug costs) and extra CMS payments for graduate medical education and for treating low-income patients. Reimbursements reflect only the age 65 and older Medicare fee-for-service population. Authors' analysis of 2012 and 2015 CCW data, retrieved from the April 2017 CMS Geographic Variation Public Use File (CMS, Office of Information Products and Analytics).

**34. Mortality amenable to health care, deaths per 100,000 population:** Number of deaths before age 75 per 100,000 population that resulted from causes considered at least partially treatable or preventable with timely and appropriate medical care (see list), as described in E. Nolte and M. McKee, "Measuring the Health of Nations: Analysis of Mortality Amenable to Health Care," British Medical Journal, Nov. 15, 2003, 327 (7424): 1129–32. Authors' analysis of mortality data from CDC restricted-use Multiple Cause-of-Death file (NCHS) and U.S. Census Bureau population data, 2003–2015.

| Causes of death | Ages |
|---|---|
| Intestinal infections | 0–14 |
| Tuberculosis | 0–74 |
| Other infections (diphtheria, tetanus, septicaemia, poliomyelitis) | 0–74 |
| Whooping cough | 0–14 |
| Measles | 1–14 |

## APPENDIX H. State Scorecard Indicator Descriptions and Source Notes (continued)

| | |
|---|---|
| Malignant neoplasm of colon and rectum | 0–74 |
| Malignant neoplasm of skin | 0–74 |
| Malignant neoplasm of breast | 0–74 |
| Malignant neoplasm of cervix uteri | 0–74 |
| Malignant neoplasm of cervix uteri and body of uterus | 0–44 |
| Malignant neoplasm of testis | 0–74 |
| Hodgkin's disease | 0–74 |
| Leukemia | 0–44 |
| Diseases of the thyroid | 0–74 |
| Diabetes mellitus | 0–49 |
| Epilepsy | 0–74 |
| Chronic rheumatic heart disease | 0–74 |
| Hypertensive disease | 0–74 |
| Cerebrovascular disease | 0–74 |
| All respiratory diseases (excluding pneumonia and influenza) | 1–14 |
| Influenza | 0–74 |
| Pneumonia | 0–74 |
| Peptic ulcer | 0–74 |
| Appendicitis | 0–74 |
| Abdominal hernia | 0–74 |
| Cholelithiasis and cholecystitis | 0–74 |
| Nephritis and nephrosis | 0–74 |
| Benign prostatic hyperplasia | 0–74 |
| Maternal death | All |
| Congenital cardiovascular anomalies | 0–74 |
| Perinatal deaths, all causes, excluding stillbirths | All |
| Misadventures to patients during surgical and medical care | All |
| Ischaemic heart disease: 50% of mortality rates included | 0–74 |

**35. Breast cancer deaths per 100,000 female population:** Authors' analysis of NVSS–M, 2013 and 2016 (NCHS), retrieved using CDC WONDER.

**36. Colorectal cancer deaths per 100,000 population:** Authors' analysis of NVSS–M, 2013 and 2016 (NCHS), retrieved using CDC WONDER.

**37. Deaths from suicide, alcohol, and drug use per 100,000 population:** Authors' analysis of NVSS-M, 2013 and 2016 (NCHS), retrieved using CDC WONDER.

**38. Infant mortality, deaths per 1,000 live births:** Authors' analysis of NVSS-I, 2012 and 2015 (NCHS), retrieved using CDC WONDER.

**39. Adults who report fair/poor health:** Percent of adults age 18 and older who reported being in fair or poor health. Authors' analysis of 2013 and 2016 BRFSS (CDC, NCCDPHP).

**40. 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 2013 and 2016 BRFSS (CDC, NCCDPHP).

**41. 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 2013 and 2016 BRFSS (CDC, NCCDPHP).

**42. Children who are overweight or obese:** Children ages 10–17 who are overweight or obese (BMI >= 85th percentile). Overweight is defined as an age- and gender-specific body mass index (BMI-for-age) between the 85th and 94th percentile of the CDC growth charts. Obese is defined as a BMI-for-age at or above the 95th percentile. BMI was calculated based on parent-reported height and weight. For more information, see www.nschdata.org. Authors' analysis of 2016 NSCH (CAHMI).

**43. Adults who have lost six or more teeth:** Percent of adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease. Authors' analysis of 2012 and 2016 BRFSS (CDC, NCCDPHP).

**For more information about this report, please contact:**

David C. Radley, Ph.D., M.P.H., Senior Scientist, Westat and The Commonwealth Fund Health System Scorecard Project, at dr@cmwf.org.

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