



The Commonwealth Fund

# 2018

## Scorecard on State Health System Performance

**David C. Radley**

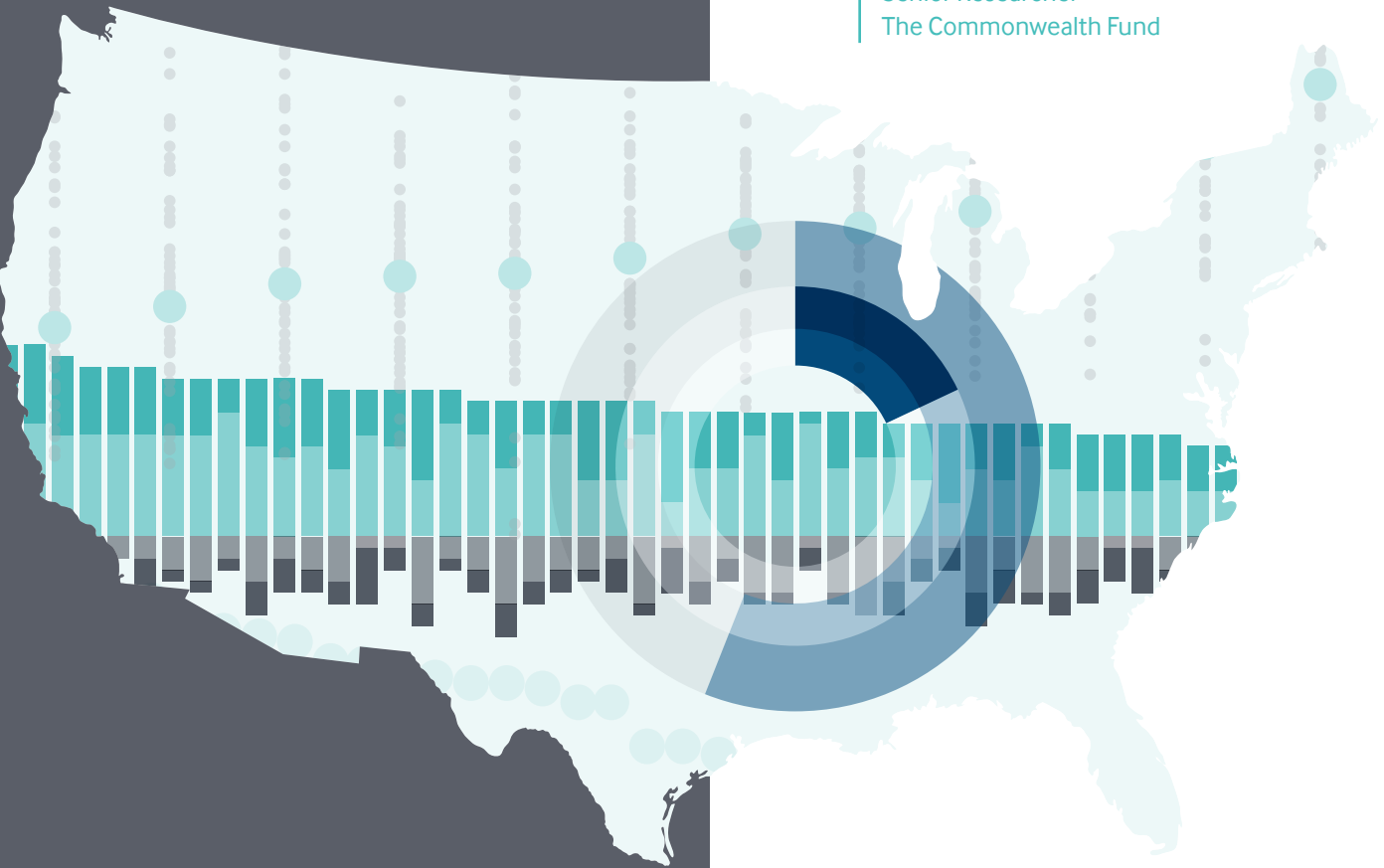
Senior Scientist  
The Commonwealth Fund

**Douglas McCarthy**

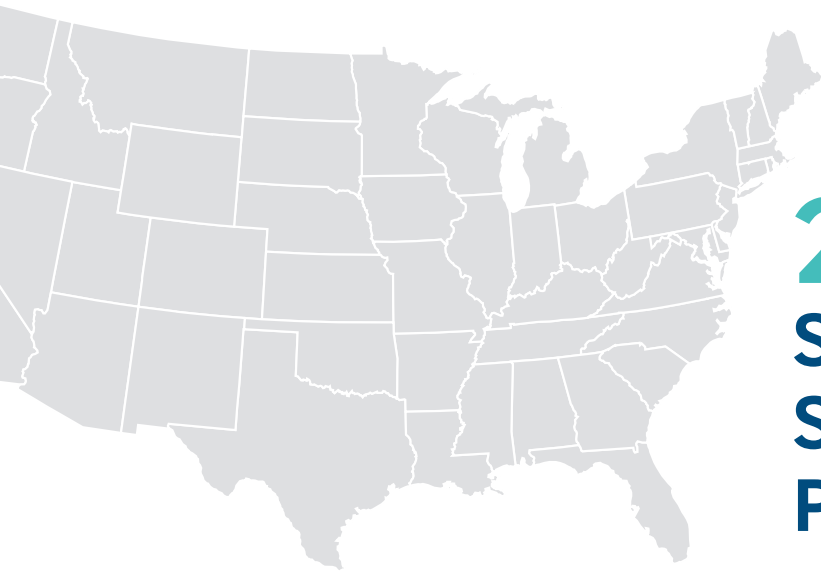
Senior Research Director  
The Commonwealth Fund

**Susan L. Hayes**

Senior Researcher  
The Commonwealth Fund



MAY 2018



# 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**

### 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?

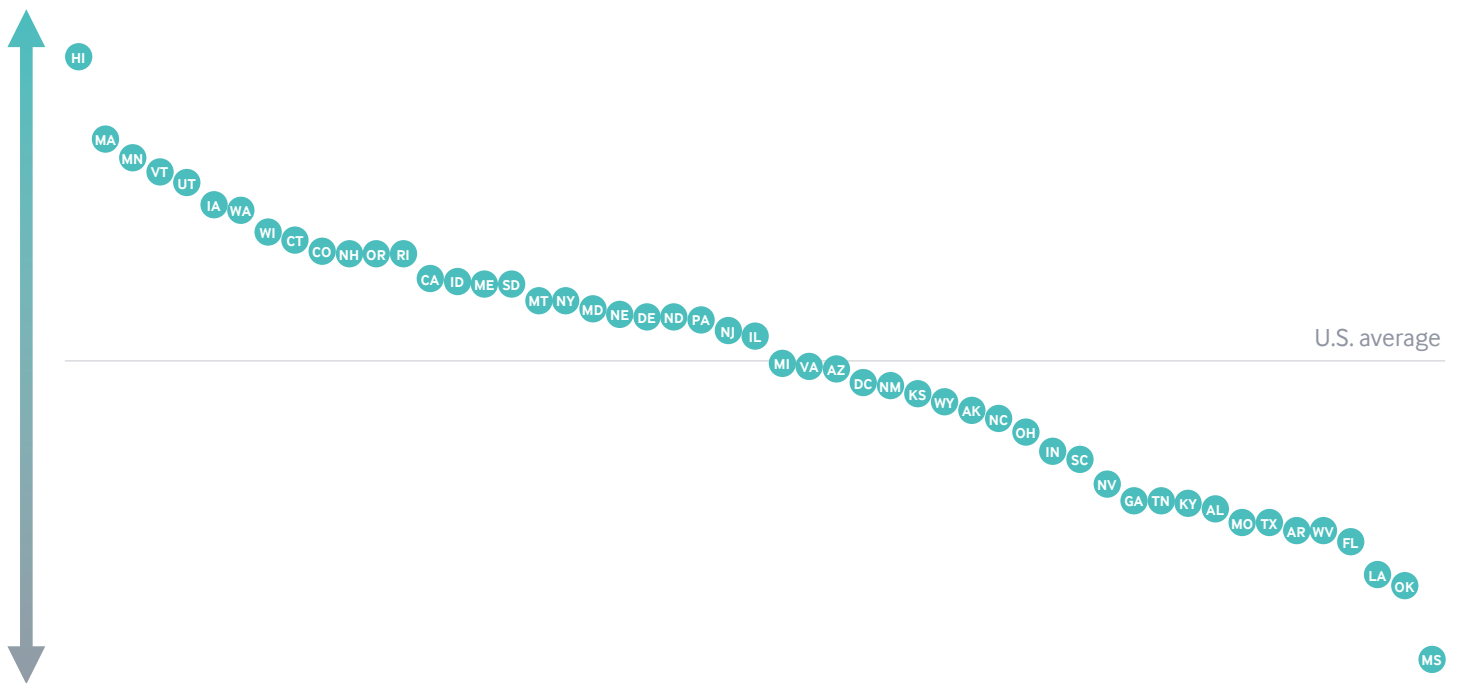
In 47 states, the uninsured rate for adults ages 19 to 64 was at least five percentage points lower in 2016 than it had been in 2013. Eleven of the 13 states with at least a 10-point drop had expanded Medicaid by January 2016. During this time, there was also a drop in the percentage of people reporting 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

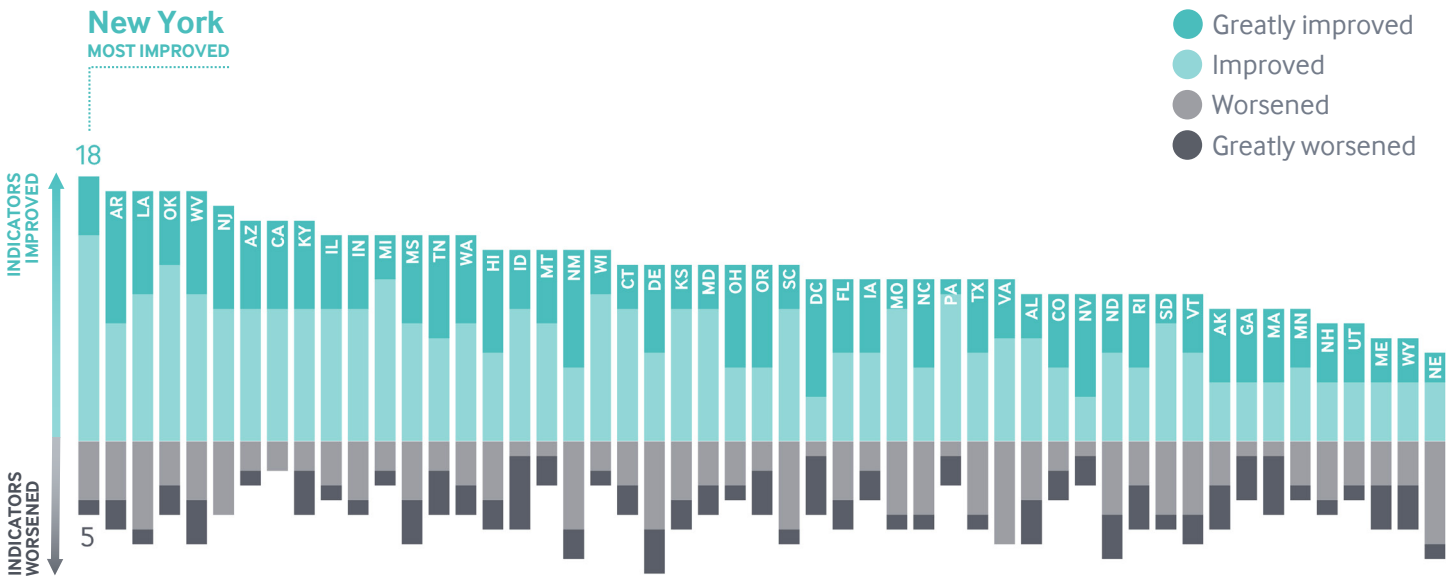
Better performance



Worse performance

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

## More improvement than decline



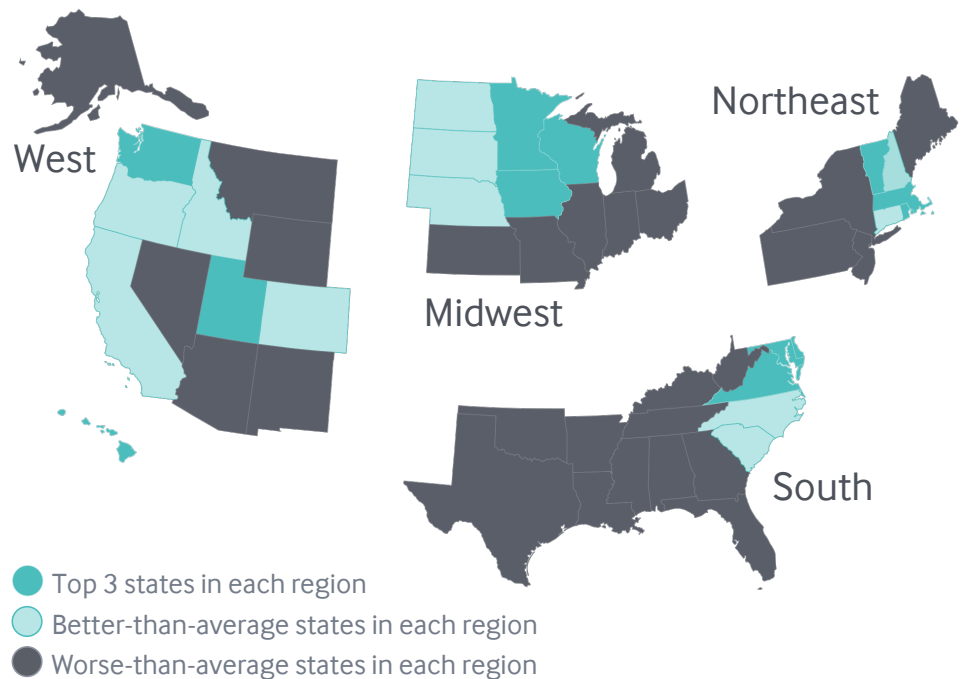
Notes: Based on trends for 37 of 43 total indicators (Disparity dimension not included); trend data are not available for all indicators. Bar length equals the total number of indicators with any improvement or worsening with an absolute value greater than 0.5 standard deviations (StDev) of the state 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.**

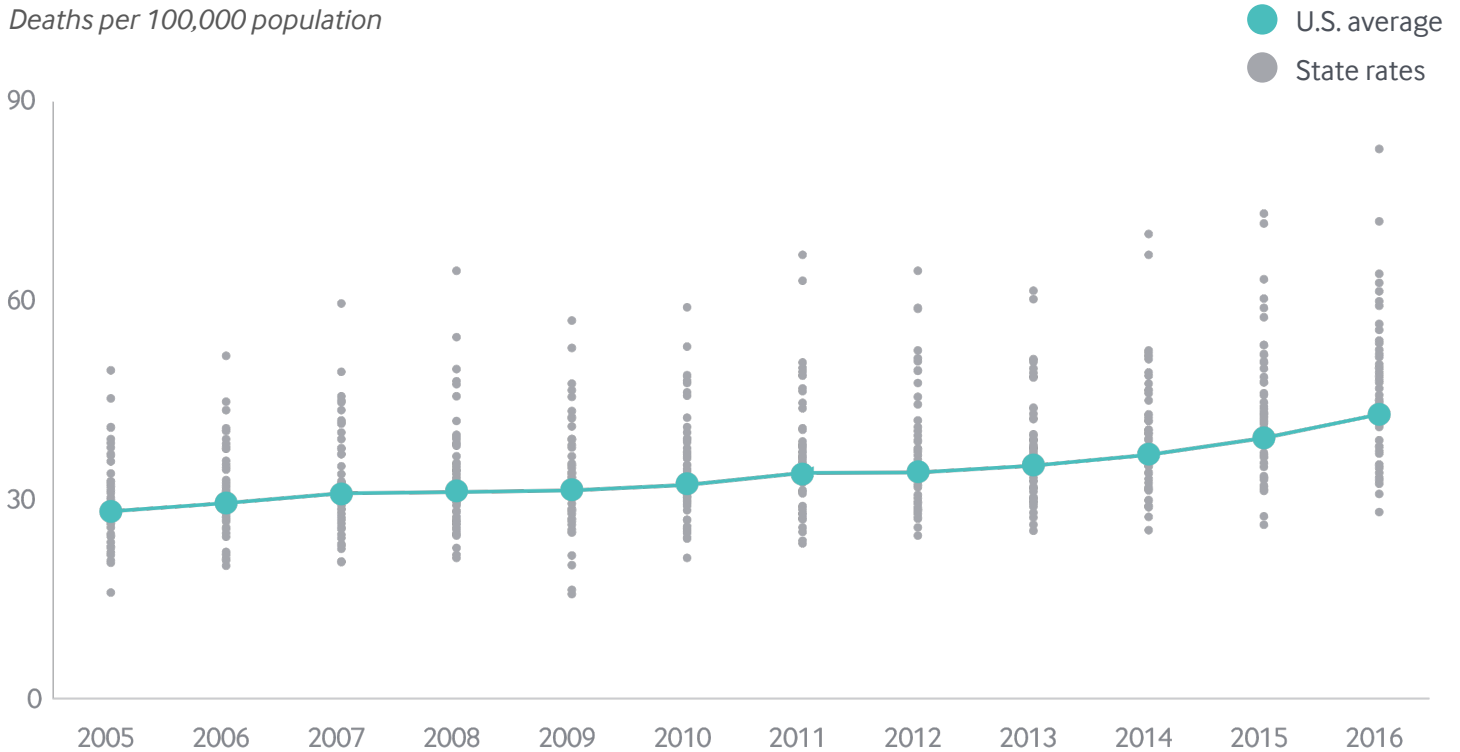
*Deaths from suicide, alcohol, and drug use are at an all-time high.* In 2016, average life expectancy at birth in the United States declined for a second year in a row, driven in large part by a spike in deaths from opioid and other substance abuse as well as suicide.<sup>1</sup> The combined rate of deaths from suicide, alcohol, and drug use — sometimes referred to as “deaths of despair”<sup>2</sup> — 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”<sup>3</sup>) 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**

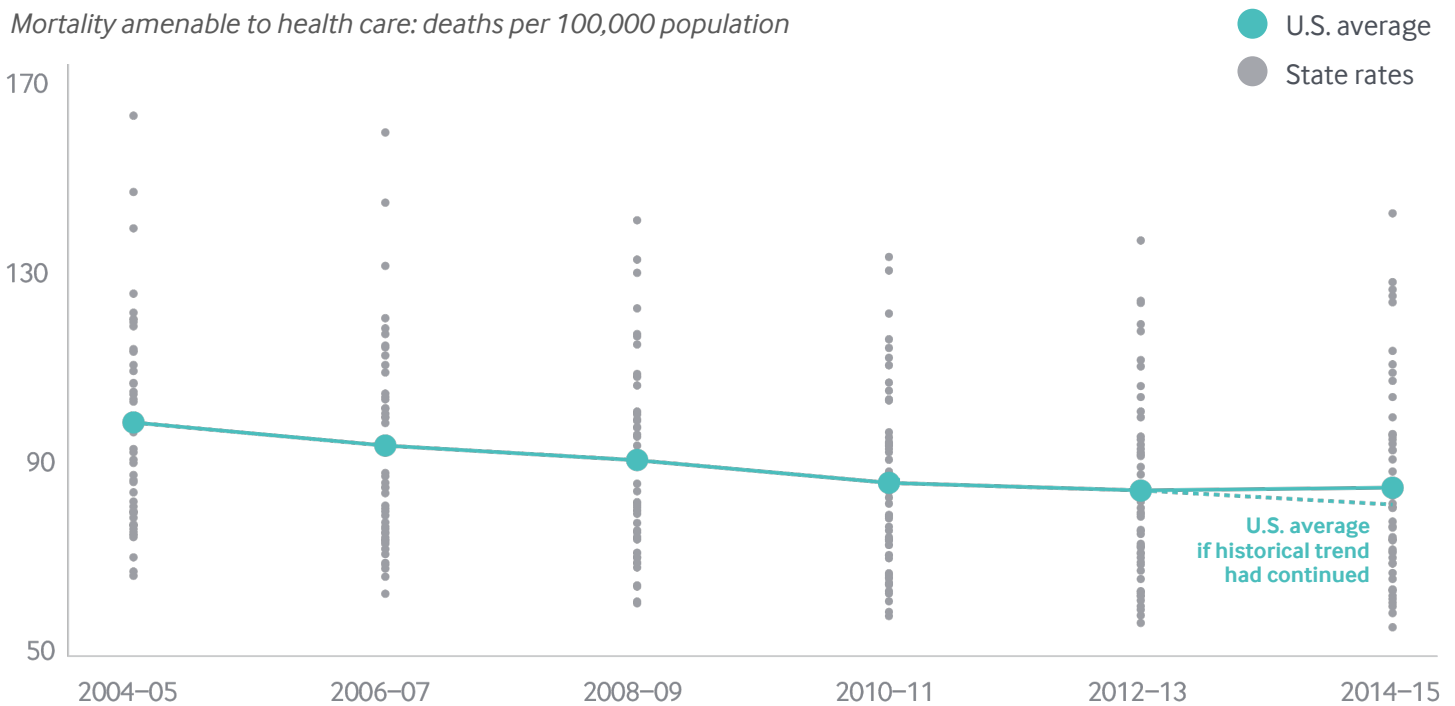
Deaths per 100,000 population



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

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

Mortality amenable to health care: deaths per 100,000 population



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.<sup>4</sup>



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

**In the worst-performing states:**

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



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

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

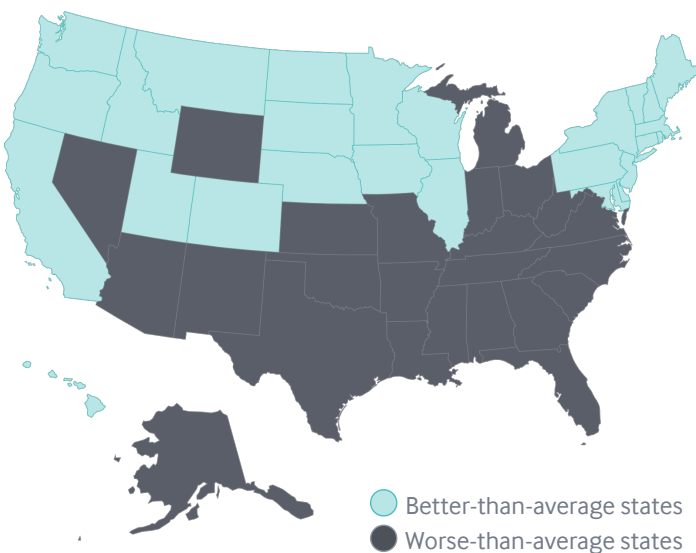
Data: 2013–15 National Survey of Drug Use and Health, as reported in *The State of Mental Health Care in America, 2017*; 2016 National Survey of Children's Health, as reported by the Child and Adolescent Health Measurement Initiative.

**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.<sup>5</sup> 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.<sup>6</sup>

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

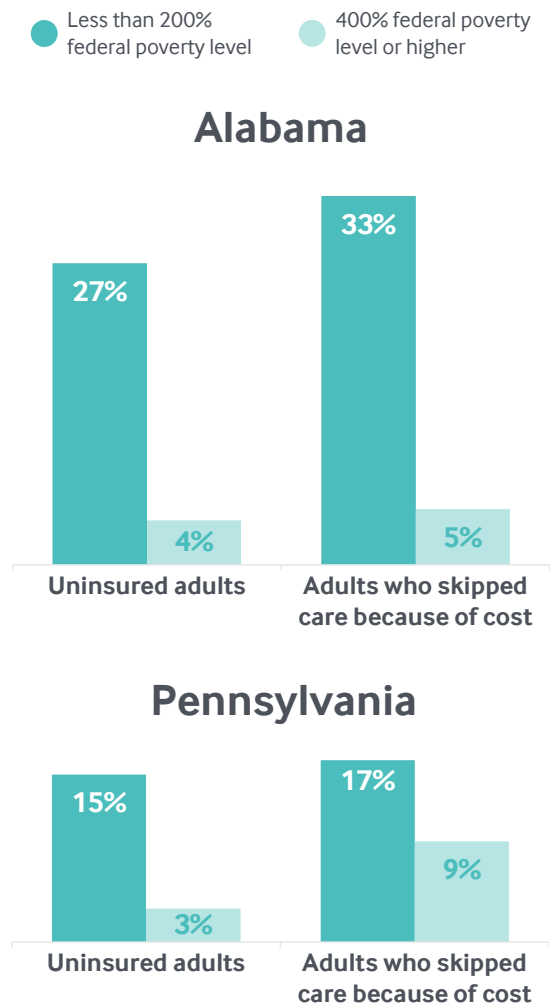
*Geographic disparities persist.* As previous Commonwealth Fund scorecards have documented, the highest-ranked state generally performs two to three times better overall than the lowest-ranked state. It’s a stark reminder that where you live can affect both your ability to access high-quality health 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.<sup>7</sup> 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.<sup>8</sup> In general, people of color are disproportionately more likely than whites to have lower incomes and to be at risk for health care disparities.<sup>9</sup> 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.<sup>10</sup>

**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.<sup>11</sup> 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.<sup>12</sup>

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

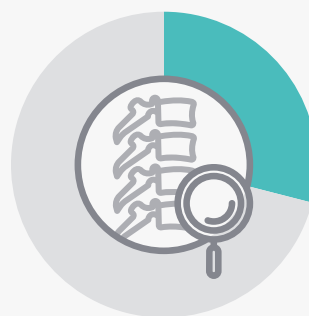
*Quality of care is not in line with the level of state health spending.* Health care spending in the United States is much greater than in other wealthy countries, but U.S. health outcomes are not better.<sup>13</sup> Our analysis finds that for every state, health spending exceeds median per capita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

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.<sup>16</sup> 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.



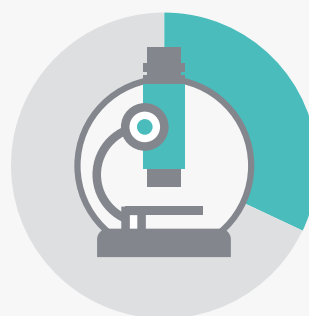
# 29%

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.<sup>17</sup> 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.<sup>18</sup>

**What Can Be Done?** Efforts to control health care costs must be tailored to reflect the unique characteristics of each market.<sup>19</sup> 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.<sup>20</sup> 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.<sup>21</sup> 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.<sup>22</sup>

**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.<sup>23</sup> 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.<sup>24</sup> 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.<sup>25</sup>

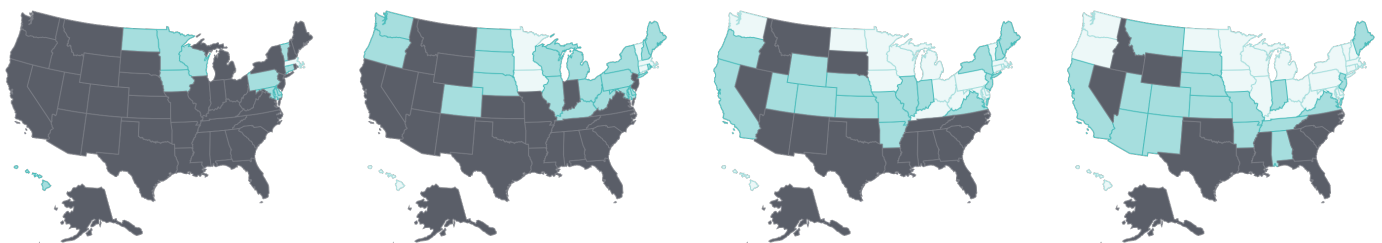
**States made progress in areas that were the target of efforts to improve.**

*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.<sup>26</sup>

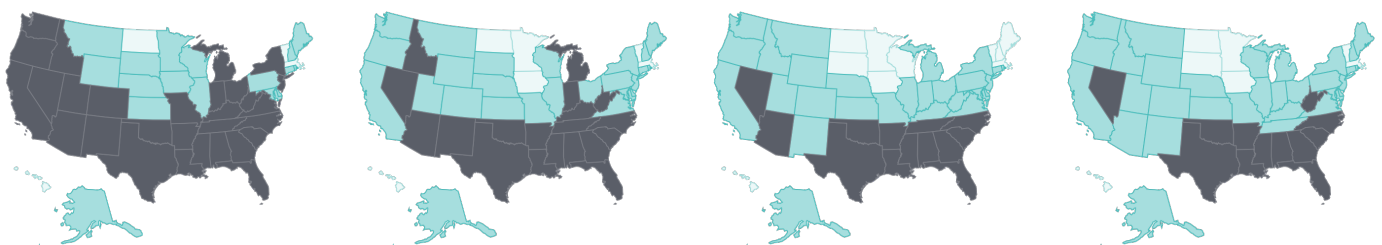
**Cost barriers to receiving care fell as uninsured rates fell following ACA coverage expansions**

Uninsured adults

● Less than 10% ● 10%–14% ● 15% or more



Adults who went without care because of costs



2013

2014

2015

2016

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<sup>45</sup> 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.<sup>46</sup>

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.



Percentage of low-income adults	New Hampshire		Maine	
	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%
<b>Total population</b>				
Rate of premature death from preventable or treatable conditions, per 100,000 people	2012–2013	2014–2015	2012–2013	2014–2015
	58.4	57.7	62.3	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 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.<sup>27</sup>

*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.<sup>28</sup> States like California with long-standing comprehensive tobacco control policies have seen substantial reductions in health care spending because of lower smoking rates.<sup>29</sup> Limiting tobacco use continues to represent a major opportunity for states to improve public health.<sup>30</sup>



**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.**

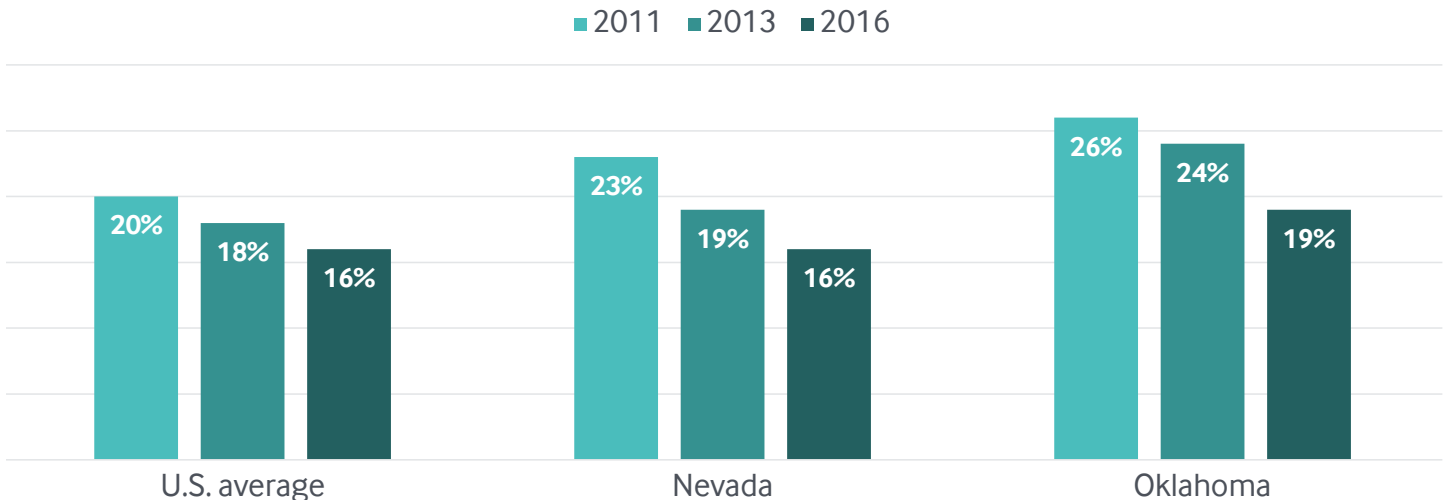
decreased the use of chemical restraints in nursing homes

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

Percent of adults who smoke



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.<sup>31</sup> 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.<sup>32</sup>

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.<sup>33</sup>

## 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<sup>a</sup>** fewer hospital readmissions

**5.7 million<sup>a</sup>** 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.

<sup>a</sup> 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.<sup>34</sup> Many states are already doing so by:

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

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.<sup>41</sup> (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.<sup>42</sup> Although states have tools to strengthen their individual insurance markets, such as reinsurance mechanisms that can help moderate premium increases,<sup>43</sup> 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.<sup>44</sup>

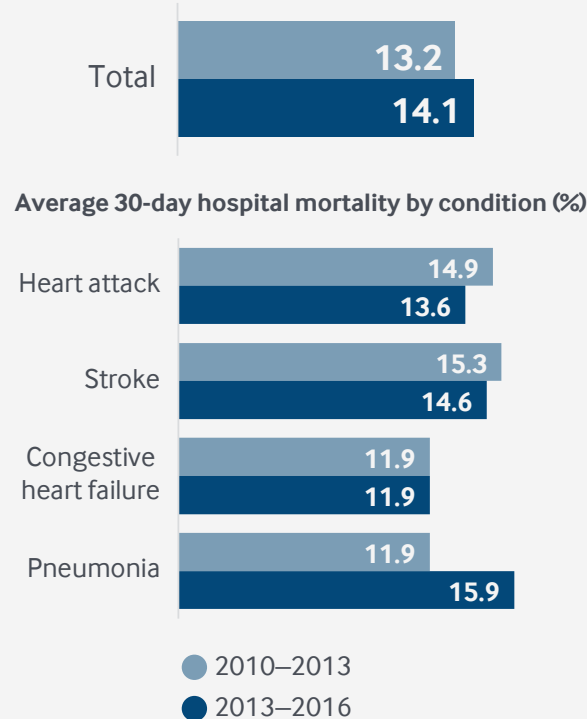
With states assuming ever greater responsibility for the future of health policy, it will be more important than ever to continue tracking the performance of the health system throughout the country.

## 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.<sup>47</sup> 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 (%)**



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.<sup>48</sup>

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.<sup>49</sup> 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.<sup>50</sup>

In addition to DSRIP, New York also is implementing a State Innovation Models grant and a Medicaid Health Home program.<sup>51</sup> 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
<b>ACCESS &amp; AFFORDABILITY</b>		
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
<b>PREVENTION &amp; TREATMENT</b>		
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
<b>AVOIDABLE HOSPITAL USE &amp; COST</b>		
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
<b>HEALTHY LIVES</b>		
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 indicator'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.

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## 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
<b>Access and Affordability</b>			
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
<b>Prevention and Treatment</b>			
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)
<b>Avoidable Hospital Use and Cost</b>			
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)
<b>Healthy Lives</b>			
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
<b>Access and Affordability</b>						
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
<b>Prevention and Treatment</b>						
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	2010-13	2013-16	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
<b>Avoidable Hospital Use and Cost</b>						
24 Hospital admissions for pediatric asthma, per 100,000 children	2012	2014	143	106 *	28 - 231	22 - 243
25 Potentially avoidable emergency department visits <sup>a</sup>						
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 <sup>d</sup>						
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 <sup>a</sup>						
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	\$3,117 - \$7,186	\$3,347 - \$8,902
33 Total Medicare (Parts A & B) reimbursements per enrollee	2012	2015	\$8,854	\$9,025	\$5,399 - \$10,868	\$5,586 - \$10,851
<b>Healthy Lives</b>						
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

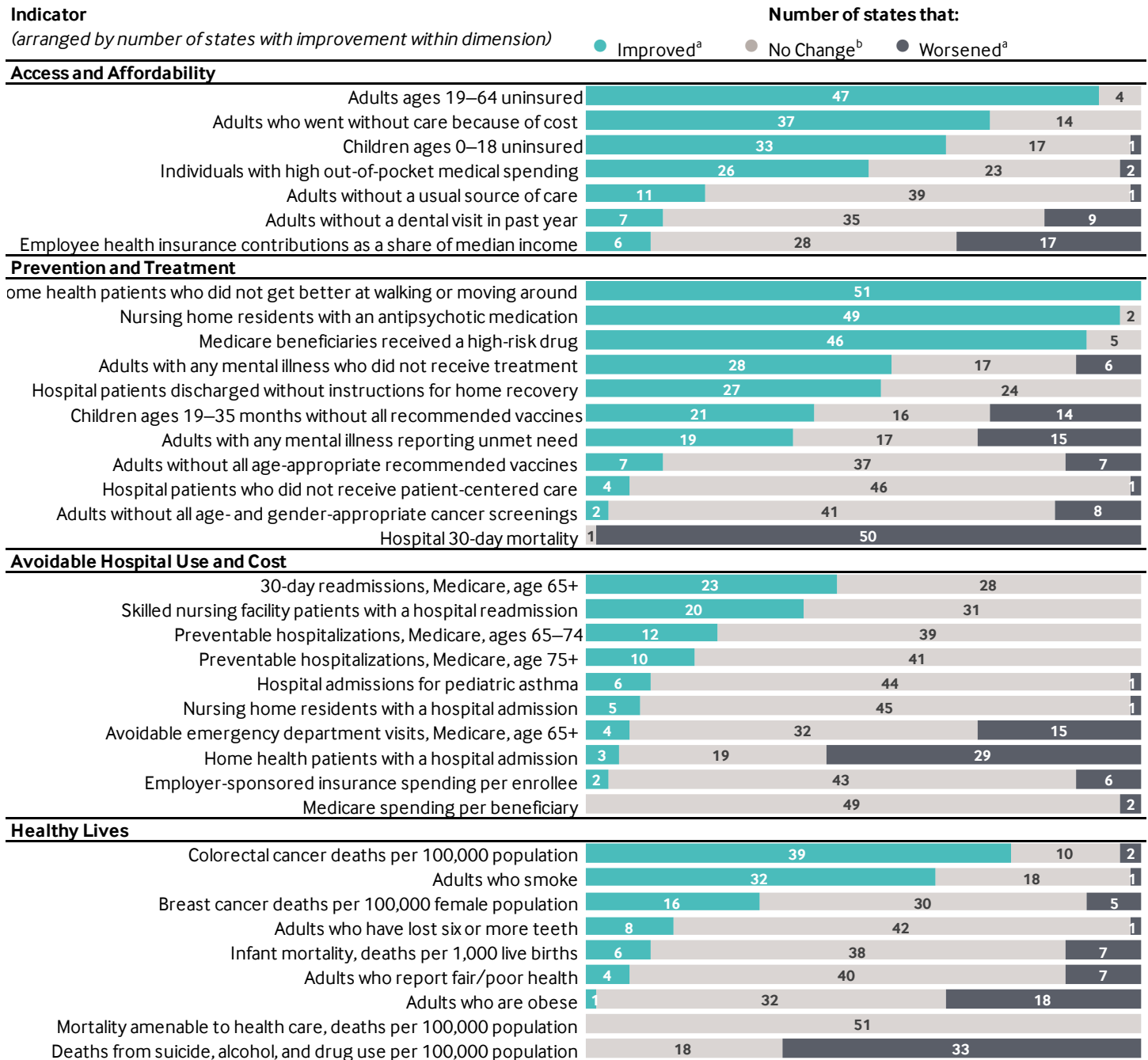
Notes: (a) State rates are averaged across age cohorts for purposes of scoring, but indicators are counted separately for evaluating change over time. \* Denotes a change of at least 0.5 standard deviations. \*\* Denotes a change of 1.0 standard deviation or more. — Previous data are not shown because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

APPENDIX A3. National and Regional Performance Benchmarks

Indicator	National		Midwest		Northeast		South		West	
	Rate	Best state(s) <sup>a</sup>	Rate	Best state(s) <sup>a</sup>	Rate	Best state(s) <sup>a</sup>	Rate	Best state(s) <sup>a</sup>	Rate	Best state(s) <sup>a</sup>
<b>Access and Affordability</b>										
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
<b>Prevention and Treatment</b>										
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
<b>Avoidable Hospital Use and Cost</b>										
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 <sup>a</sup>										
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 <sup>a</sup>										
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 <sup>a</sup>										
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	\$3,347	MS	\$3,818	MI	\$4,333	RI	\$3,347	MS	\$3,667	HI
33 Total Medicare (Parts A & B) reimbursements per enrollee	\$5,586	HI	\$7,682	SD	\$7,231	VT	\$8,172	VA	\$5,586	HI
<b>Healthy Lives</b>										
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

Note: (a) State rates are averaged across age cohorts for purposes of scoring, but indicators are counted separately for evaluating change over time.

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

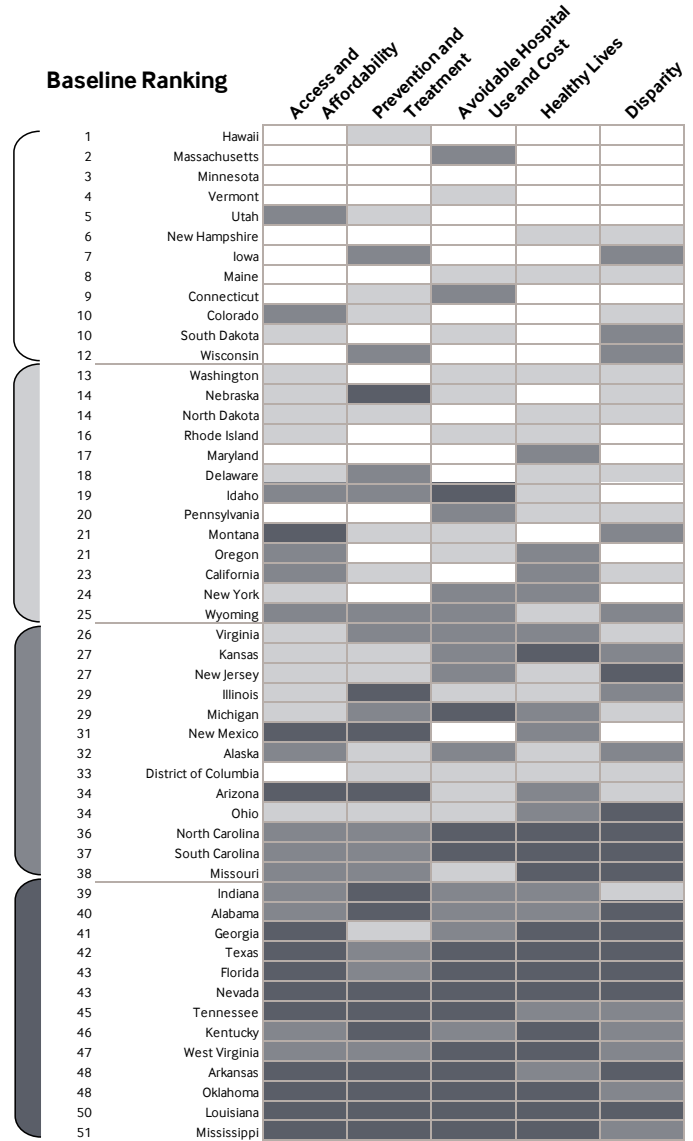
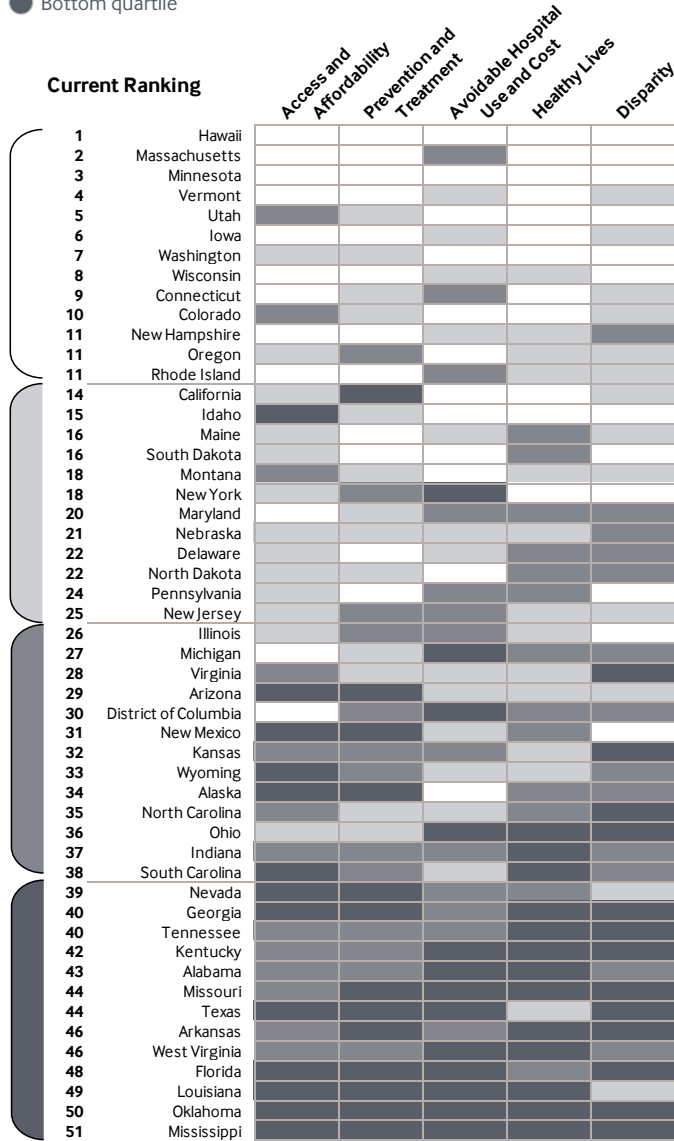
Indicator	If all states improved their performance to the level of the best-performing state* for this indicator, then:	
Insured adults	<b>15,435,831</b>	more adults (ages 19–64) would be covered by health insurance (public or private), and therefore would be more likely to receive health care when needed.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

#### Overall performance

- Top quartile
- Second quartile
- Third quartile
- Bottom quartile



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

State	2018 Scorecard rankings						Overall ranking in the baseline time period <sup>a</sup>
	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)

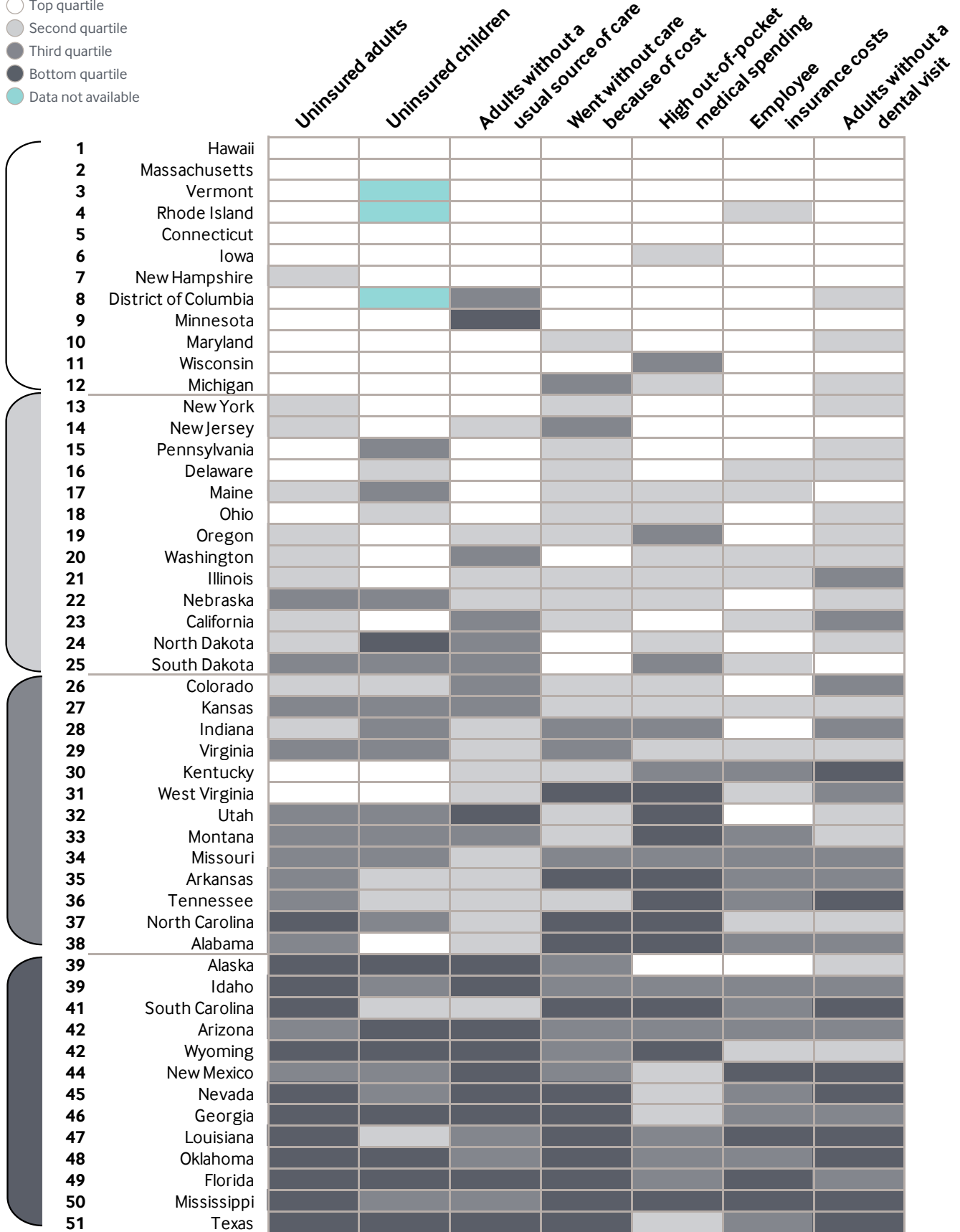
Overall ranking	State	No. of indicators with trend (of 37)	No. of indicators improved	No. of indicators worsened	Net change
43	Alabama	36	10	7	3
34	Alaska*	33	9	6	3
29	Arizona*	37	15	3	12
46	Arkansas*	37	17	6	11
14	California*	37	15	2	13
10	Colorado*	37	10	4	6
9	Connecticut*	37	12	5	7
22	Delaware*	36	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

Overall performance

- Top quartile
- Second quartile
- Third quartile
- Bottom quartile
- Data not available



## APPENDIX C2. Access &amp; 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
<b>United States</b>	<b>20%</b>	<b>12% **</b>	<b>8%</b>	<b>5% **</b>	<b>24%</b>	<b>22%</b>	<b>16%</b>	<b>13% *</b>
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
<b>Change</b>								
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 &amp; Affordability: Dimension Ranking and Indicator Rates (continued)

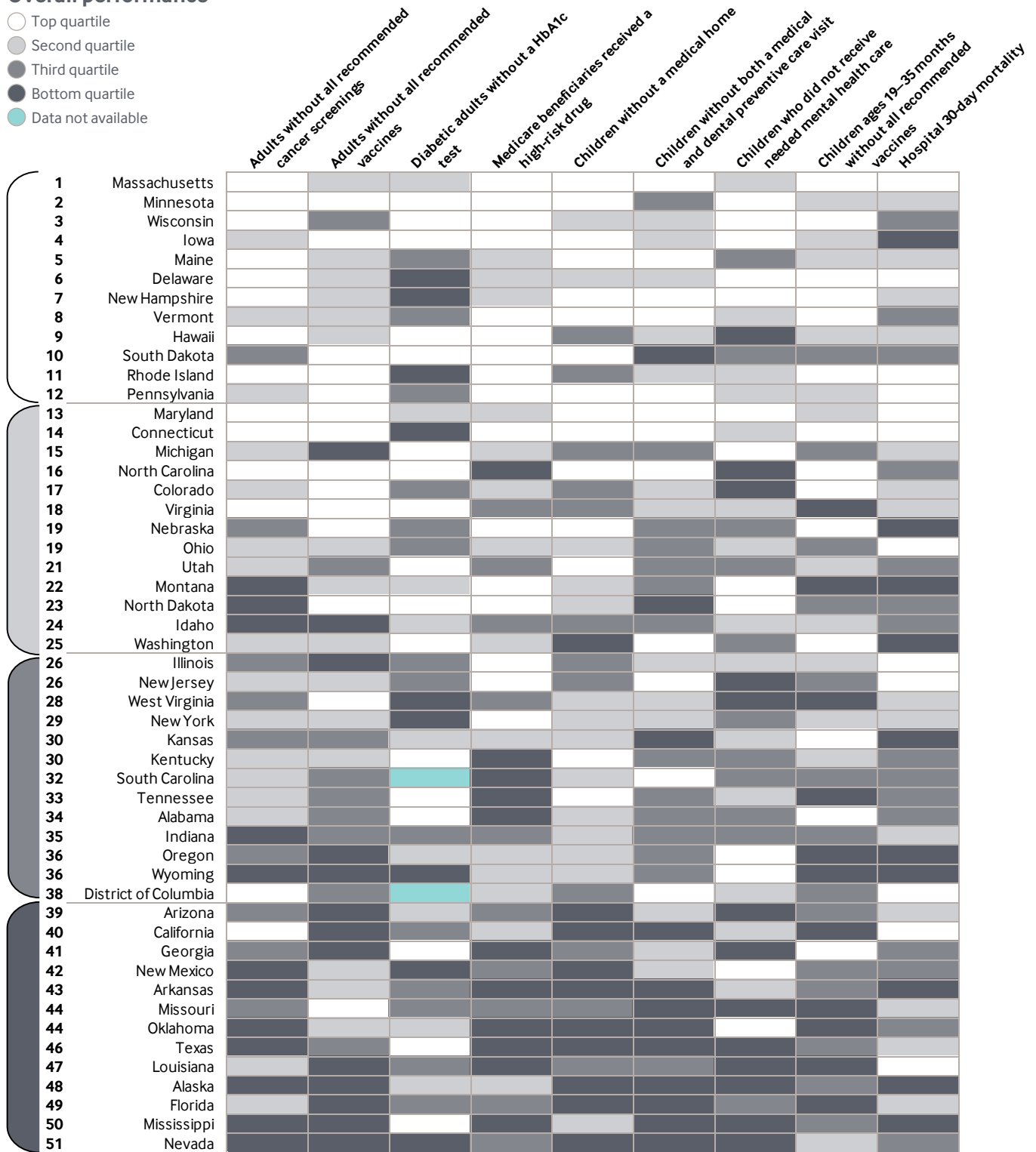
	Individuals with high out-of-pocket medical spending		Employee health insurance contributions as a share of median income		Adults without a dental visit in past year	
	2013-14	2015-16	2013	2016	2012	2016
<b>United States</b>	<b>15%</b>	<b>14%</b>	<b>6%</b>	<b>6%</b>	<b>15%</b>	<b>16%</b>
Alabama	16	19 **	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
<b>Change</b>						
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.

APPENDIX D1. Prevention & Treatment: Dimension and Indicator Ranking

Overall performance

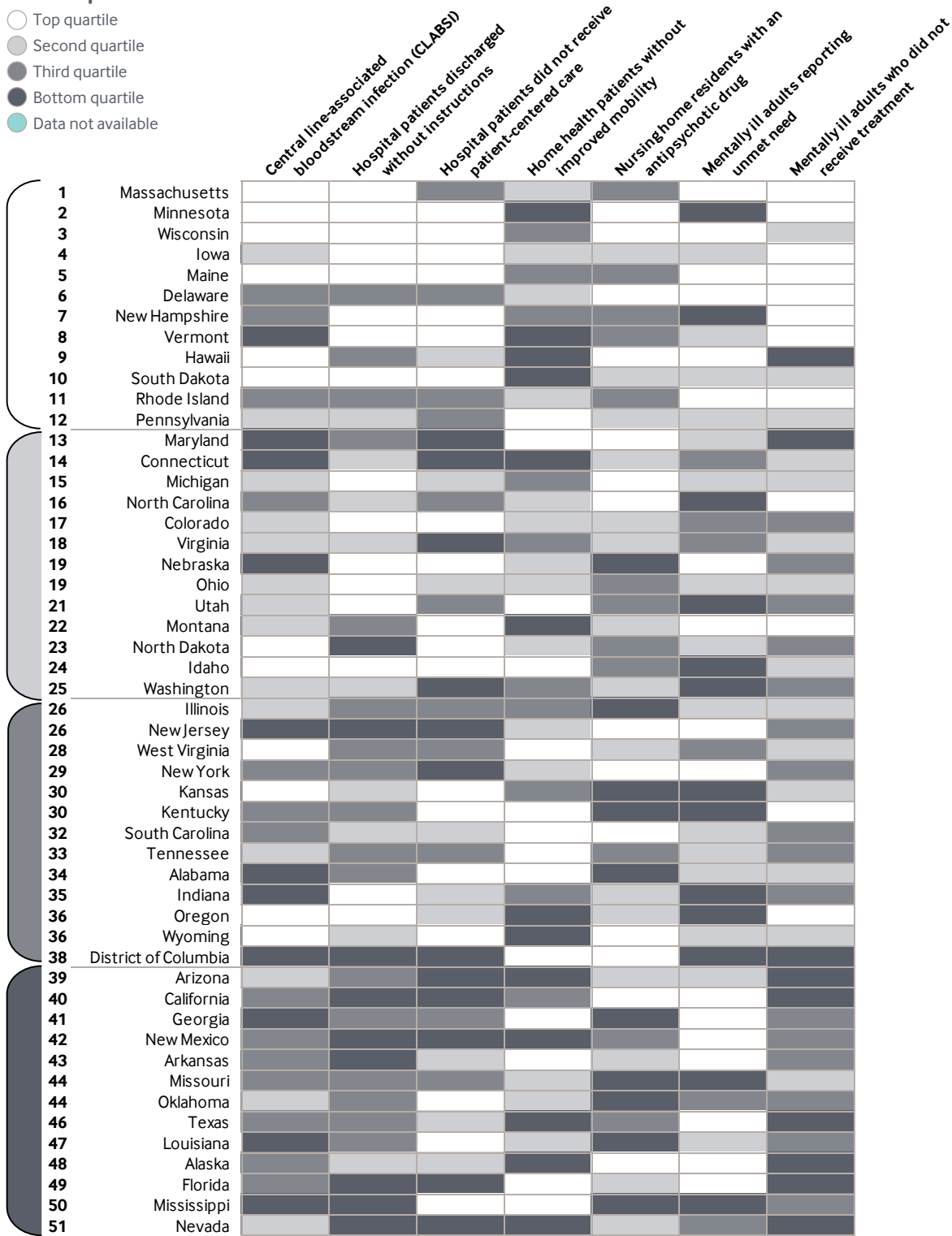
- Top quartile
- Second quartile
- Third quartile
- Bottom quartile
- Data not available



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

Overall performance

- Top quartile
- Second quartile
- Third quartile
- Bottom quartile
- Data not available



## APPENDIX D2. Prevention &amp; 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
<b>United States</b>	<b>31%</b>	<b>32%</b>	<b>64%</b>	<b>63%</b>	<b>17%</b>	<b>17%</b>	<b>13% **</b>	<b>51%</b>	<b>32%</b>
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
<b>Change</b>									
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 &amp; 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
<b>United States</b>	<b>18%</b>	<b>30%</b>	<b>29%</b>	<b>13.2%</b>	<b>14.1% **</b>	<b>0.99</b>	<b>14%</b>	<b>13%</b>
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
<b>Change</b>								
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 &amp; Treatment: Dimension Ranking and Indicator Rates (continued)

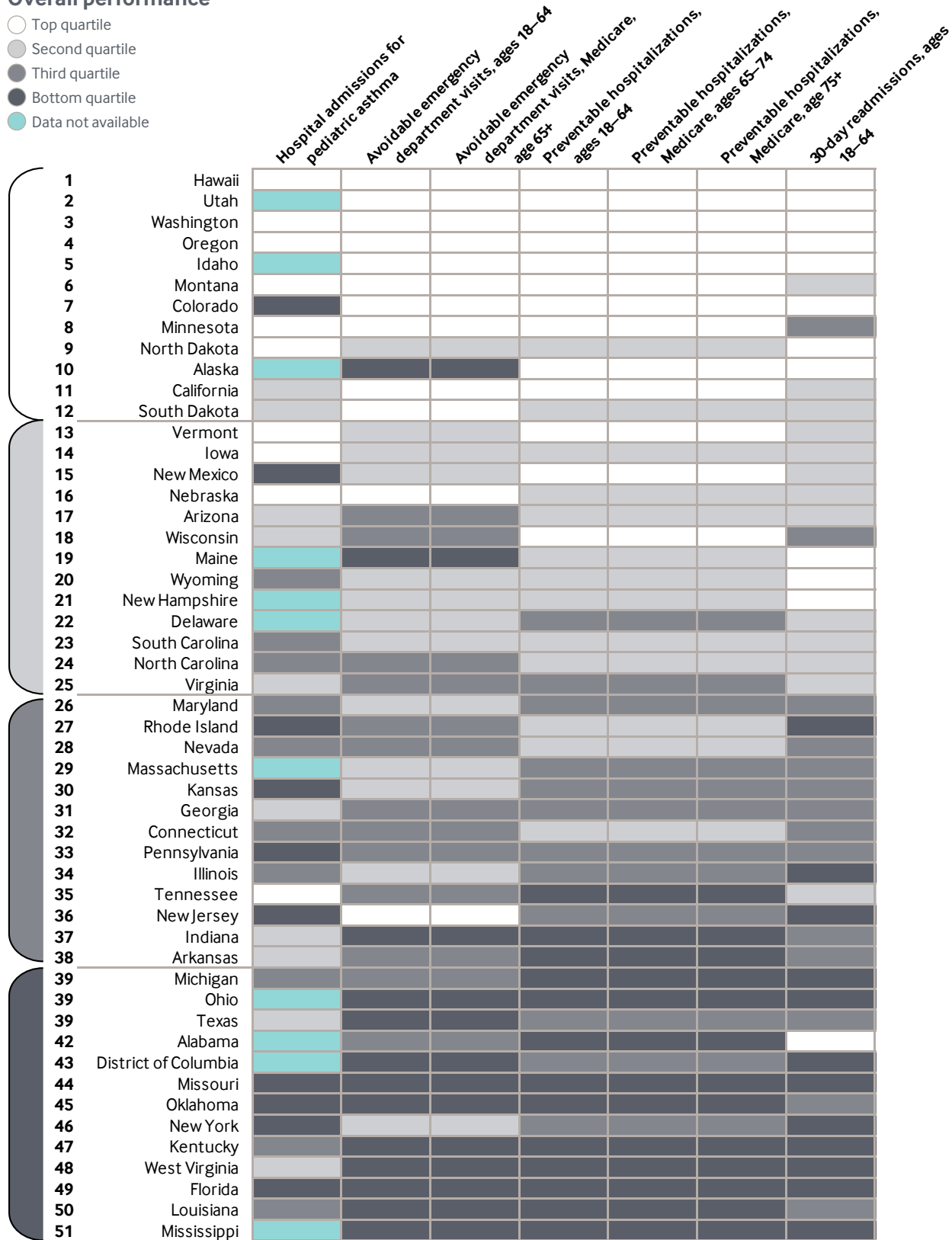
	Hospital patients who did not receive patient-centered care		Home health patients who did not get better at walking or moving around		Nursing home residents with an antipsychotic medication		Adults with any mental illness reporting unmet need		Adults with any mental illness who did not receive treatment	
	2013	2016	2013	2016	2013	2016	2009-2011	2013-2015	2009-2011	2013-2015
<b>United States</b>	<b>32%</b>	<b>32%</b>	<b>39%</b>	<b>29% **</b>	<b>21%</b>	<b>16% **</b>	<b>21%</b>	<b>20%</b>	<b>59%</b>	<b>56% *</b>
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 **
<b>Change</b>										
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

#### Overall performance

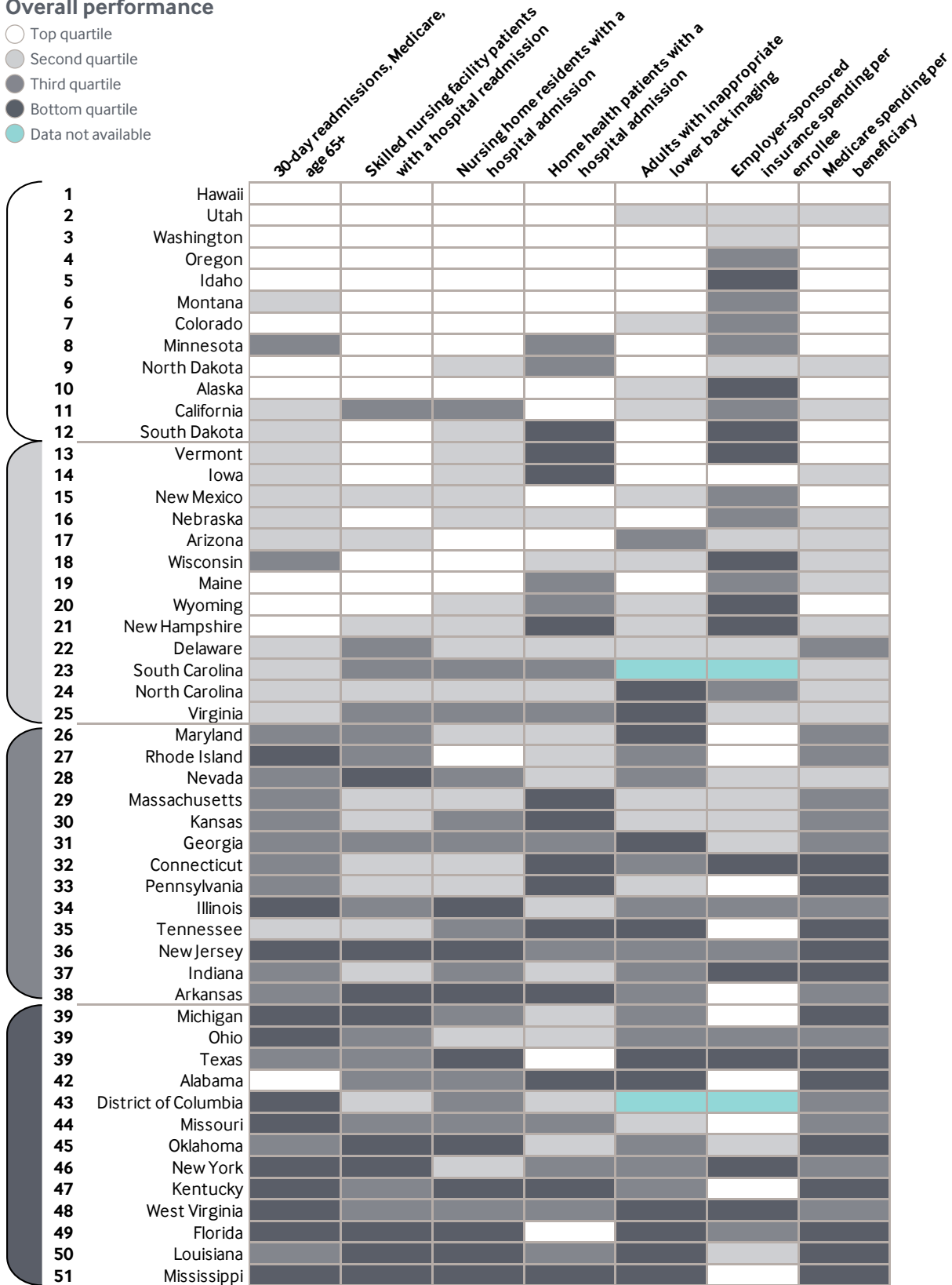
- Top quartile
- Second quartile
- Third quartile
- Bottom quartile
- Data not available



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

Overall performance

- Top quartile
- Second quartile
- Third quartile
- Bottom quartile
- Data not available



## APPENDIX E2. Avoidable Hospital Use &amp; 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
<b>United States</b>	<b>143</b>	<b>106 *</b>	<b>159</b>	<b>188</b>	<b>197</b>	<b>5</b>	<b>29</b>	<b>26</b>
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
<b>Change</b>								
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. Medicare estimates reflect only the age 65+ Medicare fee-for-service population. — Indicates that estimates are not available.

## APPENDIX E2. Avoidable Hospital Use &amp; 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
<b>United States</b>	<b>70</b>	<b>66</b>	<b>2.9</b>	<b>49</b>	<b>42 *</b>	<b>20%</b>	<b>19%</b>	<b>17%</b>	<b>16%</b>
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 *
<b>Change</b>									
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. Medicare estimates reflect only the age 65+ Medicare fee-for-service population. — Indicates that estimates are not available.

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

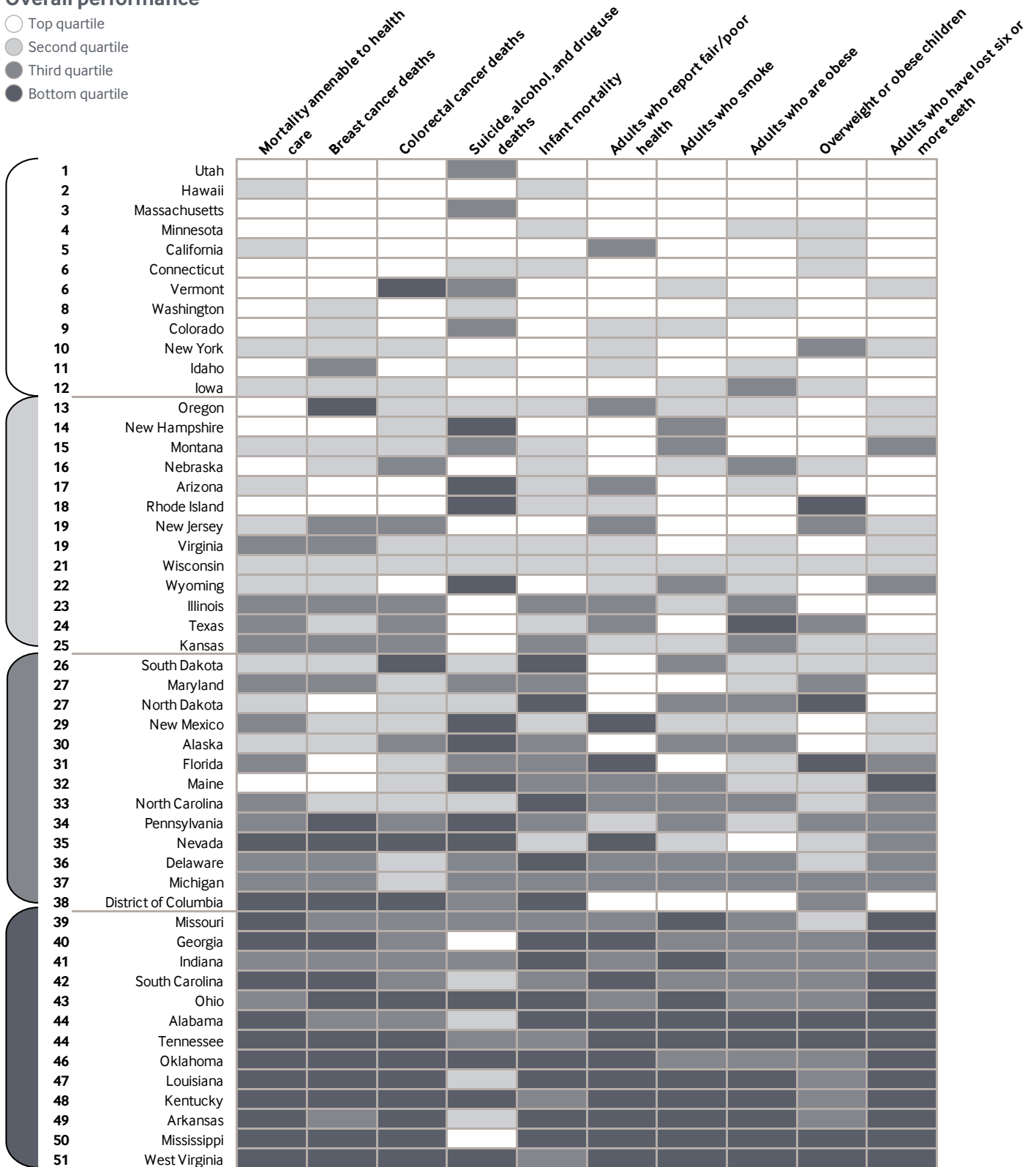
	Home health patients with a hospital admission		Adults with inappropriate lower back imaging	Total employer-sponsored insurance spending per enrollee		Total Medicare (Parts A & B) reimbursements per enrollee	
	2013	2016	2015	2013	2015	2012	2015
<b>United States</b>	<b>16.0%</b>	<b>16.4%</b>	<b>29%</b>	<b>\$4,697</b>	<b>\$4,736</b>	<b>\$8,854</b>	<b>\$9,025</b>
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
<b>Change</b>							
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

Overall performance

- Top quartile
- Second quartile
- Third quartile
- Bottom quartile



## 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
<b>United States</b>	<b>83.7</b>	<b>84.3</b>	<b>20.8</b>	<b>20.1</b>	<b>14.6</b>	<b>13.1 *</b>	<b>35.6</b>	<b>43.2 *</b>	<b>6.0</b>	<b>5.9</b>
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 *
<b>Change</b>										
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.



## 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
<b>United States</b>	<b>16%</b>	<b>16%</b>	<b>18%</b>	<b>16% *</b>	<b>29%</b>	<b>30%</b>	<b>31%</b>	<b>10%</b>	<b>10%</b>
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
<b>Change</b>									
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.

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

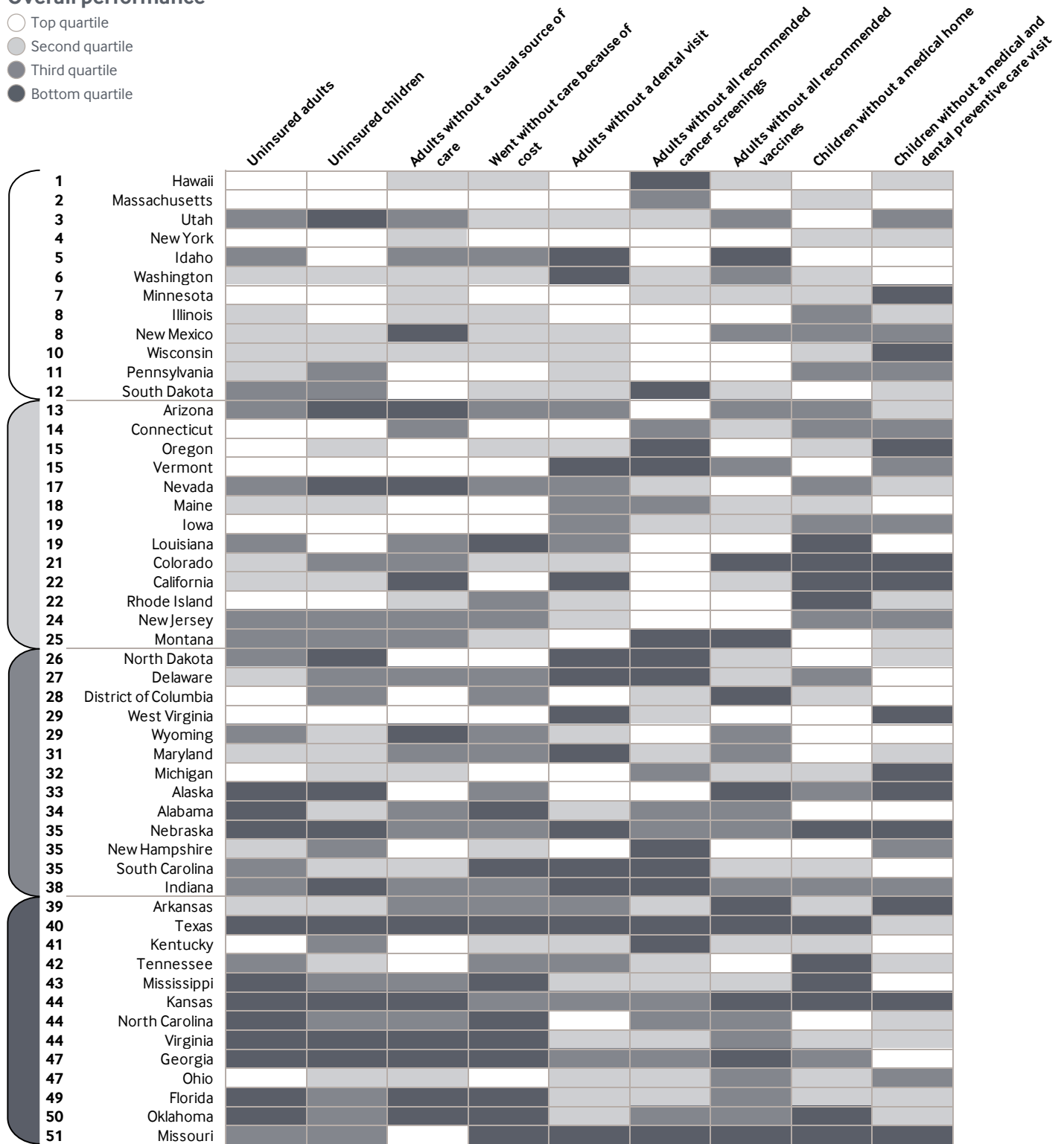
	Total				White				Black				Hispanic			
	2012-13	2014-15	Change in rate	% change in rate	2012-13	2014-15	Change in rate	% change in rate	2012-13	2014-15	Change in rate	% change in rate	2012-13	2014-15	Change in rate	% change in rate
United States	83.7	84.3	0.6	1%	77.4	78.4	1.0	1%	155.2	154.7	-0.6	0%	66.6	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

Overall performance

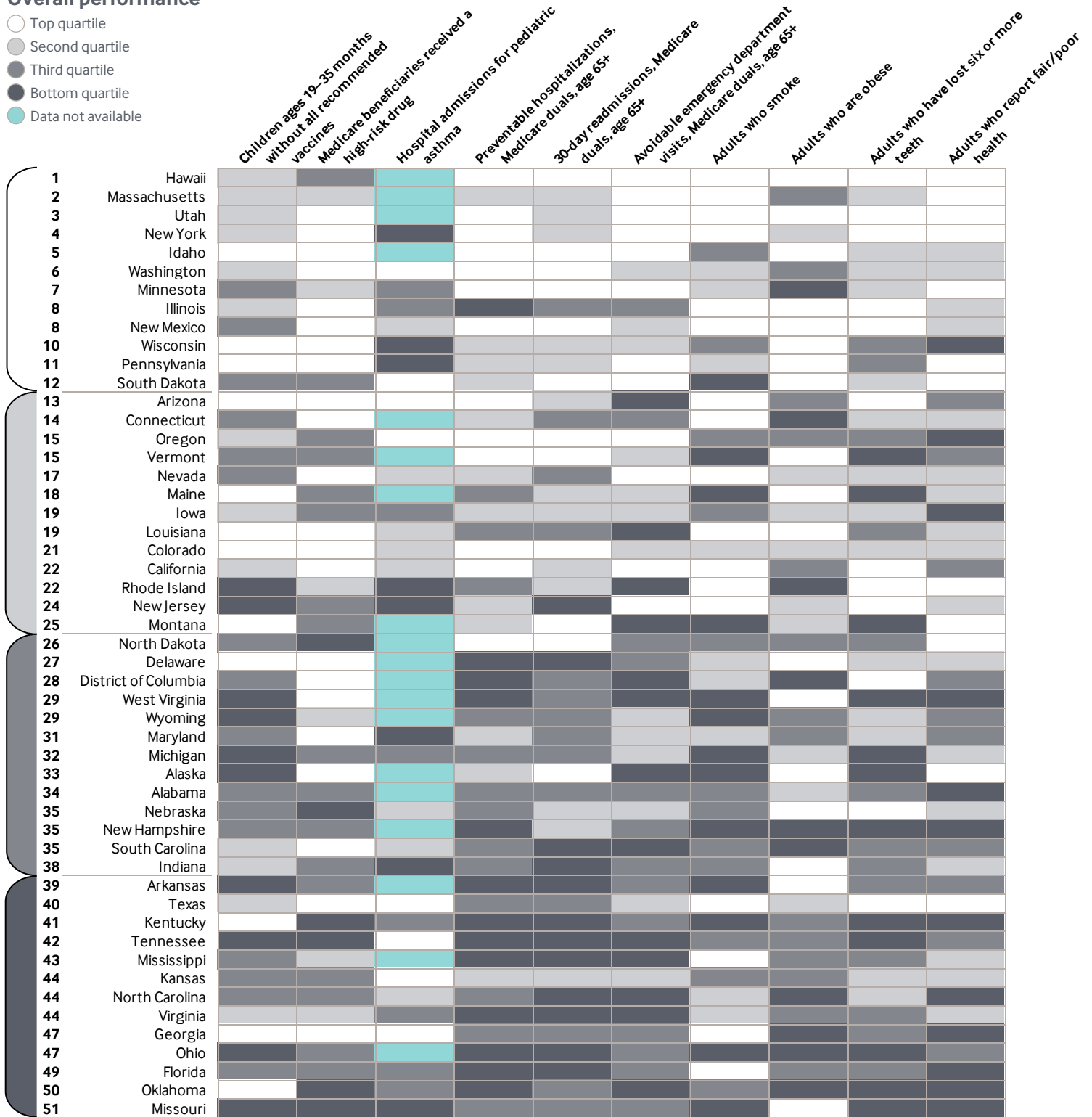
- Top quartile
- Second quartile
- Third quartile
- Bottom quartile



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

Overall performance

- Top quartile
- Second quartile
- Third quartile
- Bottom quartile
- Data not available



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
<b>United States</b>	<b>23%</b>	<b>-19</b>	<b>6%</b>	<b>-4</b>	<b>27%</b>	<b>-12</b>	<b>23%</b>	<b>-16</b>	<b>24%</b>	<b>-13</b>	<b>35%</b>	<b>-10</b>	<b>67%</b>	<b>-8</b>
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
<b>United States</b>	<b>63%</b>	<b>-26</b>	<b>38%</b>	<b>-15</b>	<b>33%</b>	<b>-10</b>	<b>16%</b>	<b>-4</b>	<b>166</b>	<b>-95</b>	<b>99</b>	<b>-56</b>	<b>63</b>	<b>-33</b>
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 preventive care visit. — Indicates that estimates are not available.

**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
<b>United States</b>	<b>366</b>	<b>-191</b>	<b>23%</b>	<b>-12</b>	<b>38%</b>	<b>-9</b>	<b>17%</b>	<b>-12</b>	<b>29%</b>	<b>-22</b>
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

Number of states where disparity for the low-income population:

● Improved<sup>a</sup> ● No Change<sup>b</sup> ● Worsened<sup>a</sup>

Disparity Indicator		Number of states where disparity for the low-income population:		
Income		Improved <sup>a</sup>	No Change <sup>b</sup>	Worsened <sup>a</sup>
	Adults ages 19–64 uninsured	51	0	0
	Children ages 0–18 uninsured	37	9	5
	Adults without a usual source of care	36	9	6
	Adults who went without care because of cost	42	3	6
	Adults without a dental visit in past year	27	8	16
	Adults without all age- and gender-appropriate cancer screenings	29	9	13
	Adults without all age-appropriate recommended vaccines	19	15	17
	Children ages 19–35 months without all recommended vaccines	16	18	17
	Medicare beneficiaries received a high-risk drug	32	17	2
	Hospital admissions for pediatric asthma, per 100,000 children	12	30	9
	Preventable hospitalizations, Medicare duals, age 65+	5	20	26
	30-day readmissions, Medicare duals, age 65+	45	3	3
	Avoidable emergency department visits, Medicare duals, age 65+	6	4	41
	Adults who smoke	28	7	16
	Adults who are obese	11	18	22
	Adults who have lost six or more teeth	19	9	23
	Adults who report fair/poor health	17	9	25

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](http://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](http://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](http://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 acellular pertussis (DTaP/DT/DTP) vaccine; at least 3 doses of poliovirus vaccine; at least 1 dose of measles-containing vaccine (including mumps-rubella (MMR) vaccine); the full series of Haemophilus influenzae 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 beneficiaries 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]  $\geq 30$ ). 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](http://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](mailto:dr@cmwf.org).

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