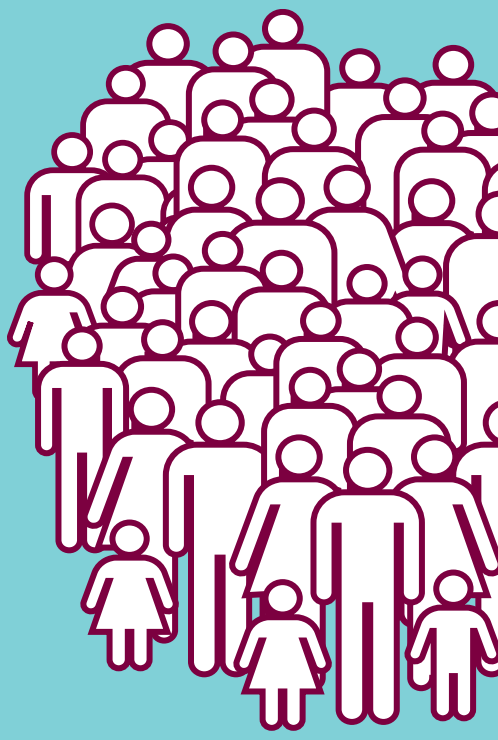
HEALTH CARE IN THE TWO AMERICAS



Findings from the Scorecard on State Health System Performance for Low-Income Populations, 2013

Cathy Schoen, David Radley, Pamela Riley,
Jacob Lippa, Julia Berenson,
Cara Dermody, and Anthony Shih

September 2013

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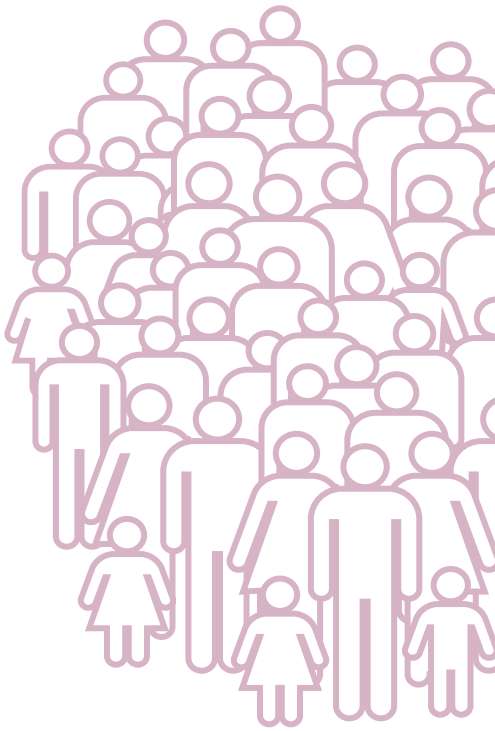

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ABSTRACT The Commonwealth Fund's *Scorecard on State Health System Performance for Low-Income Populations, 2013,* identifies opportunities for states to improve their health systems for economically disadvantaged populations and provides state benchmarks of achievement. Analyzing 30 indicators of access, prevention and quality, potentially avoidable hospital use, and health outcomes, the *Scorecard* documents sharp health care disparities among states. Between leading and lagging states, up to a fourfold disparity in performance exists on a range of key health care indicators for low-income populations. There are also wide differences within states by income. If all states could reach the benchmarks set by leading states, an estimated 86,000 fewer people would die prematurely and tens of millions more adults and children would receive timely preventive care. Moreover, many benchmarks for low-income populations in the top states were better than average and better than those for higher-income or more-educated individuals in the lagging states.

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CONTENTS

LIST OF EXHIBITS

Executive Summary

Introduction

Access and Affordability

Prevention and Treatment

Potentially Avoidable Hospital Use

Healthy Lives

Impact of Improved Performance

Cross-Cutting Findings

Summary and Implications

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EXECUTIVE SUMMARY

Ensuring that all people have equal access to high-quality health care to help them live healthy and productive lives is a core goal of a high performance health system. In the United States, however, where you live matters, particularly if you have low income. In many states, there is a wide gulf in access to and quality of care between those with below-average income and the rest of society.

Recognizing the importance of families' economic status for affordable access to care and health status, The Commonwealth Fund's *Scorecard on State Health System Performance for Low-Income Populations, 2013,* aims to identify opportunities for states to improve how their health system serves their low-income populations and to provide benchmarks of achievement tied to the top-performing states. Based on its assessment of 30 indicators of access, prevention and quality, potentially avoidable hospital use, and health outcomes, the *Scorecard* documents sharp disparities among states in each of these areas.

The analysis finds that raising state health system performance to the top benchmark levels would make a critical difference for low-income populations. Between the leading and lagging states, there is often up to a fourfold disparity in performance on indicators of timely access to care, risk for potentially preventable medical complications, lower-quality health care, and premature death, affecting millions of Americans. If all states could reach the benchmarks set by leading states for more advantaged populations, an estimated 86,000 fewer people would die prematurely, with potential gains of 6.8 million years of life; 750,000 fewer low-income Medicare beneficiaries would be unnecessarily prescribed high-risk medications; and tens of millions of adults and children would receive timely preventive care necessary to lessen the impact of chronic disease and help avoid the need for hospitalization.

Notably, the *Scorecard* finds that having low income does not have to mean below-average access, quality, or health outcomes. In fact, in the top states, many of the health care benchmarks for low-income populations were better than average *and* better than those for higher-income or more-educated individuals in the lagging states. With new nationally funded expansions of health insurance and an array of new resources and tools, all states will have a historic opportunity to greatly improve health and health care for vulnerable populations across the country.

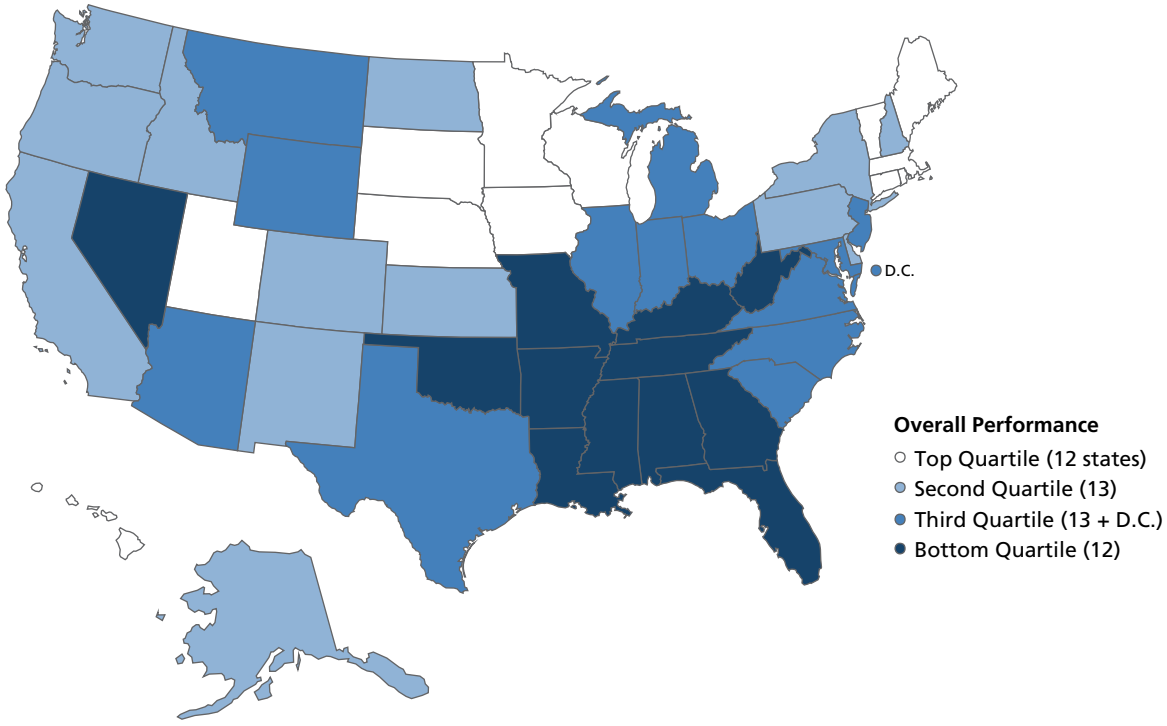
HIGHLIGHTS AND KEY FINDINGS

Where you live matters: For low-income populations, there are wide differences across states in access, quality and safety, and health outcomes.

Overall, the report finds that there are often two Americas when it comes to health care—divided by geography and income (Exhibit 1). Wide state differences in health care for low-income populations are particularly pronounced in the areas of affordable access to care, preventive care, dental disease, prescription drug safety, potentially preventable hospitalization, and premature death. Nationally, as of 2010–11, over half (55 percent) of the under-65 population with incomes below 200 percent of poverty—

In this *Scorecard,* we categorize individuals as low income if their annual income was under 200 percent of the federal poverty level. In 2013, this is $22,980 for a single person or $47,100 for family of four. Nationally, nearly 40 percent of the U.S. population meets this definition. Where income data were not available, we relied on education or community income as proxies for vulnerable socioeconomic status. On the Commonwealth Fund website, the Health System Data Center displays all data, compares each state to benchmarks set by the leading states, and provides analysis of the potential gains for each state if it were to improve its performance on selected indicators to the state benchmark levels attained for either low-income/less-educated or more-advantaged populations.

OVERALL HEALTH SYSTEM PERFORMANCE FOR LOW-INCOME POPULATIONS



Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

nearly 57 million people—were either uninsured, or if insured, were spending a relatively high share of their incomes on medical care. This is sometimes referred to as being "underinsured." The percentage uninsured or underinsured ranged from a low of 36 percent in Massachusetts to over 60 percent in 10 states (Alaska, Colo., Fla., Idaho, Mont., Nev., N.M., Texas, Utah, and Wyo.).

Looking across states, a lack of timely, affordable access to care—in particular, primary care—is undermining health outcomes and contributing to higher medical costs:

- Among low-income adults age 50 or older, just 22 percent to 42 percent received recommended preventive care. This means that even in the leading state, fewer than half of low-income older adults received recommended cancer screenings and vaccines for their age and gender.
- In 22 states, 30 percent or more of low-income Medicare beneficiaries were prescribed medications that are considered high-risk.
- Among adults from low-income communities, rates of hospital admissions for respiratory disease or diabetes complications were four times higher in the worst-performing states compared with the top performers. For children in low-income communities, there was a more than eightfold spread between the highest and lowest state rates of hospitalization for asthma.

The *Scorecard* also finds wide state differences in health outcomes for low-income and less-educated populations. There was a two- to threefold spread between leading and lagging states in premature death before age 75, infant mortality, smoking, obesity, and dental disease or tooth loss. States with the worst health outcomes on a single indicator tended to do poorly on multiple indicators.

Strikingly, the *Scorecard* finds much less state variation in health and health care experiences among people with higher incomes. The notable exception was unsafe prescribing: states with high rates of potentially unsafe prescribing were high for both higher- and lower-income Medicare beneficiaries.

Health system performance for low-income populations in leading states is often better than the national average and the high-income populations in other states.

The strong performance of leading states and the more positive experiences of low-income or less-educated populations in those states indicate having a low income does not have to mean worse care experiences or health. For all but six indicators, the experiences of low-income individuals in top-performing states exceeded the national average for all incomes. And for half the indicators, including receipt of medications that put health at risk, potentially preventable hospitalization, infant mortality, smoking, and obesity, the leading states' rates for their low-income populations was better than those of higher-income populations in other states.

States in the Upper Midwest and Northeast and Hawaii performed best overall for low-income populations.

The six leading states, Hawaii, Wisconsin, Vermont, Minnesota, Massachusetts, and Connecticut, did well across all four performance dimensions (Exhibit 2). Each ranked in the top half of states for the majority of the 30 indicators, particularly those related to access, prevention, and treatment. These leading states had among the lowest rates of uninsured adults, contributing to more positive health care and health outcomes.

At the other end of the spectrum, the Southern and South Central states often lagged other states (Exhibit 2). The 12 states in the lowest quartile performed below average for more than half of the available performance indicators. All these states have high uninsured rates, low rates of preventive care, high rates of potentially avoidable hospital use from complications of disease, and significantly worse health outcomes on multiple indicators.

Notably, states at the bottom have among the highest poverty rates—with nearly half their total population having a low income (under 200% of poverty) or at most a high school education. With such a high share of the state population's health and well-being at risk, even modest gains would represent substantial gains for the entire state in healthier, more productive lives and potentially lower costs of health care. For such high-poverty states, federal resources to expand coverage and invest in local health systems offer significant new opportunities to improve their population's health and care experiences.

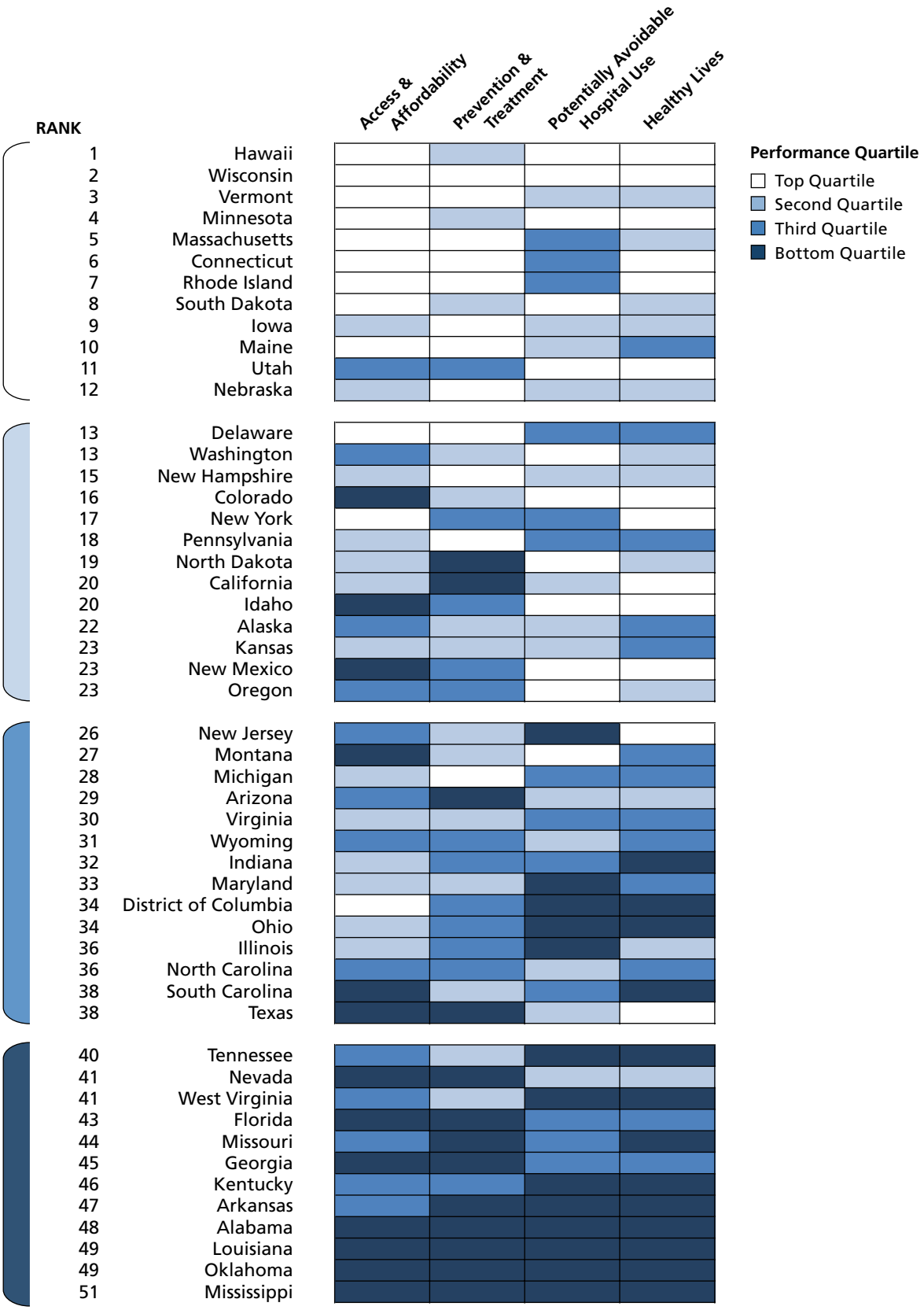
All states have room to improve. No state was in the top quartile or top half of the range of states for all 30 indicators, and nine of the 10 top-ranked states overall had at least four indicators in the bottom half of the state distribution.

Income-related health care disparities exist within states and across all areas of health system performance.

To establish benchmarks for performance, the *Scorecard* also compared experiences of low-income or less-educated populations in each state to those with higher income (i.e., above 400% of poverty) or more education (i.e., college degree or higher). Lower-income populations are at increased risk of experiencing worse access, lower-quality care—particularly in outpatient settings—and worse health outcomes compared to those with higher incomes in their home state. Income-related disparities were most pronounced on measures of access, prevention, potentially unsafe prescription medication, and health outcomes.

In all states, low-income adults age 50 or older were less likely to receive preventive care than were higher-income adults, reflecting, in part, the much

SUMMARY OF HEALTH SYSTEM PERFORMANCE FOR LOW-INCOME POPULATIONS



Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

higher rates of low-income adults who are uninsured. In Kentucky, Idaho, and California, for example, rates of preventive care among higher-income older adults were double the levels reported by those with low incomes.

However, care patterns continue to differ by income even when adults are insured. The *Scorecard* reveals a pattern across all states, except Hawaii, of low-income Medicare beneficiaries being at greater risk than higher-income beneficiaries for receiving medications generally not recommended because of age or health.

In all states, premature death rates were markedly higher among those with a high school education or less than they were for the college-educated. In 42 states, years of potential life lost before age 75 for college-educated residents age 25 and older were below 5,000 per 100,000 population. However, in all but three states, years lost for those with at most a high school degree were above 10,000 per 100,000.

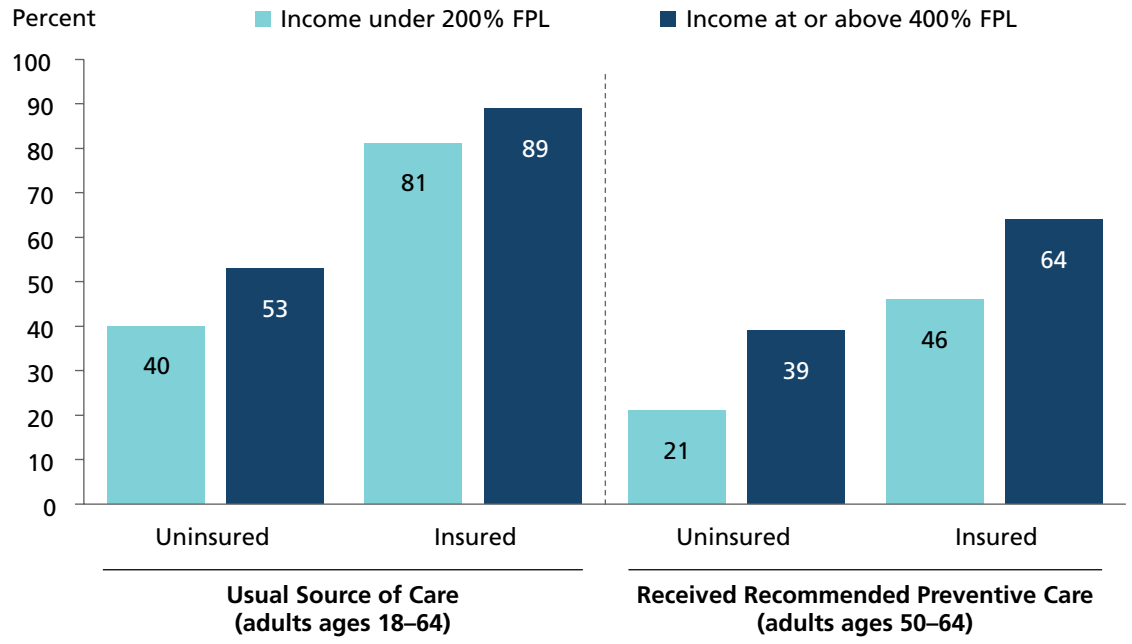
Health insurance coverage expansions hold promise to begin closing gaps in primary care and prevention. Broader gains will require improvements to health care delivery and a greater focus on population health.

Our findings across states indicate that expanding insurance coverage will begin to close the income and geographic divide. In multiple states, insured low-income individuals report a similar rate of having a usual source of care and receiving recommended preventive care as high-income adults (Exhibit 3).

However, the care experiences of low-income Medicare beneficiaries, all of whom have insurance, show that there are additional opportunities to improve health system performance. For example, the *Scorecard* finds that one-third of all emergency department (ED) visits by low-income Medicare beneficiaries (i.e., those also receiving Medicaid) are potentially preventable with more accessible primary care. There is a more than twofold variation across states in the potentially avoidable ED use indicator (Exhibit

EXHIBIT 3

HAVING A USUAL SOURCE OF CARE AND OLDER ADULTS WHO RECEIVED RECOMMENDED PREVENTIVE CARE, BY INCOME AND INSURANCE STATUS



Note: FPL denotes federal poverty level.
Data: Adults with a usual source of care—2011 BRFSS; Adults who received recommended preventive care—2010 BRFSS.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

4). Efforts to improve health care delivery, particularly primary care, and public health could lower the need for emergency department visits and the risks of receiving an unsafe prescription drug, being admitted or readmitted to hospitals, and dying prematurely or having a disability.

Also required are targeted approaches for pockets of health care need across the country, such as communities with high rates of potentially avoidable hospital admissions among low-income children with asthma and adults with chronic lung disease. Successful intervention in these health care "hot spots" will likely require a combination of enhanced primary care and collaboration with community, social, and public health resources. The same is true for combatting higher state rates of smoking, obesity, infant mortality, and premature death in vulnerable populations. Acting early to reduce risks to health from unsafe workplaces, homes, communities, or behaviors would result in a healthier overall population and reduce health care costs over time.

Potential gains from raising the bar and bridging the income divide

If health care access and care experiences among vulnerable populations in all states were to attain state benchmarks for higher-income or otherwise more-advantaged populations, we might see the following gains:

- Over 30 million more low-income adults and children would have health insurance—reducing the number of uninsured by more than half.
- About 34 million fewer low-income individuals would face high out-of-pocket medical costs relative to their annual income and about 21 million fewer low-income adults would go without needed care because of cost.
- About 11 million additional low-income adults over age 50 would receive timely preventive care, including cancer screenings and immunizations.
- 750,000 fewer low-income Medicare beneficiaries would receive an unsafe prescription drug.
- There would be over 300,000 fewer readmissions within 30 days of hospital discharge among low-income Medicare beneficiaries.
- Fewer people would die prematurely, resulting in about 6.8 million potential years of life to work and participate in communities, or 86,000 fewer deaths each year assuming average life expectancy.
- 33,000 more infants born to mothers with a high school diploma or less would survive to see their first birthday.
- Nearly 9 million fewer low-income adults under age 65 would lose six or more teeth because of tooth decay, infection, or gum disease.

SUMMARY

Improving health system performance for vulnerable populations no matter where people live is within our grasp as a nation. By investing in improving the health of their most vulnerable, states would improve the overall health and economic well-being of their population. Healthier adults are less expensive to care for and have greater workforce productivity; healthier children are more likely to succeed in school and grow up to continue to participate in the workforce in the future. A healthy population is thus instrumental in maintaining strong local and state economies, as well as the nation's economic health and well-being.

State and local care system action that leverages federal resources and builds on national initiatives will be critical to the success of efforts to improve access, health care, and health outcomes, particularly for those vulnerable because of low income. The *Scorecard*'s findings of high rates of uninsured, low rates of preventive and primary care, variable quality of care, and poor health outcomes for low-income populations underscore the potential gains from focused efforts to:

- Expand insurance, including Medicaid, and implement policies to hold insurance plans accountable for timely access to provider networks and quality care.
- Redesign care delivery systems, supported by payment reform, to provide enhanced, patient-centered primary care within care systems that provide effective, safe and coordinated care, with attention to population needs.
- Hold care delivery systems accountable for population health, including collaboration between health care, public health, and community-based services.
- Set targets or benchmarks to inform and guide strategic actions to improve.

When looking today at health care access, quality, and outcomes, we see two Americas, sharply defined by geography and income. As federal health reforms take hold and additional resources become available, state governments and local care delivery systems have a historic opportunity to address these inequities. By doing so, we will not only help close the gap, but we will improve the health system's performance for everyone in the U.S., regardless of geography or income.

ADDITIONAL SCORECARD HIGHLIGHTS

ACCESS AND AFFORDABILITY

- As of 2010–11, more than 32 million low-income adults and children were uninsured. Another 24.4 million were insured but in families with high out-of-pocket medical costs relative to their incomes.
- Uninsured rates among low-income adults vary fourfold across states, from a low of 12 percent in Massachusetts to 55 percent in Texas.

PREVENTION AND TREATMENT

- Just one-third (32%) of low-income older adults (age 50 or older) received appropriate preventive care screenings in 2010, ranging from 26 percent or less in the three lowest-rate states to just 42 percent in the top state—rates well below those for higher-income adults.
- The share of low-income children cared for by primary care practices that enable access and coordinate care ("medical homes") ranged from 30 percent California to 60 percent in Vermont.
- The likelihood of a low-income Medicare beneficiary receiving medication that put their health at risk was nearly three times higher in Mississippi than in Massachusetts (45% vs. 17%). In eight states (Ala., Ark., Ga., La., Miss., Okla., S.C., Tenn.), 40 percent or more of low-income beneficiaries received potentially unsafe medications.

POTENTIALLY AVOIDABLE HOSPITAL USE

- Asthma-related hospitalizations among children living in low-income zip codes were eight times higher in New York (477 per 100,000) than in Oregon (56 per 100,000).
- Among low-income Medicare beneficiaries who also qualified for Medicaid (i.e., those dually enrolled), hospital admissions for ambulatory care–sensitive conditions such as pneumonia, diabetes, and heart failure were nearly two times higher in the five highest-rate states (Ky., W.Va., Ark., Tenn., and Okla.) than in the five lowest-rate states.
- The rate of potentially avoidable emergency room visits among low-income Medicare beneficiaries was at least twice the rate for those with higher incomes in 32 states.

HEALTHY LIVES

- One of four or more low-income adults under age 65 in West Virginia, Tennessee, Alabama, Mississippi and Kentucky lost six or more teeth because of decay or disease, compared with fewer than 10 percent in Connecticut, Hawaii, and Utah.
- Years of potential life lost before age 75 for people age 25 and older with at most a high school education ranged from less than 10,000 per 100,000 in Minnesota, California, and New York to more than 15,000 per 100,000 in nine states.

LIST OF 30 INDICATORS IN SCORECARD ON STATE HEALTH SYSTEM PERFORMANCE FOR LOW-INCOME POPULATIONS, 2013

		Total Population			Vulnerable Population			
		All-State Median	Top State Rate	Bottom State Rate	All-State Median	Top State Rate	Bottom State Rate	Top Three States*
	ACCESS & AFFORDABILITY							
1	Percent of adults ages 19–64 uninsured (a)	19	6	31	38	12	55	MA, HI, VT
2	Percent of children ages 0–18 uninsured (a)	8	3	19	13	5	27	VT, HI, DC
3	Percent of adults who went without care because of cost in the past year (a)	16	9	23	29	16	38	HI, ME, MA
4	Percent of individuals with high out-of-pocket medical spending relative to their annual household income (a)	16	10	22	35	25	46	DC, NY, CA
5	Percent of adults without a dentist, dental hygienist, or dental clinic visit in the past year (a)	30	19	42	46	30	60	MN, MA, CT
	PREVENTION & TREATMENT							
6	Percent of adults age 50 and older who received recommended screening and preventive care (a)	44	54	36	32	42	22	MA, DE, ME
7	Percent of adults with a usual source of care (a)	79	88	64	75	88	57	VT, ME, MA
8	Percent of children with a medical home (a)	57	69	45	47	60	30	VT, IA, WI
9	Percent of children with both a medical and dental preventive care visit in the past year (a)	69	81	56	62	79	50	VT, DC, MA
10	Percent of Medicare beneficiaries who received at least one drug that should be avoided in the elderly (b)	24	15	39	28	17	45	MA, HI, NY
11	Percent of Medicare beneficiaries with dementia, hip/pelvic fracture, or chronic renal failure who received prescription in an ambulatory care setting that is contraindicated for that condition (b)	19	12	29	26	16	36	VT, AK, ME
12	Percent of patients hospitalized for heart failure or pneumonia who received recommended care (c)	96	98	91	96	98	85	NE, MT, DE
13	Percent of surgical patients who received appropriate care to prevent complications (c)	98	98	95	97	99	92	MT, NE, VT
14	Risk-adjusted 30-day mortality among Medicare beneficiaries hospitalized for heart attack, heart failure, or pneumonia (c)	13	11	13	12	11	15	DC, IL, CA, CT, MD
15	Percent of hospitalized patients given information about what to do during their recovery at home (c)	83	89	77	83	90	67	VT, ID, NE, NH, UT
16	Percent of patients who reported hospital staff always managed pain well, responded when needed help to get to bathroom or pressed call button, and explained medicines and side effects (c)	66	73	57	64	75	52	ID, AK, NH, UT

LIST OF 30 INDICATORS IN SCORECARD ON STATE HEALTH SYSTEM PERFORMANCE FOR LOW-INCOME POPULATIONS, 2013

(continued)

		Total Population			Vulnerable Population			
		All-State Median	Top State Rate	Bottom State Rate	All-State Median	Top State Rate	Bottom State Rate	Top Three States*
	POTENTIALLY AVOIDABLE HOSPITAL USE							
17	Hospital admissions for pediatric asthma, per 100,000 children (d)	116	43	230	160	56	477	OR, UT, SD
18	Potentially avoidable hospitalizations from respiratory disease among adults, per 100,000 (d)	672	369	1,161	1,002	400	1,589	HI, UT, OR
19	Potentially avoidable hospitalizations from complications of diabetes among adults, per 100,000 (d)	187	101	268	300	149	559	SD, OR, ME
20	Hospital admissions among Medicare beneficiaries for ambulatory care–sensitive conditions, per 100,000 beneficiaries (e)	5,477	2,928	8,475	10,928	5,623	16,891	HI, CA, UT
21	Potentially avoidable emergency department visits among Medicare beneficiaries, per 1,000 beneficiaries (e)	183	129	263	337	218	466	UT, HI, MN
22	Medicare 30-day hospital readmissions as a percent of admissions (e)	18	13	22	21	15	25	ID, MT, ND
23	Percent of long-stay nursing home residents hospitalized within a six-month period (f)	19	7	31	19	7	31	MN, OR, AZ, RI, UT
24	Percent of short-stay nursing home residents readmitted within 30 days of hospital discharge to nursing home (f)	20	12	26	20	12	26	UT, SD, ID
	HEALTHY LIVES							
25	Years of potential life lost before age 75 among adults age 25 and older (g)	7,916	5,931	12,090	12,725	9,465	21,635	MN, CA, NY
26	Infant mortality, deaths per 1,000 live births (g)	7	5	12	8	6	12	CA, UT, NM
27	Percent of adults who smoke (a)	21	12	29	30	17	40	UT, CA, NJ
28	Percent of adults ages 18–64 who are obese (BMI ≥ 30) (a)	28	21	36	34	26	44	HI, NV, AK
29	Percent of adults ages 18–64 who report fair/poor health, 14 or more bad mental health days, or activity limitations (a)	34	27	43	47	35	61	HI, WI, UT
30	Percent of adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease (a)	9	5	20	16	8	31	CT, UT, HI

* As a result of ties, more than three states may be listed.
Vulnerable group defined as (see Appendix B for more detail):
(a) under 200% of the federal poverty level.
(b) low-income Medicare beneficiaries who received a subsidy to pay for their prescription drug benefits.
(c) safety-net hospitals.
(d) residence in a low-income zip code.
(e) Medicare benficiaries who also are enrolled in Medicaid.
(f) all short- and long-stay nursing home patients.
(g) high shool diploma (or equivalent) or less.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

INTRODUCTION

The United States has a wealth of medical care resources and centers of excellence and leads the world in health care spending per person. As such, it should be possible for all its residents to have access to high-quality and timely health care, regardless of social or financial circumstances. But a health care divide has long existed between low-income families and the more economically advantaged in the U.S., with the former often facing difficulty accessing health care, receiving poorer-quality care, and experiencing worse health outcomes.

With the passage of the Affordable Care Act, the nation has committed to the goal of affordable access to care for all and to helping achieve more equal opportunities for long, healthy, and productive lives. To provide a baseline assessment and targets for improvement as reforms are phased in across the country, this *Scorecard on State Health System Performance for Low-Income Populations, 2013,* examines how well states' health care systems are performing for their vulnerable populations, focusing on those at risk because of low incomes.

Many factors can make people vulnerable to poor health care and worse health outcomes, and low-income is a particularly strong determinant. It affects peoples' ability to pay for health insurance and for care, and there is a strong association between having lower income and poorer health status or disability. The *Scorecard* focuses on experiences of people with incomes under 200 percent of the federal poverty level (i.e., $22,980 for a single person and $47,100 for a family of four in 2013) where such data are available, and otherwise uses proxies for socioeconomic status (such as education or place of residence). (See Exhibit 4 and the "Defining Low Income" box on page 21.)

As of 2010–11, this poverty threshold included more than one-third (39%) of the U.S. population (Exhibit 5). This population is not evenly distributed across the country, with stark differences among states in the share of residents living near the poverty level. In half of states, at least one of five residents lives at or below the federal poverty level. In 22 states, mostly located in the South, 40 percent or more have incomes under 200 percent of poverty.

For indicators related to mortality, we use education as a proxy, comparing populations with a high school education or less to populations with a college education or more. Similar to patterns of income, rates of lower educational attainment vary significantly across states (Exhibit 5). In several states, half or nearly half of adults ages 25 to 75 have at most a high school education.

In addition to access to and quality of health care and insurance, social and environmental factors may make low-income populations vulnerable to worse health outcomes. Compared with people with higher incomes, low-income populations more often have unsafe work or living environments, limited opportunities to exercise or obtain healthy foods, lack of transportation, or unstable housing. Thus, improving health will likely require public health interventions as well as health care system improvement.

In the past, states with a large share of low-income residents faced challenges given limited resources and more sharply divided communities. The Affordable Care Act offers a historic opportunity and new resources to improve health care for economically vulnerable populations, as many of the law's provisions directly target low-income individuals and families, bringing new resources and tools to communities as well as states to improve population health.

Building on The Commonwealth Fund's Health System *Scorecard* series, the *Scorecard on State Health System Performance for Low-Income Populations, 2013,* assesses how well the health care system performs for low-income and other vulnerable populations in each state and compares their experiences to more-advantaged populations within and across states. The *Scorecard*'s goal is to inform state and federal policymakers, health plans, providers, and patients and offer benchmarks based on levels achieved by leading states.

STATE INCOME AND EDUCATION CHARACTERISTICS

State	Total Population (x 1,000)	Median Income*	Total Population: Under 100% FPL	Total Population: Under 200% FPL	Ages 25–75: High School Diploma or Less
United States	307,469	$52,000	20%	39%	41%
Alabama	4,719	46,500	22	43	48
Alaska	703	60,948	21	41	34
Arizona	6,632	50,000	23	42	38
Arkansas	2,895	42,000	22	47	51
California	37,429	47,852	24	44	39
Colorado	5,039	64,363	16	32	32
Connecticut	3,507	75,215	14	29	37
Delaware	892	53,082	17	36	43
District of Columbia	614	50,000	25	39	31
Florida	18,771	47,000	20	41	43
Georgia	9,757	49,657	23	43	44
Hawaii	1,298	48,169	24	46	35
Idaho	1,553	50,706	19	43	38
Illinois	12,806	53,000	19	39	38
Indiana	6,356	51,476	20	39	47
Iowa	2,998	58,080	14	33	40
Kansas	2,786	50,155	17	37	36
Kentucky	4,301	47,000	22	44	51
Louisiana	4,469	47,000	27	47	51
Maine	1,307	54,300	16	35	42
Maryland	5,769	66,000	16	31	36
Massachusetts	6,570	70,485	15	32	35
Michigan	9,737	55,000	20	38	40
Minnesota	5,236	66,512	13	29	34
Mississippi	2,931	44,400	25	47	48
Missouri	5,938	50,196	19	37	43
Montana	979	47,400	19	41	36
Nebraska	1,807	61,715	14	32	36
Nevada	2,662	46,000	21	42	44
New Hampshire	1,301	78,310	10	25	37
New Jersey	8,662	67,000	17	33	39
New Mexico	2,027	41,661	27	47	42
New York	19,315	51,000	22	40	41
North Carolina	9,377	49,700	21	41	42
North Dakota	655	65,471	14	28	33
Ohio	11,334	51,250	20	39	45
Oklahoma	3,720	48,518	19	41	44
Oregon	3,817	51,013	19	38	34
Pennsylvania	12,584	57,010	17	35	47
Rhode Island	1,043	57,800	18	36	41
South Carolina	4,569	44,460	24	45	45
South Dakota	809	53,050	17	36	39
Tennessee	6,324	46,362	21	43	48
Texas	25,373	46,049	23	45	44
Utah	2,821	64,000	16	36	33
Vermont	619	59,000	14	31	39
Virginia	7,873	67,157	16	32	37
Washington	6,770	56,585	16	36	33
West Virginia	1,816	46,955	21	42	56
Wisconsin	5,648	57,600	15	33	41
Wyoming	550	57,954	14	34	37

* Household income distribution for single person household with person under age 65 and families with all members ages 0–64.
Data: Population, Income, and Poverty estimates—2011–12 Current Population Survey; Education—2008–10 American Community Survey, PUMS.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

The *Scorecard* measures health system performance for vulnerable populations in all 50 states and the District of Columbia, using income as the unifying theme to define vulnerability. The *Scorecard* assesses states' performance with 30 indicators spanning four broad dimensions that capture critical aspects of health system performance: access and affordability, prevention and treatment, avoidable hospitalizations, and healthy lives. For each indicator and dimension, the *Scorecard* evaluates how well a state's health system performs for its vulnerable populations relative to other states, and compares vulnerable populations to a counterpart population, typically a high-income population. Top rates for low-income populations as well as the leading state rates for more-advantaged populations provide potential targets for improvement. In this analysis, we use both benchmarks to illustrate the potential for significant gains if all states could achieve the rates in the leading states.

As implementation of the major coverage expansions begins, the *Scorecard* provides a framework for assessing efforts to improve access and raise the standard of care for lower-income populations. In the sections that follow, we present the *Scorecard* results, organized by four dimensions of performance. Throughout, we provide examples of state- or community-level health system initiatives that specifically target vulnerable populations.

In the final sections of the report, we focus on cross-cutting themes and the potential gains if states' vulnerable populations all experienced health care at the level achieved in the top-performing states. We conclude by discussing the implications of these findings in the context of state and community policies that have the potential to address disparities in health and health care and the unique needs of states' vulnerable populations.

The exhibits in Appendix A provide detailed state-level data by dimension and indicator. Appendix B describes each indicator, providing its data source and detailing how economic vulnerability was defined.

Defining Low Income

For 18 of 30 performance indicators, we define economic vulnerability based on individuals' income status. People were categorized as vulnerable if their annual household income was under 200 percent of the federal poverty level (FPL), although the income threshold varied for some indicators.

When an individual's income was not available, we used other proxies for vulnerability related to income, including residence in a low-income zip code or, for mortality, level of educational attainment (i.e., those with at most a high school degree were considered vulnerable).

For some hospital indicators, we aggregated from the facility level rather than at the individual level. In these cases, we identified facilities as vulnerable if a high share of their patients had low incomes. We used hospitals' disproportionate share hospital (DSH) payment adjustment to identify facilities with the highest DSH adjustments in each state.[a]

In addition to defining a vulnerable group, we also defined a counterpart advantaged group to serve as a comparison. When measuring income at the individual level, advantaged individuals were those with incomes at or above 400 percent of FPL, and when using education, those with a college education or higher. Appendix B provides details on how vulnerability was defined for each indicator.

[a] P. Chatterjee, K. E. Joynt, E. J. Orav et al., "Patient Experience in Safety-Net Hospitals: Implications for Improving Care and Value-Based Purchasing," *Archives of Internal Medicine,* Sept. 10, 2012 172(16):1204–10.

SCORECARD METHODOLOGY

The Commonwealth Fund's *Scorecard on State Health System Performance for Low-Income Populations, 2013,* uses 30 key indicators to measure health system performance for economically vulnerable populations, primarily focusing on low-income populations. The *Scorecard* groups the indicators into four dimensions that capture key aspects of health system performance:

Access and Affordability—Two indicators that show rates of insurance coverage for children and adults and three other indicators of access and affordability.

Prevention and Treatment—Eleven indicators that measure the receipt of preventive care and the quality of care in ambulatory and hospital settings.

Potentially Avoidable Hospital Use—Eight indicators of hospital use that might have been prevented or reduced with timely and effective care and follow-up care.

Healthy Lives—Six indicators that measure premature death and health risk behaviors.

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

Performance Metrics: The 30 performance metrics selected for this report span the health care system and represent important aspects of care. Where possible, indicators build on the data used in previous state and local scorecards. The report also includes new indicators, including a measure of premature death and a measure of out-of-pocket spending on medical care relative to income.

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. They are generally from 2010–11, though this varied by indicator. Appendix B provides detail on the data sources and time frames.

Scoring and Ranking Methodology: The scoring method follows previous state scorecards. States are first ranked from best to worst on each of the 30 performance indicators based on experience of the low-income group in that state. We averaged rankings for indicators within each dimension to determine a state's dimension rank and then averaged dimension rankings to determine overall ranking on health system performance. This approach gives each dimension equal weight, and within dimensions weights indicators equally.

ACCESS AND AFFORDABILITY

Ensuring access to health care is the foundation of a high-performance health system and is essential to achieving positive health outcomes. For low-income people, health insurance coverage is an important factor in determining whether they have access to care when they need it. In addition, it is critical that benefits are adequate, with minimal cost-sharing and robust networks of primary and specialized care. Studies find that low-income adults are more likely to be uninsured than higher-income individuals. In addition, when low-income people do have insurance, they are more likely to be "underinsured" with coverage that fails to provide financial protection from out-of-pocket health care costs, which puts them at risk of delaying or forgoing needed care.[1] For low-income adults, recent evidence finds that expanding access to public health insurance is associated with improved access to care, reduced financial stress, and improved health outcomes.[2]

The *Scorecard* examines five key indicators of access and affordability:

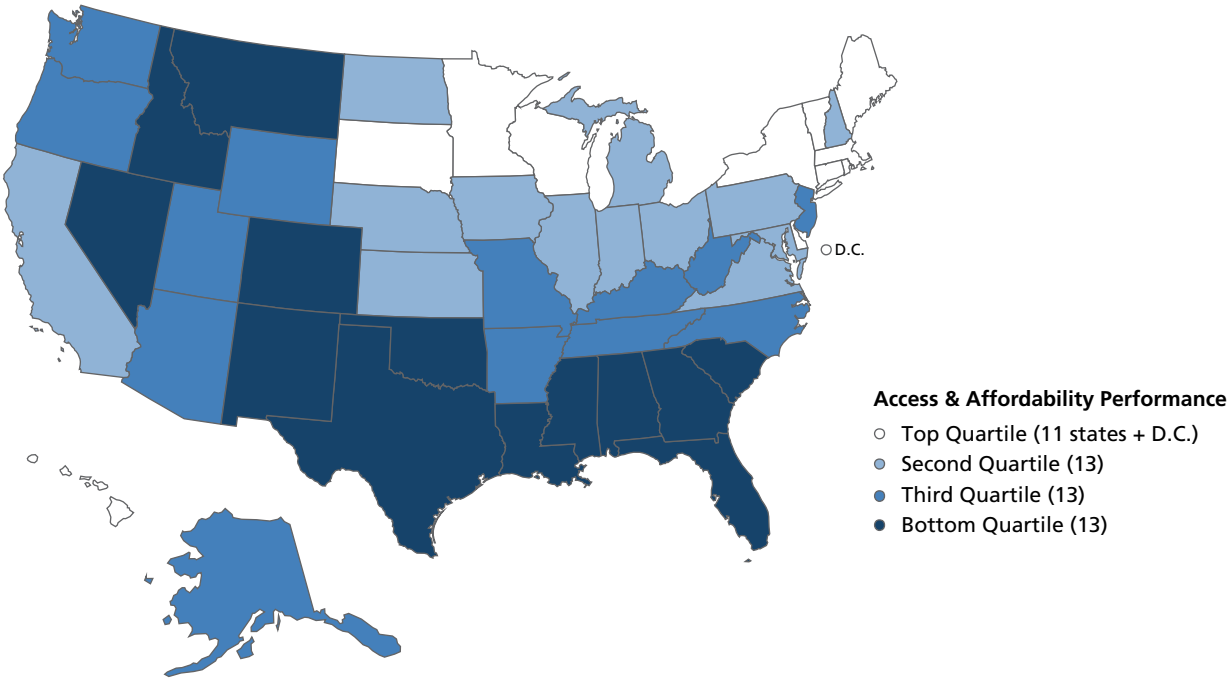
- uninsured rates for adults;
- uninsured rates for children;
- proportion of adults who reported they went without care because of cost;
- proportion of families with high out-of-pocket spending on medical care; and
- proportion of adults who did not have a dental visit within the past year.

For indicators in this section of the report, low-income is defined as less than 200 percent of poverty. (See Appendix B for more detailed indicator descriptions and data sources.)

The *Scorecard* finds that low-income groups have widely disparate experiences across states. The leading states—largely concentrated in the Northeast and upper Midwest, plus Hawaii—tend to perform well on all five indicators of access (Exhibit 6). These states

ACCESS & AFFORDABILITY EXHIBIT 6

OVERALL PERFORMANCE ON ACCESS & AFFORDABILITY DIMENSION FOR LOW-INCOME* POPULATIONS



* Income under 200% of federal poverty level.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

have among the most expansive policies supporting public health insurance for low-income families and the lowest rates of uninsured adults and children.

In all states, we found wide differences between low- and high-income populations. Within states, low-income populations are more likely than those with higher incomes to be uninsured, to face high out-of-pocket costs, to go without care because of costs, and to go without routine dental care.

In total, more than 32 million low-income adults and children lacked health insurance coverage in 2010–11, while an additional 24.4 million were "underinsured"—that is, insured but in families with high out-of-pocket costs for care relative to their incomes. Altogether, more than half of low-income individuals (55%) were either uninsured or underinsured. This ranged from a low of 36 percent in Massachusetts to more than 60 percent in 10 states (Exhibit 26 and Appendix Exhibit A4).

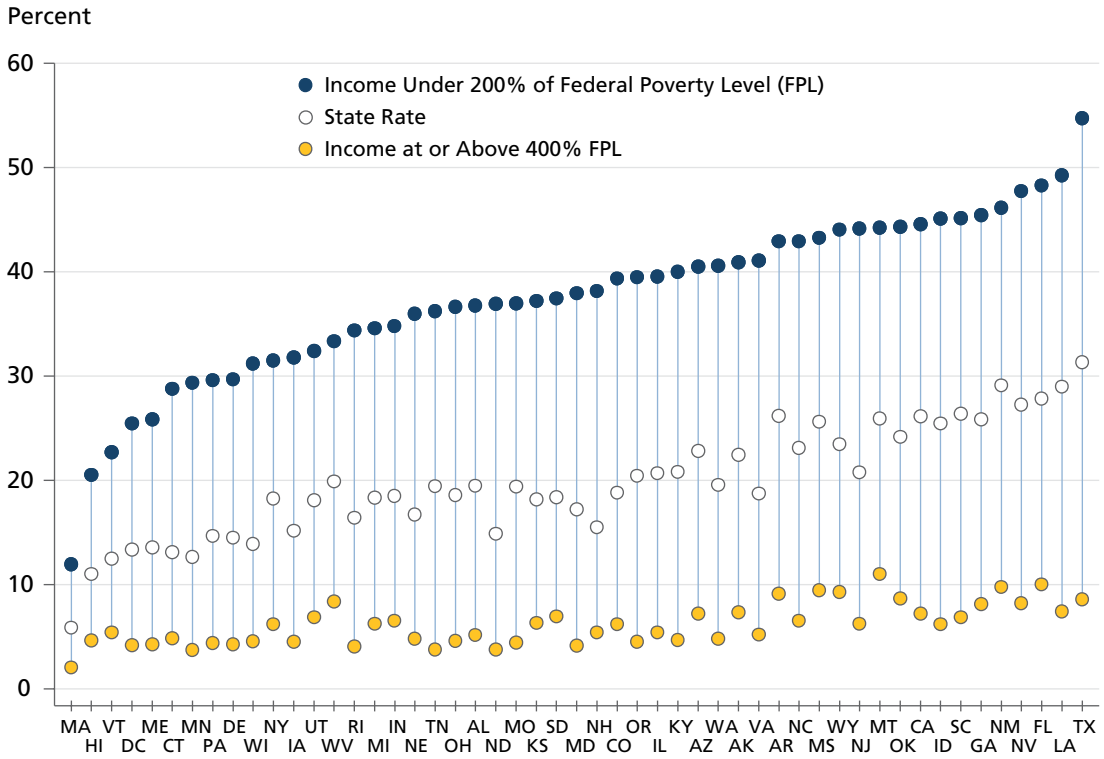
HEALTH INSURANCE COVERAGE

In 2010–11, more than 27 million low-income adults (41%) were uninsured (Appendix Exhibit A5). Low-income adults account for roughly two-thirds of the 41 million uninsured adults nationwide. In each of three states—California, Florida, and Texas—there are more than 2 million uninsured low-income adults.

Across states, the share of low-income adults without health insurance ranged from a low of 12 percent in Massachusetts to a high of 55 percent in Texas (Exhibit 7). At least one of three low-income adults lacked insurance in 37 states. By comparison, only 6 percent of higher-income adults were uninsured (Appendix Exhibits A3 and A5).

ACCESS & AFFORDABILITY EXHIBIT 7

UNINSURED ADULTS AGES 19–64, 2010–11



Data: 2011–12 Current Population Survey.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

Over the past decade, states in partnership with the federal government have expanded coverage for children. The effort has paid off—low-income children age 18 and under are much more likely to be insured than are low-income adults (Exhibit 8). Still, more than 5 million low-income children (15%) lacked health insurance coverage in 2010–11 (Appendix Exhibit A6). Across states, rates of low-income uninsured children range from 5 percent in Vermont, Hawaii, and Washington, D.C., to 20 percent or more in Arizona, Florida, Nevada, and Texas.

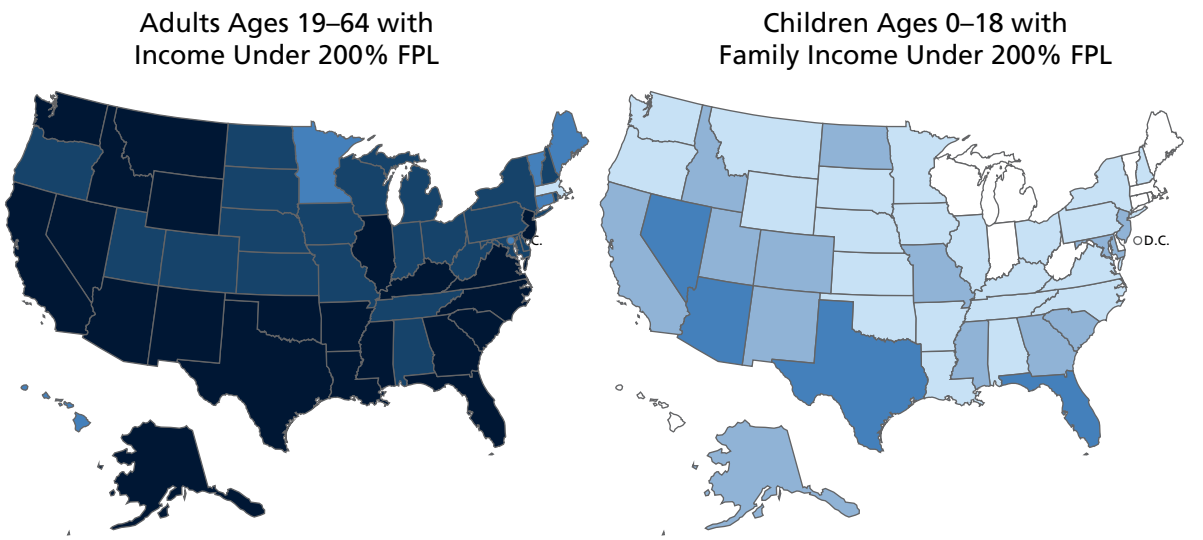
AFFORDABILITY

Low-income families are at risk of high out-of-pocket medical costs, because of either a lack of continuous health insurance coverage or insurance that fails to provide adequate financial protection. Almost 35 million low-income individuals (34%) live in a family that spent at least 5 percent of their annual income on medical care, not including insurance premiums, in 2010–11 (Appendix Exhibit A7). In California and Texas alone, there were nearly 8 million low-income people in families with high out-of-pocket medical costs. Across states, at least one-quarter of low-income people live in families with high out-of-pocket medical costs, with rates at least or exceeding 40 percent in Utah, Wyoming, Alabama, Montana, and Colorado (Exhibit 9 and Appendix Exhibits A2 and A7).

Most states lack essential benefits standards or safeguards against high out-of-pocket health care costs, which contributes to issues of affordability. Health reform offers potential relief with new insurance market standards and reduced out-of-pocket cost exposure for those with lower incomes.

ACCESS & AFFORDABILITY EXHIBIT 8

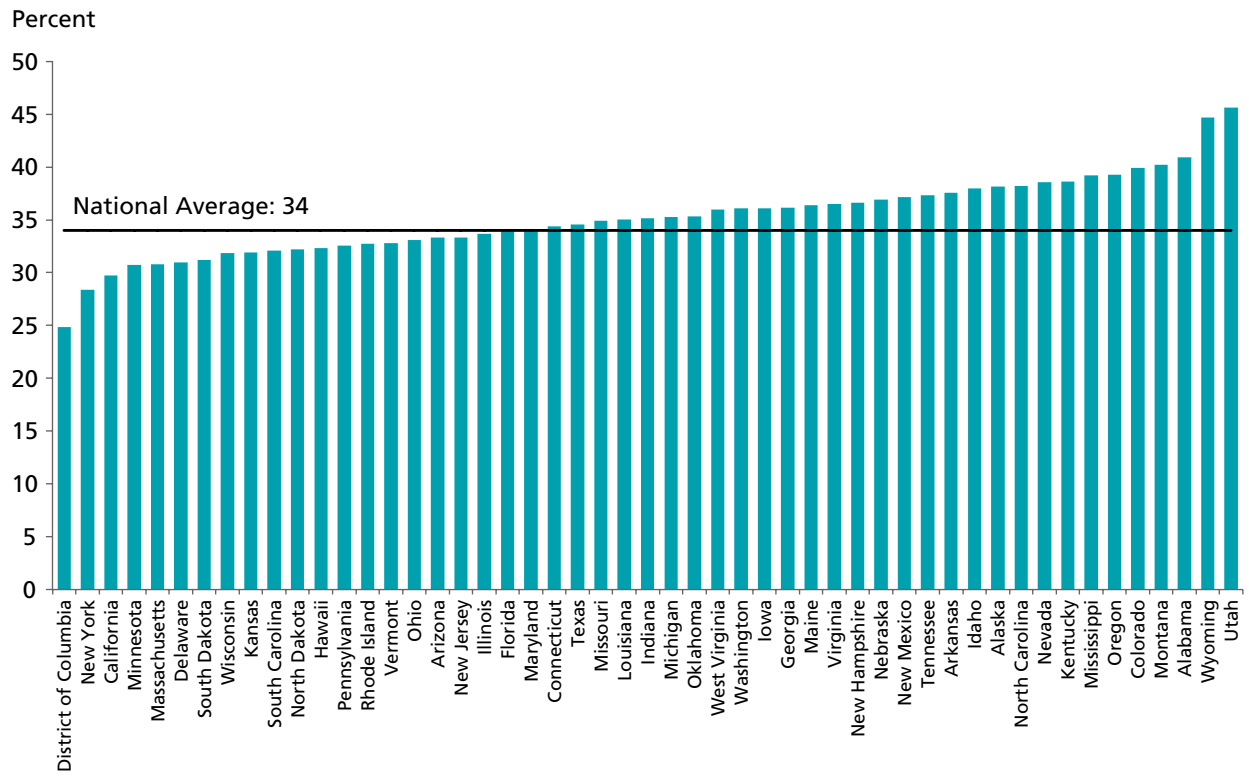
UNINSURED LOW-INCOME ADULTS AND CHILDREN, 2010–11



	55%–40%	39%–30%	29%–20%	19%–15%	14%–10%	9%–5%
Adults	22 (states)	22	6	0	1	0
Children	0 (states)	0	4	13	22	12

Note: FPL denotes federal poverty level.
Data: 2011–12 Current Population Survey.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

LOW-INCOME INDIVIDUALS WITH HIGH OUT-OF-POCKET MEDICAL SPENDING RELATIVE TO ANNUAL HOUSEHOLD INCOME, 2010–11



Note: Individuals ages 0–64 with annual household incomes under 200% of federal poverty level that spent 5% or more of their annual income on medical care (excluding health insurance premiums).
Data: 2011–12 Current Population Survey.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

COST BARRIERS AND PHYSICIAN VISITS

Low-income families are often forced to make difficult trade-offs between paying for medical care and other necessities, such as food, housing, transportation, and child care. Nearly one of three low-income adults (29%) reported they went without care because of cost during the year (Appendix Exhibit A2).

Experiences of low-income populations forgoing care because of cost vary widely across states, with 22 percentage points separating Texas and Hawaii, the states with the highest and lowest rates, respectively. The top states—those where 20 percent or less of low-income adults went without care because of cost—had among the lowest proportion of uninsured low-income adults, underscoring the importance of insurance in reducing financial barriers to care.

DENTAL VISITS

Preventive dental care, including annual dental visits, is necessary for good oral health.[3] Untreated dental conditions can lead to pain and tooth loss that can lower quality of life and may be associated with increased risk of other chronic medical conditions. Yet, millions of Americans lack access to dental care. The problem is particularly acute among low-income adults, who are less likely to be privately insured and unlikely to receive dental coverage through public insurance programs. Medicaid is required to cover dental services for all enrolled children,[4] but states choose whether to provide coverage for adults.

The *Scorecard* finds that in 2010, nearly half of low-income adults (47%) had not visited a dentist, dental hygienist, or dental clinic in the past year (Appendix Exhibit A2). In all states, at least 30 percent of

low-income adults had gone more than a year without a dental visit. Higher-income adults in all states were more likely to have had a dental visit, with wide gaps—as much as 40 percentage points—separating low- and higher-income populations (Appendix Exhibit A3).

Some communities across the country are making efforts to provide free and low-cost preventive dental care to underserved populations. For example, many low-income individuals will have access to preventive dental care as a result of grants awarded to 28 community programs in New Jersey and Connecticut by the Delta Dental of New Jersey Foundation.[5] In Alaska and South Dakota, midlevel dental therapists are being trained and certified to practice and provide basic, low-cost preventive dental care—such as filling cavities—for those who would not otherwise have access to dental care.[6]

PREVENTION AND TREATMENT

In an equitable health system, all patients—regardless of income—would have equal access to high-quality, timely, and coordinated care that is responsive to their needs. However, the *Scorecard* finds that patients' health care experiences and care quality differ based on their income and where they live. Although insurance is essential to improving access and affordability, it does not ensure that people receive appropriate care at the right time, nor does it guarantee care of high quality.[7]

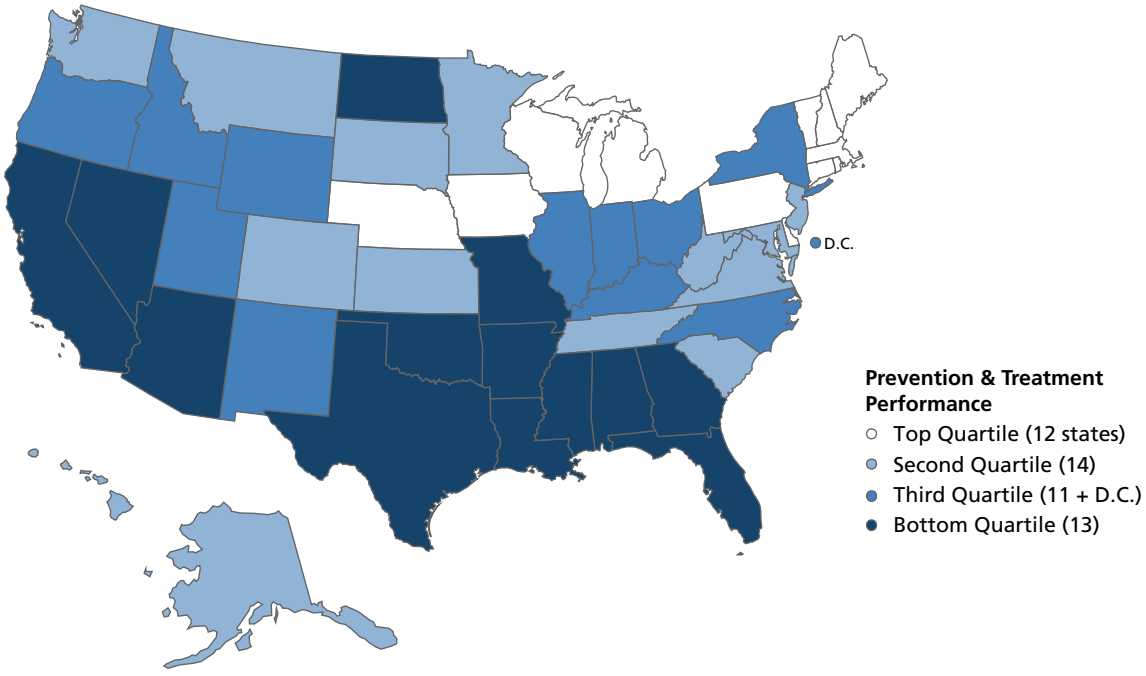
The *Scorecard* includes 11 indicators in the prevention and treatment dimension that evaluate care delivered in outpatient and hospital settings. (See Appendix B for indicator descriptions, time frames, and data sources.) These 11 indicators, grouped by category, include:

- **access to primary care:** adults who have a regular doctor and children who have a primary care medical home;
- **timely receipt of preventive care services:** older adults who received all recommended preventive care and screenings and children who had appropriate medical and dental preventive care visits;
- **safe use of prescription drugs:** Medicare beneficiaries who received medicines that should be avoided in the elderly or that were contraindicated given their specific diagnoses;
- **patients' care experiences in the hospital:** recommended care processes for patients with heart failure and pneumonia or to prevent surgical complications; patients' care experiences in the hospital and at discharge; and death within 30 days of hospitalization for heart attack, heart failure, or pneumonia.

For indicators of primary care experience—that is, the receipt of preventive care and unsafe prescribing—vulnerability was defined by income level. For hospital-based measures, hospitals were grouped on the

PREVENTION & TREATMENT EXHIBIT 10

OVERALL PERFORMANCE ON PREVENTION & TREATMENT DIMENSION FOR VULNERABLE* POPULATIONS



* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

share of low-income patients they treat. The safety-net hospitals in each state that treated the highest share of low-income individuals were considered vulnerable.

The *Scorecard* finds wide performance differences across states for their low-income populations on measures of receiving preventive care, having access to a regular care provider, and safe use of prescription drugs. There is a twofold or greater difference in care experiences among states' vulnerable populations for the six indicators evaluating ambulatory care.

In contrast, indicators of hospital care, particularly those that have been publicly reported, varied much less across states, and the care in safety-net hospitals tended to be on par with that more widely experienced across a state. Exhibit 10 depicts overall performance in the prevention and treatment dimension.

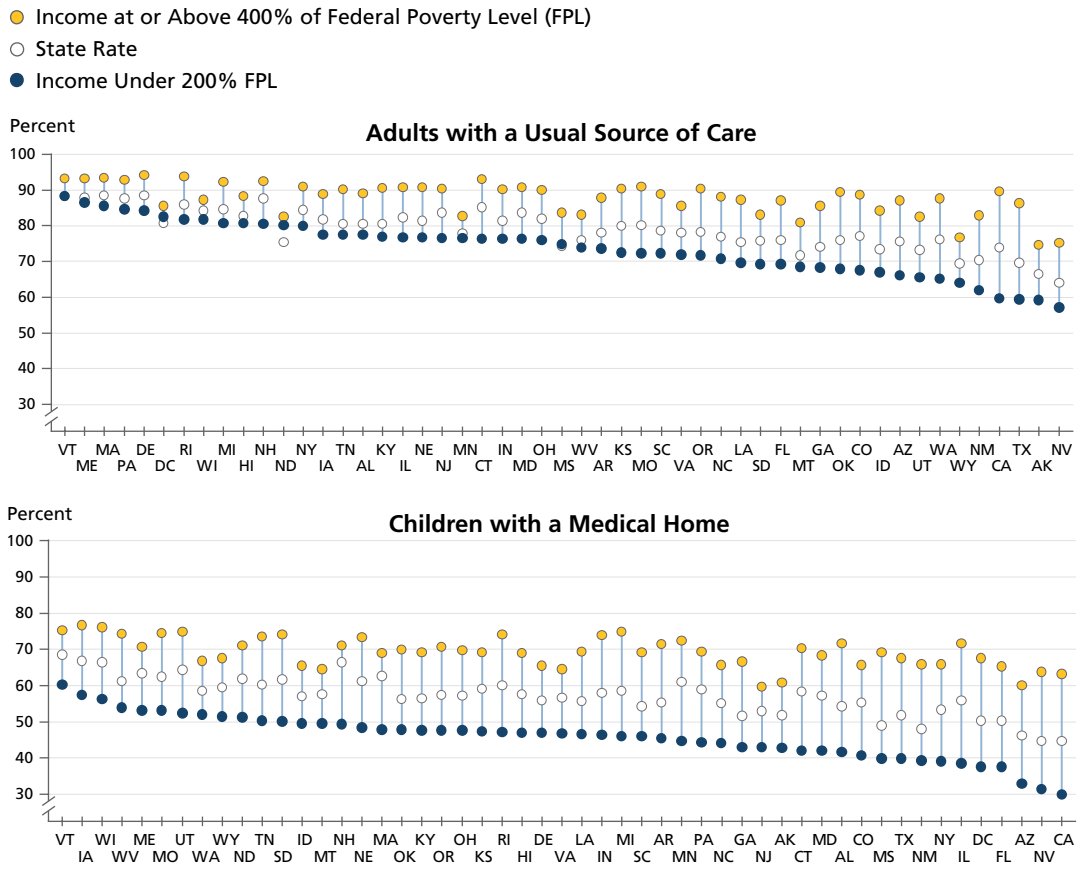
HAVING A REGULAR SOURCE OF CARE

Primary care providers deliver comprehensive care and essential preventive care, play a central role in coordinating care, and serve as the gateway to specialty care. Yet, low-income individuals with incomes under 200 percent of the federal poverty level are less likely to have a regular source of care compared with those with higher incomes (Exhibit 11, Appendix Exhibit A10).

In 2011, 71 percent of low-income adults reported having a usual source of care; the proportion was lower among people under age 65 (66%) and higher among those ages 65 and older (94%), most of whom were Medicare-eligible. The likelihood of low-income individuals having a usual source of care varied across states, ranging 31 percentage points from 57 percent

PREVENTION & TREATMENT EXHIBIT 11

ADULTS WITH A USUAL SOURCE OF CARE, CHILDREN WITH A MEDICAL HOME



Note: Scale does not begin at zero in either plot.
Data: Adults with usual source of care—2011 BRFSS; Children with medical home—2011/12 National Survey of Children's Health.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

in Nevada to 88 percent in Vermont (Exhibit 11, Appendix Exhibit A9). In all states, higher-income individuals were more likely to report having a usual source of care. On average, 89 percent had a usual source of care, with less variation across states.

Patient-centered care practices that provide easy access to primary and preventive care and that help coordinate care and referrals for specialized care are often referred to as "medical homes." Less than half of low-income children (42%) received care from a primary care practice meeting the definition of a medical home in 2011–12, based on parents' reports. The likelihood of low-income children having a medical home varied widely across states, from a low of 30 percent in California to a high of 60 percent in Vermont. Children in higher-income families were more likely to have a medical home than low-income children in all states, with stark gaps. In both Nevada and California, for example, children in higher-income families were more than twice as likely to have a medical home, compared with children from low-income families.

Vermont leads states in the proportion of adults with a regular doctor and children with a medical home, and has been a national leader in guaranteeing health care to its residents and investing in primary care. It has implemented reforms with a strong focus on covering uninsured adults and children and established a "blueprint for health" that emphasizes disease prevention, chronic disease management, and care coordination through a community based medical home model.[8]

RECEIVING RECOMMENDED PREVENTIVE CARE

Shortfalls in the delivery of recommended preventive care have been well documented.[9] The *Scorecard* finds that older adults frequently fail to receive recommended preventive care; these failures are amplified among low-income individuals. Fewer than one-third (32%) of adults age 50 or older with incomes under 200 percent of poverty routinely received age- and gender-appropriate screenings and vaccinations in 2010 (Appendix Exhibit A9). Results ranged from an average of 26 percent in the five worst states (Idaho, Okla., Calif., Wyo., and Ill.) to 40 percent in the five best (Mass., Del., Maine, N.H., and Md.).

Oregon Uses Community-Based Approaches to Improve Care, Contain Costs

Oregon has implemented community-based initiatives to coordinate medical and social services to improve care and contain costs for Medicaid beneficiaries. Under an 1115 Medicaid demonstration waiver, Oregon launched coordinated care organizations (CCOs), similar to accountable care organizations, in which local networks of health care, behavioral health, and dental providers aim to improve quality, contain costs, and improve population health for Medicaid beneficiaries at a community level. CCOs are also able to address social and environmental factors, which contribute to poor health outcomes and raise the costs of care for Medicaid populations.[a]

In addition, CareOregon, a nonprofit Medicaid health plan that serves nearly 128,000 beneficiaries, developed the CareSupport program to help achieve the goals of improving population health, enhancing patient experience, and containing costs. CareSupport provides centralized case management services to patients with a high burden of psychosocial and medical risk, including homeless individuals with severe mental illness or substance abuse, patients who are dually eligible for Medicaid and Medicare, and patients with chronic conditions. Teams of registered nurses, care coordination assistants, and social workers connect patients to community-based resources, help patients follow treatment plans, facilitate communication between patients and providers, and assist patients with behavioral health needs. Among dual-eligible patients participating in CareSupport, 30-day hospital readmission rates decreased from 19 percent in February 2007 to 17 percent in February 2008. CareOregon reported a $400 per member per month savings in the year following members' enrollment in CareSupport.[b]

[a] "Fact Sheet: Coordinated Care Organizations" (Salem, Ore.: Oregon Health Policy Board, March 2013), http://www.oregon.gov/oha/OHPB/docs/cco-factsheet.pdf.

[b] S. Klein and D. McCarthy, *CareOregon: Transforming the Role of a Medicaid Health Plan from Payer to Partner* (New York: The Commonwealth Fund, July 2010).

Within states, there were large gaps in receipt of preventive care between higher- and lower-income individuals. There were 20 to 30 percentage point differences in all states. In Kentucky, Idaho, and California, the differences represent a twofold disparity across income groups (Appendix Exhibit A10).

In 2011–12, the proportion of children age 17 and younger in low-income families who received both a preventive medical and dental visit in the previous year ranged from an average of 73 percent in the top five states (N.H., Conn., Mass., D.C., and Vt.) to 52 percent in the bottom five states (Nev., Minn., Alaska, Fla., and N.D.). Within states, an average of 15 percentage points separated children in low-income families and children in higher-income families (Appendix Exhibit A10).

Health care reform is expected to help mitigate these gaps by requiring insurance coverage for preventive services without patient cost-sharing. Effectively managing patients with multiple chronic conditions will also require that delivery systems make primary care management a core service.

SAFE USE OF PRESCRIPTION DRUGS

The *Scorecard* includes two measures of medication safety among elderly Medicare beneficiaries: 1) the proportion of Medicare beneficiaries who received at least one high-risk prescription drug that should be avoided in the elderly, and 2) the proportion of Medicare beneficiaries with dementia, hip or pelvic fracture, or chronic renal failure who received a prescription that is contraindicated for their condition. For each measure, the *Scorecard* focuses on the most vulnerable: low-income Medicare beneficiaries who received a government-sponsored subsidy to help pay for their prescription drug benefit.[10]

Both indicators varied widely across states. In the best state—Massachusetts—17 percent of low-

New Mexico Uses a Collaborative, Technology-Enabled Care Management Model to Link Rural Primary Care Providers with Urban Specialists

In 2002, the University of New Mexico Health Sciences Center in Albuquerque established Project Extension for Community Healthcare Outcomes (Project ECHO) to address significant gaps in treatment for patients with hepatitis C, particularly in the state's many rural and low-income areas.[a]

Project ECHO uses telemedicine, case-based learning, and disease management techniques to link rural primary care providers with urban specialists, thus expanding access to care for rural patients with hepatitis C and other chronic health conditions. Specialty providers at the University of New Mexico design training curricula and hold weekly disease-specific videoconference sessions, called teleECHO clinics, with rural primary care providers to proffer guidance on treatment plans and best practices in disease management.

Project ECHO has diverse funding sources, including federal and state grants and university support. The state Medicaid program covers half of the administrative costs of teleECHO clinic services provided to Medicaid patients. Also, Molina Healthcare, one of the state's four Medicaid managed care health plans, reimburses primary care providers for presenting its Medicaid enrollees to a teleECHO clinic ($150 per patient) and provides $1,500 to some primary care providers to cover for some of the Project ECHO training costs.

Over 1,000 primary care physicians, nurses, nurse practitioners, and physician assistants have participated in Project ECHO to date. After participating for 12 months, primary care providers report having greater knowledge of and confidence in treating hepatitis C patients.[b] The model is associated with high rates of curing hepatitis C and with eliminating disparities between Hispanic and white patients.[c] Recognizing the promise of the model, the Center for Medicare and Medicaid Innovation awarded Project ECHO an innovation grant of nearly $8.5 million over three years to use a team of primary care providers to care for 5,000 high-cost, high-need patients in New Mexico and Washington.

[a] S. Klein, "Improving the Quality of Rural Health Care Through Collaboration," *Quality Matters,* Commonwealth Fund Newsletter, Nov./Dec. 2009.

[b] S. Arora, S. Kalishman, D. Dion et al., "Partnering Urban Academic Medical Centers and Rural Primary Care Clinicians to Provide Complex Chronic Disease Care," *Health Affairs,* June 2011 30(6):1176–84.

[c] S. Arora, K. Thornton, G. Murata et al., "Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers," *New England Journal of Medicine,* June 9, 2011 364(23):2199–207.

What Is an Unsafe Drug?

Certain medications that are commonly taken by younger patients without incident can put those age 65 and older at increased risk for experiencing severe side effects and complications, regardless of the dose, frequency, or how healthy the patient is. These adverse drug events can include confusion, sedation, immobility, falls, and fractures. The National Committee for Quality Assurance (NCQA) has identified more than 100 "high-risk medications in the elderly" that should be avoided by those 65 and older. The drugs fall into numerous categories, ranging from antianxiety drugs and antihistamines to narcotics and muscle relaxants. Safer alternatives may be available, but as the *Scorecard* finding makes clear, these potentially harmful medications are still frequently prescribed to the elderly.

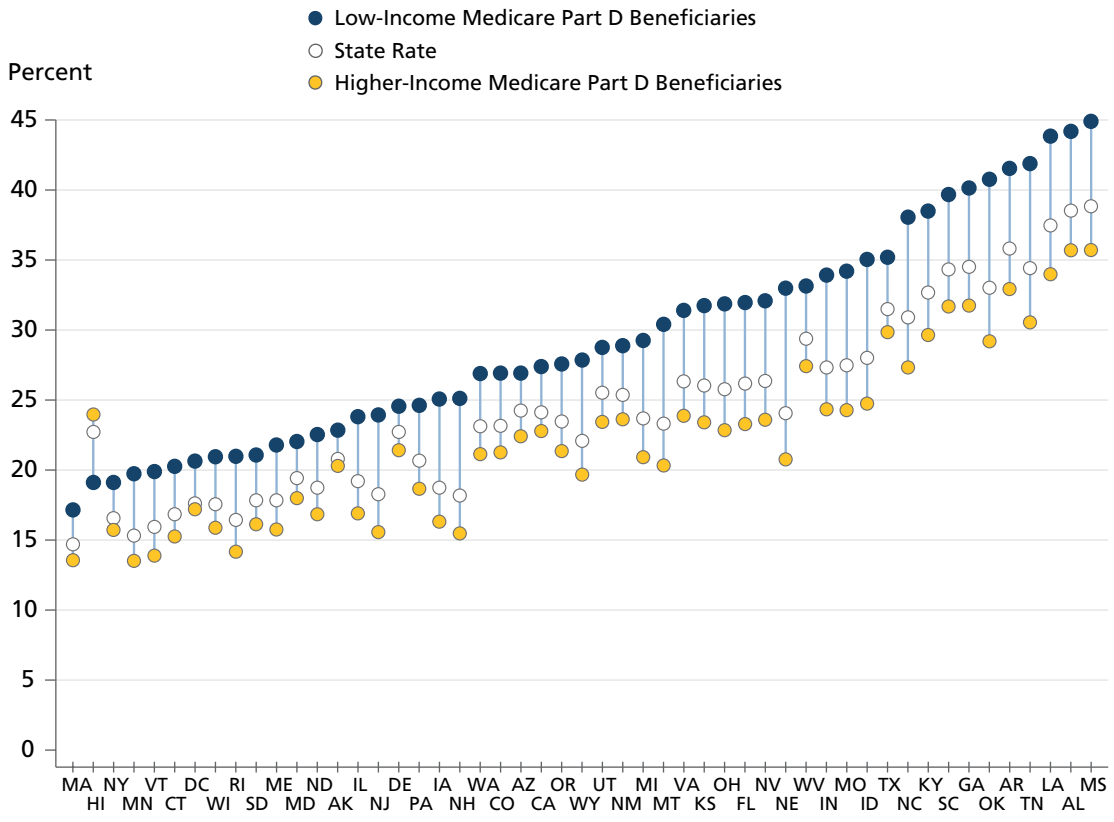
To view the NCQA list of high-risk medications, visit http://www.ncqa.org/Portals/0/newsroom/SOHC/Drugs_Avoided_Elderly.pdf.

income beneficiaries received a high-risk prescription drug that should be avoided in the elderly. In the worst state—Mississippi—the rate was 45 percent (Exhibit 12). There were distinct regional patterns. In eight Southern states (S.C., Ga., Okla., Ark., Tenn., La., Ala., and Miss.), 40 percent or more low-income beneficiaries received a high-risk drug.

Patterns of variation were similar among low-income beneficiaries with dementia, hip/pelvic fracture, or chronic renal failure who received a drug that was contraindicated for their condition—with Southern states ranking high on unsafe prescribing for low-income populations and for all Medicare beneficiaries. Performance on this indictor ranged from a low of 16 percent in the best state (Vt.) to 36 percent in the worst (Ala.) (Appendix Exhibit A9).

PREVENTION & TREATMENT EXHIBIT 12

MEDICARE BENEFICIARIES WHO RECEIVED A HIGH-RISK MEDICATION



Note: Low-income Medicare beneficiaries received a subsidy to help pay for their prescription drug benefit. Higher-income beneficiaries received no subsidy.
Data: 2010 Medicare Part D 5% Sample.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

In all states but one, low-income Medicare beneficiaries were more likely to receive an unsafe medicine than their higher-income counterparts (Exhibit 12). Within states, gaps between higher- and lower-income populations ranged 3 to 12 percentage points. Further research is needed to understand the underlying causes in unsafe prescribing practices across states and by income. Increased use of electronically assisted prescribing with better clinical decision support[11] may lower rates of potentially unsafe prescribing, as should better care coordination among providers.

QUALITY OF CARE IN THE HOSPITAL

Efforts to broaden the use of evidence-based treatment in hospitals, particularly for patients with heart attack, congestive heart failure, and community-acquired pneumonia, have contributed to widespread gains in the provision of recommended care in hospitals in recent years. In 2004, not a single state reached 90 percent compliance on a composite measure of care quality for these three conditions. By 2012, all states were above 95 percent, with only 3 percentage points separating the top and bottom states.[12]

We categorized hospitals based on the proportion of low-income patients they served because individual patient data by income were not available. Hospitals receive extra federal payments if they treat a disproportionately high share of low-income patients—the basis for this payment is called their disproportionate share hospital patient percent (or DSH Index).[13] Following an approach used by others,[14] we grouped hospitals in each state into quartiles based on their DSH Index. Facilities in the quartile with the highest DSH Index were identified as safety-net hospitals and considered vulnerable.

Care Processes

States varied little in the proportion of heart failure or pneumonia patients who received recommended care. Among safety-net hospitals, state rates ranged from a high of 98 percent in the best states (W.Va., Kan., Alaska, N.J., Idaho, Del., Mont., and Neb.) to a low of 85 percent in the District of Columbia (Exhibit 13). The proportion of surgical patients treated in safety-net hospitals who received appropriate care to prevent complications ranged from 92 percent in the District of Columbia to 99 percent in Montana and Nebraska. These variations mirrored those observed for states' larger group of non-safety-net hospitals—in almost all states, the difference between safety-net and all other hospitals was negligible.

Hospital Mortality

Risk-adjusted 30-day mortality rates among patients with heart failure, heart attack, and community-acquired pneumonia who are treated in states' safety-net hospitals ranged from 11 percent in the best (i.e., lowest-mortality) states (D.C., Ill., Md., Calif., and Conn.) to 15 percent in the worst (Vt., N.D., and Alaska). Mortality rates among patients treated at states' safety-net hospitals were on par with rates observed in all other hospitals. High mortality rates in a given state appear to represent a statewide concern rather than an issue specific to safety-net hospitals.

Patient Experiences in the Hospital and During Discharge

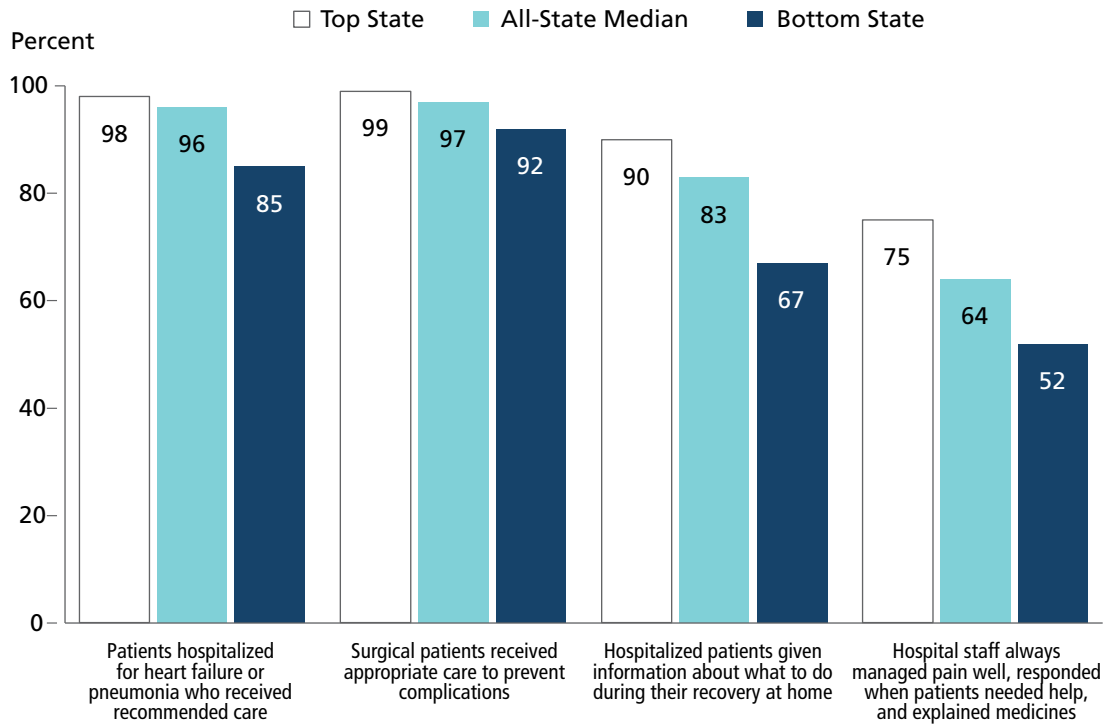
While hospitals across the country are providing more consistent clinical care, surveys of patients' hospitalization and discharge experiences still show substantial room for improvement. Nationally, just 65 percent of patients reported that hospital staff always responded when they pushed the call button, explained medicines and their side effects, and managed their pain well (Appendix Exhibit A10). Among safety-net hospitals, there was a 23 percentage point gap between the best state (Idaho, 75%) and the worst (D.C., 52%) (Exhibit 13).

Preventing complications after discharge and ensuring follow-up care requires support and communication with patients during transitions. The transition

after hospital care may be particularly difficult for low-income patients who may lack strong social support networks in the community or the resources to support recovery at home. Therefore, it is of concern that the frequency with which discharged patients are given information about what to do during their recovery at home falls well below benchmarks achieved for other process-of-care measures. In the lowest-performing states, 20 percent to 33 percent of patients discharged from safety-net hospitals did not receive basic discharge instructions (Exhibit 13 and Appendix Exhibit A9), putting them at increased risk of missing necessary follow-up care, complications, and avoidable readmission to the hospital.

PREVENTION & TREATMENT EXHIBIT 13

CARE PROCESSES AND RESPONSIVENESS TO PATIENTS AT SAFETY-NET HOSPITALS



Note: Safety-net hospitals are the 25% of hospitals in each state that treat the highest share of low-income patients, as captured in the facilities' disproportionate share hospital (DSH) payments. Data: October 2012 CMS Hospital Compare Database.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

POTENTIALLY AVOIDABLE HOSPITAL USE

Without access to strong primary care to help manage chronic conditions, patients are at greater risk for complications requiring hospitalization. Without timely access, they may also rely on more costly settings, like emergency departments, for care that could safely be provided in lower-intensity environments.

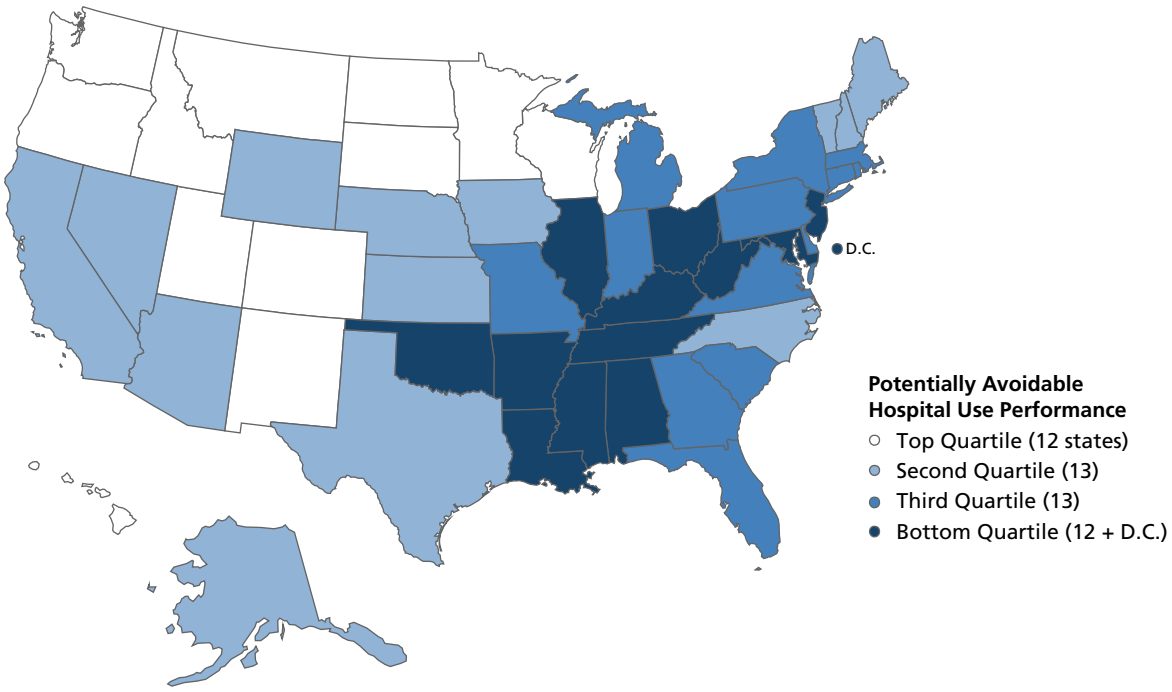
The *Scorecard* finds wide gaps across states on measures of potentially avoidable hospital use among patients with lower incomes. There are twofold to fourfold differences across states in potentially avoidable emergency department (ED) visits and in hospitalization rates for ambulatory care–sensitive conditions (i.e., asthma, diabetes, pneumonia, and heart failure)—that is, conditions in which strong ambulatory care can reduce hospitalizations. States in the Northwest and upper Midwest perform best overall in this dimension, while states in the South, Southeast, and Northeast tend to have the highest rates of potentially avoidable hospital use (Exhibit 14).

The *Scorecard* includes eight indicators in the potentially avoidable hospital use dimension. These measures track use of health care services that could potentially have been avoided with timely, accessible, high-quality primary and specialty care in the community. They include:

- hospital admissions for ambulatory care–sensitive (ACS) conditions, including an aggregate measure of ACS admissions among Medicare beneficiaries; asthma admissions among children; and admissions for respiratory disease and diabetes among adults of all ages;
- potentially avoidable visits to the emergency department among Medicare beneficiaries;
- all-cause readmissions within 30 days of discharge and 30-day readmissions among persons discharged to a skilled nursing facility; and

POTENTIALLY AVOIDABLE HOSPITAL USE EXHIBIT 14

OVERALL PERFORMANCE ON POTENTIALLY AVOIDABLE HOSPITAL USE DIMENSION FOR VULNERABLE* POPULATIONS



* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

- hospitalizations among long-stay nursing home residents.

Reflecting data restrictions, five of the eight indicators are limited to the Medicare population. For measures of potentially avoidable ED use, 30-day readmissions, and hospital admissions for ambulatory care–sensitive conditions, beneficiaries were considered vulnerable if they were enrolled in Medicare and Medicaid (i.e., dual eligibles). All analyses were restricted to beneficiaries age 65 and older. For hospitalization rates for pediatric asthma and for respiratory disease or diabetes among all adults, people were considered vulnerable if they lived in a low-income zip code. Finally, for two measures of hospital use among long- and short-stay nursing home residents,

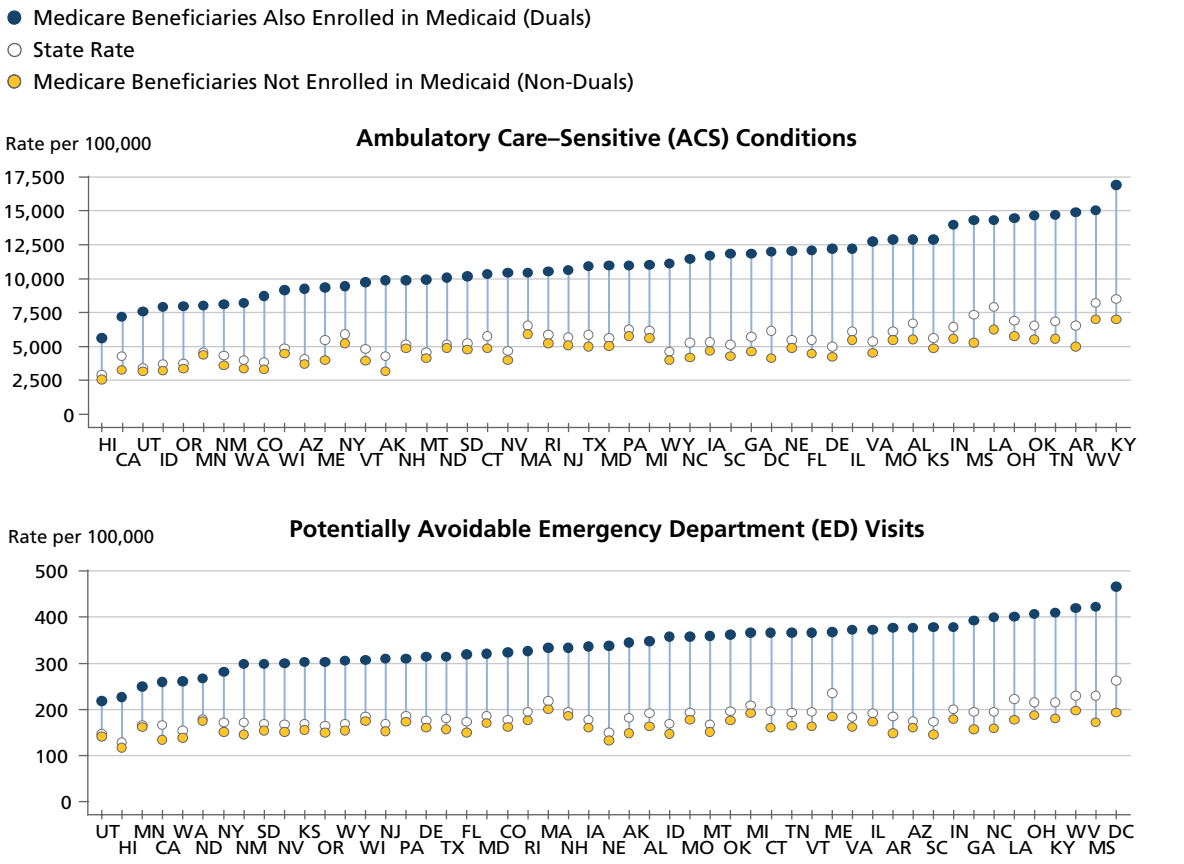
What Is a "Dual Eligible"?

Dually eligible Medicare beneficiaries are people who also are enrolled in Medicaid. Beneficiaries can become dually eligible several ways, but generally they have low annual incomes, at or below 75 percent of the federal poverty level, or they have exhausted their resources paying for long-term care. Dual eligibles have lower incomes than the general Medicare population and higher rates of chronic illness, and they are among the most costly enrollees in both programs. In 2008, dual eligibles accounted for about 20 percent all Medicare beneficiaries, but over 30 percent of total Medicare spending.[a]

[a] Kaiser Family Foundation, Kaiser Family Foundation analysis of the CMS Medicare Current Beneficiary Survey Cost and Use File, 2008, and Kaiser Commission on Medicaid and the Uninsured and Urban Institute estimates based on data from FY2008 MSIS and CMS Form-64, http://kff.org/medicaid/slide/dual-eligible-beneficiaries-as-a-share-of-medicare-and-medicaid-population-and-spending-2008/.

POTENTIALLY AVOIDABLE HOSPITAL USE EXHIBIT 15

POTENTIALLY AVOIDABLE HOSPITAL USE AMONG MEDICARE BENEFICIARIES



Note: Potentially avoidable ED visits are those where treatment was not required within 12 hours or care was needed within 12 hours, but the services provided in the ED could have been provided in a primary care setting.
Data: ACS hospital admissions—2011 Medicare Chronic Conditions Warehouse (CCW); Potentially avoidable ED use—2011 5% Medicare CCW.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

we considered all nursing home users, who tend to be frail and elderly, to be vulnerable. (See Appendix B for more detailed indicator descriptions, time frames, and data sources.)

HOSPITAL ADMISSIONS FOR AMBULATORY CARE–SENSITIVE CONDITIONS

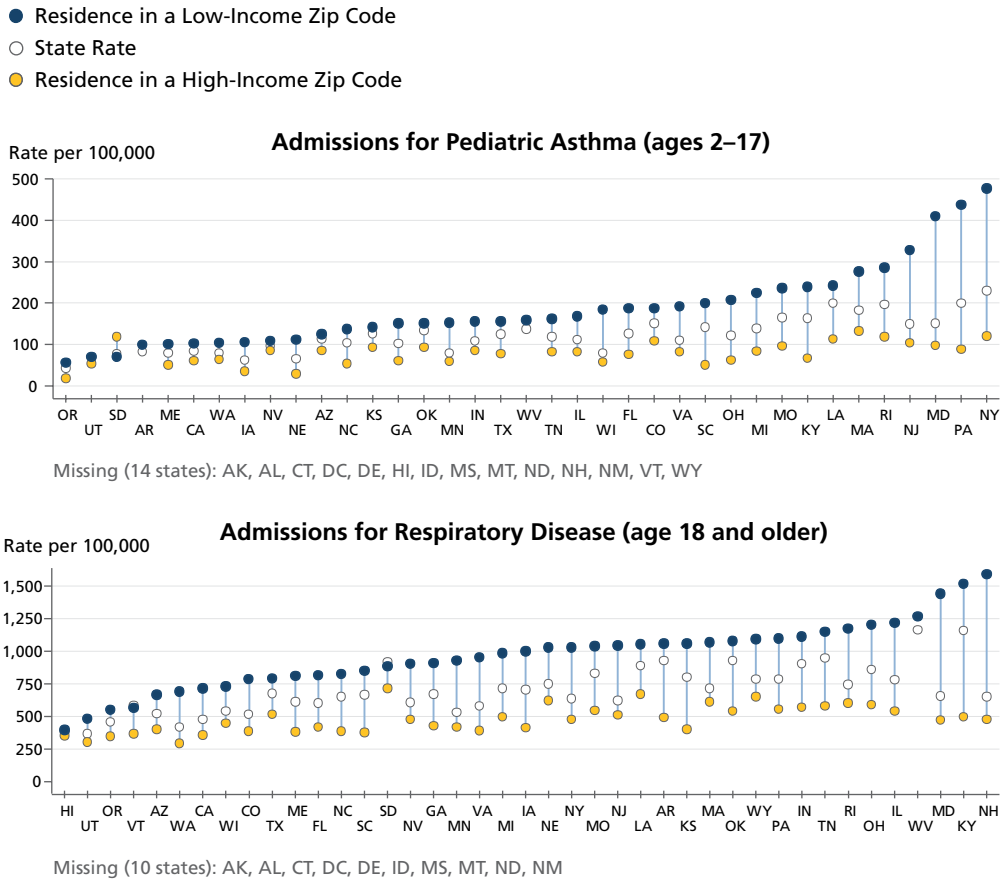
Potentially avoidable hospitalizations occur when patients with a chronic disease that can be cared for in ambulatory care settings fail to receive timely and effective care to help keep their disease in check.

Among Medicare beneficiaries who were also enrolled in Medicaid, hospitalization rates for ACS conditions ranged from 5,623 admissions per 100,000 dual eligibles in Hawaii to 16,891 admissions per 100,000 in Kentucky. These are significantly higher rates and a wider spread than for beneficiaries who are not also enrolled in Medicaid (Exhibit 15). Medicare ACS admission rates among dual eligibles were highest in the South, Southeast, and in parts of the Midwest, and lowest along the West coast, in the Mountain states, in the upper Midwest. Despite being insured, these vulnerable Medicare beneficiaries likely face barriers that higher-income beneficiaries do not, like housing and transportation concerns, and poor integration of the services covered under each program.

Hospital admissions for respiratory disease among adults who live in low-income zip codes varied fourfold across states, ranging from 400 per 100,000 in Hawaii to 1,589 per 100,000 in New Hampshire (Exhibit 16). Diabetes-related hospital admissions

POTENTIALLY AVOIDABLE HOSPITAL USE EXHIBIT 16

HOSPITAL ADMISSIONS FOR PEDIATRIC ASTHMA AND RESPIRATORY DISEASE AMONG ADULTS



Notes: Different scales used in each plot. Low-income zip codes have median annual household incomes <$39,000; high-income zip codes have median annual household incomes ≥$64,000.
Data: 2008 Healthcare Cost and Utilization Project (H-CUP), accessed via 2011 National Healthcare Quality Report (NHQR) State Snapshots.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

among adults from low-income zip codes varied more than three times, from 149 per 100,000 in South Dakota to 559 per 100,000 in Maryland. For both measures, hospitalization rates in low-income communities were higher than in high-income communities in all states—three times as high in Kentucky, Maryland, and New Hampshire for respiratory disease, and in South Carolina, New Jersey, Colorado, New York, Georgia, and Maryland for diabetes (Appendix Exhibit A13).

Variations in potentially avoidable hospital visits were extreme among children with asthma. We observed a more than eightfold difference across states in hospitalization rates among children from low-income zip codes, from 56 per 100,000 in Oregon to 477 per 100,000 in New York (Exhibit 16, Appendix Exhibit A12). This gap is only partially explained by differences in asthma prevalence across states. Nationally, estimates of childhood asthma prevalence range from a low of 5.6 percent in Oregon to 10.8 percent in New York.[15] The wide range of child asthma admissions to hospitals highlights opportunities to do a better job engaging children and families to manage asthma and prevent acute complications, particularly among those who live in low-income communities where environmental exposures may increase the risk of asthma attacks.

POTENTIALLY AVOIDABLE EMERGENCY DEPARTMENT VISITS

Hospital emergency departments (EDs) are often used as the primary source of care for people who lack adequate access to primary care services.[16] Unfortunately, care provided in the EDs is more costly and less effective in managing chronic conditions or in ensuring follow-up care.

One of three ED visits (33%) among Medicare beneficiaries in 2011 (185 per 1,000 beneficiaries) was potentially avoidable based on indications that it was for a nonemergent condition or an urgent condition that could have been safely treated in a primary care setting.[17] Dual eligibles were far more likely to experience potentially avoidable ED visits—about 80

Cincinnati Children's Hospital Medical Center Uses Community Partnerships to Address Underlying Social and Economic Factors That Affect Low-Income Children's Health

In Ohio, clinicians at Cincinnati Children's Hospital Medical Center launched the Community Health Initiative (CHI). The initiative uses community-based partnerships across a wide range of stakeholders to improve low-income children's health and quality of care, identify and address socioeconomic issues that affect their health, eliminate preventable hospitalizations and emergency department (ED) visits, and reduce health care costs.[a]

Asthma is one of several conditions targeted by CHI as a predominant cause of avoidable hospitalizations, ED use, and readmissions. The CHI team uses discharge data to identify asthma-related hospitalizations and ED visits for Medicaid-enrolled children with asthma. It then uses geocoding technology to map those events to neighborhoods of greatest need, known as "hotspots." CHI partnered with the Legal Aid Society of Greater Cincinnati, which helps tenants with substandard housing conditions compel property owners to make housing repairs. In addition, CHI is facilitating care coordination across providers and strengthening links with care management and community-based supports and services to help patients and families manage and control asthma.

A recent evaluation of the CHI medical–legal partnership demonstrated improved home conditions for children living in a cluster of substandard housing.[b] Among high-risk children who received intensive care coordination services for asthma, the average time between an ED visit or hospital admission increased by more than 100 days from May 2009 to January 2012. Hospital data also show that, between 2008 and 2011, a combined rate of 30-day readmissions or ED revisits for asthma at the hospital fell by 50 percent among children with asthma.[c]

[a] D. McCarthy and A. Cohen, *The Cincinnati Children's Hospital Medical Center's Asthma Improvement Collaborative: Enhancing Quality and Coordination of Care* (New York: The Commonwealth Fund, Jan. 2013).

[b] A. F. Beck, M. D. Klein, J. K. Schaffzin et al., "Identifying and Treating a Substandard Housing Cluster Using a Medical-Legal Partnership," *Pediatrics,* Nov. 2012 130(5):831–38.

[c] McCarthy and Cohen, *Cincinnati Children's Hospital,* 2013.

percent more likely nationally (332 per 1,000 dually eligible beneficiaries). The lowest rate of potentially avoidable ED use among dual eligibles was observed in Utah (218 per 1,000), while West Virginia (419 per 1,000), Mississippi (422 per 1,000), and Washington, D.C. (466 per 1,000) had the highest rates. Potentially avoidable ED use was higher among dual eligibles than among Medicare beneficiaries who are not also enrolled in Medicaid in all states (Exhibit 15).

READMISSIONS AND HOSPITAL ADMISSIONS FROM THE NURSING HOME

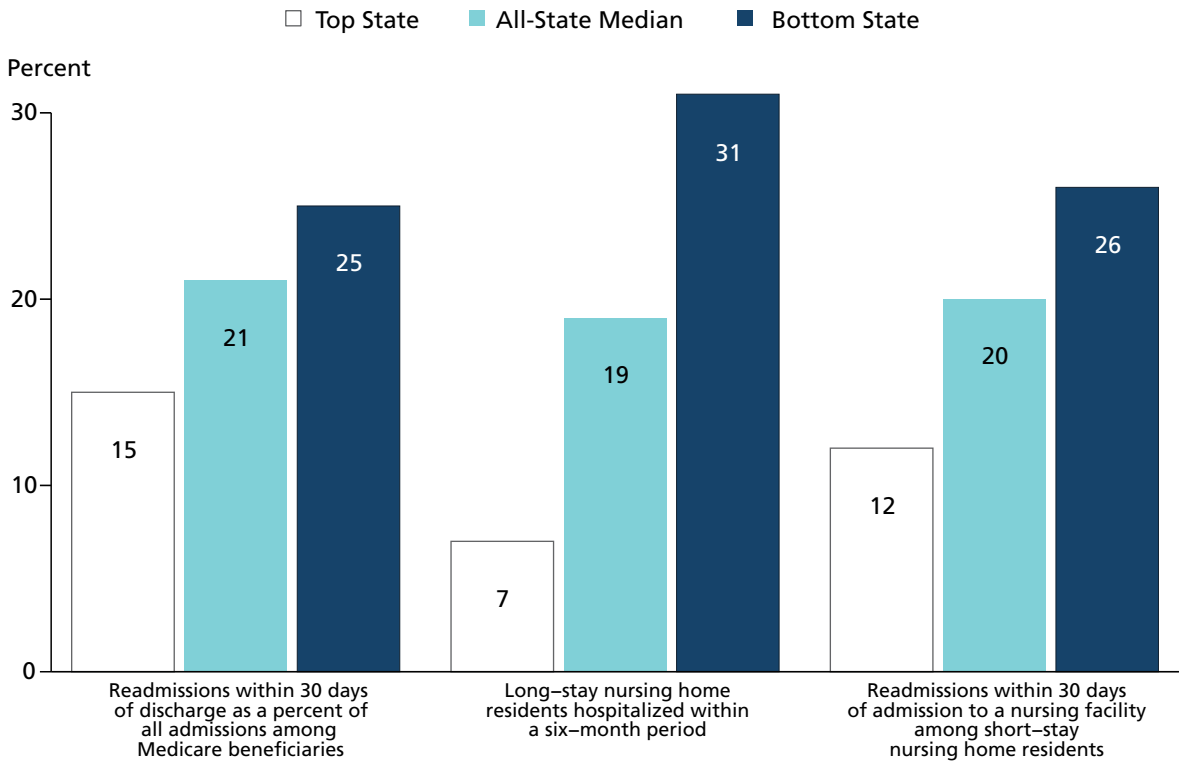
Readmissions within 30 days of hospitalization among dual eligibles and hospital use among recipients of long-term care varied widely across states (Exhibit 17). Readmission rates among dual eligibles ranged from 15 percent in Idaho to 25 percent in Maryland. In 33 states, 20 percent or more of dual eligibles returned to the hospital within 30 days of an initial discharge.

In all states, readmissions were more common among dual eligibles than among Medicare beneficiaries not also enrolled in Medicaid. Consistent with previous work,[18] we found that, on average, readmission rates were higher among Medicare beneficiaries discharged from safety-net hospitals than from those discharged from non-safety-net hospitals (20% vs. 18%). Readmissions rates at safety-net hospitals in some states were quite modest—less than 16 percent in seven states and as low as 13 percent in Idaho (Appendix Exhibit A17).

"Churning" from hospital to nursing home and back again within 30 days points to possible low-quality care in the nursing facility, poor care during transitions, or complications during hospitalization.

POTENTIALLY AVOIDABLE HOSPITAL USE EXHIBIT 17

POTENTIALLY AVOIDABLE HOSPITAL ADMISSIONS AMONG VULNERABLE MEDICARE BENEFICIARIES



Note: For all-cause readmission, Medicare beneficiaries were considered vulnerable if they were also enrolled in Medicaid (Duals). For readmissions and hospital admissions among nursing home residents, all nursing home residents are considered vulnerable.
Data: readmissions within 30 days of discharge—2011 Medicare Chronic Conditions Warehouse (CCW); Hospital use by short- and long-stay nursing home residents—2010 MEDPAR, MDS.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

Nationally, hospital admissions among long-stay residents varied fourfold across states—ranging from a low of 7 percent in Minnesota to 31 percent in Mississippi and Louisiana. And one of five short-stay nursing home residents was readmitted to the hospital within 30 days of initial inpatient discharge. There was a spread of 14 percentage points across states—ranging from 12 percent in Utah to 26 percent in Louisiana (Appendix Exhibit A12).

There are evidence-based interventions that can help reduce avoidable hospitalizations among nursing home residents. Nursing homes in Florida, Massachusetts, and New York have implemented INTERACT II (Interventions to Reduce Acute Care Transfers), which uses educational and clinical tools to assist nursing home staff in identifying and managing acute conditions and health status changes that could lead to hospitalizations among residents.

HEALTHY LIVES

The overarching goal of any health system is to help all people lead long, healthy, and productive lives. The *Scorecard* finds that disadvantaged groups (as measured by educational attainment) have higher rates of mortality during infancy and premature death during adulthood. Low-income adults also report poorer health-related quality of life and, in many states, have higher rates of unhealthy behaviors.

The *Scorecard* examines six indicators in the healthy lives dimension. (See Appendix B for more detailed indicator descriptions, time frames, and data sources.) These include:

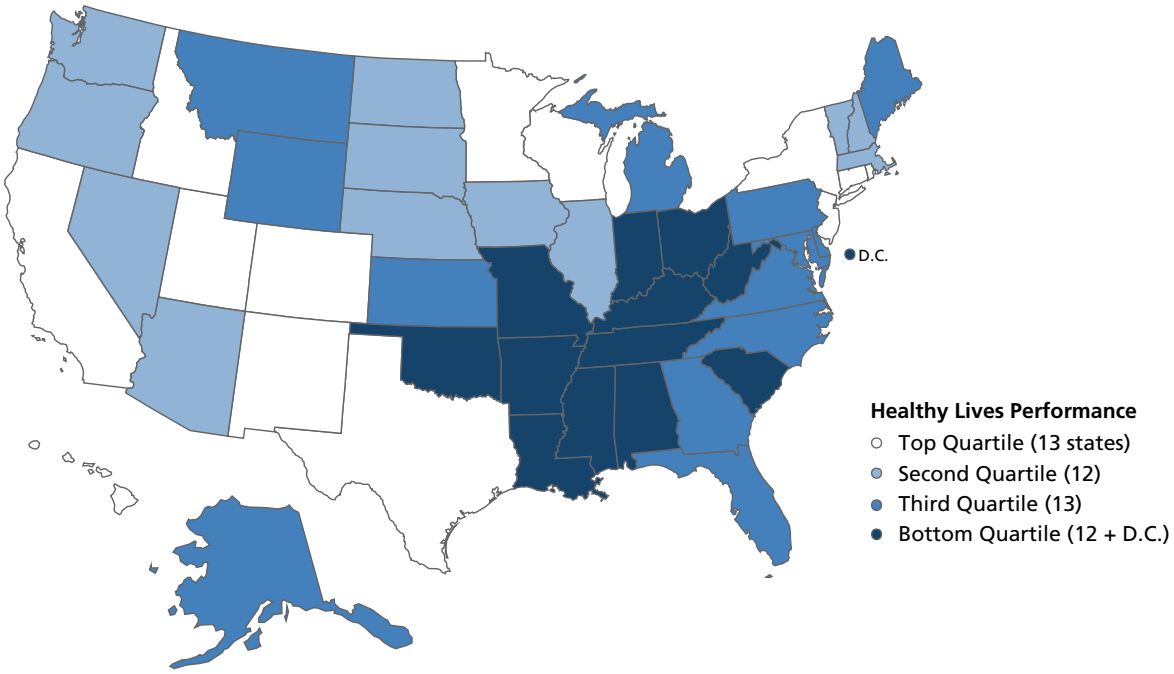
- proportion of adults who smoke;
- rates of obesity among adults;
- tooth loss related to poor oral health among adults under age 65;
- poor health-related quality of life for adults under age 65;
- infant mortality; and
- premature death measured as years of potential life lost (YPLL).

Within this dimension, vulnerable status is defined by income for the first four indicators and by educational attainment for mortality because information on income is not available. For the two mortality indicators, the vulnerable group includes those with no more than a high school degree or the equivalent. We compare their experiences to those with at least a four-year college degree.

We find striking variation across states in the extent to which low-income and less-educated populations lead long and healthy lives—with two- to four-fold differences observed on most indicators. Top-performing healthier states are in the Northeast, upper Midwest, and West. Utah, the top-ranked state, ranked in the top quartile for all six indicators. States in the lowest-performing quartile were mainly concentrated in the South (Exhibit 18). Large income and educational disparities were evident within all states.

HEALTHY LIVES EXHIBIT 18

OVERALL PERFORMANCE ON HEALTHY LIVES DIMENSION FOR VULNERABLE* POPULATIONS



* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

Strategies that emphasize prevention and better management of chronic conditions will be critical to reducing these disparities and improving the health of the nation. These include efforts to stem the rise of obesity, curb smoking, and promote healthy lifestyles, while ensuring access to preventive care and the delivery of effective care for chronic conditions.

SMOKING AND OBESITY

Smoking and obesity put people's health at risk, undermine quality of life, and contribute to premature death. In fact, cigarette smoking is the single most preventable cause of death and disease in the United States. Each year, cigarettes are responsible for an estimated 443,000 premature deaths and $193 billion in direct health care expenditures and productivity losses, both from direct use and the effects of secondhand smoke.[19]

While the share of adults who smoke cigarettes has steadily declined in the U.S., one of five adults (20%) reported they smoked in 2011 (Appendix Exhibit A16). Among low-income adults, 27 percent were smokers. In 19 states, at least one of three low-income adults smoked. States in the Midwest and Alaska tended to have the highest smoking rates for both their low-income and higher-income populations. In all states, rates were markedly higher among low-income adults than higher-income adults, with two- to threefold differences between income groups in

Tobacco Prevention and Control Policies in New York and California

Although there has been a decline in national smoking rates in the United States, there are wide disparities in smoking rates across the country between low-income and higher-income adults. Several states are taking the lead on implementing public health and policy interventions aimed at decreasing overall smoking rates, as well as targeting efforts to decrease smoking among low-income populations.

State policymakers have long recognized the importance of imposing state-level cigarette taxes as an effective means of reducing cigarette consumption.[a] New York has the highest cigarette tax in the country, currently imposing an excise tax of $4.35 per pack of 20 cigarettes; New York City has an additional tax of $1.50.[b] Many states have also implemented antismoking or smoke-free laws that prohibit smoking in worksites, restaurants, bars, public spaces, and even apartment buildings.[c] New York has passed comprehensive legislation to prohibit smoking in all workplaces and indoor recreational venues, public and private schools, and public transportation. More recently, smoking bans have been instituted in New York City parks, beaches, and public plazas.

States are helping low-income smokers to quit smoking by providing Medicaid beneficiaries with tobacco cessation programs.[d] Some states are participating in a Centers for Medicare and Medicaid Services program that will test the effectiveness of providing incentives directly to Medicaid beneficiaries to change risky behaviors.[e] In California, a Medi-Cal project motivates beneficiaries to quit by offering a $20 gift card for calling the state-sponsored smoker helpline and enrolling in free telephone-based cessation support services. In New York, the state will provide cash payments to Medicaid participants for receiving smoking cessation counseling, filling nicotine replacement therapy prescriptions, and quitting smoking.

While each of these strategies is effective independently, their combined effect can be substantial. New York's multiple strategies have resulted in a dramatic decline in smoking, particularly in New York City, where smoking rates declined from 22 percent in 2002 to 14 percent in 2007.[f]

[a] J. A. Tauras, P. M. O'Malley, and L. D. Johnston, *Effects of Price and Access Laws on Teenage Smoking Initiation: A National Longitudinal Analysis* (Chicago: ImpacTeen, April 2001), http://www.uic.edu/orgs/impacteen/generalarea_PDFs/effectspriceaccesslawsteensmoking_april2001.pdf.

[b] American Lung Association, "State Cigarette Taxes," http://www.lungusa2.org/slati/reports/cigarette-tax-fact-sheet-3-13.pdf.

[c] Centers for Disease Control and Prevention, "State Smoke-Free Laws for Worksites, Restaurants, and Bars—United States, 2000–2010," *Morbidity and Mortality Weekly Report,* April 22, 2011 60(15):472–75.

[d] American Lung Association, "Helping Smokers Quit: Tobacco Cessation Coverage, 2011," http://www.lung.org/assets/documents/publications/smoking-cessation/helping-smokers-quit-2011.pdf.

[e] Centers for Medicare and Medicaid Services, "Medicaid Incentives for the Prevention of Chronic Diseases Model," http://innovation.cms.gov/initiatives/MIPCD/.

[f] New York City Department of Health and Mental Hygiene, *New York City Community Health Atlas, 2010,* http://www.nyc.gov/html/doh/downloads/pdf/epi/nyc_comhealth_atlas10.pdf.

most states. Many states have enacted tough anti-smoking laws, restricting smoking in public places and placing heavy taxes on tobacco products to lower smoking rates.

Obesity prevention has become a national health priority in the U.S. Since 1980, the prevalence of obesity in adults has more than doubled,[20] with significant increases across income and education levels.[21] As of 2011, an estimated 28 percent of all nonelderly adults ages 18 to 64 in the U.S. were obese (i.e., Body Mass Index, or BMI ≥ 30), with the highest rates observed in the South and Midwest. Among low-income nonelderly adults, the prevalence was higher (34%), with rates ranging from 26 percent in Hawaii and Nevada to 44 percent in Mississippi (Appendix Exhibit A15). In seven states, at least 40 percent of low-income nonelderly adults were obese based on self-reports. By comparison, the highest obesity rate observed among higher-income nonelderly adults was 33 percent in Louisiana (Appendix Exhibit A16).

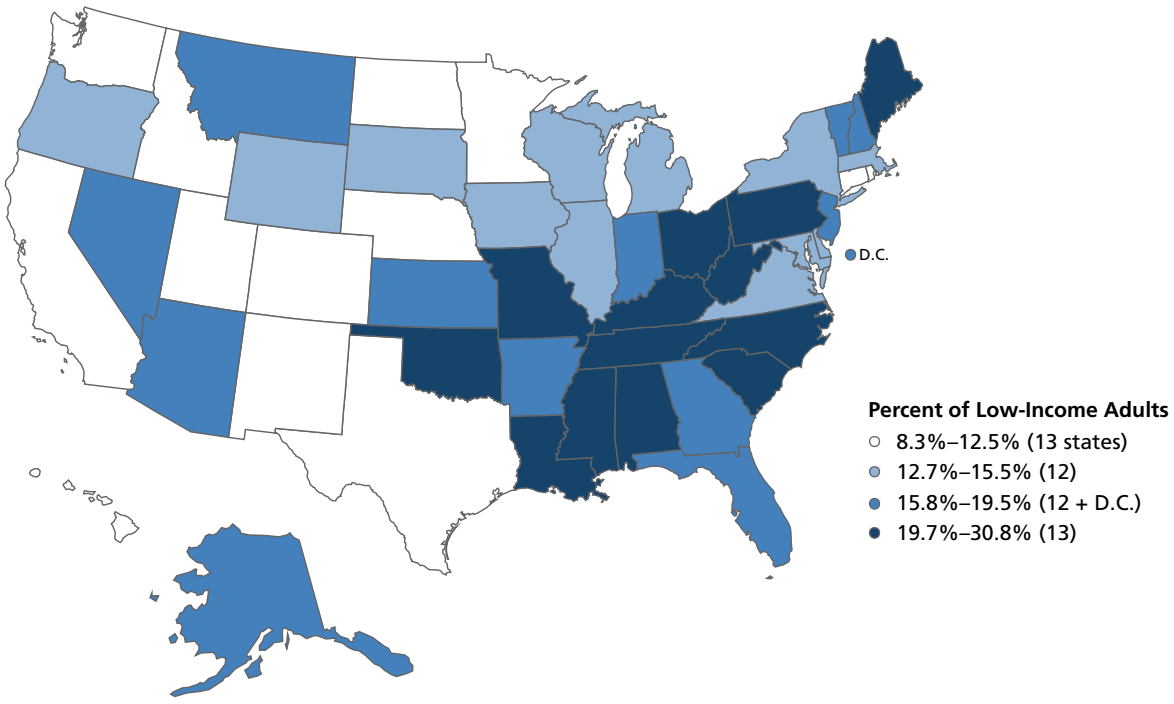
TOOTH LOSS RELATED TO POOR ORAL HEALTH

Loss of teeth and pain associated with untreated decay or disease also undermines adults' and children's ability to participate fully at work or in school.[22] Although improvements in sanitation, nutrition, and water fluoridation have helped improve oral health overall, the *Scorecard* and other studies find that large income-related disparities persist.[23]

As of 2010, one of six of all low-income nonelderly adults (16%) had lost six or more teeth from tooth decay, infection, or gum disease, compared with just 5 percent of higher-income nonelderly adults (Appendix Exhibit A16). In five states (W.Va., Tenn., Ala., Miss., and Ky.) at least 25 percent of low-income adults had experienced such tooth loss (Exhibit 19). In 36 states, the risk of tooth loss among low-income adults was at least three times the risk among the state's higher-income adults.

HEALTHY LIVES EXHIBIT 19

LOW-INCOME ADULTS WHO HAVE LOST SIX OR MORE TEETH BECAUSE OF TOOTH DECAY, INFECTION, OR GUM DISEASE, AGES 18–64, 2010



Data: 2010 BRFSS.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

HEALTH-RELATED QUALITY OF LIFE

The *Scorecard* assesses health-related quality of life using a composite indicator that includes nonelderly adults who reported fair or poor health status, 14 or more mentally unhealthy days in the past month, or activity limitations related to health problems. Nationally, 48 percent of low-income adults report poor health-related quality of life, twice the rate of higher-income adults (24%). The indicator reveals wide differences in low-income adults' health-related quality of life across states. In 16 states, at least half of low-income adults report poor health-related quality of life. Even in the states with the lowest rates—Hawaii, Wisconsin, and Utah—more than one of three low-income adults report poor health–related quality of life (Exhibit 20, Appendix Exhibit A16). Notably, rates among higher-income adults varied little across states; rates in all states were within six percentage points of the national average.

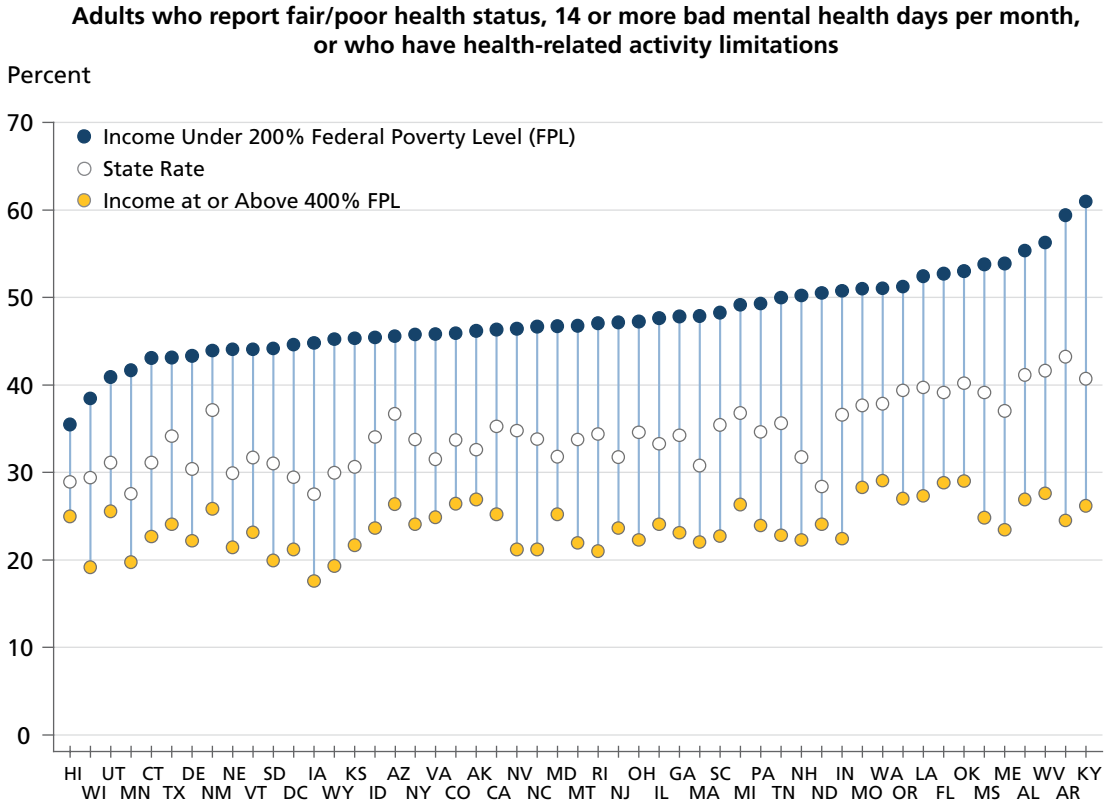
MORTALITY

Infant Mortality

Although rates have fallen since 2005,[24] the United States has one of the highest infant mortality rates of any high-income country. In fact, as of 2008, the infant mortality rate in the U.S. ranked 27 of the 30 countries in the Organization of Economic Cooperation and Development (OECD) for which data were available.[25] However, much of the difference between the U.S. and other countries is accounted for by the inclusion of preterm births.[26] Nationally, the infant mortality rate in the U.S. was 6.7 per 1,000 live births as of 2006–08 (Appendix Exhibit A16). Infant mor-

HEALTHY LIVES EXHIBIT 20

POOR HEALTH-RELATED QUALITY OF LIFE AMONG ADULTS, AGES 18–64



Data: 2011 BRFSS.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

Louisiana Initiative Expands Availability of Maternal and Child Health Care to Low-Income Women and Children

In November 2010, Louisiana launched the Birth Outcomes Initiative (BOI) to address and improve the health of predominantly low-income and African American mothers and their children.[a] The BOI created statewide action teams of quality and measurement experts, hospital and health system leaders, health plans, clinicians, consumers, and community partners committed to improving the health of women and infants in Louisiana. The teams focus on implementing evidence-based interventions and care delivery models, strengthening maternal and child health measures and data reporting systems, and building collaborative community partnerships.

One component, the 39 Week Initiative, provides participating birthing hospitals with training, access to learning collaboratives, information systems for data collection, and financial incentives to reduce unnecessary deliveries prior to 39 weeks gestation. Through the Behavioral Health Initiative, the BOI is instituting statewide behavioral health screenings, interventions, data collection, monitoring, and referral systems for pregnant women in Medicaid. For this initiative, the state reimburses providers $14.49 for using a behavioral health screening tool and $33.81 for a brief intervention. The state has also launched the Best Babies Zone in New Orleans to reduce infant mortality by addressing the social determinants of health, including poverty and fathers' absence.

Early evaluations indicate that among 14 hospitals participating in the 39 Week Initiative, the rate of elective deliveries prior to 39 weeks have decreased from 15 percent to fewer than 2 percent.[b] There has also been a reduction in neonatal intensive care unit admissions at many of these hospitals. Louisiana has slightly improved in its child health outcomes rankings since implementation of the BOI.[c]

[a] V. Foubister, "Louisiana's Poor Rankings Make Improving Birth Outcomes a State Imperative," *Quality Matters,* Commonwealth Fund Newsletter, Feb./March 2013.

[b] Ibid.

[c] Annie E. Casey Foundation, *KIDS COUNT Data Book, 2012* (Baltimore: Annie E. Casey Foundation, 2012), http://www.aecf.org/~/media/Pubs/Initiatives/KIDS%20COUNT/123/2012KIDSCOUNTDataBook/KIDSCOUNT2012DataBookFullReport.pdf.

tality rates were markedly higher among infants born to mothers with no more than a high school diploma or the equivalent. Among this group, the national average was 8.0 per 1,000, with rates across states ranging from 5.5 per 1,000 in California to 12.1 per 1,000 in Mississippi. In seven states, the rate exceeded 10 infant deaths per 1,000 live births. In all states where data are available, children born to disadvantaged mothers were less likely to survive their first year than those born to more-advantaged mothers.

States can improve infant mortality and other maternal and child health outcomes by supporting pre- and postnatal health care programs for at-risk women and children. These programs incorporate early identification of risk factors, counseling to encourage healthy behaviors, treatment of chronic and other health conditions, family planning, and referrals to social and community-based services that can promote health and well-being.

Premature Death

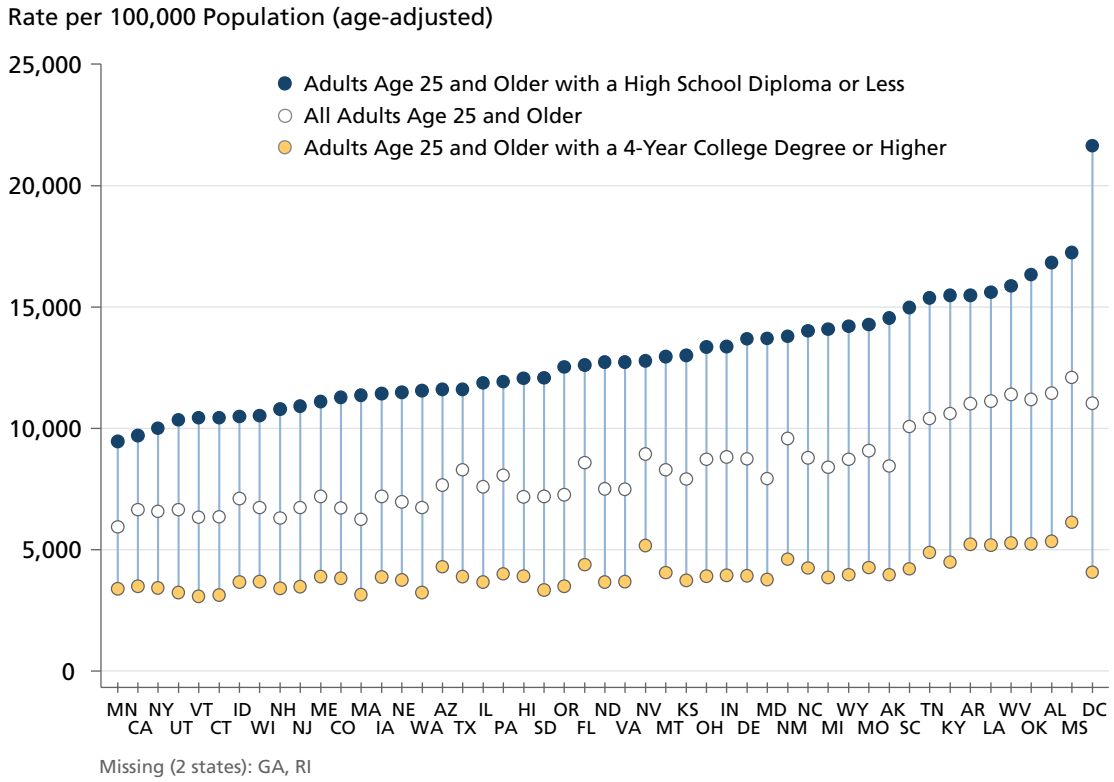
The *Scorecard* uses the indicator years of potential life lost (YPLL) to measure premature death. Using this method, all deaths before age 75 are considered premature, regardless of the underlying cause. Deaths at earlier ages are more likely to be attributable to preventable causes and intervention and accrue more years of life lost than deaths at older ages. This makes YPLL a robust measure of both premature mortality and potentially avoidable mortality within a population.[27]

Because this indicator is created from death certificates, which do not record incomes, we use educational attainment to define vulnerability. As is common in analyses of mortality by educational attainment, we limit this analysis to adults age 25 and older.[28] The vulnerable group comprises those with no more than a high school degree or the equivalent. Individuals with at least a four-year college degree are the comparison group.[29]

The *Scorecard* finds striking differences across states' lesser-educated populations with regard to YPLL (Exhibit 21). In Minnesota, the top-ranked state, the rate of years of potential life lost among lesser-educated individuals (9,465 per 100,000) was less than half the rate observed in the District of Columbia (21,635 per 100,000). In nine states concentrated in the South, YPLL rates among lesser-educated individuals were more than twice the national rate for all adults 25 and older (7,615 per 100,000). Among college-educated people, rates were markedly lower and there was less state variation. Across all states, YPLL rates among individuals with a college education ranged from 3,071 in Vermont to 6,119 in Mississippi, while 27 states were within 10 percent of the national average (Exhibit 21, Appendix Exhibit A16).

HEALTHY LIVES EXHIBIT 21

YEARS OF POTENTIAL LIFE LOST BEFORE AGE 75, BY EDUCATIONAL ATTAINMENT



Data: 2008–2010 National Vital Statistics System (NVSS) mortality all-county micro data files.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

IMPACT OF IMPROVED PERFORMANCE

The *Scorecard* evaluates the health and health care experience of low-income populations in each state, making comparisons throughout to benchmark performance levels achieved by top-performing states and by higher-income populations. Exhibit 22 highlights some of the gains we could achieve if vulnerable populations in all states had rates similar to these benchmarks.

If the health care among low-income and other vulnerable populations in all states reached the benchmarks set by leading states for higher-income and otherwise more-advantaged populations:

- over 30 million more low-income adults and children would have health insurance—reducing the number of uninsured by more than half;
- about 34 million fewer low-income individuals would be burdened by high out-of-pocket medical spending relative to their annual income and about 21 million fewer low-income adults would go without needed care because of cost;
- about 11 million additional low-income adults over age 50 would receive effective, evidence-based preventive care, including cancer screenings and immunizations;
- about 750,000 fewer low-income Medicare beneficiaries would receive an unsafe prescription drug;
- among Medicare beneficiaries who also are enrolled in Medicaid, there would be approximately 300,000 fewer readmissions within 30 days of hospital discharge.
- fewer people would die prematurely, resulting in about 6.8 million more potential years of life, or 86,000 fewer deaths assuming average life expectancy;
- 33,000 more infants born to mothers with a high school diploma (or lower level of education) would survive to see their first birthday; and
- nearly 9 million fewer low-income adults under age 65 would lose six or more teeth because of tooth decay, infection, or gum disease.

Low-income individuals account for 30 percent to more than 40 percent of states' total populations. Neglecting the health, care, and welfare of such a substantial share of a state's population undermines the health of entire communities and the state's workforce, pulling down the overall economy as well as a state's relative ranking. In fact, much of the overall difference between states' performance reflects variations in experiences of their low-income populations. Thus, policies focusing on the economically vulnerable hold the greatest potential for significant statewide gains. For example, nationally, about 22 percent of nonelderly adults lack health insurance. But, if insurance rates among low-income populations improved to the rates observed in the top-performing state, the national uninsured rate would drop by half, to 11 percent overall.

The U.S. ranks near the bottom for all OECD countries in YPLL, with 7,615 YPLL per 100,000 adults age 25 and older.[30] If the rates of premature death among less-educated people were reduced to levels experienced among higher-educated populations, the national rate would fall to 3,936 per 100,000 and align more closely with our top international peers.

Targeting benchmarks achieved by the highest-performing states' more-advantaged populations is ambitious and may not be realistic in all states, particularly those with a high share of low-income state residents. Yet these states have the most opportunity to improve. In such states, aiming for the best rate achieved by a low-income population—which in many cases is higher than the national average—

NATIONAL CUMULATIVE IMPACT FOR LOW-INCOME AND OTHER VULNERABLE POPULATIONS IF ALL STATES ACHIEVED THE TOP STATE RATE (ESTIMATES FOR TWO BENCHMARK RATES)

			If all states improved health system performance for their vulnerable populations to the benchmark rate, then:		
Indicator	Current National Rate	Benchmark Best State Rate for:	New Estimated National Rate	Vulnerable Population Potentially Impacted	
Insured Adults	78%	High-Income Population[a]	92%	25,788,922	More low-income adults (ages 19–64) would be covered by health insurance (public or private), and be more likely to receive health care when needed
		Low-Income Population[a]	89%	19,139,657	
Insured Children	90%	High-Income Population[a]	96%	4,940,867	More children (ages 0–18) from low-income families would be covered by health insurance (public or private), and be more likely to receive health care when needed
		Low-Income Population[a]	94%	3,325,009	
High Out-of-Pocket Medical Spending	15%	High-Income Population[a]	3%	34,255,054	Fewer low-income individuals would be burdened by high out-of-pocket Medicare care that exceeds 5% of their annual income
		Low-Income Population[a]	12%	9,331,902	
Went Without Care Because of Cost	17%	High-Income Population[a]	7%	21,392,593	Fewer low-income adults (age 18 and older) would go without needed health care because of cost
		Low-Income Population[a]	12%	11,278,120	
Older Adult Preventive Care	45%	High-Income Population[a]	56%	11,388,686	More low-income adults (age 50 and older) would receive recommended preventive care, such as colon cancer screenings, mammograms, Pap tests, and flu shots at appropriate ages
		Low-Income Population[a]	48%	3,262,750	
Adult Usual Source of Care	79%	High-Income Population[a]	87%	19,306,781	More low-income adults (age 18 and older) would have a usual source of care to help ensure that care is coordinated and accessible when needed
		Low-Income Population[a]	85%	14,488,437	
Child Medical Home	54%	High-Income Population[a]	70%	12,333,535	More children (ages 0–17) from low-income families would have a primary care medical home to help ensure that care is coordinated and accessible when needed
		Low-Income Population[a]	63%	6,430,586	
Medicare Received a High-Risk Drug	25%	High-Income Population[b]	19%	759,689	Fewer low-income Medicare beneficiaries would receive an inappropriately prescribed medication
		Low-Income Population[b]	21%	591,904	
Medicare Admissions for Ambulatory Care–Sensitive Conditions (rate per 100,000)	5,675	Non-Duals[c]	4,597	286,593	Fewer hospitalizations for ambulatory care–sensitive conditions would occur among Medicare beneficiaries who are dually eligible for Medicaid
		Duals[c]	4,986	183,207	
Medicare Potentially Avoidable Emergency Department Visits (rate per 1,000)	185	Non-Duals[c]	157	734,584	Fewer emergency department visits for nonemergent or primary care–treatable conditions would occur among Medicare beneficiaries who are dually eligible for Medicaid
		Duals[c]	170	389,680	
Medicare 30-Day Readmissions	19%	Non-Duals[c]	17%	311,978	Fewer hospital readmissions would occur among Medicare beneficiaries who are dually eligible for Medicaid
		Duals[c]	18%	220,217	
Years of Potential Life Lost (rate per 100,000)	7,615	4-Year College Degree or Higher	3,936	6,816,030	Fewer years of potential life would be lost between the ages of 25–75 among adults with a high school diploma or less, resulting in approximately 86,606 or 24,581 fewer deaths, assuming average life expectancy
		High School Diploma or Less	6,571	1,934,565	
Infant Mortality (rate per 1,000 live births)	6.7	4-Year College Degree or Higher	4.1	33,000	Fewer deaths among infants less than 1 year of age born to mothers with a high school degree or less might occur
		High School Diploma or Less	5.5	15,454	
Adults with Poor Oral Health: Tooth Loss	10%	High-Income Population[a]	5%	8,865,401	Fewer low-income adults (ages 18–64) would have lost six or more teeth to decay, infection, or gum disease
		Low-Income Population[a]	7%	5,073,642	

(a) High-income is at or above 400% federal poverty level (FPL), low-income is under 200% FPL; (b) high-income is Medicare beneficiaries who receive no income-related subsidy to help pay for prescription drug benefit (approximatly above 150% FPL), low-income is Medicare beneficiaries who receive a low-income subsidy to help pay for prescription drug benefit (approximatly under 150% FPL); (c) Duals refers to Medicare beneficiaries who also are enrolled in Medicaid.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

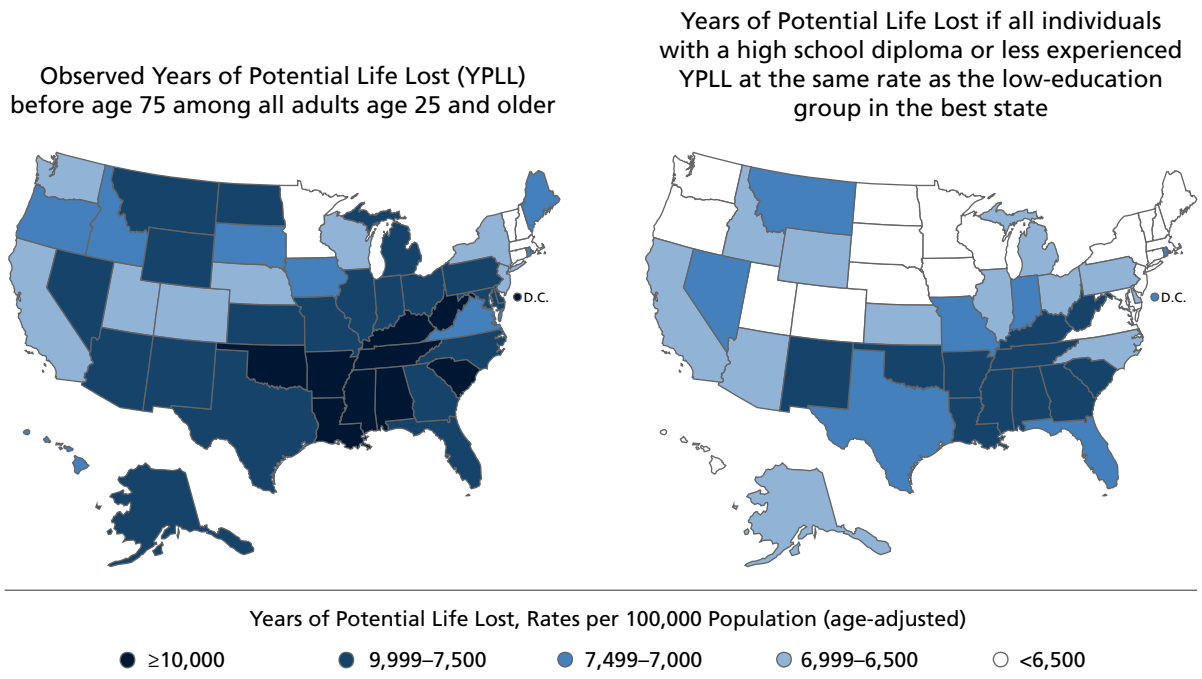
would result in big gains. For example, lowering YPLL in all states for less-educated people to the lowest state rate for this vulnerable group would substantially change the map of the country (Exhibit 23). And if Alabama lowered the rate at which its low-income residents went without care because of cost to the lowest state rate for low-income adults, about 245,000 fewer low-income adults would be forced to forgo needed care.

These are only a few of the many important opportunities for health system improvement that could be achieved by focusing on improving the health and health care experiences of low-income and otherwise vulnerable populations. Across states and over time, these add up to substantial gains for the entire nation.

The Web resource at http://datacenter.commonwealthfund.org/#ind=1/sc=1 provides state-specific estimates of potential gains of achieving benchmark rates of performance on the *Scorecard* Indicators.

EXHIBIT 23

IMPACT OF IMPROVED PERFORMANCE: POTENTIAL GAINS IN YEARS OF POTENTIAL LIFE LOST BEFORE AGE 75



Note: Education attainment among decedents is missing in GA and RI, thus, the rate of YPLL reported in both maps assumes no change.
Data: 2008–2010 National Vital Statistics System (NVSS) mortality all-county micro data files.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

CROSS-CUTTING FINDINGS

Coverage reforms are an important first step toward closing health system performance gaps experienced by low-income populations, but further closing the divide will require pairing upcoming insurance expansions with delivery system reforms and community and population health initiatives. Looking across dimensions and indicators, several cross-cutting findings emerge:

- Where you live matters: For low-income populations, there are wide differences across states in access, quality and safety, and health outcomes.
- Health system performance for low-income populations in leading states was often better than the national average and better than higher-income populations in lagging states.
- There are distinct geographic patterns of health system performance for low-income populations.
- Income-related disparities exist within states and across all dimensions and indicators.
- Coverage expansions hold promise to close gaps in primary care and prevention. Broader gains will require enhanced delivery system performance and a focus on population health.
- There is room for improvement in all states, with substantial potential gains from raising the bar and aiming for benchmarks set by leading states.

Where you live matters: For low-income populations, there are wide differences across states in access, quality and safety, and health outcomes.

Large gaps in the health care experience of low-income populations exist across states. There are two- to fivefold differences in the experience of low-income individuals for most measures of access, potentially avoidable health services use, and health outcomes.

Barriers in access to care are a driver of differences in health system performance across states. The fourfold difference between leading and lagging states in the percent of low-income adults who are insured contributes to gaps in preventive care, higher hospitalization from preventable complications, and poorer health outcomes, including premature deaths. In all states, low-income adults are much less likely to have insurance than higher-income individuals.

Differences in health system performance across states were less evident for some measures of health care quality, particularly those measuring processes of care in hospitals. However, wide gaps remained on measures of ambulatory care quality. For instance, the likelihood of a low-income Medicare beneficiary receiving a high-risk prescription was 2.5 times higher in Mississippi than in Massachusetts, and low-income older adults in Massachusetts were nearly twice as likely to receive recommended preventive care as those in Idaho. Access to timely, effective primary care also varied widely across states, likely contributing to the wide differences in 30-day hospital readmission rates, potentially avoidable admissions because of complications of chronic disease, and potentially avoidable ED visits among low-income Medicare beneficiaries.

In contrast, the experience of those with higher incomes tends to be much more consistent across states—particularly in accessing care—than for those with low incomes. A notable exception: Medicare beneficiaries of all income levels appear at much greater risk of receiving high-risk medications in some states—particularly in the South—than in others. Across states, the pattern of high-risk medication use among more-advantaged beneficiaries tracks closely with use among lower-income beneficiaries (Exhibit 12).

Bringing health system performance for states' most vulnerable populations to the levels achieved by top-performing states could make high-quality care available to millions of Americans. This could result in fewer hospitalizations for preventable causes, more appropriate use of high-cost resources, and millions more low-income Americans receiving effective, timely preventive care with less financial burden.

Health system performance for low-income populations in leading states was often better than the national average and better than high-income populations in other states.

Having a low income does not necessarily translate to receiving below-average health care and having worse health outcomes. For 24 of 30 performance measures, the experiences of low-income individuals in top-performing states are better than the national rate. For 14 measures, vulnerable populations in top-performing states fared better than more-advantaged populations in lagging states (Exhibit 24). This demonstrates what is achievable when states implement effective and targeted policies to support access and availability of services for people with lower incomes or levels of education.

There are distinct geographic patterns in state health system performance for low-income populations.

Health system performance for low-income and other vulnerable populations follows distinct geographic patterns. Hawaii, along with states in the upper Midwest and Northeast, performed best overall, while South Central and Southern states generally lagged.

Seventeen states, concentrated in the South and Southeast, were below average on at least three of four health system performance dimensions. Eight states (Hawaii, Vt., Wis., Minn., S.D., Iowa, Neb., and N.H.) were above average across all four dimensions. Only Wisconsin performed in the top quartile across all dimensions, demonstrating there is always room for improvement.

Geographic patterns did vary somewhat by dimension. Access to care, including rates of insurance coverage and personal health care spending, tended to be best in the Northeast, but states in that region had some of the worst rates on measures of potentially avoidable hospital use. Hospital readmission rates among dual eligibles in several Northeast states (N.Y., R.I., Md., and N.J.) were 23 percent or higher—some of the highest rates in the nation.

These variations highlight the challenges that states with high poverty rates face in improving care for vulnerable populations. In some states, residents with incomes under 200 percent of poverty account for nearly half their populations (Exhibit 5). These states stand to benefit greatly from changes under the Affordable Care Act that target resources to states with a high share of low-income residents and substantial gaps in insurance and access.

Income-related disparities exist within states and across all dimensions and indicators.

Low-income populations systematically experience more barriers to care, lower-quality care—particularly in outpatient settings—and worse health outcomes compared with more-advantaged populations in the same state. Among low-income individuals, the ability to access care, the chances of receiving recommended preventive care, the likelihood of being prescribed a potentially harmful medicine, and the likelihood of being treated in more intense settings in the absence of effective primary care all vary across states and by income within states. As a result, low-income individuals may go without needed care or seek care at later stages of illness, thereby requiring more intense treatment that leads to poorer health and higher health care spending.

The disparity between low-income and higher-income populations was notable on measures related to access and affordability, the quality of care in outpatient settings, and health outcomes. For example:

- there were at least 20 percentage points separating the proportion of low-income adults with insurance from the proportion of higher-income adults with insurance in all but three states;
- low-income Medicare beneficiaries are more likely to receive a high-risk medication than are higher-income beneficiaries in all but one state;
- hospital admissions for respiratory disease among adults who live in low-income zip codes were

more common than among adults in high-income zip codes in the same state—up to three times higher in some states;

- in all but seven states, 20 percentage points or more separated the proportion of low- and higher-income adults who report having poor health-related quality of life; and
- in all states, those with a high school education or less were far more likely to die prematurely than were those with a college education or more.

These findings suggest there may be greater opportunities to improve overall health system performance for low-income populations by targeting improvement efforts in ambulatory care settings and in supporting the health care needs of vulnerable populations in the community.

Coverage expansions hold promise to close gaps in primary care and prevention. Broader gains will require enhanced delivery system performance and a focus on population health.

Having insurance goes a long way toward closing the performance gap for vulnerable populations, with insured low-income individuals reporting similar rates of having a usual source of care and receiving recommended preventive care as higher-income individuals with insurance (Exhibit 3). Having insurance reduces cost barriers to receiving care, but does not guarantee access to care in the appropriate setting when needed—we must also redesign the health care systems that serve these groups.

The greatest opportunities for improvement in delivery systems may come from broadening access and in strengthening primary care. Symptoms of poor care coordination and inefficient use of resources disproportionately affect people with lower incomes. The economically vulnerable, even when insured, have more difficulty accessing timely health care services when needed. Nationally, only one of three low-income older adults received recommended preventive care in 2010. About a third of all emergency room visits among Medicare beneficiaries who also are enrolled in Medicaid are potentially avoidable, meaning they could have been prevented with more accessible primary care. The rate of avoidable ED use among dual eligibles is often double that of more economically advantaged beneficiaries in the same state, and varies twofold across states.

Together, these gaps in care and quality point to potentially high-yield improvement opportunities in health system performance for vulnerable populations that may be achieved by improving access, strengthening primary care, and learning from state and regional variations.

There is room for improvement in all states, with substantial potential gains from raising the bar and aiming for benchmarks set by leading states.

The *Scorecard* indicates substantial room for improvement in every state. No state performs at the top of the range on all indicators, and even nine of the 10 top-ranked states had at least four indicators on which they had below-average performance (Exhibit 25). Moreover, in every state, there are gaps between the low-income and higher-income populations on almost every indicator.

Aiming to reach benchmarks achieved by leading states for their low-income or less-educated residents or even higher to benchmarks for high-income populations would represent substantial gains for states and cumulative gains for the country.

BEST VULNERABLE RATE COMPARISON

Number of states in which the low-income or otherwise vulnerable rate is better than the:

	Indicator	National Average	Advantaged Population in Lagging States
	ACCESS & AFFORDABILITY	**# of States**	**# of States**
1	Percent of adults ages 19–64 uninsured	2	0
2	Percent of children ages 0–18 uninsured	12	10
3	Percent of adults who went without care because of cost in the past year	5	0
4	Percent of individuals with high out-of-pocket medical spending relative to their annual household income	0	0
5	Percent of adults without a dentist, dental hygienist, or dental clinic visit in the past year	0	0
	PREVENTION & TREATMENT		
6	Percent of adults age 50 and older who received recommended screening and preventive care	0	0
7	Percent of adults with a usual source of care	13	0
8	Percent of children with a medical home	3	0
9	Percent of children with both a medical and dental preventive care visit in the past year	5	0
10	Percent of Medicare beneficiaries who received at least one drug that should be avoided in the elderly	16	41
11	Percent of Medicare beneficiaries with dementia, hip/pelvic fracture, or chronic renal failure who received prescription in an ambulatory care setting that is contraindicated for that condition	2	21
12	Percent of patients hospitalized for heart failure or pneumonia who received recommended care	18	0
13	Percent of surgical patients who received appropriate care to prevent complications	2	0
14	Risk-adjusted 30-day mortality among Medicare beneficiaries hospitalized for heart attack, heart failure, or pneumonia	5	27
15	Percent of hospitalized patients given information about what to do during their recovery at home	24	2
16	Percent of patients who reported hospital staff always managed pain well, responded when needed help to get to bathroom or pressed call button, and explained medicines and side effects	17	0
	POTENTIALLY AVOIDABLE HOSPITAL USE		
17	Hospital admissions for pediatric asthma, per 100,000 children	9	11
18	Potentially avoidable hospitalizations from respiratory disease among adults, per 100,000	4	6
19	Potentially avoidable hospitalizations from complications of diabetes among adults, per 100,000	4	4
20	Hospital admissions among Medicare beneficiaries for ambulatory care–sensitive conditions, per 100,000 beneficiaries	1	1
21	Potentially avoidable emergency department visits among Medicare beneficiaries, per 1,000 beneficiaries	0	0
22	Medicare 30-day hospital readmissions as a percent of admissions	10	23
23	Long-stay nursing home residents hospitalized within six-month period	22	NA*
24	Short-stay nursing home residents readmitted within 30 days of hospital discharge to nursing home	21	NA*
	HEALTHY LIVES		
25	Years of potential life lost before age 75 among adults age 25 and older	0	0
26	Infant mortality, deaths per 1,000 live births	8	8
27	Percent of adults who smoke	2	2
28	Percent of adults ages 18–64 who are obese (BMI ≥ 30)	3	21
29	Percent of adults ages 18–64 who report fair/poor health, 14 or more bad mental health days, or activity limitations	0	0
30	Percent of adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease	3	3

* All short- and long-stay nursing home residents are considered vulnerable in this analysis. Therefore, there is no advantaged population comparison for these two indicators.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

EXHIBIT 25

SUMMARY OF INDICATOR RANKINGS BY STATE

Overall Rank	State	Scored Indicators (of 30)	Top Quartile		2nd Quartile		3rd Quartile		Bottom Quartile	
48	Alabama	27	1	4%	4	15%	6	22%	16	59%
22	Alaska	25	7	28%	5	20%	6	24%	7	28%
29	Arizona	30	6	20%	9	30%	10	33%	5	17%
47	Arkansas	30	1	3%	2	7%	12	40%	15	50%
20	California	30	11	37%	5	17%	5	17%	9	30%
16	Colorado	30	13	43%	6	20%	6	20%	5	17%
6	Connecticut	27	13	48%	6	22%	7	26%	1	4%
13	Delaware	27	10	37%	9	33%	4	15%	4	15%
34	District of Columbia	25	10	40%	2	8%	3	12%	10	40%
43	Florida	30	2	7%	8	27%	10	33%	10	33%
45	Georgia	29	0	0%	5	17%	15	52%	9	31%
1	Hawaii	26	17	65%	5	19%	2	8%	2	8%
20	Idaho	27	10	37%	6	22%	3	11%	8	30%
36	Illinois	30	3	10%	8	27%	7	23%	12	40%
32	Indiana	30	2	7%	9	30%	13	43%	6	20%
9	Iowa	30	7	23%	17	57%	5	17%	1	3%
23	Kansas	30	3	10%	12	40%	11	37%	4	13%
46	Kentucky	30	1	3%	6	20%	6	20%	17	57%
49	Louisiana	30	0	0%	5	17%	8	27%	17	57%
10	Maine	30	15	50%	8	27%	5	17%	2	7%
33	Maryland	30	3	10%	9	30%	7	23%	11	37%
5	Massachusetts	30	13	43%	10	33%	6	20%	1	3%
28	Michigan	30	3	10%	8	27%	17	57%	2	7%
4	Minnesota	30	16	53%	7	23%	4	13%	3	10%
51	Mississippi	27	1	4%	0	0%	8	30%	18	67%
44	Missouri	30	1	3%	3	10%	11	37%	15	50%
27	Montana	27	6	22%	5	19%	12	44%	4	15%
12	Nebraska	30	7	23%	13	43%	9	30%	1	3%
41	Nevada	30	4	13%	6	20%	7	23%	13	43%
15	New Hampshire	28	11	39%	7	25%	8	29%	2	7%
26	New Jersey	30	7	23%	9	30%	5	17%	9	30%
23	New Mexico	27	8	30%	6	22%	10	37%	3	11%
17	New York	30	12	40%	7	23%	3	10%	8	27%
36	North Carolina	30	2	7%	9	30%	11	37%	8	27%
19	North Dakota	27	7	26%	9	33%	4	15%	7	26%
34	Ohio	30	0	0%	12	40%	11	37%	7	23%
49	Oklahoma	30	1	3%	4	13%	9	30%	16	53%
23	Oregon	30	9	30%	8	27%	10	33%	3	10%
18	Pennsylvania	30	4	13%	12	40%	10	33%	4	13%
7	Rhode Island	29	12	41%	11	38%	3	10%	3	10%
38	South Carolina	30	4	13%	6	20%	9	30%	11	37%
8	South Dakota	30	12	40%	12	40%	2	7%	4	13%
40	Tennessee	30	3	10%	6	20%	10	33%	11	37%
38	Texas	30	5	17%	10	33%	3	10%	12	40%
11	Utah	29	17	59%	3	10%	4	14%	5	17%
3	Vermont	28	16	57%	7	25%	4	14%	1	4%
30	Virginia	30	2	7%	8	27%	17	57%	3	10%
13	Washington	30	11	37%	11	37%	4	13%	4	13%
41	West Virginia	30	5	17%	3	10%	9	30%	13	43%
2	Wisconsin	30	19	63%	8	27%	2	7%	1	3%
31	Wyoming	28	6	21%	7	25%	8	29%	7	25%

Note: Percentages may not add to 100 because of rounding.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

SUMMARY AND IMPLICATIONS

The *Scorecard on State Health System Performance for Low-Income Populations, 2013,* documents considerable variation in health care experiences among economically vulnerable populations throughout the country. With few exceptions, states' health system performance is more positive for higher-income or otherwise advantaged populations compared with low-income groups. There is room for improvement even in high-performing states. The wide variation across the country highlights the need not just for state intervention but for systemic change nationally.

In this time before full implementation of the country's health reform law, the *Scorecard* provides a baseline assessment for how well low-income and otherwise vulnerable populations are currently faring in the health care system. It also offers targets based on benchmarks achieved by leading states and highlights numerous opportunities for policy interventions at the national, state, and local levels.

The Affordable Care Act's coverage expansions and insurance market reforms could reduce the numbers of uninsured and lower financial burdens for those with insurance. The law will expand Medicaid eligibility and provide new subsidized insurance coverage options through health insurance exchanges, potentially insuring more than 30 million nonelderly Americans by 2021 if all states choose to expand Medicaid.[31] The law also establishes consumer protections, such as prohibiting insurers from charging higher premiums or turning down people on the basis of health status or preexisting conditions, and also setting minimum standards for essential benefits. New insurance marketplaces will provide income-related premium and cost-sharing credits to help individuals and families afford coverage and the costs of medical care. Based on the latest federal data, in 10 states, more than 60 percent of people in families with incomes below 200 percent of poverty were either uninsured or insured but spending a relatively high share of their family income on medical care (Exhibit 26). Lowering these rates to levels already achieved by the leading states would represent a gain in access and economic security for a substantial share of these states' residents.

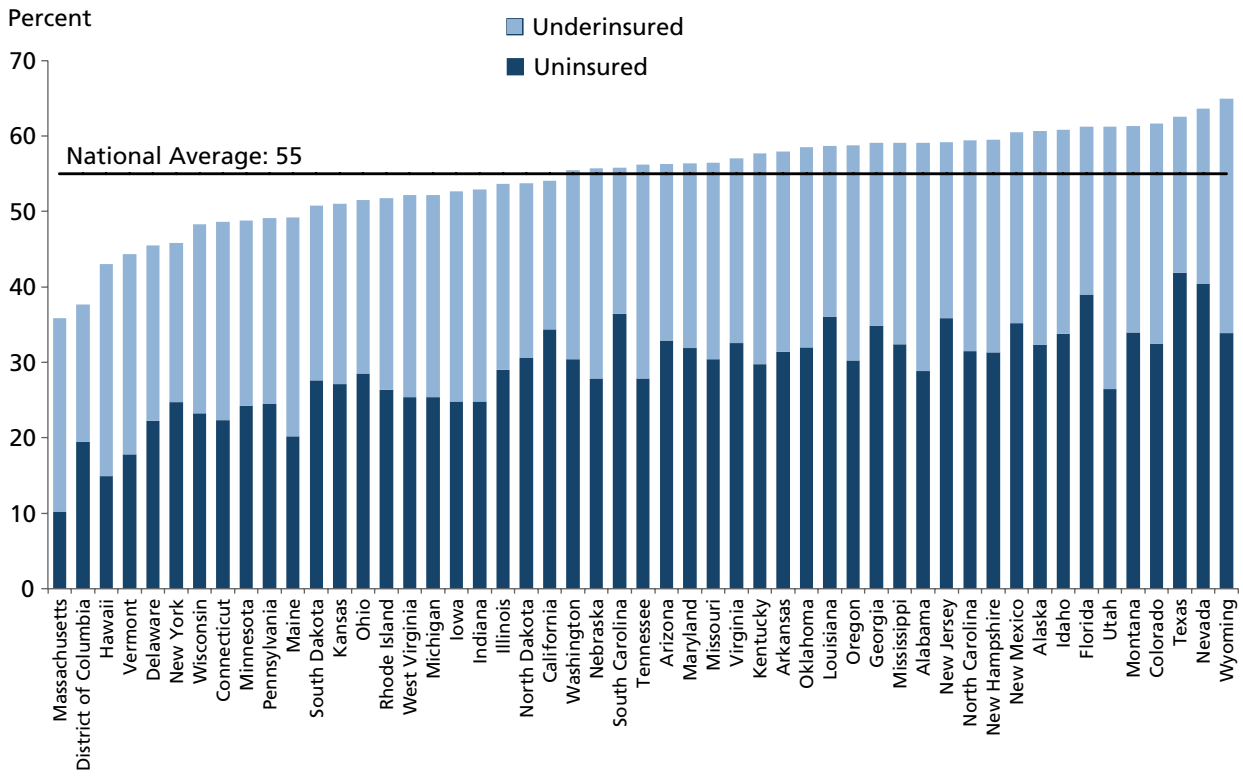
In addition to expanding coverage and making health care more affordable, the Affordable Care Act also includes provisions that promote the spread of health care delivery and payment models that strengthen primary care, care coordination, and provide enhanced resources for delivery systems serving vulnerable populations.[32] The reforms increase payment rates for primary care practices for both Medicare and Medicaid, offer states enhanced federal support for expanding or implementing health homes for Medicaid beneficiaries with multiple chronic conditions, and provide new opportunities to partner with Medicare or private payers to innovate to strengthen primary care.[33] A forthcoming issue brief related to this *Scorecard* summarizes a range of new federal resources and tools that are available to states and local care system leaders to address the needs of low-income populations, improve care quality and outcomes, and potentially lower longer-term costs.[34]

These resources provide a historic opportunity to improve the health of the nation by addressing areas of poor performance with strategic efforts to improve. Achieving the potential gains will require concerted efforts at the state level and leadership by local providers to apply the resources and tools creatively.

The *Scorecard* provides broad evidence of the extent to which low-income and less-educated families' and individuals' experiences vary across states and differ from their higher-income state counterparts. Focusing on closing the gaps and using benchmarks set by leading states could change the map of the country and yield a system which provides equitable access to high-quality, cost-effective, comprehensive care to improve health outcomes and raise the standard of health system performance, not only for vulnerable populations, but for all groups.

EXHIBIT 26

PERCENT OF LOW-INCOME INDIVIDUALS UNINSURED OR UNDERINSURED, BY STATE



Note: Underinsured refers individuals with household incomes under 200% federal poverty level that spent 5% or more of their annual household income on medical care (excluding health insurance premiums).
Data: 2011–12 Current Population Survey.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

State policy leaders and local care systems will play key roles in allocating resources properly, holding care systems accountable, and targeting efforts to address the complex medical and social needs of low-income populations. To raise the bar across the country, we propose the following strategies:

- Expand insurance, including Medicaid, and implement policies that support continuity of care and adequate provider networks for vulnerable populations.
- Redesign care delivery and payment systems to provide enhanced, patient-centered primary care within systems that address the needs of vulnerable populations.
- Hold care systems accountable for population health by supporting coordination between health care, public health, and community-based services.
- Target areas to improve and align strategies to achieve change.

Expand insurance and implement policies to ensure access, continuity of care, and adequate provider networks.

Perhaps the single most important step states can take, in addition to opening the new insurance marketplaces, will be expanding Medicaid to those with incomes at or below 138 percent of the federal poverty level. There is compelling evidence that Medicaid expansion will improve access, financial protection, and health outcomes for those with very low incomes.[35] Statewide enrollment and outreach efforts will be central to the success of coverage expansions reaching those eligible but uninsured. Exhibit 27 outlines current Medicaid policies in each state, including eligibly requirements for adults and children, and

MEDICAID POLICIES BY STATE

	Income Eligibility for Medicaid/CHIP as a Percent of Federal Poverty Level (FPL), 2013*			State Participation in Affordable Care Act Medicaid Expansion**	Medicaid Medical Home Payments and Multipayer Initiatives Currently Under Way***
	Children (Ages 6–18)	Parents—Working (Ages 18–64) Medicaid/Limited^	Childless Adults—Working (nondisabled) (Ages 18–64) Medicaid/Limited^	138% FPL Income Eligibility for Medicaid Expansion	
Alabama	100	23 / NA	NA	No	
Alaska	175	78 / NA	NA	No	
Arizona	100	106 / NA	100^^ / NA	Yes	
Arkansas	200	16 / 200	NA / 200	Yes, with variation	X
California	100	106 / 206	NA / 210	Yes	
Colorado	133	106 / NA	20 / NA	Yes	X
Connecticut	185	191 / NA	70 / NA	Yes	
Delaware	100	120 / NA	110 / NA	Yes	
District of Columbia	300	206 / NA	211 / NA	Yes	
Florida	100	56 / NA	NA	No	
Georgia	100	48 / NA	NA	No	
Hawaii	300	133 / NA	133 / NA	Yes	
Idaho	133	37/ 185	NA / 185	No	X
Illinois	133	139 / NA	NA	Yes	
Indiana	150	24 / 206	NA / 210^^	Unclear/Undecided	
Iowa	133	80 / 250	NA / 250	Yes, with variation	
Kansas	100	31 / NA	NA	No	
Kentucky	150	57 / NA	NA	Yes	
Louisiana	200	24 / NA	NA	No	
Maine	150	200 / NA	NA / 100^^	No	X
Maryland	300	122 / NA	NA / 128^^	Yes	X
Massachusetts	150	133 / 300	NA / 300^^	Yes	X
Michigan	150	64 / NA	NA / 45^^	Yes, with variation	X
Minnesota	275	215 / 275	75 / 200	Yes	X
Mississippi	100	29 / NA	NA	No	
Missouri	150	35 / NA	NA	No	
Montana	133	54 / NA	NA	Unclear/Undecided	
Nebraska	200	58 / NA	NA	No	
Nevada	100	84 / NA	NA	Yes	
New Hampshire	300	47 / NA	NA	Unclear/Undecided	
New Jersey	133	200^^ / NA	NA / 23	Yes	X
New Mexico	285	85 / 408^^	NA / 414^^	Yes	
New York	133	150 / NA	100 / NA	Yes	X
North Carolina	100	47 / NA	NA	No	X
North Dakota	100	57 / NA	NA	Yes	
Ohio	200	96 / NA	NA	Unclear/Undecided	X
Oklahoma	185	51 / 200	NA / 200	No	X
Oregon	100	39 / 201^^	NA / 201^^	Yes	X
Pennsylvania	100	58 / NA	NA	No	X
Rhode Island	250	181 / NA	NA	Yes	X
South Carolina	200	89 / NA	NA	No	
South Dakota	140	50 / NA	NA	No	
Tennessee	100	122 / NA	NA	Unclear/Undecided	
Texas	100	25 / NA	NA	No	
Utah	100	42 / 200	NA / 200	No	
Vermont	225	191 / 331	160 / 353	Yes	X
Virginia	133	30 / NA	NA	No	
Washington	200	71 / 200^^	NA / 200^^	Yes	X
West Virginia	100	31 / NA	NA	Yes	
Wisconsin	150	200 / NA	NA / 200^^	No	
Wyoming	100	50 / NA	NA	No	

Notes: FPL denotes federal poverty level. The Medicaid/CHIP-funded Medicaid expansion program income eligibility listed here is restricted to children ages 6–18, the child is age six or older, but has not yet reached his or her 19th birthday. States provide coverage for children ages 0–5 as well, with income eligibility ranging across states up to 300% FPL. Income eligibility levels for children combine "regular" Medicaid (where states receive Medicaid matching payments) and any CHIP-funded Medicaid expansion programs (where the state receives the enhanced CHIP matching payments for these children).
NA = not applicable.
* Source: Kaiser Family Foundation, State Health Facts, Income Eligibility Limits for Children's Regular Medicaid and Children's CHIP-funded Medicaid Expansions as a Percent of Federal Poverty Level (FPL), Jan. 2013, http://kff.org/medicaid/state-indicator/income-eligibility-fpl-medicaid/; Kaiser Family Foundation, State Health Facts, Adult Income Eligibility Limits at Application as a Percent of the Federal Poverty Level (FPL), Jan. 2013, http://kff.org/medicaid/state-indicator/income-eligibility-low-income-adults/.
^ Denotes more limited coverage, where a state has a waiver or state-funded program with more limited benefits and/or higher cost-sharing than Medicaid to provide coverage to adults at higher income levels.
^^ Denotes enrollment is closed to new applicants at any point between January 1, 2012, and January 1, 2013.
** Source: P. W. Rasmussen, S. R. Collins, M. M. Doty, and T. Garber, *In States' Hands: How the Decision to Expand Medicaid Will Affect the Most Financially Vulnerable Americans* (New York: The Commonwealth Fund, Sept. 2013). Data: Avalere State Reform Insights; Center of Budget and Policy Priorities; Politico.com; Commonwealth Fund analysis.
*** Source: National Academy for State Health Policy State Scan, updated April 2013, http://www.nashp.org/med-home-map.

plans for participation in Affordable Care Act-related coverage expansions.

Low-income families are more likely to experience gaps in insurance coverage,[36] so coordination between Medicaid and the exchanges will be needed to ensure continuous coverage and continuous care when income levels change. Meaningful access will require adequate networks of participating providers, including specialists when needed. Further, ensuring that people retain full-year coverage, even if their employment or income status changes, will be necessary to avoid uninsured periods, reduce churning, and enable longer-term patient and provider relationships.[37]

Providers currently serving low-income and uninsured populations may face financial instability as funds that were previously available to them dwindle in expectation of insurance expansions. Moving forward, there may be a need for targeted support to enable care for those who will remain uninsured and for essential community hospitals and clinics.[38]

Redesign care delivery and payment systems to provide enhanced, patient-centered primary care within systems that address the needs of vulnerable populations.

Strong primary care teams are critical for people with low incomes. These populations often have higher rates of chronic disease or difficulty navigating complex care systems and stand to particularly benefit from improved care coordination and team-based care to better address medical and socioeconomic needs. For instance, many states have supported expansion of the patient-centered medical home model for Medicaid beneficiaries. In 19 states, Medicaid programs are now aligning with Medicare or private payers to make payments to medical home providers to encourage and support care coordination activities.[39] Several states are also targeting innovations in team-based care to particularly vulnerable low-income Medicaid beneficiaries by participating in Medicaid health homes for beneficiaries with multiple chronic conditions.[40] Paying for care in ways that support the delivery of medical and nonmedical services is critical to the success of these efforts.

Given potential shortages in the primary care workforce, various care systems are innovating to use their existing workers more productively to expand capacity. Some primary care practices that serve low-income populations are now using teams that redistribute work roles and expand patient access by phone, at home, and in primary care practices.[41] The Grand-Aides program in Texas, for instance, trains experienced nurse aides to provide advice for primary care conditions with the goals of increasing primary care access and follow-up care after hospital discharge. In pilot studies, this program has freed time of professionals and reduced congestion in clinics and emergency departments by educating patients in prevention and managing their care at home as well as during clinic visits. Preliminary pilot tests in community health centers show promising cost savings and improved access.[42]

Information technology can also be leveraged to support clinicians and expand health system capacity by linking providers and patients in different ways, creating virtual health care teams and better communication. For example, several academic medical centers are addressing access challenges in rural communities with innovative programs designed to support the capacity of rural providers to deliver primary and specialty care. Many are using collaborative care models that electronically link rural physicians, nurses, and caregivers with urban specialists using tools like telemedicine, e-referrals, and shared electronic records to address needs that might otherwise require a referral (see the box on Project ECHO on page 31 above).

Hold care systems accountable for population health by supporting coordination among health care, public health, and community-based services.

Low-income and other vulnerable populations face socioeconomic factors, like unstable employment,

lack of transportation, and unsafe housing, which undermine access to care and health outcomes. There is emerging evidence that addressing these needs may lead to improved outcomes and reduced costs.[43] Enhancing quality and coordination across the continuum of health care may require stronger links to partners beyond the traditional health care system.

Oregon has focused at the community level, combining social and medical resources with accountability for total costs and outcomes (see the box on page 30 above). Cincinnati Children's Hospital is coordinating with community-based organizations to improve care and reduce costs for Medicaid children with asthma (described above in the box on page 38).

Setting targets and identifying pockets of need

Diverse efforts, which include primary care physicians in Cincinnati working to improve health outcomes for low-income children and providers in Camden, New Jersey, addressing the needs of frail, elderly, disabled, and other high-risk patients, are identifying "hot spots" with very high rates of hospital or ED use and digging down to understand risks to health at home and in neighborhoods.[44] The most successful interventions combine health care system innovation with collaboration between public health and social services resources in communities. On the state level, Maryland has created the Health Enterprise Zone program (see box below), which focuses improvements in health care and community health to low-income and underserved communities by coordinating health care and social services to reduce disparities and improve health outcomes.

Initiatives such as accountable care organizations (ACOs) that take responsibility for improving health and health care while decreasing costs may help provide and pay for nonmedical services that can help improve patient outcomes. Minnesota and New Jersey have taken steps to implement ACOs for their Medicaid beneficiaries, and are adapting Medicare ACO models to meet the particular needs of Medicaid providers and patients.[45] Successful efforts will require knowing baseline performance and setting targets to improve, based on an understanding of the health needs of the populations they serve.

Maryland Engages Health Agencies, Nonprofits, and Health Care Providers to Improve Population Health

In 2012, Maryland's legislature established the first Health Enterprise Zone (HEZ) program, a population-based approach to improving health by funding five sites to establish community-based teams to address health disparities, improve health care access and outcomes, and reduce health care costs in targeted low-income and underserved zones.[a,b]

In 2013, the governor awarded five four-year awards to projects that, for example, add bus routes to health care providers in underserved areas, recruit providers and community health workers to work in targeted zones, and add mobile dental and mental health clinics.[c] One initiative under the HEZ program is Dorchester County's Competent Care Connections project, which adds new providers to the area and creates interdisciplinary teams of primary care, peer recovery, community health, and behavioral health providers.[d]

Leaders of the HEZ program have established targets that include reducing diabetes- and hypertension-related emergency department visits, lowering childhood obesity, and making it easier to access behavioral and mental health. Although there have not yet been evaluations of the awarded projects, their coordination of efforts across medical and social services show great promise in helping to reduce disparities and improve health outcomes fot the state's most vulnerable populations.

[a] Maryland Senate, SB 234, Chapter 3, "Maryland Health Improvement and Disparities Reduction Act of 2012," http://openstates.org/md/bills/2012/SB234/.

[b] Maryland Department of Health and Mental Hygiene, "Health Enterprise Zones in Maryland!" http://dhmh.maryland.gov/healthenterprisezones/SitePages/Home.aspx.

[c] Maryland Department of Health and Mental Hygiene, "Lt. Gov. Brown Announces Maryland's First Five Health Enterprise Zones," http://dhmh.maryland.gov/healthenterprisezones/SitePages/Updates.aspx.

[d] "Caroline/Dorchester Health Enterprise Zone Proposal," http://dhmh.maryland.gov/healthenterprisezones/Documents/Dorchester%20County%20HEZ%20Application%20-%20Redacted%20Version.pdf.

CONCLUSION

The *Scorecard on State Health System Performance for Low-Income Populations, 2013,* shows the tremendous gaps in care for economically vulnerable populations and the broad opportunities we have to improve. Socioeconomic status does not mean that people with lower incomes are destined for poor access or care. This is illustrated by the *Scorecard*'s findings that low-income populations in the leading states fare better than the national average and better than more-advantaged populations in some states. By working to improve the health of their most vulnerable, states could improve the overall health and economic well-being of their populations. Healthier adults are less expensive to care for and have greater workforce productivity; healthier children are more likely to succeed in school and grow up to continue to participate in the workforce in the future. A healthy population is instrumental in maintaining strong state and local economies, and is ultimately important to the nation's economic stability and well-being.

Today there are two health care Americas, sharply divided by geography and income. With federal health reforms now being implemented, state governments and local delivery systems have a historic opportunity and new resources to begin closing these equity gaps—acting collectively in the best interest of the nation to improve health care for all.

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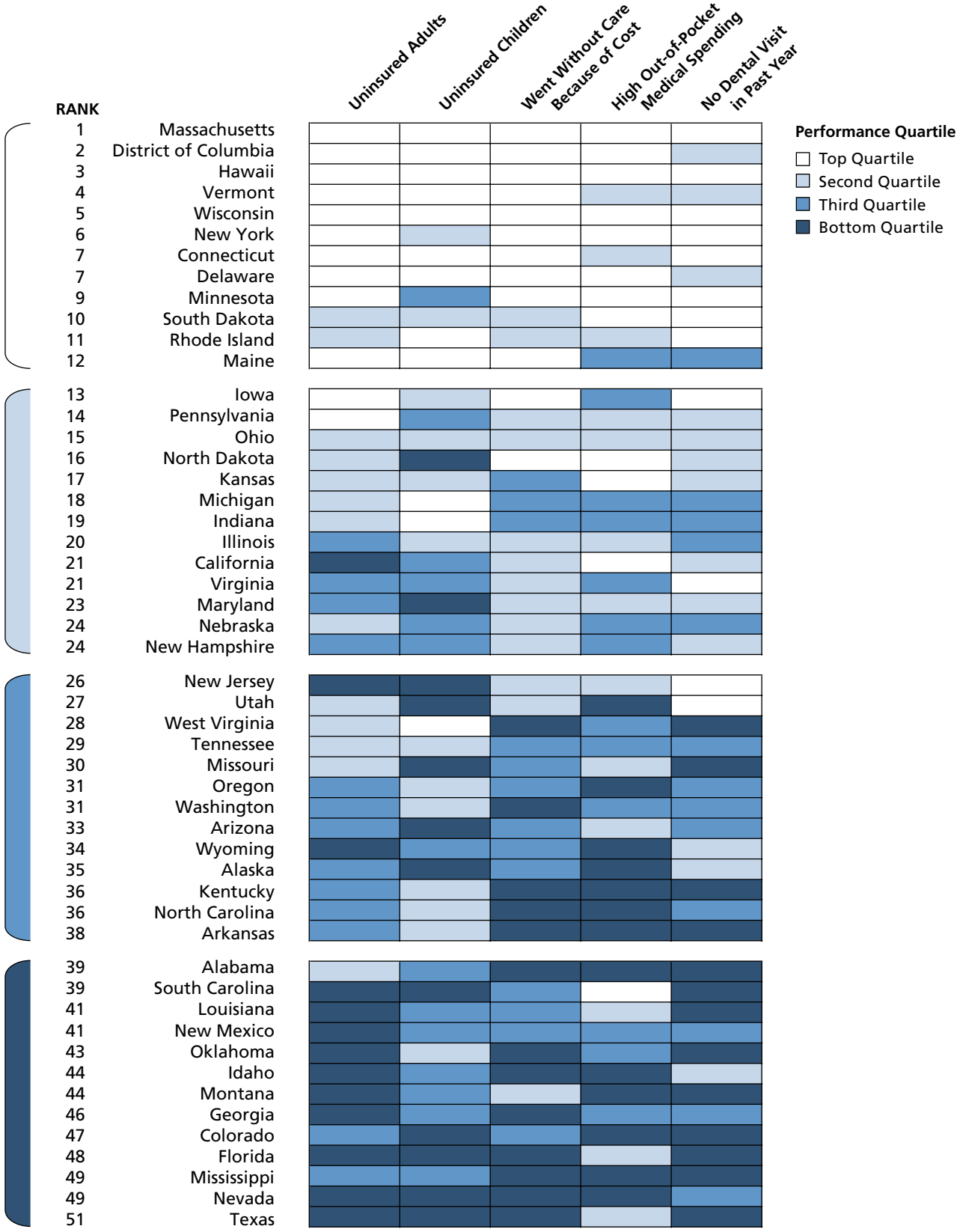
APPENDIX EXHIBIT A1. ACCESS & AFFORDABILITY: DIMENSION AND INDICATOR RANKING FOR LOW-INCOME* POPULATIONS



* Under 200% of the federal poverty level.

Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A2. ACCESS & AFFORDABILITY: RANKS AND RATES AMONG LOW-INCOME* POPULATIONS

	Dimension	Uninsured adults		Uninsured children		Went without care because of cost		High out-of-pocket medical spending		No dental visit in past year	
	Rank	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate
United States			41%		15%		29%		34%		47%
Alabama	39	21	37%	27	13%	41	33%	49	41%	43	54%
Alaska	35	34	41%	41	17%	33	30%	41	38%	21	45%
Arizona	33	32	41%	49	20%	31	30%	17	33%	33	49%
Arkansas	38	36	43%	14	10%	45	34%	39	38%	46	56%
California	21	43	45%	37	15%	18	26%	3	30%	22	45%
Colorado	47	28	39%	47	19%	35	32%	47	40%	39	52%
Connecticut	7	6	29%	11	9%	10	21%	22	34%	3	34%
Delaware	7	9	30%	12	9%	9	20%	6	31%	16	43%
District of Columbia	2	4	25%	3	6%	6	17%	1	25%	14	41%
Florida	48	49	48%	48	20%	49	38%	20	34%	42	53%
Georgia	46	46	45%	36	15%	48	36%	30	36%	35	51%
Hawaii	3	2	21%	2	5%	1	16%	12	32%	12	40%
Idaho	44	44	45%	38	16%	42	33%	40	38%	24	46%
Illinois	20	30	40%	14	10%	21	28%	19	34%	38	52%
Indiana	19	17	35%	9	8%	26	29%	26	35%	34	49%
Iowa	13	12	32%	19	11%	12	23%	30	36%	9	38%
Kansas	17	24	37%	22	12%	29	29%	8	32%	19	44%
Kentucky	36	31	40%	13	10%	43	33%	43	39%	44	54%
Louisiana	41	50	49%	29	13%	38	32%	25	35%	40	52%
Maine	12	5	26%	5	6%	1	16%	33	36%	36	51%
Maryland	23	26	38%	46	19%	17	25%	20	34%	15	42%
Massachusetts	1	1	12%	4	6%	3	16%	5	31%	2	30%
Michigan	18	16	35%	6	7%	30	29%	27	35%	29	47%
Minnesota	9	7	29%	34	14%	7	19%	4	31%	1	30%
Mississippi	49	38	43%	35	15%	49	38%	45	39%	48	56%
Missouri	30	22	37%	42	18%	28	29%	24	35%	41	53%
Montana	44	40	44%	33	14%	23	28%	48	40%	44	54%
Nebraska	24	18	36%	30	13%	16	25%	36	37%	30	48%
Nevada	49	48	48%	51	27%	47	35%	43	39%	26	46%
New Hampshire	24	27	38%	26	13%	22	28%	35	37%	20	44%
New Jersey	26	40	44%	44	18%	20	27%	17	33%	11	39%
New Mexico	41	47	46%	38	16%	34	31%	37	37%	26	46%
New York	6	11	31%	18	10%	11	22%	2	28%	8	38%
North Carolina	36	36	43%	22	12%	39	32%	41	38%	36	51%
North Dakota	16	22	37%	40	16%	4	16%	11	32%	17	43%
Ohio	15	20	37%	25	13%	13	24%	16	33%	18	44%
Oklahoma	43	42	44%	21	12%	46	34%	27	35%	51	60%
Oregon	31	29	39%	20	11%	32	30%	46	39%	32	48%
Pennsylvania	14	8	30%	32	13%	14	24%	13	33%	24	46%
Rhode Island	11	15	34%	9	8%	24	28%	14	33%	6	37%
South Carolina	39	44	45%	45	19%	36	32%	10	32%	46	56%
South Dakota	10	25	37%	16	10%	14	24%	7	31%	4	36%
Tennessee	29	19	36%	17	10%	36	32%	38	37%	31	48%
Texas	51	51	55%	50	22%	49	38%	23	35%	49	57%
Utah	27	13	32%	42	18%	25	29%	51	46%	6	38%
Vermont	4	3	23%	1	5%	5	16%	14	33%	13	40%
Virginia	21	35	41%	30	13%	19	27%	34	37%	5	37%
Washington	31	33	41%	24	12%	44	34%	30	36%	28	46%
West Virginia	28	14	33%	6	7%	40	33%	29	36%	50	57%
Wisconsin	5	10	31%	8	8%	8	19%	8	32%	10	39%
Wyoming	34	39	44%	28	13%	26	29%	50	45%	22	45%

* Under 200% of the federal poverty level.

Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A3. ACCESS & AFFORDABILITY: RATES BY POVERTY

	Uninsured adults			Uninsured children			Went without care because of cost		
	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL
United States	41%	22%	6%	15%	10%	4%	29%	17%	6%
Alabama	37	19	5	13	8	3	33	20	5
Alaska	41	22	7	17	13	7	30	17	9
Arizona	41	23	7	20	15	7	30	19	6
Arkansas	43	26	9	10	8	6	34	23	6
California	45	26	7	15	11	4	26	16	6
Colorado	39	19	6	19	10	3	32	16	6
Connecticut	29	13	5	9	6	4	21	13	5
Delaware	30	14	4	9	7	2	20	13	5
District of Columbia	25	13	4	6	5	3	17	11	5
Florida	48	28	10	20	14	7	38	22	8
Georgia	45	26	8	15	11	6	36	22	6
Hawaii	21	11	5	5	3	1	16	9	4
Idaho	45	25	6	16	11	3	33	19	5
Illinois	40	21	5	10	7	3	28	15	5
Indiana	35	19	7	8	6	3	29	17	5
Iowa	32	15	5	11	6	2	23	10	3
Kansas	37	18	6	12	9	4	29	15	5
Kentucky	40	21	5	10	7	4	33	19	6
Louisiana	49	29	7	13	10	5	32	19	7
Maine	26	14	4	6	6	3	16	12	5
Maryland	38	17	4	19	10	3	25	13	5
Massachusetts	12	6	2	6	3	1	16	10	5
Michigan	35	18	6	7	5	4	29	16	6
Minnesota	29	13	4	14	7	3	19	11	5
Mississippi	43	26	9	15	12	9	38	23	7
Missouri	37	19	4	18	10	2	29	16	5
Montana	44	26	11	14	11	8	28	16	5
Nebraska	36	17	5	13	9	4	25	13	5
Nevada	48	27	8	27	19	8	35	21	6
New Hampshire	38	15	5	13	7	3	28	15	6
New Jersey	44	21	6	18	10	5	27	15	6
New Mexico	46	29	10	16	12	7	31	19	6
New York	31	18	6	10	7	3	22	14	6
North Carolina	43	23	7	12	10	3	32	19	6
North Dakota	37	15	4	16	7	1	16	9	5
Ohio	37	19	5	13	9	4	24	14	5
Oklahoma	44	24	9	12	9	6	34	20	6
Oregon	39	20	5	11	9	5	30	18	4
Pennsylvania	30	15	4	13	8	4	24	13	4
Rhode Island	34	16	4	8	6	3	28	16	4
South Carolina	45	26	7	19	14	7	32	20	6
South Dakota	37	18	7	10	7	4	24	12	4
Tennessee	36	19	4	10	7	1	32	21	10
Texas	55	31	9	22	17	5	38	22	7
Utah	32	18	7	18	11	5	29	17	6
Vermont	23	12	5	5	4	3	16	10	4
Virginia	41	19	5	13	8	2	27	13	5
Washington	41	20	5	12	7	3	34	17	6
West Virginia	33	20	8	7	6	6	33	20	7
Wisconsin	31	14	5	8	5	3	19	12	4
Wyoming	44	23	9	13	11	8	29	15	5
Min	12	6	2	5	3	1	16	9	3
Max	55	31	11	27	19	9	38	23	10

Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A3. ACCESS & AFFORDABILITY: RATES BY POVERTY (continued)

	High out-of-pocket medical spending			No dental visit in past year		
	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL
United States	34%	15%	2%	47%	30%	17%
Alabama	41	18	1	54	35	17
Alaska	38	17	3	45	31	21
Arizona	33	17	3	49	29	17
Arkansas	38	20	4	56	38	19
California	30	15	2	45	30	15
Colorado	40	16	4	52	31	19
Connecticut	34	12	2	34	19	12
Delaware	31	13	2	43	26	16
District of Columbia	25	11	2	41	25	15
Florida	34	16	2	53	34	19
Georgia	36	17	2	51	30	15
Hawaii	32	14	1	40	28	15
Idaho	38	22	6	46	30	14
Illinois	34	15	1	52	30	18
Indiana	35	17	2	49	31	14
Iowa	36	14	1	38	23	12
Kansas	32	14	2	44	25	13
Kentucky	39	18	3	54	36	19
Louisiana	35	18	3	52	36	20
Maine	36	16	3	51	31	14
Maryland	34	12	2	42	24	15
Massachusetts	31	10	1	30	19	12
Michigan	35	15	1	47	28	13
Minnesota	31	11	2	30	20	13
Mississippi	39	22	4	56	42	20
Missouri	35	16	1	53	35	20
Montana	40	20	4	54	38	22
Nebraska	37	15	2	48	29	17
Nevada	39	19	4	46	32	19
New Hampshire	37	10	2	44	23	13
New Jersey	33	12	1	39	24	15
New Mexico	37	19	3	46	33	17
New York	28	13	1	38	28	20
North Carolina	38	19	3	51	32	15
North Dakota	32	13	3	43	25	16
Ohio	33	15	3	44	28	14
Oklahoma	35	17	2	60	42	23
Oregon	39	18	2	48	30	17
Pennsylvania	33	12	1	46	28	14
Rhode Island	33	13	1	37	22	12
South Carolina	32	16	3	56	36	17
South Dakota	31	14	2	36	23	12
Tennessee	37	19	2	48	34	17
Texas	35	18	2	57	38	23
Utah	46	20	2	38	26	15
Vermont	33	12	2	40	24	11
Virginia	37	13	2	37	22	11
Washington	36	16	4	46	28	16
West Virginia	36	18	2	57	39	17
Wisconsin	32	13	2	39	25	14
Wyoming	45	21	4	45	30	19
Min	25	10	1	30	19	11
Max	46	22	6	60	42	23

Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A4. UNINSURED AND UNDERINSURED* INDIVIDUALS, LOW-INCOME, AGES 0–64

	Under 200 percent of federal poverty level				
	Total	Uninsured	Insured with high out-of-pocket costs*	Uninsured and insured with high out-of-pocket costs*	Percent uninsured and insured with high out-of-pocket costs*
United States	102,372,326	32,324,397	24,386,352	56,710,749	55%
Alabama	1,675,582	482,853	507,816	990,669	59%
Alaska	208,664	67,467	59,072	126,539	61%
Arizona	2,426,576	797,681	567,966	1,365,647	56%
Arkansas	1,115,572	350,029	296,466	646,495	58%
California	14,495,703	4,984,319	2,852,125	7,836,444	54%
Colorado	1,376,895	446,969	402,351	849,320	62%
Connecticut	811,087	181,459	212,900	394,359	49%
Delaware	263,111	58,563	61,145	119,708	45%
District of Columbia	202,381	39,420	36,812	76,232	38%
Florida	6,270,026	2,444,840	1,392,832	3,837,672	61%
Georgia	3,676,951	1,281,239	891,212	2,172,451	59%
Hawaii	433,370	64,521	121,927	186,448	43%
Idaho	593,845	200,564	160,670	361,234	61%
Illinois	4,338,031	1,258,146	1,068,342	2,326,488	54%
Indiana	2,091,838	518,436	589,096	1,107,532	53%
Iowa	839,385	208,592	233,747	442,339	53%
Kansas	884,626	239,849	211,313	451,162	51%
Kentucky	1,524,638	454,264	425,367	879,631	58%
Louisiana	1,715,585	617,872	388,387	1,006,259	59%
Maine	359,220	72,637	104,078	176,715	49%
Maryland	1,460,800	465,778	358,280	824,058	56%
Massachusetts	1,609,225	165,225	411,823	577,048	36%
Michigan	3,152,958	800,912	844,493	1,645,405	52%
Minnesota	1,208,221	292,822	296,798	589,620	49%
Mississippi	1,199,796	388,734	320,154	708,888	59%
Missouri	1,909,826	580,833	496,807	1,077,640	56%
Montana	318,997	108,385	87,326	195,711	61%
Nebraska	480,351	133,765	133,957	267,722	56%
Nevada	985,022	397,544	228,945	626,489	64%
New Hampshire	238,344	74,594	67,150	141,744	59%
New Jersey	2,335,379	838,147	544,594	1,382,741	59%
New Mexico	786,472	276,876	199,149	476,025	61%
New York	6,476,698	1,599,609	1,370,194	2,969,803	46%
North Carolina	3,191,905	1,006,034	889,858	1,895,892	59%
North Dakota	144,196	44,156	33,284	77,440	54%
Ohio	3,581,967	1,021,186	823,678	1,844,864	52%
Oklahoma	1,275,628	407,801	338,582	746,383	59%
Oregon	1,245,895	376,959	354,843	731,802	59%
Pennsylvania	3,508,403	859,111	864,280	1,723,391	49%
Rhode Island	301,580	79,598	76,500	156,098	52%
South Carolina	1,670,072	608,634	322,673	931,307	56%
South Dakota	241,270	66,557	55,991	122,548	51%
Tennessee	2,258,525	628,778	640,985	1,269,763	56%
Texas	10,128,402	4,239,429	2,101,038	6,340,467	63%
Utah	900,148	238,113	313,016	551,129	61%
Vermont	155,981	27,758	41,476	69,234	44%
Virginia	2,014,224	655,599	493,019	1,148,618	57%
Washington	2,007,274	610,791	502,445	1,113,236	55%
West Virginia	638,198	162,260	170,767	333,027	52%
Wisconsin	1,487,609	345,920	372,130	718,050	48%
Wyoming	155,874	52,769	48,493	101,262	65%

* Out-of-pocket medical costs accounting for 5 percent or more of annual household income (not including health insurance premiums).
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A5. UNINSURED ADULTS AGES 19–64, BY POVERTY

	Total		Less than 200 percent of federal poverty level		At or above 400 percent of federal poverty level	
	Uninsured	Percent	Uninsured	Percent	Uninsured	Percent
United States	40,724,922	22%	27,144,231	41%	4,222,877	6%
Alabama	559,179	19%	411,053	37%	47,706	5%
Alaska	100,155	22%	54,647	41%	14,182	7%
Arizona	917,283	23%	613,331	41%	94,172	7%
Arkansas	449,433	26%	311,074	43%	43,749	9%
California	6,050,924	26%	4,198,462	45%	564,915	7%
Colorado	589,658	19%	356,297	39%	84,334	6%
Connecticut	283,600	13%	158,272	29%	52,384	5%
Delaware	78,395	14%	49,691	30%	8,719	4%
District of Columbia	56,276	13%	36,155	25%	7,980	4%
Florida	3,139,312	28%	2,046,221	48%	376,067	10%
Georgia	1,574,847	26%	1,085,589	45%	159,517	8%
Hawaii	86,066	11%	55,994	21%	12,536	5%
Idaho	229,477	25%	163,757	45%	15,629	6%
Illinois	1,629,012	21%	1,102,723	40%	153,228	5%
Indiana	693,957	19%	453,365	35%	79,995	7%
Iowa	281,134	15%	178,070	32%	31,119	5%
Kansas	298,899	18%	198,084	37%	36,921	6%
Kentucky	554,545	21%	404,625	40%	38,933	5%
Louisiana	776,231	29%	537,017	49%	59,871	7%
Maine	110,842	14%	65,855	26%	12,880	4%
Maryland	623,358	17%	377,190	38%	69,897	4%
Massachusetts	239,885	6%	135,053	12%	39,925	2%
Michigan	1,084,856	18%	726,358	35%	136,369	6%
Minnesota	404,713	13%	234,080	29%	52,778	4%
Mississippi	444,464	26%	319,889	43%	43,410	9%
Missouri	703,224	19%	465,276	37%	58,296	4%
Montana	151,463	26%	93,960	44%	19,310	11%
Nebraska	183,294	17%	111,281	36%	20,755	5%
Nevada	445,821	27%	301,226	48%	41,121	8%
New Hampshire	127,905	15%	66,458	38%	22,968	5%
New Jersey	1,105,932	21%	705,804	44%	150,982	6%
New Mexico	345,137	29%	231,646	46%	37,151	10%
New York	2,210,257	18%	1,382,119	31%	270,530	6%
North Carolina	1,316,886	23%	866,883	43%	127,050	7%
North Dakota	60,722	15%	37,049	37%	6,688	4%
Ohio	1,287,353	19%	868,412	37%	112,148	5%
Oklahoma	533,536	24%	350,499	44%	63,325	9%
Oregon	484,335	20%	330,137	39%	39,352	5%
Pennsylvania	1,126,806	15%	716,902	30%	130,423	4%
Rhode Island	105,806	16%	71,892	34%	11,068	4%
South Carolina	736,283	26%	503,238	45%	53,087	7%
South Dakota	89,625	18%	57,601	37%	11,479	7%
Tennessee	765,384	19%	552,150	36%	44,620	4%
Texas	4,820,608	31%	3,361,521	55%	424,913	9%
Utah	291,926	18%	173,360	32%	34,958	7%
Vermont	50,345	12%	25,467	23%	8,968	5%
Virginia	920,815	19%	575,532	41%	111,119	5%
Washington	815,743	20%	522,798	41%	80,942	5%
West Virginia	229,945	20%	148,945	33%	29,669	8%
Wisconsin	478,286	14%	305,022	31%	62,435	5%
Wyoming	80,984	23%	46,201	44%	12,304	9%

Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A6. UNINSURED CHILDREN AGES 0–18, BY POVERTY

	Total		Less than 200 percent of federal poverty level		At or above 400 percent of federal poverty level	
	Uninsured	Percent	Uninsured	Percent	Uninsured	Percent
United States	7,792,832	10%	5,180,166	15%	837,707	4%
Alabama	96,548	8%	71,800	13%	9,036	3%
Alaska	25,537	13%	12,820	17%	4,511	7%
Arizona	264,935	15%	184,350	20%	22,996	7%
Arkansas	57,723	8%	38,955	10%	7,402	6%
California	1,118,281	11%	785,857	15%	94,691	4%
Colorado	126,697	10%	90,672	19%	14,149	3%
Connecticut	51,012	6%	23,187	9%	14,072	4%
Delaware	14,546	7%	8,872	9%	1,526	2%
District of Columbia	5,694	5%	3,265	5%	1,014	3%
Florida	595,863	14%	398,619	20%	67,829	7%
Georgia	293,786	11%	195,650	15%	35,265	6%
Hawaii	11,294	3%	8,527	5%	445	1%
Idaho	48,558	11%	36,807	16%	2,939	3%
Illinois	235,740	7%	155,423	10%	31,729	3%
Indiana	106,148	6%	65,071	8%	11,961	3%
Iowa	48,697	6%	30,522	11%	4,098	2%
Kansas	66,252	9%	41,765	12%	6,919	4%
Kentucky	71,990	7%	49,639	10%	8,513	4%
Louisiana	125,003	10%	80,855	13%	13,052	5%
Maine	15,817	6%	6,782	6%	2,459	3%
Maryland	138,716	10%	88,588	19%	17,483	3%
Massachusetts	45,638	3%	30,172	6%	9,960	1%
Michigan	131,436	5%	74,554	7%	28,887	4%
Minnesota	88,604	7%	58,742	14%	11,778	3%
Mississippi	95,527	12%	68,845	15%	11,472	9%
Missouri	151,534	10%	115,557	18%	6,347	2%
Montana	24,339	11%	14,425	14%	3,739	8%
Nebraska	45,256	9%	22,484	13%	5,167	4%
Nevada	134,981	19%	96,318	27%	10,089	8%
New Hampshire	19,901	7%	8,136	13%	4,318	3%
New Jersey	207,694	10%	132,343	18%	48,526	5%
New Mexico	65,781	12%	45,230	16%	8,711	7%
New York	345,189	7%	217,490	10%	40,681	3%
North Carolina	234,277	10%	139,151	12%	20,179	3%
North Dakota	11,276	7%	7,107	16%	695	1%
Ohio	243,497	9%	152,774	13%	28,113	4%
Oklahoma	93,540	9%	57,302	12%	13,794	6%
Oregon	85,016	9%	46,822	11%	11,113	5%
Pennsylvania	230,222	8%	142,209	13%	36,399	4%
Rhode Island	14,311	6%	7,706	8%	2,390	3%
South Carolina	161,963	14%	105,396	19%	16,292	7%
South Dakota	14,908	7%	8,956	10%	1,692	4%
Tennessee	108,523	7%	76,628	10%	3,389	1%
Texas	1,218,883	17%	877,908	22%	77,916	5%
Utah	103,636	11%	64,753	18%	8,973	5%
Vermont	5,352	4%	2,291	5%	1,086	3%
Virginia	149,509	8%	80,067	13%	16,497	2%
Washington	127,538	7%	87,993	12%	14,932	3%
West Virginia	25,928	6%	13,315	7%	5,490	6%
Wisconsin	74,636	5%	40,898	8%	13,653	3%
Wyoming	15,100	11%	6,568	13%	3,340	8%

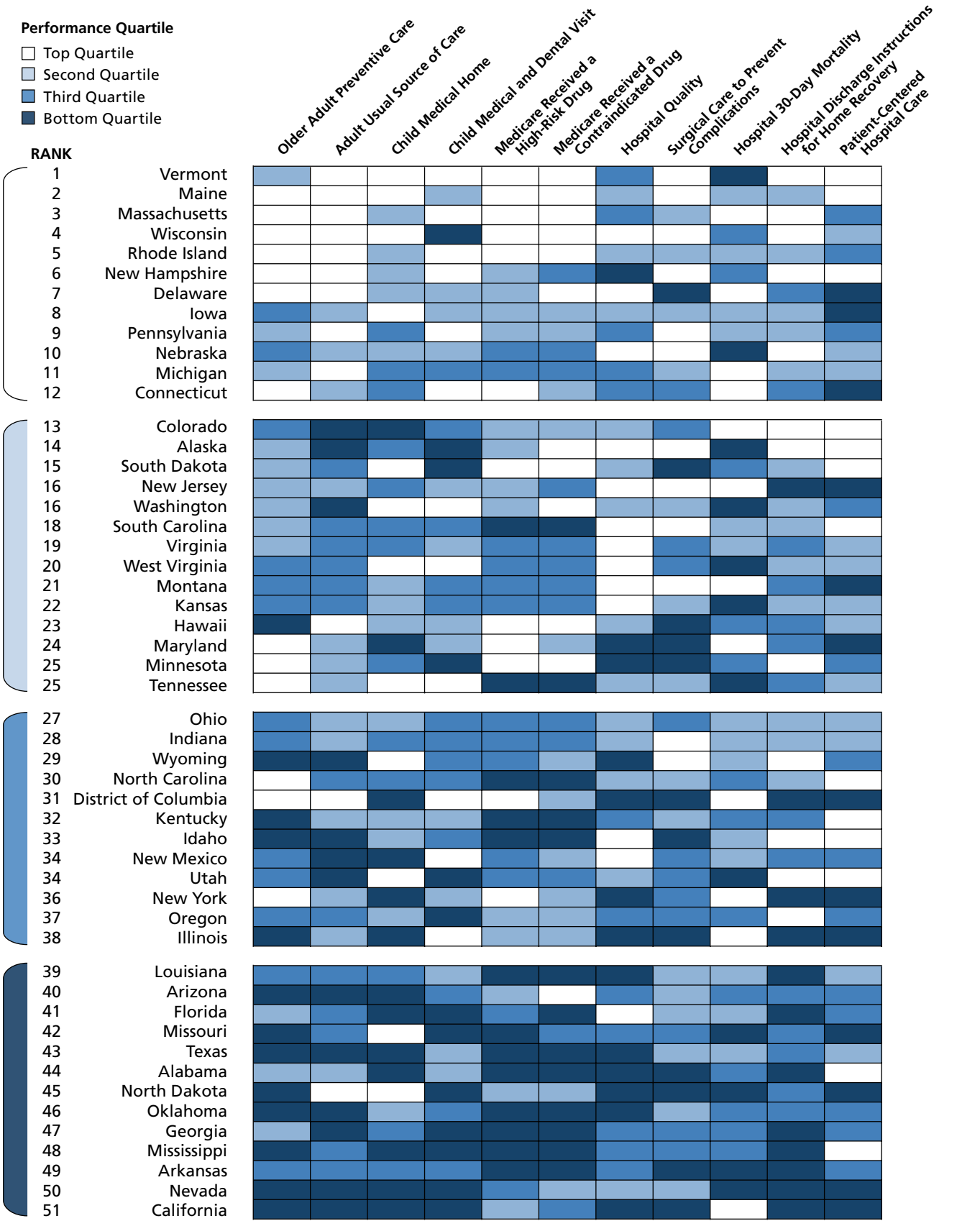
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A7. HIGH OUT-OF-POCKET MEDICAL COSTS RELATIVE TO INCOME, AGES 0–64, TOTAL AND BY POVERTY

	Total		Less than 200 percent of federal poverty level		At or above 400 percent of federal poverty level	
	Number of individuals	Percent of individuals	Number of individuals	Percent of individuals	Number of individuals	Percent of individuals
United States	41,379,391	15%	34,765,741	34%	1,657,248	2%
Alabama	736,685	18%	685,394	41%	8,916	1%
Alaska	108,083	17%	79,663	38%	7,227	3%
Arizona	974,293	17%	808,390	33%	44,266	3%
Arkansas	495,385	20%	419,179	38%	23,895	4%
California	4,902,288	15%	4,307,131	30%	170,989	2%
Colorado	732,803	16%	549,663	40%	75,131	4%
Connecticut	368,967	12%	278,928	34%	33,705	2%
Delaware	96,516	13%	81,531	31%	6,032	2%
District of Columbia	58,520	11%	50,298	25%	3,914	2%
Florida	2,496,841	16%	2,136,227	34%	88,795	2%
Georgia	1,504,525	17%	1,328,455	36%	55,971	2%
Hawaii	150,683	14%	140,008	32%	1,769	1%
Idaho	297,992	22%	225,363	38%	18,929	6%
Illinois	1,684,159	15%	1,460,966	34%	47,154	1%
Indiana	905,088	17%	735,291	35%	38,810	2%
Iowa	372,735	14%	303,186	36%	7,303	1%
Kansas	338,219	14%	282,123	32%	13,449	2%
Kentucky	689,873	18%	588,436	39%	27,016	3%
Louisiana	697,447	18%	600,838	35%	33,778	3%
Maine	172,264	16%	130,645	36%	12,774	3%
Maryland	604,523	12%	497,782	34%	41,139	2%
Massachusetts	576,242	10%	495,557	31%	22,006	1%
Michigan	1,278,550	15%	1,111,654	35%	25,300	1%
Minnesota	487,387	11%	371,524	31%	30,486	2%
Mississippi	567,589	22%	470,133	39%	21,968	4%
Missouri	800,984	16%	666,360	35%	23,895	1%
Montana	158,450	20%	128,209	40%	9,148	4%
Nebraska	238,895	15%	177,391	37%	13,210	2%
Nevada	448,480	19%	379,934	39%	25,692	4%
New Hampshire	113,853	10%	87,240	37%	10,953	2%
New Jersey	894,484	12%	778,339	33%	25,915	1%
New Mexico	331,447	19%	292,310	37%	13,477	3%
New York	2,110,566	13%	1,837,946	28%	54,209	1%
North Carolina	1,534,825	19%	1,219,049	38%	63,808	3%
North Dakota	72,475	13%	46,477	32%	5,840	3%
Ohio	1,504,250	15%	1,185,267	33%	95,014	3%
Oklahoma	542,826	17%	450,311	35%	22,423	2%
Oregon	604,810	18%	489,143	39%	24,684	2%
Pennsylvania	1,319,793	12%	1,141,556	33%	43,708	1%
Rhode Island	113,733	13%	98,810	33%	2,245	1%
South Carolina	645,694	16%	535,771	32%	25,261	3%
South Dakota	100,339	14%	75,322	31%	4,113	2%
Tennessee	1,043,553	19%	842,509	37%	25,210	2%
Texas	4,109,085	18%	3,499,489	35%	116,894	2%
Utah	495,808	20%	410,886	46%	12,594	2%
Vermont	63,226	12%	51,112	33%	3,415	2%
Virginia	886,345	13%	735,759	37%	46,822	2%
Washington	961,784	16%	724,878	36%	80,138	4%
West Virginia	275,636	18%	229,408	36%	9,501	2%
Wisconsin	608,542	13%	474,243	32%	31,156	2%
Wyoming	101,851	21%	69,657	45%	7,201	4%

Note: High out-of-pocket medical costs defined as out-of-pocket medical costs equal to 10 percent or more of annual household income, or 5 percent or more of annual household income if low-income (under 200% FPL).
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A8. PREVENTION & TREATMENT: DIMENSION AND INDICATOR RANKING FOR VULNERABLE* POPULATIONS



* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A9. PREVENTION & TREATMENT: RANKS AND RATES AMONG VULNERABLE* POPULATIONS

	Dimension	Older adult preventive care		Adult usual source of care		Child medical home		Child medical and dental visit		Medicare received a high-risk drug	
	Rank	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate
United States			32%		71%		42%		60%		30%
Alabama	44	24	33%	14	77%	40	42%	21	63%	50	44%
Alaska	14	25	33%	49	59%	37	43%	49	52%	14	23%
Arizona	40	43	29%	43	66%	49	33%	34	59%	21	27%
Arkansas	49	38	29%	28	74%	31	45%	37	58%	47	42%
California	51	49	26%	48	60%	51	30%	42	55%	24	27%
Colorado	13	26	32%	41	68%	41	41%	26	62%	21	27%
Connecticut	12	12	36%	22	76%	38	42%	4	71%	6	20%
Delaware	7	2	41%	5	84%	24	47%	20	63%	17	25%
District of Columbia	31	11	37%	6	82%	47	38%	2	72%	7	21%
Florida	41	23	33%	37	69%	47	38%	48	52%	34	32%
Georgia	47	15	34%	39	68%	35	43%	40	56%	45	40%
Hawaii	23	46	28%	10	81%	24	47%	19	64%	2	19%
Idaho	33	51	22%	42	67%	13	50%	31	59%	40	35%
Illinois	38	47	27%	18	77%	46	39%	11	66%	15	24%
Indiana	28	31	31%	22	76%	28	46%	35	59%	38	34%
Iowa	8	33	30%	14	77%	2	57%	25	63%	19	25%
Kansas	22	28	31%	29	72%	22	47%	27	62%	32	32%
Kentucky	32	45	28%	17	77%	19	48%	21	63%	43	39%
Louisiana	39	28	31%	35	70%	27	46%	14	65%	49	44%
Maine	2	3	40%	2	86%	5	53%	24	63%	11	22%
Maryland	24	5	39%	24	76%	39	42%	17	64%	12	22%
Massachusetts	3	1	42%	3	86%	17	48%	3	71%	1	17%
Michigan	11	14	35%	9	81%	29	46%	30	60%	29	29%
Minnesota	25	8	37%	20	76%	32	45%	50	52%	4	20%
Mississippi	48	44	28%	26	75%	42	40%	45	54%	51	45%
Missouri	42	39	29%	30	72%	5	53%	41	55%	39	34%
Montana	21	31	31%	38	69%	13	50%	36	58%	30	30%
Nebraska	10	33	30%	18	77%	16	48%	15	64%	36	33%
Nevada	50	42	29%	51	57%	50	31%	51	50%	35	32%
New Hampshire	6	4	39%	11	80%	15	49%	5	70%	19	25%
New Jersey	16	15	34%	20	76%	36	43%	13	66%	16	24%
New Mexico	34	27	32%	47	62%	44	39%	10	67%	28	29%
New York	36	8	37%	13	80%	45	39%	18	64%	2	19%
North Carolina	30	12	36%	34	71%	34	44%	31	59%	42	38%
North Dakota	45	40	29%	12	80%	10	51%	47	53%	13	23%
Ohio	27	30	31%	25	76%	21	48%	29	61%	33	32%
Oklahoma	46	50	26%	40	68%	18	48%	38	57%	46	41%
Oregon	37	35	30%	32	72%	19	48%	43	55%	25	28%
Pennsylvania	9	21	34%	4	85%	33	44%	6	68%	17	25%
Rhode Island	5	6	39%	7	82%	23	47%	8	67%	8	21%
South Carolina	18	18	34%	30	72%	30	46%	28	62%	44	40%
South Dakota	15	22	33%	36	69%	12	50%	44	54%	10	21%
Tennessee	25	10	37%	14	77%	11	50%	12	66%	48	42%
Texas	43	41	29%	49	59%	43	40%	23	63%	41	35%
Utah	34	37	30%	44	65%	7	52%	46	53%	27	29%
Vermont	1	17	34%	1	88%	1	60%	1	79%	5	20%
Virginia	19	19	34%	32	72%	26	47%	16	64%	31	31%
Washington	16	19	34%	45	65%	8	52%	9	67%	21	27%
West Virginia	20	35	30%	27	74%	4	54%	6	68%	37	33%
Wisconsin	4	7	37%	8	82%	3	56%	39	56%	8	21%
Wyoming	29	48	27%	46	64%	9	52%	33	59%	26	28%

* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A9. PREVENTION & TREATMENT: RANKS AND RATES AMONG VULNERABLE* POPULATIONS (continued)

	Medicare received a contraindicated drug		Hospital quality		Surgical care to prevent complications		Hospital 30-day mortality		Hospital discharge instructions for home recovery		Patient-centered hospital care	
	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate
United States		27%		96%		97%		12%		82%		63%
Alabama	51	36%	44	95%	46	96%	29	13%	41	80%	11	67%
Alaska	2	19%	5	98%	6	98%	49	15%	6	87%	2	71%
Arizona	8	21%	36	95%	18	98%	29	13%	28	83%	36	62%
Arkansas	46	33%	29	96%	45	96%	46	13%	45	78%	28	64%
California	35	29%	49	94%	48	96%	3	11%	47	78%	47	57%
Colorado	22	25%	14	97%	28	97%	7	12%	9	86%	7	68%
Connecticut	14	23%	35	95%	28	97%	3	11%	37	81%	42	60%
Delaware	5	21%	3	98%	47	96%	7	12%	27	83%	43	60%
District of Columbia	15	23%	51	85%	51	92%	1	11%	51	67%	51	52%
Florida	39	30%	12	97%	24	98%	13	12%	43	80%	36	62%
Georgia	42	30%	33	96%	37	97%	36	13%	42	80%	30	64%
Hawaii	11	22%	23	96%	40	97%	33	13%	35	81%	25	64%
Idaho	44	31%	4	98%	50	94%	20	12%	2	90%	1	75%
Illinois	17	24%	45	95%	43	96%	2	11%	46	78%	46	59%
Indiana	30	26%	23	96%	9	98%	18	12%	25	83%	20	65%
Iowa	17	23%	14	97%	13	98%	20	12%	15	85%	40	62%
Kansas	32	28%	7	98%	18	98%	42	13%	13	85%	15	66%
Kentucky	49	35%	29	96%	13	98%	27	13%	28	83%	6	68%
Louisiana	48	33%	39	95%	24	97%	18	12%	40	81%	17	66%
Maine	3	20%	14	97%	4	98%	25	12%	23	84%	12	66%
Maryland	15	23%	40	95%	41	97%	3	11%	31	82%	44	59%
Massachusetts	9	21%	27	96%	18	98%	6	12%	12	85%	34	63%
Michigan	26	26%	29	96%	13	98%	10	12%	17	85%	20	65%
Minnesota	4	21%	40	95%	44	96%	29	13%	8	86%	33	63%
Mississippi	45	32%	34	96%	32	97%	33	13%	48	77%	8	68%
Missouri	37	29%	29	96%	34	97%	40	13%	33	82%	39	62%
Montana	33	28%	2	98%	1	99%	7	12%	32	82%	41	61%
Nebraska	34	28%	1	98%	1	99%	48	13%	3	88%	18	65%
Nevada	20	24%	19	96%	24	97%	42	13%	44	79%	49	55%
New Hampshire	31	27%	40	95%	8	98%	36	13%	3	88%	3	69%
New Jersey	27	26%	5	98%	9	98%	10	12%	49	77%	48	56%
New Mexico	19	24%	10	97%	34	97%	20	12%	26	83%	36	62%
New York	24	25%	48	94%	36	97%	10	12%	50	76%	50	55%
North Carolina	41	30%	25	96%	13	98%	27	12%	23	84%	9	67%
North Dakota	25	26%	50	90%	49	95%	49	15%	37	81%	44	59%
Ohio	35	29%	19	96%	28	97%	16	12%	19	85%	22	65%
Oklahoma	50	35%	40	95%	18	98%	29	13%	33	82%	27	64%
Oregon	13	22%	38	95%	37	97%	36	13%	11	86%	26	64%
Pennsylvania	21	24%	36	95%	9	98%	20	12%	22	84%	32	63%
Rhode Island	6	21%	25	96%	18	98%	25	12%	17	85%	28	64%
South Carolina	43	31%	12	97%	6	98%	13	12%	21	84%	5	68%
South Dakota	6	21%	14	97%	41	97%	33	13%	15	85%	12	66%
Tennessee	46	33%	18	97%	18	98%	40	13%	37	81%	18	65%
Texas	40	30%	46	95%	13	98%	16	12%	35	81%	23	65%
Utah	38	30%	19	96%	32	97%	45	13%	3	88%	3	69%
Vermont	1	16%	28	96%	3	98%	49	15%	1	90%	10	67%
Virginia	28	26%	9	97%	28	97%	20	12%	28	83%	23	65%
Washington	11	22%	19	96%	24	98%	42	13%	14	85%	35	63%
West Virginia	29	26%	8	98%	37	97%	46	13%	20	84%	14	66%
Wisconsin	10	22%	11	97%	9	98%	36	13%	7	86%	15	66%
Wyoming	23	25%	47	94%	5	98%	13	12%	10	86%	30	64%

* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A10. PREVENTION & TREATMENT: RATES BY VULNERABILITY

	Older adult preventive care			Adult usual source of care			Child medical home			Child medical and dental visit		
	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL
United States	32%	45%	57%	71%	79%	89%	42%	54%	68%	60%	68%	78%
Alabama	33	42	57	77	80	89	42	54	72	63	70	80
Alaska	33	42	48	59	66	75	43	52	61	52	59	68
Arizona	29	44	53	66	76	87	33	46	60	59	65	75
Arkansas	29	42	57	74	78	88	45	55	71	58	62	69
California	26	40	53	60	74	90	30	45	63	55	65	74
Colorado	32	45	55	68	77	89	41	55	66	62	70	76
Connecticut	36	53	65	76	85	93	42	58	70	71	79	85
Delaware	41	51	59	84	88	94	47	56	66	63	72	77
District of Columbia	37	48	59	82	81	86	38	50	68	72	77	82
Florida	33	46	57	69	76	87	38	50	65	52	60	73
Georgia	34	47	60	68	74	85	43	52	67	56	65	80
Hawaii	28	45	55	81	83	88	47	57	69	64	73	84
Idaho	22	36	50	67	73	84	50	57	66	59	59	65
Illinois	27	39	50	77	82	91	39	56	72	66	74	80
Indiana	31	42	55	76	81	90	46	58	74	59	69	78
Iowa	30	44	57	77	82	89	57	67	77	63	70	82
Kansas	31	46	57	72	80	90	47	59	69	62	70	83
Kentucky	28	42	57	77	80	90	48	56	69	63	68	81
Louisiana	31	42	52	70	75	87	46	56	69	65	67	74
Maine	40	51	63	86	88	93	53	63	71	63	73	85
Maryland	39	52	60	76	84	91	42	57	68	64	73	80
Massachusetts	42	54	65	86	88	93	48	63	69	71	79	83
Michigan	35	48	60	81	85	92	46	59	75	60	68	78
Minnesota	37	50	61	76	78	83	45	61	72	52	60	72
Mississippi	28	40	53	75	74	84	40	49	69	54	60	70
Missouri	29	44	55	72	80	91	53	62	74	55	65	80
Montana	31	42	53	69	72	81	50	58	65	58	61	66
Nebraska	30	44	54	77	81	91	48	61	73	64	70	77
Nevada	29	40	53	57	64	75	31	45	64	50	56	66
New Hampshire	39	54	66	80	88	92	49	67	71	70	79	84
New Jersey	34	46	57	76	84	90	43	53	60	66	76	84
New Mexico	32	42	54	62	70	83	39	48	66	67	70	75
New York	37	49	60	80	84	91	39	53	66	64	73	81
North Carolina	36	49	63	71	77	88	44	55	66	59	67	79
North Dakota	29	44	51	80	75	83	51	62	71	53	61	71
Ohio	31	43	54	76	82	90	48	57	70	61	71	82
Oklahoma	26	38	49	68	76	89	48	56	70	57	62	72
Oregon	30	42	54	72	78	90	48	57	71	55	63	76
Pennsylvania	34	46	59	85	88	93	44	59	69	68	73	77
Rhode Island	39	52	63	82	86	94	47	60	74	67	76	86
South Carolina	34	45	58	72	79	89	46	54	69	62	64	71
South Dakota	33	48	59	69	76	83	50	62	74	54	59	69
Tennessee	37	40	54	77	80	90	50	60	73	66	70	78
Texas	29	42	54	59	70	86	40	52	68	63	68	78
Utah	30	44	56	65	73	83	52	64	75	53	61	70
Vermont	34	51	62	88	88	93	60	69	75	79	81	83
Virginia	34	49	59	72	78	86	47	57	65	64	70	77
Washington	34	49	60	65	76	88	52	59	67	67	72	79
West Virginia	30	38	51	74	76	83	54	61	74	68	74	81
Wisconsin	37	47	59	82	84	87	56	66	76	56	68	80
Wyoming	27	40	50	64	69	77	52	59	68	59	65	73
Min	22	36	48	57	64	75	30	45	60	50	56	65
Max	42	54	66	88	88	94	60	69	77	79	81	86

[1] Low-income refers to Medicare beneficiaries who received a subsidy to help pay for prescription drug coverage at any time during the year. Higher-income refers to Medicare beneficiaries who received no subsidy at any time during the year.
[2] Safety-net hospitals are the 25% of hospitals in each state that treat the highest share of low-income patients, as captured in the facilities' disproportionate share hospital (DSH) payments.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A10. PREVENTION & TREATMENT: RATES BY VULNERABILITY (continued)

	Medicare received a high-risk drug			Medicare received a contraindicated drug			Hospital quality			Surgical care to prevent complications		
	Low-income[1]	State rate	Higher-income[1]	Low-income[1]	State rate	Higher-income[1]	Safety-net hospitals[2]	State rate	Non-safety-net hospitals	Safety-net hospitals[2]	State rate	Non-safety-net hospitals
United States	30%	25%	23%	27%	20%	16%	96%	96%	97%	97%	98%	98%
Alabama	44	39	36	36	29	25	95	96	96	96	98	98
Alaska	23	21	20	19	16	16	98	98	98	98	98	98
Arizona	27	24	22	21	17	14	95	96	96	98	98	98
Arkansas	42	36	33	33	25	21	96	96	96	96	97	97
California	27	24	23	29	21	16	94	96	97	96	97	97
Colorado	27	23	21	25	18	14	97	97	97	97	98	98
Connecticut	20	17	15	23	16	13	95	96	96	97	97	97
Delaware	25	23	21	21	17	15	98	97	97	96	98	98
District of Columbia	21	18	17	23	17	17	85	91	94	92	95	97
Florida	32	26	23	30	21	16	97	97	98	98	98	98
Georgia	40	35	32	30	24	20	96	96	96	97	97	97
Hawaii	19	23	24	22	20	22	96	95	94	97	96	96
Idaho	35	28	25	31	21	16	98	97	97	94	97	97
Illinois	24	19	17	24	18	15	95	96	97	96	98	98
Indiana	34	27	24	26	20	16	96	97	97	98	97	97
Iowa	25	19	16	23	18	15	97	96	96	98	98	98
Kansas	32	26	23	28	21	17	98	94	92	98	98	98
Kentucky	39	33	30	35	26	20	96	96	95	98	98	98
Louisiana	44	37	34	33	25	21	95	95	95	97	97	97
Maine	22	18	16	20	15	13	97	97	97	98	98	99
Maryland	22	19	18	23	18	15	95	96	96	97	97	97
Massachusetts	17	15	14	21	15	11	96	97	97	98	98	98
Michigan	29	24	21	26	18	14	96	96	96	98	98	98
Minnesota	20	15	14	21	15	12	95	96	96	96	98	98
Mississippi	45	39	36	32	25	21	96	96	96	97	97	97
Missouri	34	27	24	29	21	16	96	96	96	97	97	98
Montana	30	23	20	28	19	14	98	97	97	99	98	98
Nebraska	33	24	21	28	21	17	98	97	97	99	98	98
Nevada	32	26	24	24	19	17	96	97	97	97	98	98
New Hampshire	25	18	15	27	18	12	95	97	98	98	98	99
New Jersey	24	18	16	26	19	15	98	98	98	98	98	98
New Mexico	29	25	24	24	20	19	97	93	91	97	97	97
New York	19	17	16	25	18	14	94	95	96	97	97	97
North Carolina	38	31	27	30	22	17	96	97	97	98	98	98
North Dakota	23	19	17	26	18	13	90	96	97	95	98	98
Ohio	32	26	23	29	21	16	96	97	97	97	98	98
Oklahoma	41	33	29	35	24	18	95	95	95	98	97	97
Oregon	28	23	21	22	17	14	95	95	95	97	97	97
Pennsylvania	25	21	19	24	18	14	95	96	97	98	98	98
Rhode Island	21	16	14	21	16	13	96	94	94	98	97	97
South Carolina	40	34	32	31	24	21	97	97	97	98	98	98
South Dakota	21	18	16	21	17	15	97	97	98	97	98	98
Tennessee	42	34	31	33	25	20	97	96	96	98	97	97
Texas	35	32	30	30	23	18	95	96	97	98	98	98
Utah	29	26	23	30	24	19	96	97	98	97	98	98
Vermont	20	16	14	16	12	11	96	94	92	98	98	98
Virginia	31	26	24	26	20	17	97	97	97	97	98	98
Washington	27	23	21	22	17	15	96	96	96	98	98	98
West Virginia	33	29	27	26	19	15	98	96	96	97	97	97
Wisconsin	21	18	16	22	15	12	97	97	97	98	98	98
Wyoming	28	22	20	25	18	15	94	96	97	98	96	96
Min	17	15	14	16	12	11	85	91	91	92	95	96
Max	45	39	36	36	29	25	98	98	98	99	98	99

[1] Low-income refers to Medicare beneficiaries who received a subsidy to help pay for prescription drug coverage at any time during the year. Higher-income refers to Medicare beneficiaries who received no subsidy at any time during the year.

[2] Safety-net hospitals are the 25% of hospitals in each state that treat the highest share of low-income patients, as captured in the facilities' disproportionate share hospital (DSH) payments.

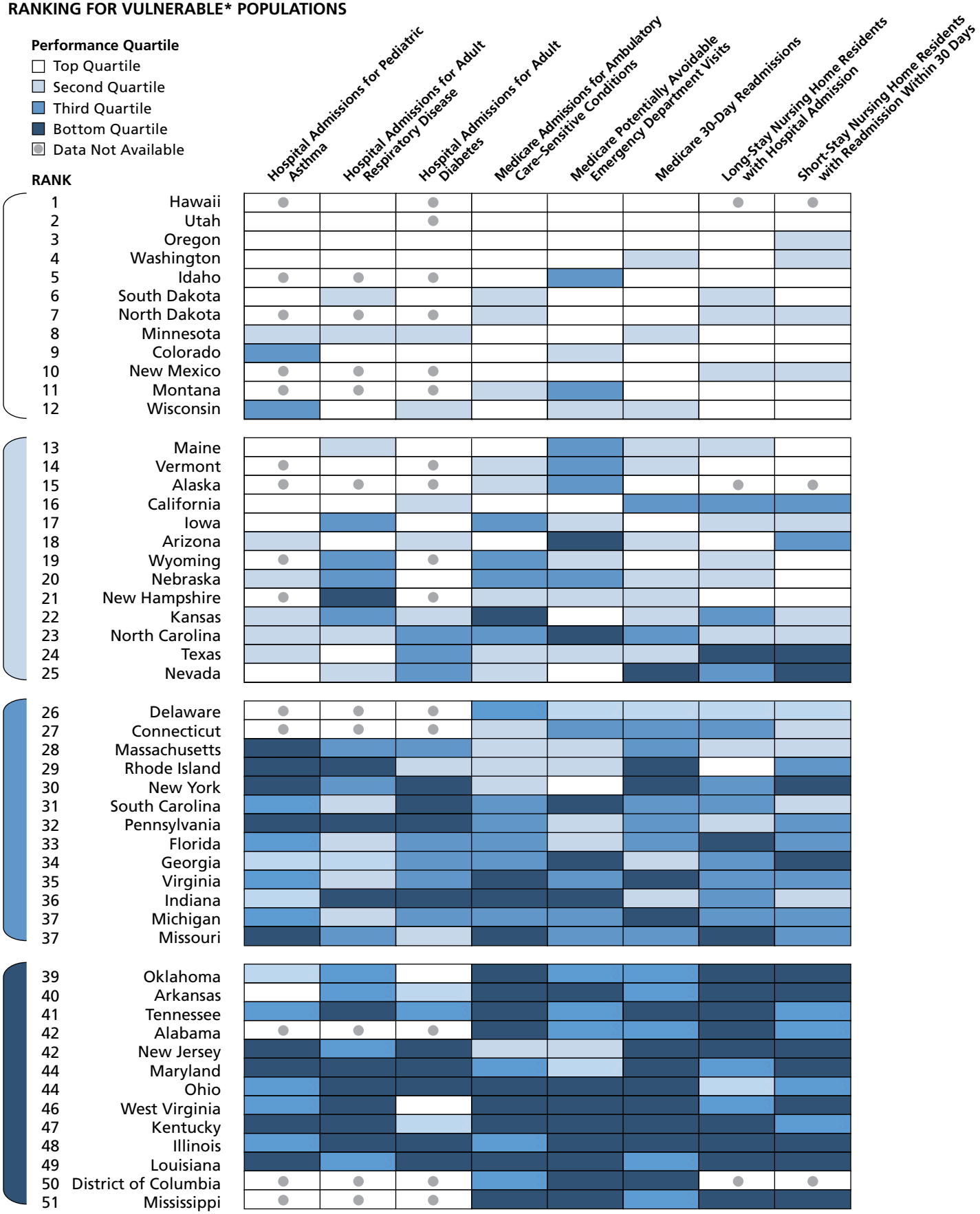
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A10. PREVENTION & TREATMENT: RATES BY VULNERABILITY (continued)

	Hospital 30-day mortality			Hospital discharge instructions for home recovery			Patient-centered hospital care		
	Safety-net hospitals[2]	State rate	Non-safety-net hospitals	Safety-net hospitals[2]	State rate	Non-safety-net hospitals	Safety-net hospitals[2]	State rate	Non-safety-net hospitals
United States	12%	12%	12%	82%	83%	83%	63%	65%	65%
Alabama	13	13	13	80	82	82	67	67	67
Alaska	15	13	13	87	87	86	71	68	67
Arizona	13	12	12	83	83	84	62	64	65
Arkansas	13	13	13	78	80	81	64	66	66
California	11	12	12	78	81	82	57	61	63
Colorado	12	12	12	86	86	86	68	67	67
Connecticut	11	12	12	81	81	81	60	62	63
Delaware	12	12	12	83	82	82	60	64	65
District of Columbia	11	12	12	67	77	82	52	57	59
Florida	12	12	12	80	81	81	62	61	61
Georgia	13	13	13	80	81	81	64	65	66
Hawaii	13	13	13	81	80	80	64	64	64
Idaho	12	13	13	90	88	87	75	68	65
Illinois	11	12	12	78	83	84	59	63	65
Indiana	12	12	13	83	84	85	65	66	66
Iowa	12	13	13	85	86	86	62	65	66
Kansas	13	13	13	85	85	85	66	68	68
Kentucky	13	13	13	83	83	84	68	67	66
Louisiana	12	13	13	81	82	83	66	70	72
Maine	12	12	12	84	86	87	66	68	69
Maryland	11	12	12	82	82	82	59	61	61
Massachusetts	12	11	11	85	86	86	63	65	66
Michigan	12	12	12	85	85	85	65	66	66
Minnesota	13	12	12	86	86	86	63	66	66
Mississippi	13	13	13	77	78	79	68	67	67
Missouri	13	13	12	82	84	85	62	64	65
Montana	12	12	13	82	83	84	61	66	67
Nebraska	13	13	13	88	89	89	65	67	68
Nevada	13	13	13	79	82	82	55	60	61
New Hampshire	13	13	13	88	88	88	69	68	67
New Jersey	12	12	12	77	79	80	56	61	62
New Mexico	12	13	13	83	81	81	62	64	65
New York	12	12	12	76	81	83	55	60	62
North Carolina	12	13	13	84	84	84	67	67	67
North Dakota	15	13	13	81	83	84	59	62	63
Ohio	12	12	12	85	84	84	65	65	65
Oklahoma	13	12	12	82	82	82	64	67	68
Oregon	13	13	13	86	85	85	64	64	64
Pennsylvania	12	12	12	84	83	83	63	64	64
Rhode Island	12	13	13	85	84	84	64	65	65
South Carolina	12	13	13	84	84	84	68	68	68
South Dakota	13	12	12	85	87	88	66	73	75
Tennessee	13	13	12	81	82	83	65	66	67
Texas	12	12	12	81	83	83	65	67	68
Utah	13	13	13	88	88	88	69	67	66
Vermont	15	13	13	90	86	85	67	66	66
Virginia	12	13	13	83	84	84	65	64	64
Washington	13	13	13	85	85	85	63	63	63
West Virginia	13	13	13	84	83	82	66	63	63
Wisconsin	13	13	13	86	86	86	66	67	67
Wyoming	12	13	13	86	86	86	64	66	67
Min	11	11	11	67	77	79	52	57	59
Max	15	13	13	90	89	89	75	73	75

[1] Low-income refers to Medicare beneficiaries who received a subsidy to help pay for prescription drug coverage at any time during the year. Higher-income refers to Medicare beneficiaries who received no subsidy at any time during the year.
[2] Safety-net hospitals are the 25% of hospitals in each state that treat the highest share of low-income patients, as captured in the facilities' disproportionate share hospital (DSH) payments.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A11. POTENTIALLY AVOIDABLE HOSPITAL USE: DIMENSION AND INDICATOR RANKING FOR VULNERABLE* POPULATIONS



* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A12. POTENTIALLY AVOIDABLE HOSPITAL USE: RANKS AND RATES AMONG VULNERABLE* POPULATIONS

	Dimension	Hospital admissions for pediatric asthma (per 100,000)		Hospital admissions for adult respiratory disease (per 100,000)		Hospital admissions for adult diabetes (per 100,000)	
	Rank	Rank	Rate	Rank	Rate	Rank	Rate
United States			—		—		—
Alabama	42	—	—	—	—	—	—
Alaska	15	—	—	—	—	—	—
Arizona	18	11	126	5	670	12	269
Arkansas	40	4	98	27	1,058	15	274
California	16	6	102	7	719	17	298
Colorado	9	24	187	9	785	7	231
Connecticut	27	—	—	—	—	—	—
Delaware	26	—	—	—	—	—	—
District of Columbia	50	—	—	—	—	—	—
Florida	33	23	187	12	816	23	318
Georgia	34	14	151	17	909	27	341
Hawaii	1	—	—	1	400	—	—
Idaho	5	—	—	—	—	—	—
Illinois	48	21	169	37	1,216	32	368
Indiana	36	17	155	33	1,112	28	342
Iowa	17	8	105	21	1,002	6	224
Kansas	22	13	142	28	1,062	11	262
Kentucky	47	30	239	40	1,517	13	273
Louisiana	49	31	243	26	1,057	29	345
Maine	13	5	100	11	812	3	176
Maryland	44	35	408	39	1,442	36	559
Massachusetts	28	32	276	29	1,068	25	325
Michigan	37	28	224	20	986	24	324
Minnesota	8	16	152	18	925	10	255
Mississippi	51	—	—	—	—	—	—
Missouri	37	29	237	24	1,042	14	274
Montana	11	—	—	—	—	—	—
Nebraska	20	10	111	22	1,029	4	181
Nevada	25	9	108	16	903	26	326
New Hampshire	21	—	—	41	1,589	—	—
New Jersey	42	34	327	25	1,046	34	457
New Mexico	10	—	—	—	—	—	—
New York	30	37	477	23	1,030	35	493
North Carolina	23	12	138	13	823	19	302
North Dakota	7	—	—	—	—	—	—
Ohio	44	27	207	36	1,202	33	369
Oklahoma	39	15	152	30	1,081	8	253
Oregon	3	1	56	3	551	2	169
Pennsylvania	32	36	436	32	1,099	30	361
Rhode Island	29	33	286	35	1,172	16	286
South Carolina	31	26	199	14	851	31	363
South Dakota	6	3	70	15	882	1	149
Tennessee	41	20	162	34	1,149	20	311
Texas	24	18	157	10	792	22	317
Utah	2	2	69	2	483	—	—
Vermont	14	—	—	4	566	—	—
Virginia	35	25	192	19	953	21	314
Washington	4	7	103	6	692	5	203
West Virginia	46	19	160	38	1,264	9	254
Wisconsin	12	22	184	8	733	18	299
Wyoming	19	—	—	31	1,094	—	—

* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A12. POTENTIALLY AVOIDABLE HOSPITAL USE: RANKS AND RATES AMONG VULNERABLE* POPULATIONS (continued)

	Medicare admissions for ambulatory care–sensitive conditions (per 100,000)		Medicare potentially avoidable emergency department visits (per 1,000)		Medicare 30-day readmissions		Long-stay nursing home residents with hospital admission		Short-stay nursing home residents with readmission within 30 days	
	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate
United States		10,990		332		22%		19%		20%
Alabama	41	12,892	28	348	29	21%	37	21%	33	22%
Alaska	15	9,868	27	346	4	17%	—	—	—	—
Arizona	11	9,267	41	377	20	20%	3	12%	33	22%
Arkansas	49	14,892	40	376	34	22%	46	27%	46	24%
California	2	7,186	4	259	27	21%	36	21%	25	20%
Colorado	9	8,709	21	323	9	17%	8	12%	6	15%
Connecticut	20	10,295	34	366	29	21%	25	19%	18	19%
Delaware	37	12,190	17	313	22	20%	24	19%	24	20%
District of Columbia	34	11,958	51	466	46	24%	—	—	—	—
Florida	36	12,073	19	319	38	22%	43	25%	31	21%
Georgia	33	11,831	44	392	24	21%	28	20%	39	23%
Hawaii	1	5,623	2	227	4	16%	—	—	—	—
Idaho	4	7,907	29	357	1	15%	7	12%	3	14%
Illinois	38	12,209	39	373	50	24%	44	25%	39	23%
Indiana	43	13,939	43	378	23	20%	32	20%	22	20%
Iowa	31	11,679	25	337	7	17%	18	16%	15	17%
Kansas	42	12,902	11	302	18	19%	35	20%	19	19%
Kentucky	51	16,891	48	409	47	24%	39	24%	28	21%
Louisiana	45	14,300	46	400	32	22%	47	31%	48	26%
Maine	12	9,334	37	368	16	19%	14	14%	9	16%
Maryland	26	10,928	20	320	51	25%	29	20%	42	23%
Massachusetts	22	10,432	23	334	34	22%	19	17%	19	19%
Michigan	28	11,014	33	366	44	23%	32	20%	36	22%
Minnesota	6	7,986	3	249	25	21%	1	7%	11	16%
Mississippi	44	14,269	50	422	32	22%	48	31%	45	23%
Missouri	40	12,863	30	358	37	22%	38	21%	33	22%
Montana	17	9,915	31	359	2	16%	6	12%	4	14%
Nebraska	35	11,998	26	337	14	19%	21	17%	10	16%
Nevada	21	10,417	10	299	39	22%	30	20%	43	23%
New Hampshire	16	9,902	24	334	16	19%	12	13%	12	16%
New Jersey	24	10,630	15	309	48	24%	45	26%	44	23%
New Mexico	7	8,088	8	297	11	19%	16	15%	17	18%
New York	13	9,445	7	281	44	23%	25	19%	37	22%
North Carolina	30	11,432	45	400	26	21%	23	19%	19	19%
North Dakota	18	10,074	6	267	3	16%	13	14%	16	18%
Ohio	46	14,418	47	406	41	23%	20	17%	28	21%
Oklahoma	47	14,645	32	361	31	21%	42	24%	46	24%
Oregon	5	7,959	11	302	11	19%	2	10%	14	17%
Pennsylvania	27	10,953	16	309	34	22%	21	17%	27	21%
Rhode Island	23	10,501	22	327	43	23%	3	12%	30	21%
South Carolina	32	11,820	42	377	27	21%	27	19%	23	20%
South Dakota	19	10,185	9	298	6	17%	17	16%	2	13%
Tennessee	48	14,698	35	367	41	23%	39	24%	31	21%
Texas	25	10,902	18	314	19	20%	41	24%	39	23%
Utah	3	7,560	1	218	8	17%	3	11%	1	12%
Vermont	14	9,747	36	367	20	20%	10	13%	5	15%
Virginia	39	12,724	38	372	40	23%	32	20%	26	20%
Washington	8	8,193	5	261	14	19%	11	13%	13	17%
West Virginia	50	15,018	49	419	48	24%	30	20%	37	22%
Wisconsin	10	9,168	14	307	13	19%	9	13%	8	16%
Wyoming	29	11,094	13	306	10	18%	15	14%	6	15%

* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A13. POTENTIALLY AVOIDABLE HOSPITAL USE: RATES BY VULNERABILITY

	Hospital admissions for pediatric asthma (per 100,000)			Hospital admissions for adult respiratory disease (per 100,000)			Hospital admissions for adult diabetes (per 100,000)		
	Residence in a low-income zip code	State rate	Residence in a high-income zip code	Residence in a low-income zip code	State rate	Residence in a high-income zip code	Residence in a low-income zip code	State rate	Residence in a high-income zip code
United States	—	111	—	—	621	—	—	187	—
Alabama	—	—	—	—	—	—	—	—	—
Alaska	—	—	—	—	—	—	—	—	—
Arizona	126	113	85	670	520	403	269	184	97
Arkansas	98	82	—	1,058	927	492	274	234	—
California	102	83	61	719	477	357	298	175	105
Colorado	187	151	108	785	515	386	231	127	69
Connecticut	—	143	—	—	579	—	—	170	—
Delaware	—	—	—	—	—	—	—	—	—
District of Columbia	—	—	—	—	—	—	—	—	—
Florida	187	127	76	816	604	418	318	210	113
Georgia	151	102	61	909	674	430	341	215	97
Hawaii	—	45	42	400	384	353	—	110	101
Idaho	—	—	—	—	—	—	—	—	—
Illinois	169	111	81	1,216	779	541	368	217	130
Indiana	155	109	85	1,112	901	570	342	208	121
Iowa	105	62	36	1,002	709	415	224	141	—
Kansas	142	126	93	1,062	802	403	262	188	105
Kentucky	239	165	66	1,517	1,157	495	273	214	113
Louisiana	243	199	113	1,057	887	672	345	268	200
Maine	100	79	51	812	614	383	176	137	—
Maryland	408	152	97	1,442	659	470	559	226	137
Massachusetts	276	182	133	1,068	719	612	325	170	121
Michigan	224	139	83	986	718	496	324	193	111
Minnesota	152	80	58	925	533	418	255	130	98
Mississippi	—	—	—	—	—	—	—	—	—
Missouri	237	166	96	1,042	828	544	274	208	125
Montana	—	—	—	—	—	—	—	—	—
Nebraska	111	64	30	1,029	752	623	181	128	—
Nevada	108	96	86	903	609	475	326	185	126
New Hampshire	—	64	50	1,589	654	476	—	132	82
New Jersey	327	150	104	1,046	625	510	457	216	142
New Mexico	—	—	—	—	—	—	—	—	—
New York	477	230	120	1,030	641	478	493	237	144
North Carolina	138	103	55	823	652	386	302	218	102
North Dakota	—	—	—	—	—	—	—	—	—
Ohio	207	122	63	1,202	861	591	369	226	128
Oklahoma	152	135	93	1,081	930	542	253	209	—
Oregon	56	43	18	551	460	352	169	130	—
Pennsylvania	436	199	88	1,099	783	554	361	225	136
Rhode Island	286	196	119	1,172	745	604	286	166	134
South Carolina	199	142	52	851	670	377	363	245	113
South Dakota	70	77	120	882	916	718	149	129	—
Tennessee	162	119	81	1,149	945	579	311	236	107
Texas	157	125	77	792	679	517	317	221	122
Utah	69	68	54	483	369	306	—	101	—
Vermont	—	50	—	566	583	367	—	104	—
Virginia	192	110	82	953	578	393	314	186	114
Washington	103	80	63	692	418	294	203	123	83
West Virginia	160	137	—	1,264	1,161	—	254	239	—
Wisconsin	184	79	57	733	542	445	299	149	105
Wyoming	—	170	116	1,094	784	651	—	132	—
Min	56	43	18	400	369	294	149	101	69
Max	477	230	133	1,589	1,161	718	559	268	200

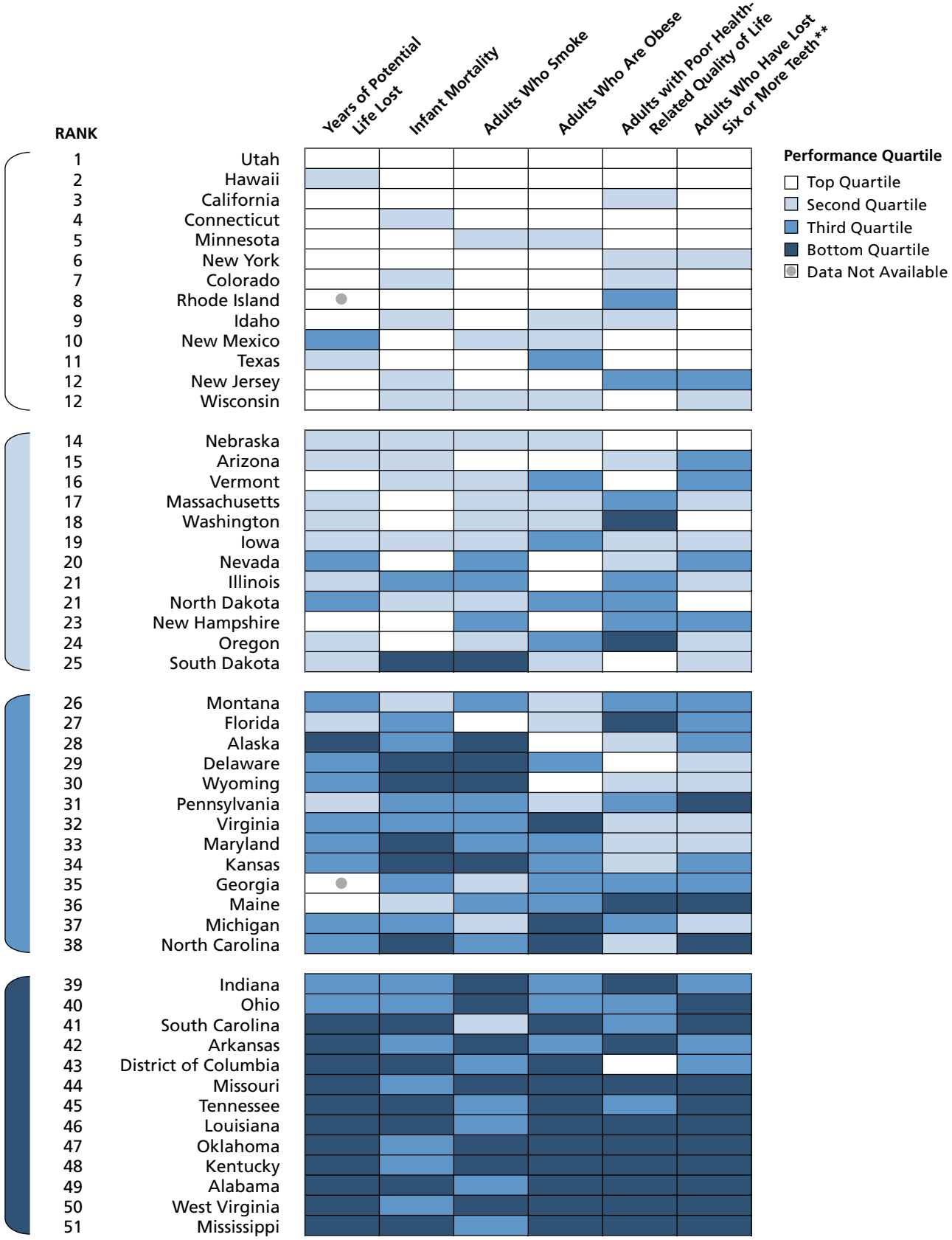
[1] Dual eligibles are Medicare beneficiaries age 65 and older who are also enrolled in Medicaid; non-dual eligibles are Medicare beneficiaries age 65 and older who are not also enrolled in Medicaid.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A13. POTENTIALLY AVOIDABLE HOSPITAL USE: RATES BY VULNERABILITY (continued)

	Medicare admissions for ambulatory care–sensitive conditions (per 100,000)			Medicare potentially avoidable emergency department visits (per 1,000)			Medicare 30-day readmissions		
	Dual eligibles[1]	State rate	Non-dual eligibles[1]	Dual eligibles[1]	State rate	Non-dual eligibles[1]	Dual eligibles[1]	State rate	Non-dual eligibles[1]
United States	10,990	5,675	4,847	332	185	162	22%	19%	18%
Alabama	12,892	6,680	5,542	348	191	162	21	19	18
Alaska	9,868	4,261	3,172	346	181	149	17	15	14
Arizona	9,267	4,064	3,697	377	175	160	20	17	17
Arkansas	14,892	6,564	5,006	376	185	149	22	18	17
California	7,186	4,256	3,263	259	166	134	21	18	16
Colorado	8,709	3,831	3,320	323	176	161	17	15	14
Connecticut	10,295	5,785	4,834	366	195	159	21	19	18
Delaware	12,190	5,005	4,202	313	175	159	20	17	17
District of Columbia	11,958	6,145	4,106	466	263	192	24	21	18
Florida	12,073	5,477	4,452	319	172	150	22	19	17
Georgia	11,831	5,736	4,603	392	194	158	21	18	17
Hawaii	5,623	2,928	2,595	227	129	117	16	16	15
Idaho	7,907	3,675	3,194	357	169	147	15	13	12
Illinois	12,209	6,089	5,472	373	191	173	24	20	19
Indiana	13,939	6,455	5,556	378	200	179	20	18	17
Iowa	11,679	5,332	4,664	337	177	160	17	16	16
Kansas	12,902	5,604	4,855	302	169	155	19	16	15
Kentucky	16,891	8,475	6,977	409	215	180	24	20	19
Louisiana	14,300	7,894	6,270	400	222	177	22	19	18
Maine	9,334	5,486	3,989	368	235	184	19	18	17
Maryland	10,928	5,612	5,033	320	185	170	25	22	21
Massachusetts	10,432	6,554	5,921	334	218	199	22	20	19
Michigan	11,014	6,153	5,632	366	208	192	23	19	19
Minnesota	7,986	4,548	4,380	249	165	161	21	16	16
Mississippi	14,269	7,334	5,262	422	229	171	22	19	17
Missouri	12,863	6,119	5,489	358	192	177	22	19	18
Montana	9,915	4,550	4,113	359	167	152	16	13	13
Nebraska	11,998	5,459	4,872	337	149	133	19	15	15
Nevada	10,417	4,667	3,997	299	167	151	22	18	18
New Hampshire	9,902	5,136	4,864	334	194	186	19	17	17
New Jersey	10,630	5,676	5,076	309	169	152	24	21	20
New Mexico	8,088	4,334	3,584	297	171	146	19	16	16
New York	9,445	5,907	5,228	281	172	151	23	21	20
North Carolina	11,432	5,259	4,177	400	194	158	21	18	17
North Dakota	10,074	5,156	4,887	267	179	174	16	14	14
Ohio	14,418	6,897	5,790	406	215	187	23	20	19
Oklahoma	14,645	6,556	5,543	361	196	175	21	18	18
Oregon	7,959	3,754	3,329	302	164	150	19	15	14
Pennsylvania	10,953	6,271	5,790	309	185	172	22	19	18
Rhode Island	10,501	5,885	5,253	327	194	176	23	20	19
South Carolina	11,820	5,136	4,266	377	172	146	21	17	16
South Dakota	10,185	5,254	4,745	298	168	154	17	15	14
Tennessee	14,698	6,854	5,575	367	193	165	23	19	18
Texas	10,902	5,888	5,006	314	180	157	20	18	17
Utah	7,560	3,408	3,145	218	147	142	17	13	13
Vermont	9,747	4,823	3,922	367	194	162	20	16	15
Virginia	12,724	5,393	4,517	372	183	161	23	18	18
Washington	8,193	3,963	3,362	261	154	138	19	16	15
West Virginia	15,018	8,192	6,970	419	230	196	24	22	21
Wisconsin	9,168	4,833	4,473	307	184	174	19	16	16
Wyoming	11,094	4,590	3,975	306	168	155	18	15	14
Min	5,623	2,928	2,595	218	129	117	15	13	12
Max	16,891	8,475	6,977	466	263	199	25	22	21

[1] Dual eligibles are Medicare beneficiaries age 65 and older who are also enrolled in Medicaid; non-dual eligibles are Medicare beneficiaries age 65 and older who are not also enrolled in Medicaid.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A14. HEALTHY LIVES: DIMENSION AND INDICATOR RANKING FOR VULNERABLE* POPULATIONS



* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
** Tooth loss because of decay, infection, or gum disease.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A15. HEALTHY LIVES: RANKS AND RATES AMONG VULNERABLE* POPULATIONS

	Dimension	Years of potential life lost (per 100,000)		Infant mortality (per 1,000 live births)		Adults who smoke	
	Rank	Rank	Rate	Rank	Rate	Rank	Rate
United States			12,000		8.0		27%
Alabama	49	47	16,828	47	11.0	30	31%
Alaska	28	39	14,549	26	8.2	50	39%
Arizona	15	17	11,602	17	7.4	5	23%
Arkansas	42	43	15,474	32	9.0	45	35%
California	3	2	9,704	1	5.5	2	17%
Colorado	7	12	11,279	14	7.2	11	27%
Connecticut	4	6	10,435	23	7.8	6	24%
Delaware	29	32	13,671	46	10.6	40	34%
District of Columbia	43	49	21,635	50	11.5	34	33%
Florida	27	24	12,607	27	8.5	4	22%
Georgia	35	—	—	34	9.2	19	29%
Hawaii	2	21	12,063	6	6.4	7	24%
Idaho	9	7	10,487	21	7.7	9	25%
Illinois	21	19	11,859	27	8.5	26	30%
Indiana	39	31	13,371	34	9.2	46	36%
Iowa	19	14	11,425	19	7.5	23	29%
Kansas	34	29	12,997	42	9.9	40	34%
Kentucky	48	42	15,471	29	8.8	51	40%
Louisiana	46	44	15,591	48	11.3	30	32%
Maine	36	11	11,111	19	7.5	37	33%
Maryland	33	33	13,704	40	9.8	34	33%
Massachusetts	17	13	11,362	10	6.9	13	28%
Michigan	37	36	14,072	38	9.6	25	30%
Minnesota	5	1	9,465	12	7.1	16	28%
Mississippi	51	48	17,243	51	12.1	37	33%
Missouri	44	38	14,268	29	8.8	47	37%
Montana	26	28	12,951	24	8.0	29	31%
Nebraska	14	15	11,485	17	7.4	18	29%
Nevada	20	27	12,774	9	6.7	34	33%
New Hampshire	23	9	10,800	7	6.5	37	33%
New Jersey	12	10	10,917	14	7.2	3	22%
New Mexico	10	34	13,786	3	6.1	15	28%
New York	6	3	9,990	10	6.9	10	25%
North Carolina	38	35	14,004	44	10.0	26	30%
North Dakota	21	25	12,725	21	7.7	13	28%
Ohio	40	30	13,347	38	9.6	43	34%
Oklahoma	47	46	16,333	31	8.9	48	38%
Oregon	24	23	12,515	5	6.3	23	29%
Pennsylvania	31	20	11,915	32	9.0	28	31%
Rhode Island	8	—	—	7	6.5	12	27%
South Carolina	41	40	14,984	42	9.9	19	29%
South Dakota	25	22	12,069	40	9.8	42	34%
Tennessee	45	41	15,375	45	10.3	33	33%
Texas	11	18	11,609	12	7.1	7	24%
Utah	1	4	10,338	2	5.6	1	17%
Vermont	16	5	10,421	16	7.3	17	29%
Virginia	32	26	12,728	36	9.3	32	32%
Washington	18	16	11,546	4	6.2	21	29%
West Virginia	50	45	15,858	36	9.3	49	38%
Wisconsin	12	8	10,515	25	8.1	22	29%
Wyoming	30	37	14,205	49	11.4	44	35%

* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A15. HEALTHY LIVES: RANKS AND RATES AMONG VULNERABLE* POPULATIONS (continued)

	Adults who are obese		Adults with poor health-related quality of life		Adults who have lost six or more teeth**	
	Rank	Rate	Rank	Rate	Rank	Rate
United States		34%		48%		16%
Alabama	46	40%	48	55%	49	26%
Alaska	3	27%	21	46%	29	16%
Arizona	12	31%	17	46%	27	16%
Arkansas	27	35%	50	59%	33	17%
California	12	31%	22	46%	4	10%
Colorado	5	28%	20	46%	7	10%
Connecticut	10	30%	5	43%	1	8%
Delaware	31	36%	7	43%	19	14%
District of Columbia	50	42%	12	45%	36	19%
Florida	25	34%	44	53%	38	19%
Georgia	37	37%	31	48%	37	19%
Hawaii	1	26%	1	35%	3	9%
Idaho	23	33%	16	45%	9	12%
Illinois	12	31%	30	48%	14	13%
Indiana	31	36%	39	51%	34	18%
Iowa	28	35%	13	45%	16	13%
Kansas	31	36%	15	45%	30	16%
Kentucky	41	38%	51	61%	47	25%
Louisiana	49	42%	43	52%	40	21%
Maine	36	36%	47	54%	44	22%
Maryland	38	37%	24	47%	15	13%
Massachusetts	18	31%	31	48%	21	15%
Michigan	42	39%	34	49%	21	15%
Minnesota	17	31%	4	42%	6	10%
Mississippi	51	44%	46	54%	47	25%
Missouri	40	37%	40	51%	43	22%
Montana	15	31%	26	47%	32	16%
Nebraska	24	33%	9	44%	10	12%
Nevada	1	26%	23	46%	27	16%
New Hampshire	6	29%	37	50%	35	18%
New Jersey	11	30%	28	47%	26	16%
New Mexico	19	31%	8	44%	8	12%
New York	4	28%	18	46%	21	15%
North Carolina	39	37%	24	47%	41	21%
North Dakota	26	34%	38	51%	5	10%
Ohio	30	35%	29	47%	46	23%
Oklahoma	43	39%	45	53%	45	22%
Oregon	31	36%	42	51%	18	14%
Pennsylvania	22	33%	35	49%	41	21%
Rhode Island	6	29%	27	47%	12	13%
South Carolina	45	40%	33	48%	39	20%
South Dakota	21	32%	9	44%	17	14%
Tennessee	43	39%	36	50%	50	30%
Texas	35	36%	5	43%	12	13%
Utah	8	30%	3	41%	2	9%
Vermont	28	35%	9	44%	30	16%
Virginia	47	41%	18	46%	24	15%
Washington	20	32%	40	51%	11	12%
West Virginia	48	41%	49	56%	51	31%
Wisconsin	15	31%	2	38%	20	14%
Wyoming	8	30%	14	45%	25	16%

* Definition of vulnerability varied by indicator for this dimension. See Appendix B for additional details.
** Tooth loss because of decay, infection, or gum disease.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A16. HEALTHY LIVES: RATES BY VULNERABILITY

	Years of potential life lost (per 100,000)			Infant mortality (per 1,000 live births)			Adults who smoke		
	Education: high school diploma or less	State rate	Education: 4-year college degree or higher	Education: high school diploma or less	State rate	Education: 4-year college degree or higher	Income under 200% FPL	State rate	Income at or above 400% FPL
United States	12,000	7,615	3,764	8.0	6.7	4.0	27%	20%	12%
Alabama	16,828	11,441	5,352	11.0	9.5	5.8	31	24	13
Alaska	14,549	8,435	3,957	8.2	6.5	—	39	23	14
Arizona	11,602	7,653	4,294	7.4	6.5	4.4	23	19	12
Arkansas	15,474	11,016	5,215	9.0	7.9	4.4	35	26	15
California	9,704	6,647	3,495	5.5	5.1	3.5	17	13	8
Colorado	11,279	6,712	3,822	7.2	6.0	3.9	27	18	11
Connecticut	10,435	6,355	3,129	7.8	6.3	3.8	24	17	12
Delaware	13,671	8,726	3,926	10.6	8.0	—	34	22	13
District of Columbia	21,635	11,041	4,063	11.5	12.0	—	33	21	10
Florida	12,607	8,574	4,373	8.5	7.2	4.0	22	19	15
Georgia	—	8,972	—	9.2	8.0	4.5	29	21	10
Hawaii	12,063	7,172	3,910	6.4	6.0	4.7	24	17	11
Idaho	10,487	7,103	3,672	7.7	6.5	4.7	25	17	9
Illinois	11,859	7,598	3,663	8.5	7.1	4.6	30	21	14
Indiana	13,371	8,828	3,941	9.2	7.4	4.3	36	26	15
Iowa	11,425	7,195	3,871	7.5	5.4	3.7	29	20	12
Kansas	12,997	7,904	3,732	9.9	7.5	4.9	34	22	13
Kentucky	15,471	10,594	4,477	8.8	7.0	3.8	40	29	18
Louisiana	15,591	11,117	5,184	11.3	9.4	5.5	32	26	19
Maine	11,111	7,188	3,892	7.5	6.0	4.2	33	23	12
Maryland	13,704	7,916	3,765	9.8	8.0	5.3	33	19	13
Massachusetts	11,362	6,249	3,153	6.9	4.9	3.0	28	18	11
Michigan	14,072	8,383	3,850	9.6	7.6	4.7	30	23	15
Minnesota	9,465	5,931	3,384	7.1	5.6	3.8	28	19	12
Mississippi	17,243	12,090	6,119	12.1	10.2	6.3	33	26	17
Missouri	14,268	9,075	4,254	8.8	7.3	4.7	37	25	16
Montana	12,951	8,276	4,046	8.0	6.5	—	31	22	11
Nebraska	11,485	6,973	3,752	7.4	5.9	4.3	29	21	13
Nevada	12,774	8,948	5,172	6.7	6.1	3.6	33	23	15
New Hampshire	10,800	6,303	3,402	6.5	5.1	3.6	33	19	11
New Jersey	10,917	6,730	3,480	7.2	5.3	3.3	22	17	13
New Mexico	13,786	9,574	4,608	6.1	5.8	3.6	28	21	12
New York	9,990	6,575	3,418	6.9	5.6	3.1	25	18	11
North Carolina	14,004	8,793	4,230	10.0	8.3	4.7	30	22	14
North Dakota	12,725	7,509	3,674	7.7	6.4	6.8	28	21	15
Ohio	13,347	8,712	3,903	9.6	7.7	4.4	34	25	15
Oklahoma	16,333	11,195	5,238	8.9	7.9	5.0	38	26	17
Oregon	12,515	7,264	3,492	6.3	5.4	4.0	29	20	9
Pennsylvania	11,915	8,057	3,993	9.0	7.5	3.9	31	22	14
Rhode Island	—	7,052	—	6.5	6.5	4.4	27	20	12
South Carolina	14,984	10,069	4,203	9.9	8.3	4.7	29	23	13
South Dakota	12,069	7,199	3,333	9.8	7.1	—	34	23	13
Tennessee	15,375	10,386	4,873	10.3	8.4	4.5	33	24	15
Texas	11,609	8,292	3,896	7.1	6.2	4.1	24	19	11
Utah	10,338	6,648	3,231	5.6	4.9	3.7	17	12	7
Vermont	10,421	6,325	3,071	7.3	5.1	—	29	19	9
Virginia	12,728	7,489	3,681	9.3	7.2	4.2	32	21	12
Washington	11,546	6,729	3,228	6.2	5.0	2.7	29	17	10
West Virginia	15,858	11,394	5,276	9.3	7.4	3.8	38	29	18
Wisconsin	10,515	6,737	3,685	8.1	6.6	4.0	29	21	13
Wyoming	14,205	8,721	3,957	11.4	7.0	—	35	23	16
Min	9,465	5,931	3,071	6	5	3	17	12	7
Max	21,635	12,090	6,119	12	12	7	40	29	19

— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A16. HEALTHY LIVES: RATES BY VULNERABILITY (continued)

	Adults who are obese			Adults with poor health-related quality of life			Adults who have lost six or more teeth*		
	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL	Income under 200% FPL	State rate	Income at or above 400% FPL
United States	34%	28%	25%	48%	35%	24%	16%	10%	5%
Alabama	40	33	32	55	41	27	26	18	9
Alaska	27	27	27	46	33	27	16	8	6
Arizona	31	25	22	46	37	26	16	9	6
Arkansas	35	32	30	59	43	25	17	12	6
California	31	25	20	46	35	25	10	7	4
Colorado	28	21	19	46	34	26	10	6	3
Connecticut	30	25	22	43	31	23	8	6	4
Delaware	36	29	28	43	30	22	14	9	5
District of Columbia	42	23	15	45	29	21	19	10	4
Florida	34	28	25	53	39	29	19	11	5
Georgia	37	29	26	48	34	23	19	11	5
Hawaii	26	23	23	35	29	25	9	5	3
Idaho	33	29	27	45	34	24	12	8	4
Illinois	31	27	27	48	33	24	13	8	4
Indiana	36	32	31	51	37	22	18	11	5
Iowa	35	29	28	45	27	18	13	7	4
Kansas	36	30	28	45	31	22	16	9	4
Kentucky	38	31	27	61	41	26	25	16	7
Louisiana	42	34	33	52	40	27	21	13	7
Maine	36	29	26	54	37	23	22	13	7
Maryland	37	29	27	47	32	25	13	8	5
Massachusetts	31	23	21	48	31	22	15	8	5
Michigan	39	32	31	49	37	26	15	9	4
Minnesota	31	26	24	42	28	20	10	6	4
Mississippi	44	36	31	54	39	25	25	17	8
Missouri	37	31	30	51	38	28	22	13	8
Montana	31	24	22	47	34	22	16	10	4
Nebraska	33	28	27	44	30	21	12	7	3
Nevada	26	26	26	46	35	21	16	9	5
New Hampshire	29	27	26	50	32	22	18	8	4
New Jersey	30	24	22	47	32	24	16	10	7
New Mexico	31	28	24	44	37	26	12	8	4
New York	28	25	23	46	34	24	15	9	6
North Carolina	37	31	27	47	34	21	21	13	6
North Dakota	34	27	29	51	28	24	10	5	3
Ohio	35	30	28	47	35	22	23	13	6
Oklahoma	39	32	29	53	40	29	22	14	6
Oregon	36	27	25	51	39	27	14	8	3
Pennsylvania	33	29	28	49	35	24	21	11	5
Rhode Island	29	26	25	47	34	21	13	7	3
South Carolina	40	32	27	48	35	23	20	12	5
South Dakota	32	28	28	44	31	20	14	7	4
Tennessee	39	31	28	50	36	23	30	20	9
Texas	36	32	28	43	34	24	13	8	4
Utah	30	24	24	41	31	26	9	5	4
Vermont	35	26	23	44	32	23	16	10	5
Virginia	41	30	27	46	32	25	15	8	5
Washington	32	27	27	51	38	29	12	8	4
West Virginia	41	33	30	56	42	28	31	20	10
Wisconsin	31	28	26	38	29	19	14	9	6
Wyoming	30	27	26	45	30	19	16	10	6
Min	26	21	15	35	27	18	8	5	3
Max	44	36	33	61	43	29	31	20	10

* Tooth loss because of decay, infection, or gum disease.
— = data not available.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX EXHIBIT A17. 30-DAY READMISSIONS AMONG MEDICARE BENEFICIARIES DISCHARGED FROM SAFETY-NET AND NON-SAFETY-NET HOSPITALS

	30-day readmission rate	30-day readmission rate from safety-net hospitals	30-day readmission rate from non-safety-net hospitals
United States	19%	20%	18%
Alabama	19	21	18
Alaska	15	16	14
Arizona	17	16	17
Arkansas	18	20	18
California	18	20	17
Colorado	15	15	14
Connecticut	19	19	19
Delaware	17	18	17
District of Columbia	21	23	20
Florida	19	20	18
Georgia	18	18	18
Hawaii	16	16	15
Idaho	13	13	13
Illinois	20	21	19
Indiana	18	18	18
Iowa	16	16	16
Kansas	16	16	16
Kentucky	20	23	19
Louisiana	19	20	19
Maine	18	17	18
Maryland	22	24	21
Massachusetts	20	20	20
Michigan	19	20	19
Minnesota	16	17	16
Mississippi	19	21	18
Missouri	19	19	18
Montana	13	14	13
Nebraska	15	16	15
Nevada	18	20	18
New Hampshire	17	18	17
New Jersey	21	22	21
New Mexico	16	17	16
New York	21	23	20
North Carolina	18	20	17
North Dakota	14	16	14
Ohio	20	20	19
Oklahoma	18	19	18
Oregon	15	16	15
Pennsylvania	19	20	19
Rhode Island	20	20	20
South Carolina	17	19	17
South Dakota	15	15	14
Tennessee	19	20	19
Texas	18	18	17
Utah	13	15	13
Vermont	16	14	18
Virginia	18	20	18
Washington	16	16	16
West Virginia	22	22	22
Wisconsin	16	17	16
Wyoming	15	15	15

Note: Safety-net hospitals are the 25% of hospitals in each state that treat the highest share of low-income patients, as captured in the facilities' disproportionate share hospital (DSH) payments.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX B1. SCORECARD INDICATORS, DATA, AND YEARS

	Indicator	Year	Database	Vulnerable definition
	ACCESS & AFFORDABILITY			
1	Percent of adults ages 19–64 uninsured	2010–2011	CPS ASEC	Less than 200% of the federal poverty level (FPL)
2	Percent of children ages 0–18 uninsured	2010–2011	CPS ASEC	Less than 200% FPL
3	Percent of adults who went without care because of cost in the past year	2011	BRFSS	Less than 200% FPL
4	Percent of individuals with high out-of-pocket medical spending relative to their annual household income	2010–2011	CPS ASEC	Less than 200% FPL
5	Percent of adults without a dentist, dental hygienist, or dental clinic visit in the past year	2010	BRFSS	Less than 200% FPL
	PREVENTION & TREATMENT			
6	Percent of adults age 50 and older who received recommended screening and preventive care	2010	BRFSS	Less than 200% FPL
7	Percent of adults with a usual source of care	2011	BRFSS	Less than 200% FPL
8	Percent of children with a medical home	2011/12	NSCH	Less than 200% FPL
9	Percent of children with both a medical and dental preventive care visit in the past year	2011/12	NSCH	Less than 200% FPL
10	Percent of Medicare beneficiaries who received at least one drug that should be avoided in the elderly	2010	5% Medicare enrolled in Part D	Low-income Medicare beneficiaries who receive a subsidy to help pay for their prescription drug benefit
11	Percent of Medicare beneficiaries with dementia, hip/pelvic fracture, or chronic renal failure who received prescription in an ambulatory care setting that is contraindicated for that condition	2010	5% Medicare enrolled in Part D	Low-income Medicare beneficiaries who receive a subsidy to help pay for their prescription drug benefit
12	Percent of patients hospitalized for heart failure or pneumonia who received recommended care	10/2010–09/2011	CMS Hospital Compare	Safety-net hospitals[1]
13	Percent of surgical patients who received appropriate care to prevent complications	10/2010–09/2011	CMS Hospital Compare	Safety-net hospitals[1]
14	Risk-adjusted 30-day mortality among Medicare beneficiaries hospitalized for heart attack, heart failure, or pneumonia	07/2009–06/2011	CMS Hospital Compare	Safety-net hospitals[1]
15	Percent of hospitalized patients given information about what to do during their recovery at home	10/2010–09/2011	HCAHPS (via CMS Hospital Compare)	Safety-net hospitals[1]
16	Percent of patients who reported hospital staff always managed pain well, responded when needed help to get to bathroom or pressed call button, and explained medicines and side effects	10/2010–09/2011	HCAHPS (via CMS Hospital Compare)	Safety-net hospitals[1]
	POTENTIALLY AVOIDABLE HOSPITAL USE			
17	Hospital admissions for pediatric asthma, per 100,000 children	2008	HCUP (via AHRQ State Health Snapshots)	Residence in a low-income zip code, where median household income in the zip code is less than $39,000
18	Potentially avoidable hospitalizations from respiratory disease among adults, per 100,000	2008	HCUP (via AHRQ State Health Snapshots)	Residence in a low-income zip code, where median household income in the zip code is less than $39,000
19	Potentially avoidable hospitalizations from complications of diabetes among adults, per 100,000	2008	HCUP (via AHRQ State Health Snapshots)	Residence in a low-income zip code, where median household income in the zip code is less than $39,000
20	Hospital admissions among Medicare beneficiaries for ambulatory care–sensitive conditions, per 100,000 beneficiaries	2011	Medicare claims (via CCW)	Medicare beneficiaries who also are enrolled in Medicaid
21	Potentially avoidable emergency department visits among Medicare beneficiaries, per 1,000 beneficiaries	2011	5% Medicare claims (via CCW)	Medicare beneficiaries who also are enrolled in Medicaid
22	Medicare 30-day hospital readmissions as a percent of admissions	2011	Medicare claims (via CCW)	Medicare beneficiaries who also are enrolled in Medicaid
23	Percent of long-stay nursing home residents hospitalized within six-month period	2010	MEDPAR, MDS	All long-stay nursing home patients considered vulnerable
24	Percent of short-stay nursing home residents readmitted within 30 days of hospital discharge to nursing home	2010	MEDPAR, MDS	All short-stay nursing home patients considered vulnerable

APPENDIX B1. SCORECARD INDICATORS, DATA, AND YEARS (continued)

	Indicator	Year	Database	Vulnerable definition
	HEALTHY LIVES			
25	Years of potential life lost before age 75 among adults age 25 and older	2008–2010	CDC NVSS: Mortality Restricted Use File	Decedent's education: high school diploma (or equivalent) or less
26	Infant mortality, deaths per 1,000 live births	2006–2008	CDC NVSS: Linked Birth/ Death Restricted Use File	Mother's education: high school diploma (or equivalent) or less
27	Percent of adults who smoke	2011	BRFSS	Less than 200% FPL
28	Percent of adults ages 18–64 who are obese (BMI ≥ 30)	2011	BRFSS	Less than 200% FPL
29	Percent of adults ages 18–64 who report fair/poor health, 14 or more bad mental health days, or activity limitations	2011	BRFSS	Less than 200% FPL
30	Percent of adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease	2010	BRFSS	Less than 200% FPL

[1] Safety-net hospitals are the 25% of hospitals in each state that treat the highest share of low-income patients, as captured in the facilities' disproportionate share hospital (DSH) payments.
Source: Commonwealth Fund Scorecard on State Health System Performance for Low-Income Populations, 2013.

APPENDIX B2. SCORECARD INDICATOR DESCRIPTIONS AND SOURCE NOTES

1 **Percent of adults ages 19–64 uninsured:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). N. Tilipman, Columbia University, analysis of 2011, 2012 Current Population Survey, Annual Social and Economic Supplement (U.S. Census Bureau, CPS ASES 2011, 2012).

2 **Percent of children ages 0–18 uninsured:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). N. Tilipman, Columbia University, analysis of 2011, 2012 Current Population Survey, Annual Social and Economic Supplement (U.S. Census Bureau, CPS ASES 2011, 2012).

3 **Percent of adults who went without care because of cost in the past year:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2011).

4 **Percent of individuals with high out-of-pocket medical spending relative to their annual household income:** Out-of-pocket medical expenses equaled 10 percent or more of annual household income, or 5 percent or more of annual household income if low-income (family income under 200% of federal poverty level), not including health insurance premiums. Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). C. Solis-Roman, Columbia University, analysis of 2011, 2012 Current Population Survey, Annual Social and Economic Supplement (U.S. Census Bureau, CPS ASES 2011, 2012).

5 **Percent of adults without a dentist, dental hygienist, or dental clinic visit in the past year:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2011).

6 **Percent of adults age 50 and older received recommended screening and preventive care:** Percent of adults age 50 and older who have received: sigmoidoscopy or colonoscopy in the past 10 years or a fecal occult blood test in the past two years; a mammogram in the past two years (women only); a pap smear in the past three years (women only); and a flu shot in the past year and a pneumonia vaccine ever (age 65 and older only). Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2010 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2010).

7 **Percent of adults with a usual source of care:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2011).

8 **Percent of children with a medical home:** Percentage of children who have a personal doctor or nurse, have a usual source for sick and well care, receive family-centered care, have no problems getting needed referrals, and receive effective care coordination when needed. For more information, see www.childhealthdata.org. Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011/12 National Survey of Children's Health (CAHMI, NSCH 2011/12).

9 **Percent of children with both a medical and dental preventive care visit in the past year:** Percent of children 0–17 with a preventive medical visit and, if ages 1–17, a preventive dental visit in the past year. For more information, see www.childhealthdata.org. Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011/12 National Survey of Children's Health (CAHMI, NSCH 2011/12).

10 **Percent of Medicare beneficiaries received at least one drug that should be avoided in the elderly:** Percent of Medicare beneficiaries age 65 and older received at least one drug from a list of 13 classes of high-risk prescriptions that should be avoided by the elderly. Vulnerable/Advantaged Cohorts: low-income Medicare Part D beneficiaries who received a subsidy to help pay for their drug benefit (≈150% federal poverty level) / beneficiaries without a subsidy. Y. Zhang and S. H. Baik, University of Pittsburgh, analysis of 2010 5% sample of Medicare beneficiaries enrolled in stand-alone Medicare Part D plans.

11 **Percent of Medicare beneficiaries with dementia, hip/pelvic fracture, or chronic renal failure received prescription in an ambulatory care setting that is contraindicated for that condition:** Vulnerable/Advantaged Cohorts: low-income Medicare Part-D beneficiaries who received a subsidy to help pay for their drug benefit (≈150% federal poverty level) / beneficiaries without a subsidy. Y. Zhang and S. H. Baik, Univeristy of Pittsburgh, analysis of 2010 5% sample of Medicare beneficiaries enrolled in stand-alone Medicare Part D plans.

12 **Percent of patients hospitalized for heart failure, or pneumonia who received recommended care:** Proportion of cases where a hospital provided the recommended process of care for patients with congestive heart failure (CHF) or pneumonia. The composite includes 2 clinical services for CHF (assessment of left ventricular function and the use of an ACE inhibitor for left ventricular dysfunction) and 3 for pneumonia (initial antibiotic therapy received within four hours of hospital arrival, pneumococcal vaccination, and assessment of oxygenation). Vulnerable/Advantaged Cohorts: Safety-Net Hospitals (25% of hospitals in each state with the highest Disproportionate Share Patient Percent (DSH Index) payments) / all other hospitals in the state. IPRO analysis of October 2012 CMS Hospital Compare Database (DHHS n.d.).

13 **Surgical patients received appropriate care to prevent complications:** Proportion of cases where a hospital provided recommended processes of care to prevent complications among surgical patients. The hospital quality measures used to create the indicator were the most current measures listed on the CMS Hospital Compare Web site for improving surgical care/preventing surgical infections during that time. The latest data are a composite of eight process measures: surgery patients on a beta blocker prior to arrival who received a beta blocker during the perioperative period, prophylactic antibiotics within 1 hour prior to surgery, prophylactic antibiotic selection, prophylactic antibiotics discontinued within 24 hours after surgery, cardiac surgery patients with controlled 6 a.m. postoperative blood glucose, surgery patients with appropriate hair removal, surgery patients with recommended venous thromboembolism prophylaxis ordered, and surgery patients received appropriate venous thromboembolism prophylaxis within 24 hours prior to surgery to 24 hours after surgery. Vulnerable/Advantaged Cohorts: Safety-Net Hospitals (25% of hospitals in each state with the highest Disproportionate Share Patient Percent (DSH Index) payments) / all other hospitals in the state. IPRO analysis of October 2012 CMS Hospital Compare Database (DHHS n.d.).

14 **Risk-adjusted 30-day mortality among Medicare patients hospitalized for heart failure or pneumonia:** Risk-standardized, all-cause 30-day mortality rates for Medicare patients age 65 and older hospitalized with a principal diagnosis of heart attack, heart failure, or pneumonia. 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. Vulnerable/Advantaged Cohorts: Safety-Net Hospitals (25% of hospitals in each state with the highest Disproportionate Share Patient Percent (DSH Index) payments) / all other hospitals in the state. IPRO's analysis of October 2012 CMS Hospital Compare Database—reflecting hospital care from 07/09–06/11 (DHHS n.d.).

15 **Percent of hospitalized patients given information about what to do during their recovery at home:** Vulnerable/Advantaged Cohorts: Safety-Net Hospitals (25% of hospitals in each state with the highest Disproportionate Share Patient Percent (DSH Index) payments) / all other hospitals in the state. IPRO analysis of Hospital Consumer Assessment of Healthcare Providers and Systems Survey data (AHRQ, CAHPS n.d.) retrieved from October 2012 CMS Hospital Compare (DHHS n.d.).

16 **Percent of patients reported hospital staff always managed pain well, responded when needed help to get to bathroom or pressed call button, and explained medicines and side effects:** Vulnerable/Advantaged Cohorts: Safety-Net Hospitals (25% of hospitals in each state with the highest Disproportionate Share Patient Percent (DSH Index) payments) / all other hospitals in the state. IPRO analysis of HCAHPS data retrieved from October 2012 CMS Hospital Compare (DHHS n.d.).

17 **Hospital admissions for pediatric asthma, per 100,000 children:** Vulnerable/Advantaged Cohorts: residents in low-income zip codes (median household income in zip code <$39,000) / residents of high-income zip codes (median household income in zip code ≥ $64,000). Authors' analysis of 2008 Healthcare Cost and Utilization Project, retrieved from AHRQ State Health Snapshots.

18 **Potentially avoidable hospitalizations from respiratory disease among adults, per 100,000:** Hospital admissions among adults age 18 and over with asthma, chronic obstructive pulmonary disease, or bacterial pneumonia. Vulnerable/Advantaged Cohorts: residents in low-income zip codes (median household income in zip code <$39,000) / residents of high-income zip codes (median household income in zip code ≥ $64,000). Authors' analysis of 2008 Healthcare Cost and Utilization Project, retrieved from AHRQ State Health Snapshots.

19 **Potentially avoidable hospitalizations from complications of diabetes among adults, per 100,000:** Hospital admissions among adults 18 and over for long- or short-term complications of diabetes, or for uncontrolled diabetes. Vulnerable/Advantaged Cohorts: residents in low-income zip codes (median household income in zip code <$39,000) / residents of high-income zip codes (median household income in zip code ≥ $64,000). Authors' analysis of 2008 Healthcare Cost and Utilization Project, retrieved from AHRQ State Health Snapshots.

20 **Hospital admissions among Medicare beneficiaries for ambulatory care–sensitive conditions, per 100,000 beneficiaries:** Hospital admissions of fee-for-service Medicare beneficiaries age 65 and older for one of the following 11 ambulatory care–sensitive conditions: short-term diabetes complications, long-term diabetes complications, lower extremity amputation among patients with diabetes, asthma, chronic obstructive pulmonary disease, hypertension, congestive heart failure, angina (without a procedure), dehydration, bacterial pneumonia, and urinary tract infection. Results calculated using AHRQ Prevention Quality Indicators, Version 4.3. Vulnerable/Advantaged Cohorts: low-income Medicare beneficiaries who are also enrolled in Medicaid / beneficiaries who are not also enrolled in Medicaid. J. Zheng, Harvard University, analysis of 2011 Medicare enrollment and claims data, Chronic Conditions Warehouse (CMS, CCW 2011).

21 **Potentially avoidable emergency department visits among Medicare beneficiaries, per 1,000 beneficiaries:** Potentially avoidable emergency department 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 emergency department visit that resulted in an admission, as well as emergency department visits where the level of care provided in the ED was clinically indicated. Vulnerable/Advantaged Cohorts: low-income Medicare beneficiaries who are also enrolled in Medicaid / beneficiaries who are not also enrolled in Medicaid. J. Zheng, Harvard University, analysis of 2011 Medicare enrollment and claims data, 5% sample, Chronic Conditions Warehouse (CMS, CCW 2011), using the New York University Center for Health and Public Service Research emergency department algorithm developed by John Billings.

22 **Medicare 30-day hospital readmissions as a percent of admissions:** Percent of all hospital admissions among Medicare beneficiaries age 65 and older readmitted within 30 days of an acute hospital stay for any cause. A correction was made to account for likely transfers between hospitals. Vulnerable/Advantaged Cohorts: low-income Medicare beneficiaries who are also enrolled in Medicaid / beneficiaries who are not also enrolled in Medicaid. J. Zheng, Harvard University, analysis of 2011 Medicare enrollment and claims data, Chronic Conditions Warehouse (CMS, CCW 2011).

23 **Percent of long-stay nursing home residents hospitalized within 6-month period:** Percent of long-stay residents (residing in a nursing home for at least 90 consecutive days) who were ever hospitalized within six months of baseline assessment. Vulnerable/Advantaged Cohorts: all nursing home residents were considered vulnerable. V. Mor, Brown University, analysis of 2010 Medicare enrollment data, Medicare Provider and Analysis Review File (CMS, MEDPAR 2010).

24 **Percent of first-time nursing home residents readmitted within 30 days of hospital discharge to the nursing home:** Percent of newly admitted nursing home residents (never been in a facility before) who are rehospitalized within 30 days of being discharged to nursing home. Vulnerable/Advantaged Cohorts: all nursing home residents were considered vulnerable. V. Mor, Brown University, analysis of 2010 Medicare enrollment data and Medicare Provider and Analysis Review (CMS, MEDPAR 2010).

25 **Years of potential life lost before age 75 among adults age 25 and older:** Vulnerable/Advantaged Cohorts: education of decedent: high school diploma (or equivalent) or less / four-year college degree or more. Authors' analysis of National Vital Statistics System, 2008–2010 Mortality – All County restricted use micro-data (NCHS n.d.).

26 **Infant mortality, deaths per 1,000 live births:** Vulnerable/Advantaged Cohorts: education of mother: high school diploma (or equivalent) or less / four-year college degree or more. Authors' analysis of National Vital Statistics System–Linked Birth and Infant Death Data, 2006–2008 (NCHS n.d.).

27 **Percent of adults who smoke:** Percent of adults age 18 and older who ever smoked 100+ cigarettes (five packs) and currently smoke every day or some days. Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2011).

28 **Percent of adults ages 18-64 who are obese (Body Mass Index [BMI] ≥ 30):** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2011).

29 **Percent of adults ages 18–64 report being in fair or poor health; 14 or more bad mental health days during the past month, or who have activity limitations because of physical, mental, or emotional problems:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2011 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2011).

30 **Percent of adults ages 18–64 who have lost six or more teeth because of tooth decay, infection, or gum disease:** Vulnerable/Advantaged Cohorts: low-income (under 200% federal poverty level) / high-income (at or above 400% federal poverty level). Authors' analysis of 2010 Behavioral Risk Factor Surveillance System (NCCDPHP, BRFSS 2010).

APPENDIX B3. COMPLETE REFERENCES FOR DATA SOURCES

AHRQ (Agency for Healthcare Research and Quality), National Healthcare Quality Report, 2011 State Snapshots (Washington, D.C.: U.S. Department of Health and Human Services, 2011), http://statesnapshots.ahrq.gov/snaps11/.

CAHMI (Child and Adolescent Health Measurement Initiative), National Survey of Children's Health, 2011/12 (Portland, Ore.: Data Resource Center on Child and Adolescent Health, Oregon Health and Science University, 2012), http://www.nschdata.org.

CMS (Centers for Medicare and Medicaid Services), Chronic Conditions Data Warehouse (CCW) (Baltimore: U.S. Department of Health and Human Services, 2011), https://www.ccwdata.org/web/guest/about-ccw.

CMS, MEDPAR (Medicare Provider Analysis and Review) (Baltimore: U.S. Department of Health and Human Services, 2010), http://www.resdac.org/cms-data/files/medpar-rif.

CMS, MDS (Long Term Care Minimum Data Set 3.0) (Baltimore: U.S. Department of Health and Human Services, 2010), http://www.resdac.org/cms-data/files/mds-3.0.

CMS, Part D Drug Event File (Baltimore: U.S. Department of Health and Human Services, 2010), http://www.resdac.org/cms-data/files/pde.

DHHS (U.S. Department of Health and Human Services), Hospital Compare Database (Washington, D.C.: U.S. Department of Health and Human Services), http://www.medicare.gov/Download/DownloadDB.asp.

NCCDPHP (National Center for Chronic Disease Prevention and Health Promotion), Behavioral Risk Factor Surveillance System (BRFSS) (Atlanta: Centers for Disease Control and Prevention, 2010, 2011), http://www.cdc.gov/brfss/.

NCHS (National Center for Health Statistics), NVSS (National Vital Statistics System) Restricted Use Micro Data Compressed Multiple Mortality File (Atlanta: Centers for Disease Control and Prevention, 2008, 2009, 2010), http://www.cdc.gov/nchs/nvss/mortality_methods.htm#microdata.

NCHS, NVSS Restricted Use Micro Data Period Linked Birth and Infant Death Data (Atlanta: Centers for Disease Control and Prevention, 2006, 2007, 2008), http://www.cdc.gov/nchs/linked.htm.

U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement (Washington, D.C.: U.S. Department of Commerce, 2011, 2012), http://www.census.gov/cps/.

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