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## State of the States' Health

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## HEALTH

## The Stanford Center on Poverty and Inequality

BY SARAH A. BURGARD AND MOLLY M. KING

## KEY FINDINGS

- There is substantial variation across the states in health care access, health behaviors, and self-rated health status. In some southern states, as many as one in five adults report foregoing care even when they need it, a rate twice as high as prevails in many other states.
- The states also differ widely in the extent to which health access and outcomes are unequally distributed. Although the poor register very low health results in some states, there is a more equal distribution of health and health access in other states.

Inequalities in access to health and health care are especially important forms of inequality because they speak to who lives long and who lives well.

It is well known that, even though the United States spends more on health care per capita than any other country, it has some of the worst access and outcome results among wealthy nations.<sup>1</sup> While important, such cross-country comparisons hide substantial health inequality *within* the United States. Even a cursory inspection of the data suggests that some states are indeed better performers on key health measures. For example, only one in ten adults in Utah smoke, whereas more than one in four do so in West Virginia. The purpose of this brief is to examine whether state differences of this magnitude are commonly found across various other health measures.

We focus not just on average levels of health access, behaviors, and outcomes, but also on how unequally they are distributed. Although everyone would presumably prefer a state with high average health scores, it also matters whether the health disparities between the poor and relatively well-off are very large. If a state has a high mean level of health but also subjects its poor residents to a large “health penalty,” then anyone who is at risk of being poor would presumably want to avoid that state (at least insofar as the penalty is large enough to render them worse off than their counterparts in other states).

Therefore, we examine two important features of a state’s health profile: the average level of health, behavioral, or access problems in the state; and the variation in the distribution of these outcomes by income.

**Measuring health and health access**

We measure access to care using two key indicators: (a) the proportion of a state’s residents who lack health insurance and (b) the proportion who had to forego medical care for cost reasons. We measure health outcomes and behaviors using three indicators: (a) the proportion of a state’s residents who reported poor or fair self-rated health, (b) the proportion who were smokers, and (c) the proportion who currently have diabetes or ever had been told they had diabetes. An online appendix provides analyses of additional health measures and breakdowns by additional demographic characteristics.<sup>2</sup>

We measure the average health level of a state with simple proportions (e.g., the proportion of a state’s population that smokes), and we measure income disparities with relative risk ratios (e.g., [the proportion of low-income people who smoke]/[the proportion of higher-income people who smoke]).<sup>3</sup> The latter tell us the extent to which adults living in relatively well-off households have better health (or health access) than those living in poor households. We define low-income households as those with less than \$25,000 in income and higher-income households as those with more than \$50,000 in income.<sup>4</sup>

The data for this report come from the Center for Disease Control's Behavioral Risk Factor Surveillance System (BRFSS) for 2013.<sup>5</sup> The BRFSS includes interviews of non-institutionalized adults ages 18–64 in all 50 states conducted via both landline and cellular telephones.<sup>6</sup>

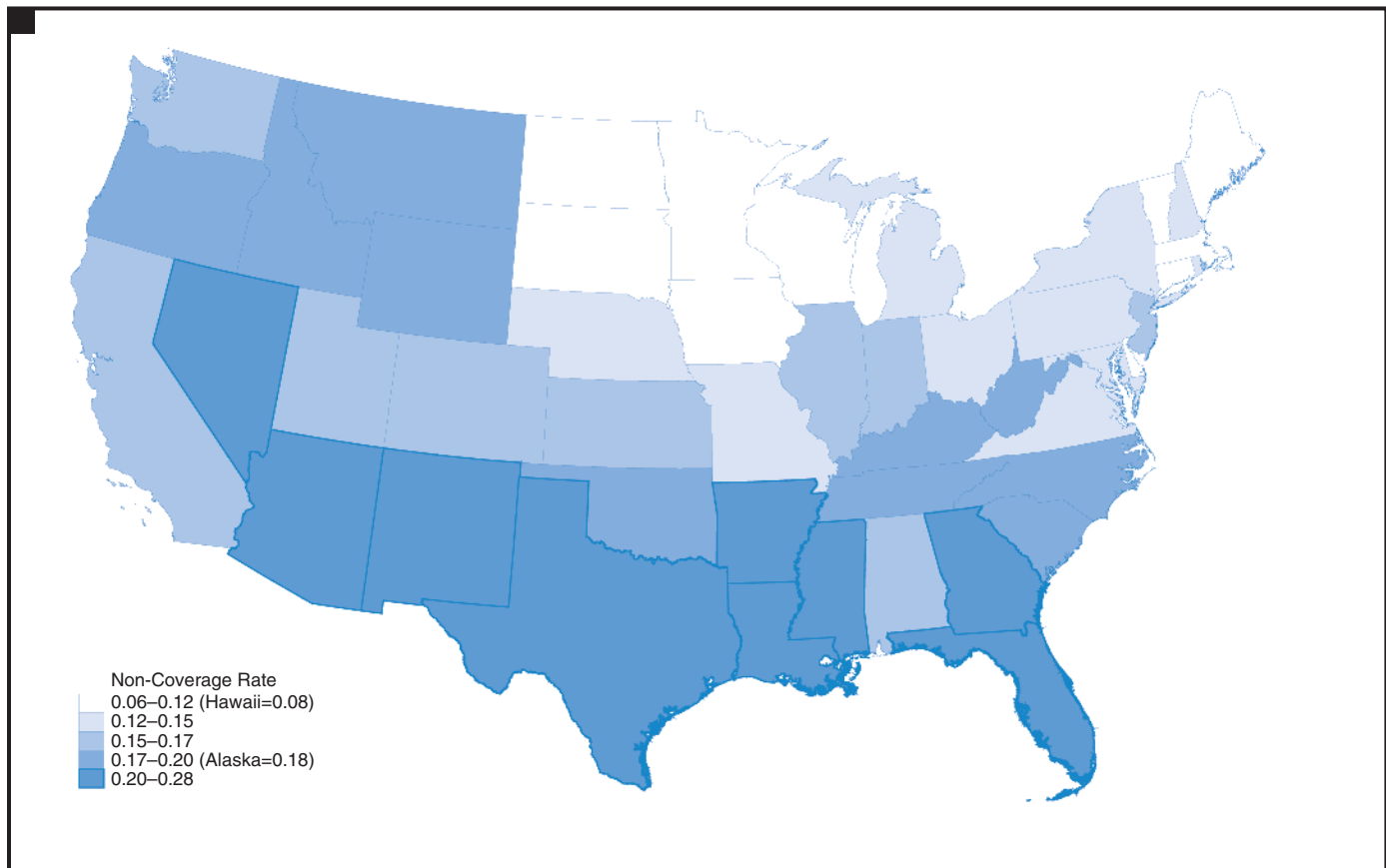
### Insurance

We begin by examining the proportion of adults in each state who said they were uninsured in 2013 (the year before the Affordable Care Act's individual mandate took effect). Nationwide, 17.2 percent of American adults reported not having insurance coverage at the time they were interviewed in 2013. But there is much variability around this national average, with state non-coverage rates ranging from a low of 6.1 percent (Massachusetts) to a high of 27.7 percent (Texas). As shown in Figure 1, residents of the South and West were more likely to lack coverage than residents of the Midwest and Northeast, although there is also some variation within regions. For example, Alabama, Tennessee, and Virginia have more coverage than other southern states.

Coverage also varies substantially by household income. For low-income Americans, the risk of being uninsured in 2013 (32.8%) was more than six times higher than it was for higher-income Americans (5.0%).<sup>7</sup> But this overall income disparity in coverage disguises much variability across states. As shown in Figure 2, low-income individuals in the most equal states were three times more likely than higher-income individuals to be uninsured, whereas low-income individuals in the most unequal states were nearly twelve times more likely than higher income individuals to be uninsured. Notably, some of the smallest income disparities are found in the South and West, where overall non-coverage rates are the highest (cf. Figure 1). As we shall see, this somewhat counterintuitive pattern occurs for several of our indicators, a result suggesting that higher-income individuals in low-access states cannot exploit the advantage that money tends to provide in other states. The barriers are too large, in other words, for even the relatively well-off to overcome them.

The data from Figures 1 and 2 are combined in Figure 3. Here,

FIGURE 1. Proportion of Adults Lacking Health Insurance, 2013



Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

the vertical axis displays state non-coverage rates, while the horizontal axis displays state risk ratios by income (also for non-coverage). This generates four quadrants:

The equal-healthy (EH) quadrant in the bottom left of Figure 3 comprises states that have high coverage rates and relatively small income-based disparities in coverage rates. These are states in which all residents, even the poor, are doing relatively well. For example, Hawaii has the second lowest non-coverage rate overall (8.2%), and higher-income Hawaiians have very little advantage in coverage relative to the poor. If you are poor and sick, a state like Hawaii is a very good place to be.

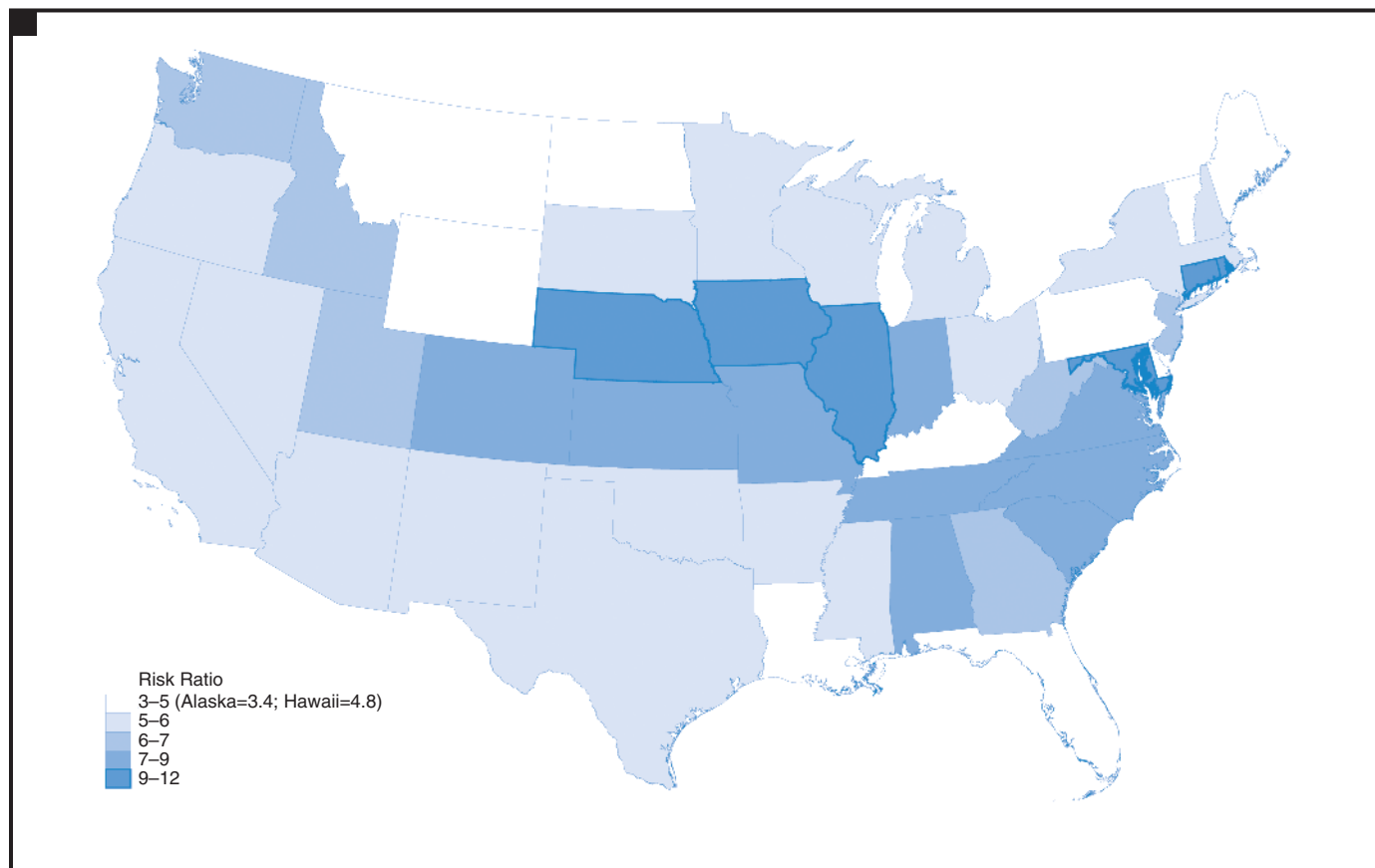
The unequal-healthy (UH) quadrant in the bottom right of Figure 3 includes states that again have relatively high overall coverage rates, but in this case the relatively well-off are more deeply advantaged. For example, Maryland has the fifteenth lowest level of non-coverage overall (12.8%), but it is among the worst in the nation on inequality, with the poor over nine times more likely to be uninsured than the relatively well-off.

The equal-unhealthy (EU) quadrant, shown here in the top left of Figure 3, is a comparatively bad place for everyone, the low-income and higher-income alike. This quadrant includes, for example, Mississippi, which has a high overall non-coverage rate (23.0%), a high low-income non-coverage rate (36.2%), and a relatively high non-coverage rate for higher-income individuals as well (6.3%).

The unequal-unhealthy (UU) quadrant, shown in the top right of Figure 3, likewise represents states with relatively poor coverage, but here the relatively well-off have much better chances than the poor to beat the odds and secure coverage. An exemplar state here is North Carolina.

To conserve space, the analyses for the remaining indicators will be carried out more economically, with the maps available in our online supplement. In all cases, the logic of our analyses will be much the same, with a special focus on how states fall into each of these four quadrants.

FIGURE 2. Relative Risk Ratio of Non-Coverage for Low-Income Adults Compared to Higher-Income Adults, 2013



Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

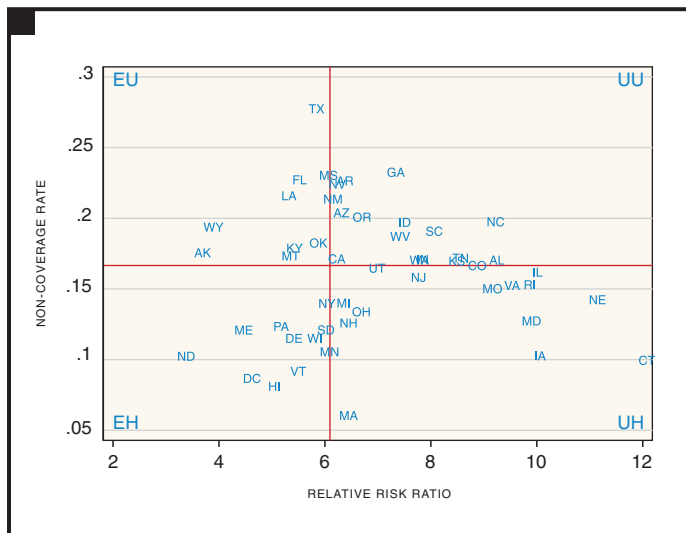
**Foregone Care**

In 2013, more than one in seven Americans reported that, because of concerns about costs, they did not see a doctor when they needed to see one. There were substantial state differences in the propensity to forego care: for example, one in five adults reported foregoing care in Mississippi, Arkansas, Florida, and Louisiana, while fewer than one in ten reported

foregoing care in North Dakota, Massachusetts, Hawaii, Vermont, or South Dakota. The overall likelihood of foregone care is regionally concentrated, with a pattern of higher risk in the South and some western states.

There are also state differences in the inequality of foregone care, but they are not as large as those in insurance coverage. Low-income individuals are anywhere from 2.6 to 6.9 times as likely to report foregoing care as higher-income individuals (see Figure 4). However, unlike the regional clustering of risk ratios for insurance coverage, there is less evidence of clustering in this case.

FIGURE 3. Relative Risk Ratio by Prevalence for Non-Coverage, 2013



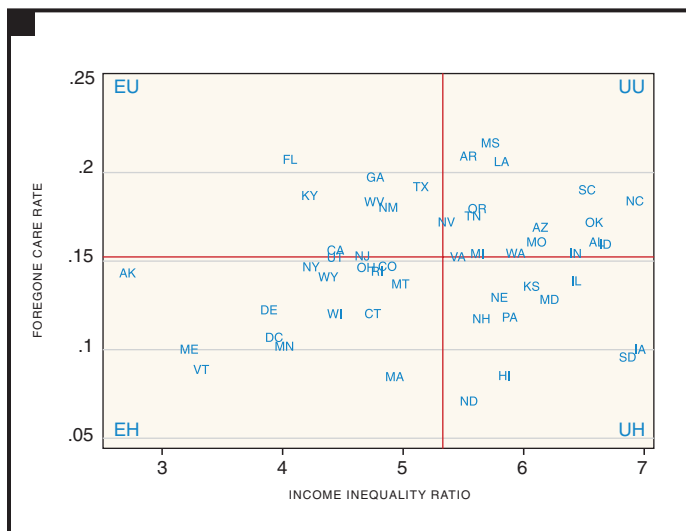
Note: Lines represent median national values. Relative Risk Ratio represents risk of being uninsured for low-income relative to higher-income residents  
Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

**Self-Rated Health**

Nationwide, nearly one in five people rated themselves as having only fair or poor overall health (rather than good, very good, or excellent health). Reports of fair or poor health are concentrated in the South and Southwest (with West Virginia holding the lowest ranking).

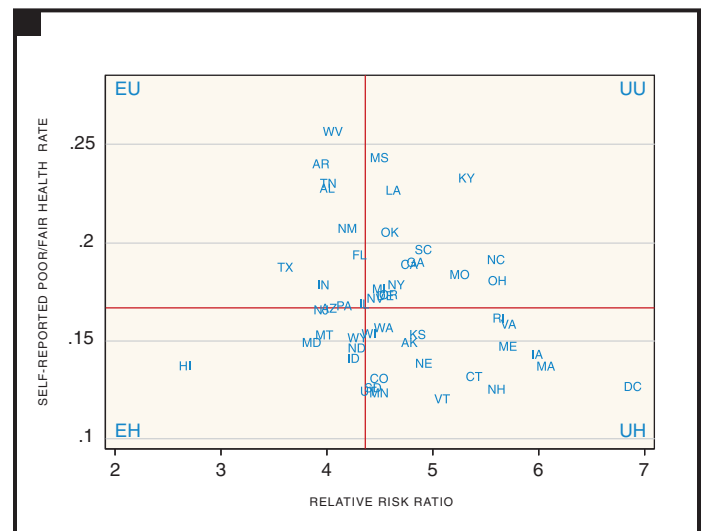
The poor are from 2.5 to 6.7 times as likely as their better-off neighbors to be in fair or poor health. This disparity is greatest in the Northeast and Midwest, where rates of fair and poor health are relatively low. The distinctive feature of Figure 5 is that the equal-healthy (EH) quadrant is very sparsely populated. It is almost as if the only path to a healthy state is via a high level of inequality (in which higher-income individuals have a much better chance of being healthy).<sup>8</sup>

FIGURE 4. Relative Risk Ratio by Prevalence for Foregone Care, 2013



Note: Lines represent median national values. Relative Risk Ratio represents risk of foregoing care for low-income relative to higher-income residents.  
Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

FIGURE 5. Relative Risk Ratio by Prevalence for Self-Reported Health Status, 2013



Note: Lines represent median national values. Relative Risk Ratio represents risk of reporting poor or fair health for low-income relative to higher-income residents  
Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

**Smoking**

In 2013, 17.4 percent of American adults were smokers. There is substantial state-level variation in smoking rates, with some concentration in the Northwest and Appalachia. More than 25 percent of adults in West Virginia, Kentucky, and Arkansas are smokers, while fewer than 15 percent are in Utah, California, Hawaii, and New Jersey.

Smoking was much more common among poor adults, but income disparities followed no clear geographic pattern. As with self-rated health, the equal-healthy (EH) quadrant is sparsely filled. The states with the fewest smokers (e.g., Vermont) tend, in other words, to be very unequal ones (Figure 6).

**Diabetes**

Across the nation, about one in ten adults had or had ever been told they have diabetes (in our 2013 data). Diabetes is more common in the South and Rust Belt and less common in the Northeast and West. There is less within-region variation than in other outcomes, with the notable exceptions of Arizona and New Mexico, which have higher rates than other states in the West.

Those living in poor households were anywhere from 1.5 to three times as likely as higher-income individuals to have or have had diabetes. The Great Lakes states and the Northeast had the greatest income disparities in diabetes levels, even though overall levels are low in those regions. We again find

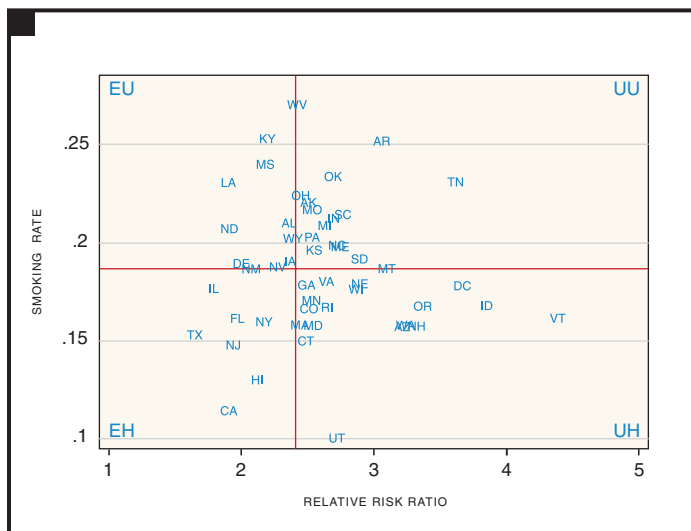
that, among the healthy states, a low-inequality outcome (the EH quadrant) is relatively rare, with Utah and Hawaii standing out as exemplars of this profile (Figure 7).

**Conclusions**

Whereas most published reports on state differences in health focus on average well-being, we have combined that usual focus with an additional consideration of how unequally health outcomes, behaviors, and access are distributed.<sup>9</sup> Under most normative standards, one would prefer a state to be both healthy and equal, meaning that the lower-left (EH) quadrant is the conventional policy goal. It is good for everyone, even the poor, to live in an EH state, as overall health is good and income disparities in health are small.<sup>10</sup> Are there many such states? The answer to that question depends on the type of outcome considered. We have found that it appears somewhat easier to realize the equal-healthy goal with the foregone care and diabetes measures.

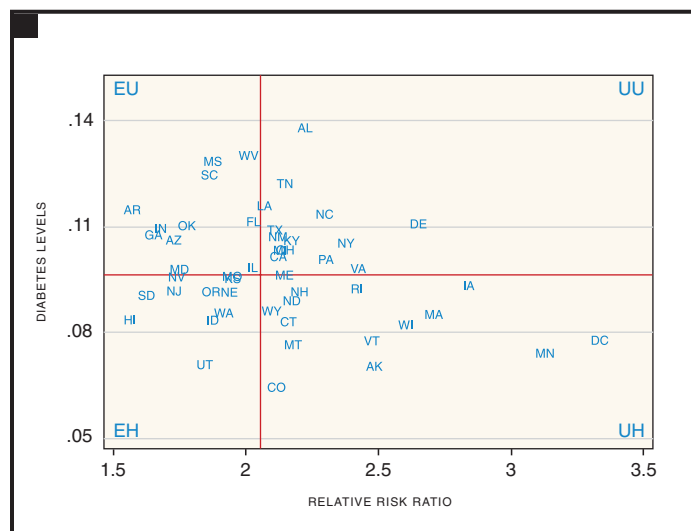
The key question of course is whether there will ultimately be a wider diffusion of better health in now-unequal states. It is important to recognize that policy levers designed to improve overall levels of well-being may, at least initially, reinforce income inequality in the distribution of health.<sup>11</sup> After all, reforms meant to help all residents of a state will likely be taken up most easily by the wealthiest residents; and efforts to improve population health may therefore first result in an increase in inequality. By this logic, there is reason to believe

FIGURE 6. Relative Risk Ratio by Prevalence for Smoking, 2013



Note: Lines represent median national values. Relative Risk Ratio represents risk of smoking for low-income compared to higher-income residents. Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

FIGURE 7. Relative Risk Ratio by Prevalence for Diabetes, 2013



Note: Lines represent median national values. Relative risk ratio represents risk of having or ever having had diabetes for low-income relative to higher-income residents. Source: 2013 data from Center for Disease Control's Behavioral Risk Factor Surveillance System.

that states in the unequal-healthy (UH) quadrant may, over time, move into the less well-populated equal-healthy (EH) quadrant. This state “mobility” may of course be sped up with targeted efforts to diffuse behaviors and interventions to poor populations.<sup>12</sup> ■

## NOTES

1. Crimmins, Eileen M., Samuel H. Preston, and Barney Cohen. (Eds.). 2011. *Explaining Divergent Levels of Longevity in High-Income Countries*. Washington, D.C.: National Academies Press. Available at [http://www.nap.edu/openbook.php?record\\_id=13089](http://www.nap.edu/openbook.php?record_id=13089).
2. Available at <http://inequality.com/sotu>.
3. It should be noted that these prevalence and relative risk measures are not independent of one another. If the relative risk changes (while all else stays the same), the overall prevalence will also change. We can define independent prevalence and income group odds ratio parameters by fitting a set of state-specific logistic models in which the health outcome is a function of income dummies for low-income and middle-income individuals (with the high-income case the omitted category). When this model is estimated, the vast majority of states remain in the quadrant they appear in this report, so we decided to present the simpler formulation.
4. The Official Poverty Measure cutoff line in 2013 was \$19,530 for a three-person household and \$23,624 for a two-adult, two-child household. The Supplemental Poverty Measure placed the poverty level for the same family size of renters or house owners with a mortgage at just over \$25,000. See <http://www.census.gov/content/dam/Census/library/publications/2014/demo/p60-251.pdf>.
5. Available at [http://www.cdc.gov/brfss/annual\\_data/annual\\_2013.html](http://www.cdc.gov/brfss/annual_data/annual_2013.html).
6. Andie Grossman assisted us in selecting our data set. For more details about the data set, see the BRFSS 2013 Codebook, available at [http://www.cdc.gov/brfss/annual\\_data/2013/pdf/CODEBOOK13\\_LLCP.pdf](http://www.cdc.gov/brfss/annual_data/2013/pdf/CODEBOOK13_LLCP.pdf).
7. The U.S Census Bureau estimates that 13.4 percent of people were without health insurance coverage for the entirety of 2013 (see <http://www.census.gov/newsroom/press-releases/2014/cb14-169.html>). The overall population estimate from the BRFSS dataset comes out a bit higher, at 17.2 percent, since it only asks about status at the time of the survey, not about coverage for the entire year.
8. It is of course very difficult to have a healthy state when (a) the poor population is large, and (b) there is a large health disparity between poor and well-off households (see endnote 3).
9. See, for example, the United Health Foundation’s America’s Health Rankings (<http://cdnfiles.americashealthrankings.org/SiteFiles/Reports/Americas%20Health%20Rankings%202014%20Edition.pdf>), Kaiser Family Foundation’s State Health Facts (<http://kff.org/statedata/>), and the Gallup Healthways State of American Wellbeing (<http://info.healthways.com/wellbeingindex>).
10. There are many differences among states that might explain the differences in these outcomes and the states’ rankings on equality and health measures. Though we do not have the space to explore those here, tracking how states fare on levels of and inequality in the distribution of well-being has value for long-term policy evaluation, particularly in the wake of the Affordable Care Act.
11. See Phelan, Jo C., Bruce G. Link, and Parisa Tehranifar. 2010. “Social Conditions as Fundamental Causes of Health Inequalities: Theory, Evidence, and Policy Implications.” *Journal of Health and Social Behavior*, 51(Suppl), S28–S40.
12. See Keppel, Kenneth, Linda Bilheimer, and Leda Gurley. 2007. “Improving Population Health and Reducing Health Care Disparities.” *Health Affairs*, 26(5), 1281–1292.