

ACA Implementation—Monitoring and Tracking

Financial Burden of Medical Spending by State and the Implications of the 2014 Medicaid Expansions

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INTRODUCTION

A central goal of expanding health insurance coverage in the Affordable Care Act (ACA) is reducing the financial impact of health care expenses on low-income American families. The 2014 provisions of the ACA are likely to have an uneven impact across states in reducing the share of income individuals devote to medical out-of-pocket spending, including premiums, because a multitude of factors influence financial burden levels.

Geographic variations in income, the price of medical care, health service utilization, safety-net generosity, and other factors all contribute to how much income the population of a given state devotes to medical spending. In areas where there is less competition among medical providers, hospitals, and HMOs, for example, we would expect that the price per unit of service to be higher. Conversely, states with a smaller share of low-income individuals have populations that, on average, devote a smaller portion of their income to medical spending, holding price constant. Yet states with higher-income populations will also have a higher willingness to pay for medical care, which may increase use or the price per unit of care. Differences in population health across states and differences in rates of insurance coverage will also influence medical service use and spending. Finally, states with more expansive Medicaid programs have low-income populations less exposed to medical out-of-pocket spending on medical services, equipment, and premiums.

Given the numerous channels influencing how much income individuals devote to medical spending, the ACA's 2014 Medicaid expansion offers a clear and decisive channel to curb out-of-pocket spending risk for eligible individuals with low incomes. Newly Medicaid-eligible individuals will have very limited or no co-payments for medical services and equipment, and will generally not pay premiums.¹ However, states have the option to participate in the expansions or not, which will lead to continued differences across participating and nonparticipating states in medical spending risk among low-income Americans.

The extent of variation across states in individuals' medical out-of-pocket spending, as a proportion of income, is not well documented. This is largely due to previous data limitations. Household surveys that collect information on medical out-of-pocket spending *and* income are mostly too small, in terms of sample size, to produce reliable state-level estimates. A study

by Cunningham is one exception that employs multiple years of Medical Expenditure Panel Survey (MEPS) data to study 29 states.² The author estimated the proportion of nonelderly insured individuals with medical spending greater than 10 percent of income and reveals some variation across the states included in the study. However, differences in the more general distribution of medical spending as a percentage of income across states has not been documented previously. Similarly, no prior analysis has shown which states are most likely to benefit from the Medicaid expansion due to having higher percentages of soon-to-be Medicaid-eligible adults that currently devote a large share of income to medical expenses.

This paper is the first to offer a detailed look at medical spending burden levels, generally defined as total family medical out-of-pocket spending as a proportion of income, for *all* 50 states and the District of Columbia. It is therefore an important step toward understanding whether there are significant differences in medical spending burden across all states. We accomplish this with a familiar survey that recently began collecting information on medical out-of-pocket spending: the Current Population Survey, Annual Social and Economic Supplement (CPS ASEC). Using these data, we further investigate which states have greater shares of individuals who currently face high-burden levels and do not have Medicaid coverage, but would be Medicaid eligible under the 2014 rules if their states choose to participate in the expansion. This work is suggestive of which states have the largest populations likely to benefit, in terms of lowering medical spending burden, from participating in the 2014 adult Medicaid expansions.

Results show significant differences across states in the financial burden of medical spending. The Mountain and East South Central states have populations with the greatest burden levels, while the Middle Atlantic states have the lowest. There is also significant variation across states in burden levels for low-income Americans—much more so than for their higher-income counterparts. Finally, there are large differences across states in the proportions of their nonelderly populations with high-burden levels, low income, and no Medicaid or CHIP coverage—ranging from 8.1 percent in Nevada to 3.0 percent in Vermont. Together these results suggest that the Medicaid expansions, among states that participate, will have an uneven impact on limiting the financial burden of medical spending among low-income Americans across states.

DATA, METHODS AND LIMITATIONS

Data

To produce reliable state-level estimates, this study combines two years of CPS ASEC data (2011 and 2012), which are representative of the civilian, noninstitutionalized U.S. population. These data are a supplement to the monthly CPS, where the reference period for many of the questions used in this study correspond to the entire 2010 and 2011 calendar years, respectively. The survey sample is based on approximately 100,000 addresses each year.³

The individual is the unit of analysis in this study. However, our measure of medical spending burden is defined at the health insurance unit (HIU) level. A HIU is a group of individuals who would normally be eligible to enroll on a common health insurance plan and includes adult children ages 18 to 22 that do not work the entire year, attend school and live with their parents. This analysis uses a subsample of the CPS ASEC data restricted to 1) individuals less than age 65, not in a HIU with anyone age 65 and older, and 2) individuals in a HIU with at least one adult age 18 to 64.⁴ We refer to this subsample as the “nonelderly” for simplicity.

Methods

Medical spending burden is defined as the sum of net medical out-of-pocket spending over all individuals in a given HIU expressed as a percentage of gross HIU income.^{5,6} Medical out-of-pocket spending includes spending on premiums, medical services, prescription drugs, equipment, and over-the-counter items. All individuals in a given HIU share the unit’s level of medical spending burden.⁷

In our first analysis, for each state we estimate the 50th, 75th, and 90th percentiles of the medical spending burden distribution defined above. We present these data sorted by states’ 75th percentile within their geographic region. It illustrates burden levels within each state’s top quarter and shows which states’ top quarter have higher/lower burden than others. Although the top quarter (75th percentile) is somewhat arbitrary, we believe that it reasonably reflects medical spending levels, as a share of income, that are “high” compared with others in the population.⁸

The second analysis sheds light on the difference in medical spending burden among low-income individuals, compared with the rest of the population, within and between states. We use the income threshold for the

2014 adult Medicaid expansions (less than 138 percent of the federal poverty level, or FPL) to define our “low-income” group.⁹ This illustrates whether low-income individuals devote a disproportionate share of their income to medical out-of-pocket spending compared to their higher-income counterparts, and whether these relative burdens differ significantly across states. If there are noticeable differences across states, it is suggestive of which states have low-income populations that could benefit most from expanding the state’s Medicaid program. In this analysis we estimate the 75th percentile by income group *within* each state.

Our final analysis investigates what proportion of each state’s nonelderly population could benefit from the 2014 Medicaid expansions via decreases in medical spending and burden levels. Here we measure the proportion of a given state’s nonelderly population that has 1) income less than 138 percent of FPL, 2) a medical spending burden in the *nation’s* top quartile, and 3) a given type of health insurance. We use the following hierarchy of health insurance status: Medicaid/CHIP (at any point during the year, including those who have other types of coverage during the year as well); private (no Medicaid/CHIP); other government insurance; and uninsured. In doing so, we restrict our attention to U.S. citizens. Although lawfully residing immigrants may be eligible for Medicaid or exchange-based subsidies, we cannot make the distinction between documented and undocumented immigrants in our data. Note, however, that many documented immigrants will be subject to the five-year waiting period and not immediately eligible for Medicaid in 2014.¹⁰

Limitations

One important limitation to this study is that the measure of burden, although commonly used in the literature, relies solely on observed medical out-of-pocket spending and does not necessarily equate with medical service utilization or need for medical care. There are at least two implications to this that are especially relevant to low-income individuals without Medicaid coverage.

The first implication is that low-income individuals without Medicaid may be likely to forego needed medical care due to cost. In this case, their medical spending and burden levels would be lower than they would be if they had received and paid for needed medical care. Consequently, should such individuals obtain Medicaid coverage in 2014, their medical need may be satisfied, however, their burden

level may not change. A second implication is that some of this population may currently receive free or discounted charity care, or receive normal care and not pay their medical bills. In either case, individuals receive needed

care in such a way that does not necessarily affect their burden level via out-of-pocket spending. Should these individuals obtain Medicaid coverage, their burden levels would not necessarily change.

RESULTS

Medical Spending Burden by State

Table 1 shows the considerable variation in the distribution of medical spending burden across states. It reports the 50th, 75th, and 90th percentiles of the burden distribution among the nonelderly, for each state and the District of Columbia, as well as the entire United States and nine census regions.¹¹ (Standard error estimates and sample sizes are presented in appendix Table A.1.) For example, the distribution for the entire U.S. population is reported at the top of Table 1. The national 50th percentile of health care spending relative to income equals 3.1 percent, the 75th percentile equals 8.2 percent, and the 90th percentile equals 19.7 percent. The 75th percentile estimate means that a quarter of nonelderly individuals in the United States live in HIUs that allocate 8.2 percent or more of their total income to medical out-of-pocket spending, while the 90th percentile estimate means that 10 percent devote 19.7 percent or more of their income to health care.

States in Table 1 are ordered by their 75th percentile, from highest to lowest, within each region in order to demonstrate which states' populations spend a greater proportion of their income on medical spending at the extreme (i.e., top quarter) and to highlight patterns across geographic regions. The 10 states with the highest 75th percentile burden level are in bold; the 10 with the lowest burden level are in italics. Among the eight states in the Mountain region, five have 75th percentile burdens in the top 10 (Idaho, Wyoming, Utah, Montana, and Nevada). In Idaho, one quarter of the nonelderly population reside in HIUs that devote at least 10.9 percent of their income to medical out-of-pocket spending. Similarly, three of the four East South Central states have 75th percentiles among the highest in the country (Mississippi, Kentucky, and Tennessee). Indeed, the East South Central states have the highest 75th percentile as a group among all the regions (9.7 percent).

At the other extreme, all six Middle Atlantic states have 75th percentile burdens that are among the lowest in the country. For example, a quarter of New York's nonelderly population includes families that spend as little as 6.4 percent of their income on medical out-of-pocket

spending. The top quarter of residents in the District of Columbia include people who devote an even smaller share of their income to medical spending (5.0 percent), although this differential could in part result from comparing it to an entire state.¹² As a group, the Middle Atlantic states also have the lowest burden levels at the 75th percentile across all regions (6.9 percent).

The 75th percentiles of the top six states—Idaho (10.9), Mississippi (10.7), Wyoming (10.6), Utah (10.6), Montana (10.5), and Arkansas (10.3)—are not statistically different from one another.¹³ Nonetheless, they are different (meaningfully and statistically) from those states near the middle (e.g., Wisconsin, Minnesota, Iowa, Arizona, Texas, and Indiana, all at 8.5), and especially the bottom of the list (e.g., Hawaii and the District of Columbia, 6.8 and 5.0). Overall, Table 1 reveals significant variation across states and regions.

Burden by Income and State

Table 2 illustrates the inequality in medical spending burden across income levels, within and between states. The first column reports the 75th percentile of the burden distribution among those with incomes below 138 percent of FPL, and the second column reports the 75th percentile among those with incomes at or above 138 percent of FPL. (See Appendix Table A.2 for standard error estimates and sample sizes.) Recall that many factors influence burden levels across states, which may also disproportionately affect low-income populations. Important factors likely include Medicaid generosity or access to other safety-net programs in a given state, as well as health care prices and general economic conditions, to name a few.

Table 2 makes clear that the low-income population of every state experiences higher burden levels than their higher-income counterparts at the 75th percentile. Further, there is much more variation among the lower-income populations across states than among the higher-income populations. The 75th percentiles among states' low-income populations range from 10.0 percent (District of Columbia) to 28.8 percent (Alaska). For states' higher-income populations, the range is from 4.6 percent

(District of Columbia) to 10.5 percent (Idaho). Overall, there is a slight positive relationship between the income groups. The correlation coefficient between the high- and low-income groups is 0.25 (data not shown). At one extreme are states with high-income and low-income burden levels that differ by as much as 21 percentage points (Alaska and Virginia), while at the other extreme are states with burden levels that are much more comparable across the income groups: financial burdens in South Dakota, California, and New York differ by less than 5 percentage points between the income groups. (Note that the variation of these percentile estimates, because of the much smaller sample size of the low-income group, is much greater than that for the entire population or the higher-income group, as shown in appendix Table A.2.)

Given that the 2014 Medicaid expansions should decrease the risk of medical spending and high burden levels of low-income individuals compared with everyone else, we would expect the differences observed in Table 2 to decrease among states that participate. The largest impacts can be expected for those states at the top of Table 2 if they adopt the expansion.

Potentially Medicaid Eligible with High Burden, by State

Table 3 takes a closer look at the proportion of each state's nonelderly U.S. citizen population that has low incomes (less than 138 percent of FPL), high burden levels (in the nation's top 25 percent), and a particular type of health insurance.¹⁴ It is suggestive of which states have larger proportions of their population that could benefit most from the 2014 adult Medicaid expansions in terms of potentially reducing their medical spending burden levels via lower medical out-of-pocket spending. States are ordered by the share of the state nonelderly population that has high burden and could qualify for the 2014 Medicaid expansion and does not have Medicaid or CHIP coverage today.

In Nevada, for example, 8.1 percent of the state's nonelderly U.S.-citizen population has low income, high medical spending burden, and no Medicaid/CHIP coverage. Approximately equal percentages of low-income high-burden individuals are uninsured or covered by private insurance. That is, 3.7 percent of this population is uninsured, 3.8 percent has private insurance, and 0.5 percent has non-Medicaid/CHIP government insurance. (2.2 percent have Medicaid or CHIP, which we discuss in the following section.) In contrast, just 3.0 percent of Vermont's nonelderly U.S.-citizen population has low incomes, high burdens, and does not have Medicaid or

CHIP. Slightly more than a third of these individuals are uninsured (1.1 percent), and slightly more than half have private insurance (1.7 percent).

From Table 3, it is also apparent that the composition of insurance status among the low-income high-burden individuals varies considerably by state. For example, 3.8 percent of Louisiana's population of interest is uninsured, compared with less than 1 percent of individuals in Hawaii or Massachusetts. This result may be expected, given Hawaii's employer mandate and Massachusetts's comprehensive health reform. Similarly, over 4 percent of the population of interest in Utah and Idaho has private insurance, while less than 2 percent of the respective population in Connecticut or Vermont has private insurance.

Overall, Table 3 shows significant variation across states in the health insurance coverage of their low-income high-burden populations and the share of the state's population this group comprises. This suggests that the impact of reducing burden levels via the ACA's Medicaid expansions, due to comprehensive coverage with low or no premiums and cost-sharing responsibility, will be uneven across states that participate. Its effect on reducing high burdens would likely be greatest in states such as Nevada and smallest in states such as Vermont.

Medicaid and High-Burden Levels

From Table 3 it is also clear that a portion of low-income, high-burden individuals in each state have Medicaid coverage at some point during the year under current rules. Nationally they represent approximately a third of nonelderly U.S. citizens with income below 138 percent of FPL and high burden levels (Table 4). This fact, however, does not invalidate the expectation that the Medicaid expansion may significantly decrease high financial burdens among low-income individuals.

Medicaid beneficiaries face limited cost-sharing and (mostly) do not pay premiums. Indeed, this is generally true for the low-income, high-burden individuals represented in Table 3. For example, median medical out-of-pocket spending per person on medical services and equipment among those with low income, high burden, and Medicaid is \$0, compared with \$100 for the uninsured and \$200 for the privately insured (Table 5). (Average spending per person for the Medicaid-covered, privately insured, and uninsured populations is \$390, \$842, and \$1,013, respectively.) Moreover, the privately insured have higher out-of-pocket premiums than those with Medicaid (not shown).

If Medicaid lowers risk of out-of-pocket spending, then why do we observe high-burden Medicaid beneficiaries? Recall that medical spending burden is a group concept, defined for an entire HIU. Therefore, the medical spending associated with others in the unit affects the burden status of all members. Among those with low income, high-burden level, and Medicaid, approximately a quarter reside in HIUs where at least one member has private insurance (Table 4).¹⁵ As demonstrated above, these privately insured individuals have higher out-of-pocket spending on medical services and equipment than those with Medicaid, thus increasing their chances of having higher burden levels. Moreover, the privately insured also pay premiums, which for low-income individuals can easily put them at risk for high-burden levels. Said differently, those with Medicaid reduce the burden levels of those with private insurance in a family, compared to what they would be otherwise. Under the expansion, all members of the family will be eligible for Medicaid if any one member is; the necessity of some family members buying private insurance or going uninsured due to non-uniform eligibility will be eliminated.

It is also important to note that there is heterogeneity in income by insurance status, even among those residing

in families with income below 138 percent of FPL. Specifically, income among high-burden, low-income individuals with Medicaid is lower than that of those with private insurance, although it is higher than the income of the uninsured (Table 6). Consequently, lower levels of out-of-pocket spending among individuals with Medicaid result in higher burden levels, compared with the privately insured group.

A final point is that those individuals with Medicaid in our sample who have high-burden levels may not have continuous Medicaid coverage. Therefore, Medicaid's ability to reduce risk of medical out-of-pocket spending is uneven among individuals in this group. We cannot discern this within our data, which is a limitation. However, Sommers, using the MEPS, estimates that among those with Medicaid at the beginning of a given year, approximately 79 percent of nonelderly adults and 88 percent of children are still covered 12 months later, implying that significant numbers of Medicaid beneficiaries have that coverage for only part of the year.¹⁶

DISCUSSION

This work reveals significant variation in the financial burden of medical spending among the nonelderly across states and the District of Columbia. This is particularly true among individuals with burden levels in the top quarter of each state's nonelderly population. This finding is a step toward understanding why burden levels differ across states and how the 2014 provisions of the ACA may dampen this variation. Many factors are likely responsible for the observed differences across states—the relative costs of medical care, income, health, and safety-net generosity, for example—all of which are important topics for future research.

Notwithstanding, components of the ACA hold promise for reducing medical spending burden levels, which may affect some states more than others. For example, subsidies, more uniform benefits, and access to them, will all likely dampen burden levels across the nonelderly population. However, the Medicaid expansions will likely have the most decisive impact in reducing high-burden levels among those whose income is less than 138 percent of FPL—for those residing in states that participate. As this research demonstrates, high burdens for this low-income population vary much more across states than do burdens for their

higher-income counterparts. Consequently, increased access to low- or no-cost comprehensive health care for this low-income population has potential to substantially reduce this variation both across states and between income groups. This research further identifies which states have a relatively larger proportion of non-Medicaid/CHIP, high-burden individuals with income below 138 percent of FPL. The analysis thus indicates which states have populations most likely to benefit from the 2014 adult Medicaid expansions.

Among the top 25 states with the largest shares of their population attributable to low-income, high-burden individuals without Medicaid/CHIP coverage, there is almost an equal divide in the number that have committed to expand or not expand their Medicaid program. Among the top 25 states we identify, nine currently indicate that they *will not* participate: Louisiana, Mississippi, Georgia, Alabama, Idaho, South Carolina, Texas, Oklahoma, and North Carolina.¹⁷ An additional ten states indicate that they *will* participate: Nevada, Montana, Arkansas, New Mexico, Florida, Arizona, Missouri, North Dakota, California, and Colorado. The remaining six have not yet indicated whether they will

participate: Utah, Oregon (leaning toward participating), Kentucky (leaning toward participating), West Virginia, Tennessee, and Kansas.

In sum, the ACA's Medicaid expansions can potentially play an important role in expanding access to comprehensive medical care at no or very limited cost to low-income

individuals. Given that states have the choice to participate in these expansions and that some states have larger potentially Medicaid eligible populations experiencing high burden levels, the choice to participate will affect states differently. States that participate in the expansions have an opportunity to significantly decrease financial burdens for a high-need segment of their population.

TABLE 1: Medical Spending as a Percentage of Income Among Nonelderly Individuals, by State

Geography	Percentiles of the medical spending burden distribution		
	50th Percentile	75th Percentile	90th Percentile
US	3.1	8.2	19.7
NEW ENGLAND	3.3	7.9	17.3
Maine	4.0	9.4	18.9
Vermont	3.9	8.6	17.8
Connecticut	3.4	8.4	18.1
New Hampshire	3.4	8.1	17.3
Rhode Island	3.1	7.7	17.9
<i>Massachusetts</i>	3.1	7.2	16.6
MIDDLE ATLANTIC*	2.5	6.9	17.6
<i>Maryland</i>	3.1	7.3	17.9
<i>Pennsylvania</i>	2.9	7.3	16.8
<i>New Jersey</i>	3.0	7.1	19.3
<i>Delaware</i>	2.8	6.7	15.4
<i>New York</i>	1.9	6.4	17.9
<i>District of Columbia</i>	1.8	5.0	14.3
EAST NORTH CENTRAL	3.3	8.2	18.7
Wisconsin	3.9	8.5	17.9
Indiana	3.4	8.5	19.6
Ohio	3.4	8.4	19.7
Illinois	3.2	8.2	17.8
<i>Michigan</i>	2.7	7.5	19.0
WEST NORTH CENTRAL	3.9	8.8	18.2
South Dakota	4.6	9.7	20.0
Nebraska	4.5	9.7	19.1
North Dakota	3.8	9.5	19.7
Missouri	3.6	8.7	19.2
Kansas	3.9	8.7	18.2
Minnesota	4.1	8.5	16.9
Iowa	3.8	8.5	17.7
SOUTH ATLANTIC*	3.2	8.6	20.2
North Carolina	3.6	9.5	21.6
South Carolina	3.6	8.9	20.8
Florida	3.2	8.7	21.5
West Virginia	3.2	8.3	19.4
Georgia	3.0	8.2	20.0
Virginia	3.1	7.7	18.0
EAST SOUTH CENTRAL	4.0	9.7	21.0
Mississippi	4.1	10.7	22.9
Kentucky	3.8	9.8	20.0
Tennessee	4.3	9.8	21.8
Alabama	3.7	8.7	20.3
WEST SOUTH CENTRAL	3.3	8.7	21.8
Arkansas	4.0	10.3	24.4
Louisiana	3.4	9.2	25.7
Oklahoma	3.3	8.6	20.9
Texas	3.2	8.5	21.0
MOUNTAIN	3.7	9.4	21.6
Idaho	4.9	10.9	22.5
Wyoming	4.6	10.6	20.6
Utah	4.7	10.6	21.4
Montana	3.9	10.5	25.0
Nevada	3.6	9.8	25.5
New Mexico	3.2	9.2	25.0
Colorado	3.6	8.7	20.1
Arizona	3.3	8.5	20.5
PACIFIC	2.6	7.6	19.4
Oregon	4.2	9.9	21.7
Washington	3.4	8.4	20.5
Alaska	3.1	8.4	19.9
California	2.4	7.2	18.9
Hawaii	2.2	6.8	16.3

*DE, ME, and DC are South Atlantic states but are included in the Middle Atlantic.

NOTE: Medical spending includes out-of-pocket expenditures on health insurance premiums, medical services and equipment, and over-the-counter items. Medical spending is aggregated over health insurance units (HIU) and divided by total HIU income. States sorted by 75th percentile within region. States in bold have the top 10 75th percentiles among all states. States in italics have the lowest 10 75th percentiles among all states.

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE 2: 75th Percentile Burden Levels (Medical Spending Relative to Income) Among Individuals with Income Below and Above 138% of FPL, by State

	< 138% of FPL	≥ 138% of FPL
Alaska	28.8	7.6
Virginia	27.9	6.9
New Hampshire	26.5	7.6
Nevada	26.3	8.2
Colorado	24.9	8.0
Maryland	23.6	6.6
North Dakota	23.1	8.5
Utah	23.0	9.3
Louisiana	22.1	7.6
New Jersey	22.1	6.4
Nebraska	22.0	9.0
Oregon	21.3	8.9
Connecticut	21.2	8.0
Arkansas	20.0	8.4
Wyoming	20.0	9.8
New Mexico	19.8	7.4
Montana	19.5	9.4
Alabama	19.3	7.5
Oklahoma	19.3	7.8
Mississippi	18.1	9.3
Iowa	17.5	7.8
Maine	17.1	8.9
Florida	16.8	7.8
Washington	16.4	7.9
Wisconsin	16.4	8.1
Idaho	16.2	10.5
Vermont	16.2	8.0
Missouri	15.9	7.6
Arizona	15.9	7.9
North Carolina	15.7	8.7
Georgia	15.6	6.9
Kentucky	15.5	8.5
Indiana	15.4	7.8
West Virginia	15.3	7.3
Michigan	15.3	6.8
Illinois	15.2	7.6
Massachusetts	15.1	6.8
Ohio	15.0	7.9
Pennsylvania	14.9	6.6
Texas	14.9	7.6
South Carolina	14.8	7.7
Minnesota	14.3	8.3
Hawaii	14.2	6.2
Tennessee	14.2	9.2
Rhode Island	14.0	7.4
Kansas	13.9	8.2
South Dakota	13.3	9.2
Delaware	11.4	6.3
California	11.1	6.6
New York	10.7	5.8
District of Columbia	10.0	4.6

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE 3: Share of Each State’s Nonelderly, U.S. Citizen Population that Has High Medical Burden (Top 25% of Spending Relative to Income) and Low-Income (Below 138% FPL), by Insurance Coverage

State	No Medicaid (%)				Medicaid§ (%)
	Total without Medicaid	Uninsured	Privately Insured†	Other‡	
Nevada	8.1	3.7	3.8	0.5	2.2
Louisiana	7.3	3.8	2.8	0.7	4.1
Mississippi	7.2	3.4	3.5	0.3	4.6
Montana	7.2	3.6	3.1	0.5	2.7
Arkansas	7.1	3.0	3.3	0.8	4.4
New Mexico	6.9	2.6	3.8	0.5	4.1
Georgia	6.7	2.5	3.5	0.8	2.5
Alabama	6.6	3.0	3.1	0.5	3.4
Utah	6.3	1.7	4.3	0.3	1.9
Idaho	6.2	1.9	4.1	0.2	2.8
Florida	6.1	2.6	3.0	0.5	2.5
Arizona	6.0	2.3	3.4	0.3	3.3
Oregon	6.0	2.3	3.3	0.4	2.9
Kentucky	5.9	2.6	2.7	0.6	3.9
South Carolina	5.9	3.3	2.4	0.2	3.0
West Virginia	5.9	2.3	2.7	0.9	3.7
Missouri	5.8	2.0	3.3	0.5	2.6
Texas	5.8	2.7	2.7	0.3	2.9
Oklahoma	5.4	1.7	3.2	0.6	2.7
Tennessee	5.3	2.1	2.8	0.3	3.4
North Carolina	5.2	2.1	2.6	0.4	3.4
North Dakota	5.1	1.8	3.0	0.3	1.4
California	5.0	2.2	2.6	0.2	2.0
Kansas	5.0	1.6	3.2	0.2	2.2
Colorado	5.0	1.9	2.9	0.2	1.7
Ohio	5.0	2.1	2.3	0.5	2.4
Wyoming	4.9	2.1	2.7	0.2	2.1
Nebraska	4.8	1.2	3.5	0.1	2.2
Michigan	4.7	2.0	2.5	0.2	2.9
Indiana	4.7	1.3	3.1	0.3	3.3
South Dakota	4.6	1.4	3.1	0.1	2.5
Washington	4.6	1.8	2.5	0.3	1.9
Alaska	4.5	1.6	2.2	0.7	2.3
Virginia	4.5	1.7	2.6	0.2	1.1
Iowa	4.4	1.4	2.8	0.1	2.6
New York	4.3	1.7	2.4	0.2	2.3
Illinois	4.2	1.7	2.5	0.1	2.3
District of Columbia	4.2	1.7	2.4	0.1	2.1
Hawaii	4.1	0.8	2.7	0.5	2.3
Pennsylvania	4.0	1.5	2.2	0.3	2.3
New Hampshire	3.9	1.2	2.4	0.4	0.8
Maryland	3.9	1.4	2.3	0.2	1.4
Maine	3.8	1.4	2.0	0.4	3.0
Delaware	3.7	1.1	2.2	0.4	2.1
Wisconsin	3.6	1.1	2.3	0.2	2.8
Rhode Island	3.5	1.2	2.3	0.1	2.1
New Jersey	3.4	1.2	2.0	0.2	2.3
Massachusetts	3.3	0.7	2.5	0.0	2.1
Minnesota	3.2	1.0	2.1	0.1	1.5
Connecticut	3.0	1.0	1.9	0.2	1.6
Vermont	3.0	1.1	1.7	0.2	3.1

† Excludes Medicaid yet may include other non-Medicaid government insurance.

‡ Non-Medicaid government insurance and no private insurance.

§ May also include private and/or non-Medicaid public insurance.

SOURCE: Authors’ calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE 4: Percentage of Low-Income, Nonelderly, U.S. Citizens with Medicaid, by Presence of Other Individuals with Private Insurance in the HIU

	%
Medicaid	33.3
no one in HIU with private insurance	24.8
others in HIU with private insurance	8.5

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE 5: Distribution of Out-of-Pocket Spending (Not Including Premiums) Among High-Burden, Low-Income, Nonelderly U.S. Citizens, by Insurance Status

	Distribution of medical out-of-pocket spending					% with Zero Spending
	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Mean	
Privately Insured	\$21	\$200	\$721	\$2,061	\$842	23.1%
Uninsured	0	100	618	2,370	1,013	41.8
Medicaid	0	0	150	800	390	59.8

NOTE: Monetary values are expressed in constant 2011 U.S. dollars. 2010 values were inflated using the Medical Care CPI.

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE 6: Per Capita Income Distribution Among People in High-Burden, Low-Income HIUs, by Insurance Status

	Per capita income distribution				
	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Mean
Privately Insured	\$200	\$5,000	\$8,500	\$12,900	\$5,394
Uninsured	0	0	3,745	8,020	2,302
Medicaid	0	1,680	5,952	8,957	3,309

NOTE: Per capita income is calculated by summing all income in the HIU and dividing by the number of HIU members. One person with a given type of health insurance is randomly selected to represent the HIU's income per person. HIUs represented in the table may appear in more than one insurance category in cases where not all members have the same insurance (that is, categories are not mutually exclusive). Monetary values are expressed in constant 2011 U.S. dollars. 2010 values were inflated using the CPI-U.

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

APPENDIX

Standard Error Estimates and Sample Sizes

Appendix Tables A.1 through A.6 contain the standard error estimates and sample sizes corresponding to Tables 1 through 6, respectively.

CPS ASEC Sample Restrictions

As the focus of our analysis is on the population most likely affected by the 2014 provisions of the ACA, we exclude individuals age 65 and older. This age group is largely covered by Medicare, and their benefits and likelihood of coverage will not change in response to the ACA provisions beginning in 2014. We also exclude the small number of individuals under age 65 living with older respondents so the remaining units are more comparable.

This exclusion does not change our main results. Finally, there are some units where there are no adults age 18 or older. This occurs because individuals age 15 to 17 are eligible for a complete interview if they are the oldest in the household. We exclude these HIUs because they are not comparable to others in terms of earnings potential, government program eligibility, and likely resources (income or in-kind items) from outside the household.

The pooled 2011 and 2012 CPS ASEC data contain records on 406,381 individuals, 44,453 of whom are age 65 or older, and 5,451 of whom are under age 65 but reside in an HIU with someone age 65 or older (restriction 1); 4,946 individuals belong to an HIU without an adult age 18 or older (restriction 2). Our final subsample includes 351,531 individual respondents.

TABLE A.1: Medical Spending as a Percentage of Income Among Nonelderly Individuals, by State

Geography	Percentiles of the medical spending burden distribution						N
	50th Percentile	SE	75th Percentile	SE	90th Percentile	SE	
US	3.1	0.0	8.2	0.1	19.7	0.2	351,531
New England	3.3	0.1	7.9	0.2	17.3	0.5	35,458
Middle Atlantic*	2.5	0.1	6.9	0.1	17.6	0.4	50,642
East North Central	3.3	0.1	8.2	0.1	18.7	0.4	39,535
West North Central	3.9	0.1	8.8	0.2	18.2	0.5	40,650
South Atlantic*	3.2	0.1	8.6	0.2	20.2	0.6	42,933
East South Central	4.0	0.1	9.7	0.2	21.0	0.7	16,311
West South Central	3.3	0.1	8.7	0.2	21.8	0.8	32,390
Mountain	3.7	0.1	9.4	0.2	21.6	0.6	38,104
Pacific	2.6	0.1	7.6	0.1	19.4	0.4	55,508
Alaska	3.1	0.1	8.4	0.3	19.9	1.9	4,305
Alabama	3.7	0.2	8.7	0.5	20.3	1.5	3,659
Arkansas	4.0	0.2	10.3	0.6	24.4	2.7	3,279
Arizona	3.3	0.2	8.5	0.4	20.5	1.4	4,576
California	2.4	0.1	7.2	0.2	18.9	0.5	34,749
Colorado	3.6	0.2	8.7	0.3	20.1	1.0	7,965
Connecticut	3.4	0.1	8.4	0.3	18.1	1.0	7,893
District of Columbia	1.8	0.1	5.0	0.3	14.3	1.3	4,614
Delaware	2.8	0.1	6.7	0.3	15.4	1.1	5,460
Florida	3.2	0.1	8.7	0.3	21.5	0.9	12,958
Georgia	3.0	0.2	8.2	0.4	20.0	1.2	7,971
Hawaii	2.2	0.1	6.8	0.3	16.3	1.2	5,866
Iowa	3.8	0.2	8.5	0.5	17.7	1.1	6,541
Idaho	4.9	0.2	10.9	0.4	22.5	1.7	4,206
Illinois	3.2	0.1	8.2	0.3	17.8	0.8	11,153
Indiana	3.4	0.2	8.5	0.4	19.6	0.9	5,200
Kansas	3.9	0.2	8.7	0.4	18.2	1.1	5,072
Kentucky	3.8	0.2	9.8	0.5	20.0	1.8	4,955
Louisiana	3.4	0.2	9.2	0.6	25.7	2.8	3,215
Massachusetts	3.1	0.1	7.2	0.3	16.6	1.0	5,258
Maryland	3.1	0.1	7.3	0.3	17.9	0.9	8,489
Maine	4.0	0.2	9.4	0.4	18.9	0.7	5,574
Michigan	2.7	0.1	7.5	0.3	19.0	1.0	7,988
Minnesota	4.1	0.2	8.5	0.3	16.9	0.6	8,351
Missouri	3.6	0.2	8.7	0.5	19.2	1.5	5,533
Mississippi	4.1	0.4	10.7	0.5	22.9	2.4	3,190
Montana	3.9	0.4	10.5	0.6	25.0	2.5	2,871
North Carolina	3.6	0.2	9.5	0.5	21.6	1.6	6,753
North Dakota	3.8	0.2	9.5	0.6	19.7	1.7	4,155
Nebraska	4.5	0.2	9.7	0.3	19.1	0.9	5,671
New Hampshire	3.4	0.2	8.1	0.3	17.3	0.8	6,580
New Jersey	3.0	0.1	7.1	0.2	19.3	1.3	7,278
New Mexico	3.2	0.2	9.2	0.8	25.0	3.7	3,253
Nevada	3.6	0.2	9.8	0.4	25.5	2.3	5,611
New York	1.9	0.1	6.4	0.2	17.9	0.7	14,992
Ohio	3.4	0.2	8.4	0.3	19.7	0.7	8,775
Oklahoma	3.3	0.3	8.6	0.5	20.9	1.9	4,304
Oregon	4.2	0.2	9.9	0.3	21.7	1.5	4,631
Pennsylvania	2.9	0.1	7.3	0.2	16.8	0.7	9,809
Rhode Island	3.1	0.1	7.7	0.3	17.9	0.8	5,551
South Carolina	3.6	0.2	8.9	0.5	20.8	1.8	4,132
South Dakota	4.6	0.2	9.7	0.4	20.0	1.2	5,327
Tennessee	4.3	0.2	9.8	0.4	21.8	0.9	4,507
Texas	3.2	0.1	8.5	0.2	21.0	0.8	21,592
Utah	4.7	0.2	10.6	0.5	21.4	1.0	4,844
Virginia	3.1	0.2	7.7	0.3	18.0	0.9	7,652
Vermont	3.9	0.1	8.6	0.3	17.8	0.9	4,602
Washington	3.4	0.2	8.4	0.3	20.5	1.3	5,957
Wisconsin	3.9	0.2	8.5	0.3	17.9	1.1	6,419
West Virginia	3.2	0.2	8.3	0.4	19.4	0.9	3,467
Wyoming	4.6	0.2	10.6	0.6	20.6	0.9	4,778

*DE, ME, and DC are South Atlantic states but are included in the Middle Atlantic.

NOTE: Medical spending includes out-of-pocket expenditures on health insurance premiums, medical services and equipment, and over-the-counter items. Medical spending is aggregated over health insurance units (HIU) and divided by total HIU income. Standard error estimates were calculated using replicate weights (Francisco C and Fuller W, "Quantile Estimation with a Complex Survey Design," Annals of Statistics 19, no. 1 (1991): 454-469).

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE A.2: 75th Percentile Burden Levels (Medical Spending Relative to Income) Among Individuals with Income Below and Above 138% of FPL, by State

	< 138% of FPL			≥ 138% of FPL			Statistical significance of difference between low- and higher-income population
	75th Percentile	SE	N	75th Percentile	SE	N	
Alaska	28.8	5.1	735	7.6	0.4	3,570	**
Alabama	19.3	3.0	929	7.5	0.5	2,730	**
Arkansas	20.0	3.3	885	8.4	0.4	2,394	**
Arizona	15.9	2.6	1,345	7.9	0.4	3,231	**
California	11.1	1.0	9,175	6.6	0.1	25,574	**
Colorado	24.9	3.6	1,517	8.0	0.2	6,448	**
Connecticut	21.2	3.0	1,125	8.0	0.3	6,768	**
District of Columbia	10.0	2.4	1,225	4.6	0.2	3,389	**
Delaware	11.4	2.2	1,160	6.3	0.3	4,300	**
Florida	16.8	1.9	3,222	7.8	0.2	9,736	**
Georgia	15.6	2.0	2,151	6.9	0.3	5,820	**
Hawaii	14.2	2.6	1,121	6.2	0.3	4,745	**
Iowa	17.5	1.7	1,224	7.8	0.5	5,317	**
Idaho	16.2	2.7	1,134	10.5	0.3	3,072	**
Illinois	15.2	2.8	2,534	7.6	0.2	8,619	**
Indiana	15.4	2.4	1,248	7.8	0.4	3,952	**
Kansas	13.9	1.3	1,180	8.2	0.4	3,892	**
Kentucky	15.5	2.1	1,307	8.5	0.4	3,648	**
Louisiana	22.1	3.5	988	7.6	0.4	2,227	**
Massachusetts	15.1	3.4	895	6.8	0.2	4,363	**
Maryland	23.6	3.7	1,224	6.6	0.2	7,265	**
Maine	17.1	2.5	1,134	8.9	0.3	4,440	**
Michigan	15.3	1.8	1,842	6.8	0.3	6,146	**
Minnesota	14.3	1.7	1,343	8.3	0.3	7,008	**
Missouri	15.9	1.9	1,314	7.6	0.3	4,219	**
Mississippi	18.1	3.3	998	9.3	0.6	2,192	**
Montana	19.5	5.2	726	9.4	0.5	2,145	**
North Carolina	15.7	3.3	1,698	8.7	0.2	5,055	**
North Dakota	23.1	7.7	680	8.5	0.5	3,475	**
Nebraska	22.0	3.2	942	9.0	0.3	4,729	**
New Hampshire	26.5	5.2	709	7.6	0.3	5,871	**
New Jersey	22.1	4.6	1,192	6.4	0.2	6,086	**
New Mexico	19.8	2.9	999	7.4	0.5	2,254	**
Nevada	26.3	6.1	1,467	8.2	0.5	4,144	**
New York	10.7	1.8	3,580	5.8	0.2	11,412	**
Ohio	15.0	2.1	2,002	7.9	0.3	6,773	**
Oklahoma	19.3	4.4	1,050	7.8	0.5	3,254	**
Oregon	21.3	2.3	1,120	8.9	0.5	3,511	**
Pennsylvania	14.9	2.2	1,915	6.6	0.2	7,894	**
Rhode Island	14.0	2.3	1,123	7.4	0.3	4,428	**
South Carolina	14.8	2.7	1,108	7.7	0.4	3,024	**
South Dakota	13.3	2.5	1,141	9.2	0.3	4,186	**
Tennessee	14.2	2.2	1,112	9.2	0.4	3,395	**
Texas	14.9	1.4	6,172	7.6	0.2	15,420	**
Utah	23.0	3.7	956	9.3	0.4	3,888	**
Virginia	27.9	6.8	1,202	6.9	0.3	6,450	**
Vermont	16.2	2.8	806	8.0	0.3	3,796	**
Washington	16.4	3.6	1,244	7.9	0.3	4,713	**
Wisconsin	16.4	3.0	1,207	8.1	0.2	5,212	**
West Virginia	15.3	2.2	975	7.3	0.4	2,492	**
Wyoming	20.0	4.1	811	9.8	0.6	3,967	**

** $p < 0.01$, * $p < 0.05$, + $p < 0.10$ (two-tailed test)

NOTE: Standard error estimates were calculated using replicate weights (Francisco and Fuller, "Quantile Estimation").

SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE A.3: Share of Each State’s Nonelderly, U.S. Citizen Population that Has High Medical Burden (Top 25% of Spending Relative to Income) and Low Income (Below 138% FPL), by Insurance Coverage

State	No Medicaid								Medicaid§		N
	Total without Medicaid		Uninsured		Privately Insured†		Other‡		%	SE	
	%	SE	%	SE	%	SE	%	SE			
Alaska	4.5	0.5	1.6	0.3	2.2	0.4	0.7	0.2	2.3	0.4	4,151
Alabama	6.6	0.6	3.0	0.6	3.1	0.4	0.5	0.1	3.4	0.4	3,558
Arkansas	7.1	0.6	3.0	0.5	3.3	0.4	0.8	0.3	4.4	0.7	3,138
Arizona	6.0	0.7	2.3	0.3	3.4	0.5	0.3	0.1	3.3	0.5	4,084
California	5.0	0.2	2.2	0.1	2.6	0.2	0.2	0.0	2.0	0.1	29,041
Colorado	5.0	0.4	1.9	0.2	2.9	0.3	0.2	0.1	1.7	0.2	7,450
Connecticut	3.0	0.3	1.0	0.2	1.9	0.3	0.2	0.1	1.6	0.3	7,304
District of Columbia	4.2	0.4	1.7	0.2	2.4	0.3	0.1	0.1	2.1	0.4	4,092
Delaware	3.7	0.5	1.1	0.2	2.2	0.3	0.4	0.1	2.1	0.3	5,022
Florida	6.1	0.4	2.6	0.2	3.0	0.3	0.5	0.1	2.5	0.3	11,432
Georgia	6.7	0.5	2.5	0.3	3.5	0.4	0.8	0.2	2.5	0.4	7,420
Hawaii	4.1	0.5	0.8	0.2	2.7	0.4	0.6	0.2	2.3	0.4	5,373
Iowa	4.4	0.4	1.4	0.3	2.8	0.3	0.1	0.0	2.6	0.3	6,243
Idaho	6.2	0.7	1.9	0.3	4.1	0.6	0.2	0.1	2.8	0.4	3,914
Illinois	4.2	0.4	1.7	0.2	2.5	0.3	0.1	0.0	2.3	0.3	10,124
Indiana	4.7	0.5	1.3	0.3	3.1	0.4	0.3	0.1	3.3	0.4	5,050
Kansas	5.0	0.5	1.6	0.3	3.2	0.3	0.2	0.1	2.2	0.4	4,790
Kentucky	5.9	0.5	2.6	0.3	2.7	0.3	0.6	0.1	3.9	0.5	4,776
Louisiana	7.3	0.8	3.8	0.6	2.8	0.4	0.7	0.3	4.1	0.6	3,151
Massachusetts	3.3	0.3	0.7	0.2	2.5	0.3	0.0	0.0	2.1	0.3	4,886
Maryland	3.9	0.4	1.4	0.2	2.3	0.3	0.2	0.1	1.4	0.2	7,561
Maine	3.8	0.4	1.4	0.3	2.0	0.3	0.4	0.1	3.0	0.5	5,496
Michigan	4.7	0.4	2.0	0.2	2.5	0.3	0.2	0.1	2.9	0.4	7,712
Minnesota	3.2	0.4	1.0	0.2	2.1	0.3	0.1	0.1	1.5	0.3	7,954
Missouri	5.8	0.6	2.0	0.5	3.3	0.4	0.5	0.2	2.6	0.5	5,419
Mississippi	7.2	0.7	3.4	0.6	3.5	0.6	0.3	0.1	4.6	0.5	3,149
Montana	7.2	0.8	3.6	0.6	3.1	0.4	0.5	0.2	2.7	0.6	2,829
North Carolina	5.2	0.6	2.1	0.3	2.6	0.4	0.4	0.1	3.4	0.4	6,360
North Dakota	5.1	0.8	1.8	0.4	3.0	0.6	0.3	0.1	1.4	0.3	4,103
Nebraska	4.8	0.6	1.2	0.3	3.5	0.4	0.1	0.1	2.2	0.4	5,235
New Hampshire	3.9	0.4	1.2	0.2	2.4	0.3	0.4	0.1	0.8	0.2	6,382
New Jersey	3.4	0.4	1.2	0.2	2.0	0.3	0.2	0.1	2.3	0.4	6,315
New Mexico	6.9	0.7	2.6	0.4	3.8	0.6	0.5	0.2	4.1	0.7	3,023
Nevada	8.1	0.7	3.7	0.5	3.8	0.5	0.5	0.1	2.2	0.4	4,914
New York	4.3	0.3	1.7	0.2	2.4	0.2	0.2	0.1	2.3	0.2	13,229
Ohio	5.0	0.4	2.1	0.2	2.3	0.3	0.5	0.1	2.4	0.3	8,593
Oklahoma	5.4	0.6	1.7	0.2	3.2	0.5	0.6	0.2	2.7	0.4	4,153
Oregon	6.0	0.5	2.3	0.3	3.3	0.4	0.4	0.1	2.9	0.3	4,328
Pennsylvania	4.0	0.3	1.5	0.1	2.2	0.2	0.3	0.1	2.3	0.3	9,438
Rhode Island	3.5	0.3	1.2	0.2	2.3	0.3	0.1	0.0	2.1	0.3	5,122
South Carolina	5.9	0.5	3.3	0.4	2.4	0.4	0.2	0.1	3.0	0.5	3,983
South Dakota	4.6	0.7	1.4	0.2	3.1	0.5	0.1	0.1	2.5	0.6	5,158
Tennessee	5.3	0.5	2.1	0.3	2.8	0.4	0.3	0.1	3.4	0.4	4,336
Texas	5.8	0.3	2.7	0.2	2.7	0.2	0.3	0.0	2.9	0.3	18,761
Utah	6.3	0.6	1.7	0.3	4.3	0.6	0.3	0.1	1.9	0.3	4,546
Virginia	4.5	0.5	1.7	0.3	2.6	0.3	0.2	0.1	1.1	0.3	7,041
Vermont	3.0	0.4	1.1	0.2	1.7	0.3	0.2	0.1	3.1	0.4	4,502
Washington	4.6	0.5	1.8	0.3	2.5	0.4	0.3	0.1	1.9	0.3	5,414
Wisconsin	3.6	0.4	1.1	0.2	2.3	0.4	0.2	0.1	2.8	0.3	6,161
West Virginia	5.9	0.6	2.3	0.3	2.7	0.4	0.9	0.2	3.7	0.4	3,441
Wyoming	4.9	0.6	2.1	0.3	2.7	0.4	0.2	0.1	2.1	0.3	4,662

† Excludes Medicaid yet may include other non-Medicaid government insurance.

‡ Non-Medicaid government insurance and no private insurance.

§ May also include private and/or non-Medicaid public insurance.

NOTE: Standard error estimates were calculated using replicate weights (Francisco and Fuller, “Quantile Estimation”).

SOURCE: Authors’ calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE A.4: Percentage of Low-Income, Nonelderly U.S. Citizens with Medicaid, with and without Other Individuals with Private Insurance in the HIU

	%	SE
Medicaid	33.3	0.62
no one in HIU with private insurance	24.8	0.55
others in HIU with private insurance	8.5	0.34
N	23,799	

NOTE: Standard errors were estimated using replicate weights (Francisco and Fuller, "Quantile Estimation").
SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE A.5: Distribution of Out-of-Pocket Spending (Not Including Premiums) Among High-Burden, Low-Income, Nonelderly U.S. Citizens, by Insurance Status

	Distribution of medical out-of-pocket spending						N
	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Mean	% with Zero Spending	
Privately Insured	\$21 (5)	\$200 (2)	\$721 (40)	\$2,061 (15)	\$842 (36)	23.1% (0.7)	8,541
Uninsured	0 (—)	100 (8)	618 (59)	2,370 (155)	1,013 (80)	41.8 (0.9)	5,974
Medicaid	0 (—)	0 (—)	150 (24)	800 (75)	390 (28)	59.8 (0.8)	8,292

NOTE: Monetary values are expressed in constant 2011 U.S. dollars. 2010 values were inflated using the Medical Care CPI. Standard error estimates are presented in parenthesis below each point estimate. Standard errors were estimated using replicate weights (Francisco and Fuller, "Quantile Estimation"). — indicates that there was not sufficient variation around the given percentile to estimate the standard error.
SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

TABLE A.6: Per Capita Income Distribution Among People in High-Burden, Low-Income HIUs, by Insurance Status

	Per capita income distribution					N
	25th Percentile	50th Percentile	75th Percentile	90th Percentile	Mean	
Privately Insured	\$200 (89)	\$5,000 (86)	\$8,500 (187)	\$12,900 (258)	\$5,394 (91)	4,908
Uninsured	0 (—)	0 (—)	3,745 (196)	8,020 (265)	2,302 (73)	4,426
Medicaid	0 (—)	1,680 (135)	5,952 (131)	8,957 (196)	3,309 (67)	4,183

NOTE: Per capita income is calculated by summing all income in the HIU and dividing by the number of HIU members. One person with a given type of health insurance is randomly selected to represent the HIU's income per person. HIUs represented in the table may appear in more than one insurance category in cases where not all members have the same insurance (are not mutually exclusive). Monetary values are expressed in constant 2011 U.S. dollars. 2010 values were inflated using the CPI-U. Standard error estimates are presented in parenthesis below each point estimate. Standard errors were estimated using replicate weights (Francisco and Fuller, "Quantile Estimation"). — indicates that there was not sufficient variation around the given percentile to estimate the standard error.
SOURCE: Authors' calculations using the (pooled) 2011 & 2012 CPS ASEC (2010 & 2011 reference years).

ENDNOTES

1. Centers for Medicare and Medicaid Services (CMS), "Proposed Rule for Strengthening Medicaid, the Children's Health Insurance Program and the New Health Insurance Marketplace," Washington: CMS, 2013, p. 223. States have the option to expand Medicaid to adults with income higher than 138 percent of the federal poverty level (FPL), in which case some individuals with income above 150 percent of FPL could be subject to premiums.
2. Cunningham P, "The Growing Financial Burden of Health Care: National and State Trends, 2001–2006," *Health Affairs* 29, no. 5 (2010): 1037–1044.
3. The CPS ASEC has a complex survey design, and all standard error estimates in this study account for this design using the survey's replicate weights.
4. See the Appendix for further explanation of sub-sample restrictions and resulting sample size.
5. The 2010 CPS ASEC was the first to collect information on medical out-of-pocket spending. Three separate survey questions collect this information, asking respondents to report amounts net of reimbursements (see U.S. Census Bureau, "Technical Documentation, Current Population Survey, 2011 Annual Social and Economic (ASEC) Supplement," <http://www.census.gov/apsd/techdoc/cps/cpsmar11.pdf>, accessed December 28, 2012, p. 257). These data compare well with similar data collected in the MEPS and the Survey of Income and Program Participation (Caswell K and O'Hara B, "Medical Out-of-Pocket Expenditures, Poverty, and the Uninsured," Washington: U.S. Census Bureau, 2010, SEHSD Working Paper 2010-17).
6. Gross income is the summation of 16 distinct income categories, including public assistance. (U.S. Census Bureau, "Current Population Survey—Definitions, Income Measurement," <http://www.census.gov/cps/about/cpsdef.html>, accessed December 27, 2012.)
7. In order to calculate the medical spending burden of HIUs who report zero income (and in some cases negative or extremely low income) total gross HIU income is bottom coded at a minimum of \$100. This affected 4.8 percent of individual records, or 6.9 percent of HIUs. Among the HIUs, 32 percent report zero medical out-of-pocket spending and therefore result in burden equal to zero, and 64 percent report positive spending and zero income. One percent report negative income and positive spending, while 3 percent report positive income less than \$100 and positive spending.
8. Many studies use the burden threshold of greater than 10 percent as a working definition of a "high" burden level, although this too is somewhat arbitrary. The 10 percent threshold approximately corresponds to the 79th percentile of the nonelderly U.S. burden distribution using the CPS ASEC data in this study.
9. References to the federal poverty level or FPL in this paper are determined using the federal poverty guideline as opposed to the federal poverty threshold. The federal poverty guidelines are used for administrative purposes to determine government program income eligibility (U.S. Department of Health and Human Services, "What Are the Differences between the Poverty Guidelines and the Poverty Thresholds?" <http://aspe.hhs.gov/poverty/faq.shtml#differences>, accessed January 11, 2013).
10. Kaiser Family Foundation, "Who Benefits from the ACA Medicaid Expansion?" http://www.kff.org/medicaid/quicktake_aca_medicaid.cfm, accessed December 28, 2012.
11. Maryland, Delaware, and the District of Columbia, which are South Atlantic states, are grouped here with the Middle Atlantic states.
12. For example, a more reasonable comparison may be the District of Columbia compared with Chicago or New York City.
13. Oregon is the first state from the top whose 75th percentile (9.9) is statistically different from Idaho, as are all of the subsequent states.
14. The 75th percentile of the national nonelderly U.S. citizen medical spending burden distribution is 8.2 percent. Therefore, all individuals represented in Table 3 reside in HIUs that spend 8.2 percent or more of the unit's income on medical out-of-pocket spending.
15. That is, 8.5 percent of low-income, high-burden individuals have Medicaid and reside in a HIU where someone has private insurance, which is 25.6 percent of those with Medicaid and high burden.
16. Sommers B, "Loss of Health Insurance among Non-elderly Adults in Medicaid," *Journal of General Internal Medicine* 24, no. 1 (2008): 1–7.
17. ABC (The Advisory Board Company), "Where Each State Stands on ACA's Medicaid Expansion," <http://www.census.gov/apsd/techdoc/cps/cpsmar11.pdf>, accessed March 5, 2013.

About the Authors and Acknowledgments

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