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Realizing Health Reform's Potential

Will the Affordable Care Act Make Health Insurance Affordable?

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Abstract: Using a budget-based approach to measuring affordability, this issue brief explores whether the subsidies available through the Affordable Care Act are enough to make health insurance affordable for low-income families. Drawing from the Consumer Expenditure Survey, the authors assess how much "room" people have in their budget, after paying for other necessities, to pay for health care needs. The results show that an overwhelming majority of households have room in their budgets for the necessities, health insurance premiums, and moderate levels of out-of-pocket costs established by the Affordable Care Act. Fewer than 10 percent of families above the federal poverty level do not have the resources to pay for premiums and typical out-of-pocket costs, even with the subsidies provided by the health reform law. Affordability remains a concern for some families with high out-of-pocket spending, suggesting that this is the major risk to insurance affordability.

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OVERVIEW

The Patient Protection and Affordable Care Act (Affordable Care Act) includes massive new subsidies to health insurance that are designed to make coverage more affordable for low-income families in the United States. Will they work? Will the Affordable Care Act live up to its name?

This study investigates that question using a budget-based approach to measuring affordability. Drawing from the Consumer Expenditure Survey, the nation's largest representative survey of consumption expenditures, we assess how much "room" people have in their budget to pay for health care needs after paying for other necessities. We consider both premiums and out-of-pocket spending not covered by insurance, incorporating tax credits to premiums and cost-sharing subsidies for low-income populations.

Using this method, we find that an overwhelming majority of households *do* have room in their budgets for the necessities, health insurance premiums, and moderate levels of out-of-pocket costs established by the Affordable Care Act. Fewer than 10 percent of families above the federal poverty level ($10,890 for an individual and $22,350 for a family of four) do not have the resources to pay for

premiums and typical out-of-pocket costs even with the subsidies put in place by the health reform law.

Affordability remains a concern, however, for those with high out-of-pocket spending—in particular, those with household incomes ranging from two to three times the poverty level. This suggests that the major risk to affordability under the Affordable Care Act comes from exposure to high out-of-pocket costs.

BACKGROUND

Perhaps the most controversial aspect of the Affordable Care Act is the "individual mandate," the requirement that most people in the United States purchase health insurance coverage. Proponents of a mandate argue that requiring "free riders" to join the health insurance system will combat "adverse selection" in nongroup insurance markets—which occurs when a disproportionate number of sicker-than-average individuals enroll in a health plan and incur costs above what the insurer expected. Without a mechanism to prevent adverse selection, these proponents note, insurance market reform is close to impossible. Opponents of the mandate, meanwhile, argue that it infringes on individual freedoms, and that it might force some individuals to purchase insurance they cannot afford.

The purpose of this brief is to address that last concern: Is health insurance "affordable" under the health reform law? Divining an answer to this question is difficult because ultimately the definition of affordability is a subjective one. In this brief, we focus on one source of data that can help shed light on the answer: information on the allocation of consumer budgets. In particular, we ask whether individuals spend so much of their resources on necessities that they cannot afford health insurance or the associated out-of-pocket medical spending. If a family can pare back its spending on non-necessities and use the resulting savings to pay for health insurance, then health insurance can be considered affordable. This is not the only possible definition of affordability, but it is a very useful reference for thinking about this critical question.

There is one rule of thumb that should be emphasized when analyzing affordability for any broad class of citizens: an item is clearly not affordable if no one in a group can afford it. But, by the same token, it is wrong to say an item is unaffordable if some people in a group cannot afford it. In considering affordability for a group, it is important to establish a sensible benchmark whereby insurance is considered affordable if "most of" a group can afford it. We will not define such a benchmark here, but it is important to keep in mind in reviewing the results below that goods may be considered affordable even if somewhat less than 100 percent of the group can afford them.

The vast majority of America's poorer families can afford health insurance premiums and typical out-of-pocket health care costs under the schedules specified by the Affordable Care Act.

AFFORDABILITY UNDER THE AFFORDABLE CARE ACT

Under the Affordable Care Act, individuals may obtain health insurance from a variety of sources. Most people will remain enrolled in the employer-sponsored insurance that is the major source of coverage today. The lowest-income residents—those with incomes below 133 percent of the federal poverty level (FPL)—will be eligible for free public insurance through the Medicaid program. All others will be able to purchase insurance through the newly established state insurance exchanges.

Through the insurance exchanges, employers and individuals will be able to choose among plans that have a federally determined essential-benefits package. While the exact details of this benefits package have yet to be specified, health plans in the insurance exchanges must have an "actuarial value" of at least 60 percent; that is, for the typical population, the insurance plan must cover, on average, 60 percent of the

Exhibit 1. Premiums and Cost Sharing Subsidies Under the Affordable Care Act

Reported Income (% poverty level)	Premium Subsidies (% of income cap)	Actuarial Value	Out-of-Pocket Maximum
<133	0%	100%	—
133–149	3%–4%	94%	$1,983
150–199	4%–6.3%	87%	$1,983
200–249	6.3%–8.05%	73%	$2,975
250–299	8.05%–9.5%	70%	$2,975
300–399	9.5%	70%	$3,967
≥400	—	60%	$5,950

costs of insurance. In addition, the out-of-pocket limit for enrollee spending cannot exceed the regulated level for health savings accounts (roughly $6,000). The exchanges will feature four different levels of cost-sharing: bronze (covering an average of 60% of an enrollee's medical costs), silver (70%), gold (80%), and platinum (90%).

A major feature of the Affordable Care Act is assistance for low-income individuals purchasing insurance through the exchanges. Those with incomes from 133 percent to 399 percent of FPL are eligible for income-based tax credits to help defray the cost of purchasing insurance in the state exchanges. These families will pay the percentage of income specified in Exhibit 1 for the second-lowest-cost silver plan available in their area, and the government will pay any remaining costs above that level. Some low-income individuals are also eligible for cost-sharing subsidies that offset the out-of-pocket costs in the silver plan. These cost-sharing subsidies raise the actuarial value of plans by income group, and lower the out-of-pocket limits on spending.

A BUDGET-BASED APPROACH TO AFFORDABILITY

Framework

Our budget-based analysis involves setting a standard for expenditures on "necessities" and then assessing whether there is sufficient additional income to pay for health insurance and other health care needs. There are several questions inherent in this approach, which we address below and in greater detail in the Appendix.

What are necessities? Which purchases are more necessary than health care or health insurance? This is inherently subjective and will by definition vary from family to family. The key challenge is where to draw the line. The Family Economic Self-Sufficiency Standard (FESS, described at www.sixstrategies.org) is an attempt to make such judgments. It considers necessary expenditures as:

- child care
- food
- housing
- taxes
- transportation
- miscellaneous (calculated as 10% of other costs).

The calculation for "miscellaneous" is supported by research conducted in 2006 by the Greater Boston Interfaith Organization, which asked individuals about the cost of "other necessities." The values reported were almost exactly 10 percent of the FESS categories of necessities.

Another way to define necessities would be to add clothing, auto repairs and maintenance, and home repairs and maintenance to the list, instead of to the miscellaneous category. Analysis shows that the FESS definition is the more conservative of the two (it yields more problems with affordability than the alternative), so we have used it for our analyses.

What about low-income families that report spending more than their income? Many low-income families report expenditures that add up to more than their reported income—a fact that has been widely noted in the analysis of expenditure data. The apparent inconsistency might represent: 1) a misreporting of income (e.g., not reporting "under the table" income, or simple errors in income reporting); 2) borrowing from other sources to fund consumption; or 3) spending out of savings. Thus, for low-income groups, reported expenditures, rather than reported income, may be the best proxy for resources. This approach is consistent with a longstanding practice in economics to rely on expenditures as the best measure of underlying well-being. We therefore rely on expenditures as our measure of resources, but we also reduce resources by any increase in uncollaterized debt (e.g., credit card debt) in order to account for borrowing to finance consumption. (More detail on this methodology can be found in the Appendix.)

Details of Our Analysis

Information about health insurance premiums was obtained from the Gruber Microsimulation Model estimation of premiums under the Affordable Care Act. This model is very similar to that used by the Congressional Budget Office (CBO).[1] Using this model, we estimate premiums for a typical exchange health plan at each of the relevant actuarial values described above. For individuals above 400 percent of the poverty level, we use the premiums for the bronze plan (actuarial value = 0.6).

The modeling of health insurance premiums accounts for many aspects of the health reform law, including market reform and savings from managed competition in the exchanges; our estimated impacts on premiums are similar to those from CBO. But these estimates do not account for other aspects of the law that may lower medical costs, such as reforms to health care delivery systems. If these reforms are effective, then premiums will be even more affordable than our predictions.

[1] For a detailed description of the model, see: J. Gruber, Documentation for the Gruber Microsimulation Model (Cambridge, Mass.: MIT, 2009), available at http://econ-www.mit.edu/files/5939.

Deciding which purchases are more necessary than health care or health insurance is inherently subjective and will by definition vary from family to family. The key challenge is where to draw the line.

For comparison, we superimpose on this premium schedule the affordability exemption from the individual mandate. Under the Affordable Care Act, individuals are mandated to have coverage unless the cost of that coverage exceeds 8 percent of income. For an analysis of whether or not individuals can afford coverage, such a limitation is irrelevant. But for an analysis of whether the mandated levels are affordable, it is important to account for the fact that some individuals will not be subject to the mandate.

In addition to premiums, we consider out-of-pocket costs, based on a simulation of expected medical costs using the Medical Expenditure Panel Survey (MEPS) and calculations from the actuarial firm of Towers Watson.

The expenditure data for this analysis come from the Consumer Expenditure Survey, which is widely considered to be the best source of expenditure data for the United States. The survey presents data for more than 600 categories of household expenditures. Using these data, we grouped expenditures into the categories of necessities listed above for the two definitions of necessities. Households that contain family members over age 65 are excluded, since the affordability analysis is relevant only to the nonelderly.

We divide the population into 10 income groups: those below the poverty level; 50 percent increments of the poverty level, from 101 percent to 500 percent of poverty; and those above 500 percent of poverty. For each group, we compute the percent of available resources devoted to necessities. We present three statistics for each measure:

- The median: the proportion of the typical family's resources that are spent on necessities.
- The 75th percentile: the proportion spent by those families that spend more on necessities than three-quarters of all families.
- The 90th percentile: the proportion spent by those families that spend more on necessities than 90 percent of all families.

We also compute the percentage of households within each group that cannot afford health care and health insurance without eating into their spending on necessities. That is, we first subtract from individual resources spending on necessities; the difference is the "room" in individual budgets to pay for health care. We then compare this available budget room to the actual premiums and out-of-pocket costs faced by individuals and ask: For what share of individuals do health care costs exceed the room left in their budget after paying for necessities?

For our analysis, we focus only on those receiving public insurance or purchasing insurance through the exchanges, and not those receiving employer-sponsored insurance (ESI). For that group, affordability is very difficult to define, since we do not have data that match individual expenditures with the actual premiums they have to pay or employer insurance. But it is important to note that for any individuals for whom ESI costs more than 9.5 percent of income, they can avail themselves of the insurance exchanges and the attendant subsidies. (For those with ESI costs of 8% to 9.5% of income, they can move to the exchange, but without subsidies.) So for any low-income person who faces a major affordability problem with ESI, the subsidized premiums in the exchange will be the relevant ones.

Finally, for this analysis we use 2014 dollars, and we assume that the Affordable Care Act will be implemented as passed.

MOST AMERICANS CAN AFFORD HEALTH INSURANCE UNDER THE AFFORDABLE CARE ACT

The vast majority of America's poorer families can afford health insurance premiums and typical out-of-pocket health care costs under the schedules specified by the Affordable Care Act. Using the FESS definition of necessities, for example, the typical household below the poverty level spends 85 percent of its budget on necessities. Exhibit 2 shows the ratio of spending on necessities to resources across income levels and for both definitions of necessities.

Exhibit 2. Necessities/Resources

	Necessities Definition #1			Necessities Definition #2		
Reported Income (% poverty level)	Median	75th percentile	90th percentile	Median	75th percentile	90th percentile
<Poverty	0.85	0.96	1.00	0.81	0.91	0.96
101–150	0.75	0.89	0.98	0.72	0.84	0.92
151–200	0.73	0.85	0.94	0.71	0.81	0.89
201–250	0.71	0.82	0.90	0.69	0.79	0.86
251–300	0.69	0.79	0.88	0.67	0.76	0.84
301–350	0.66	0.76	0.86	0.65	0.75	0.82
351–400	0.65	0.74	0.82	0.64	0.73	0.80
401–450	0.63	0.71	0.80	0.62	0.70	0.78
451–500	0.62	0.70	0.78	0.61	0.69	0.78
>500	0.56	0.64	0.72	0.56	0.63	0.71
All	0.64	0.76	0.88	0.62	0.74	0.84

Notes: Each cell shows the ratio of necessity expenditures to resources. The median, 75th percentile, and 90th percentile are shown. Necessities Definition #1 includes: child care, food, housing, taxes, transportation, and miscellaneous. Necessities Definition #2 includes the categories in Necessities Definition #1 and: automobile repair and maintenance, home repair and maintenance, and clothing.

For those families under the poverty level that are spending at the 75th and the 90th percentile on necessities, there is little or no slack at all in the budget after necessities are paid for. However, since families below the poverty level are enrolled in public insurance, which is free with only nominal cost-sharing, these families technically can afford insurance.

As income rises, there is increasing slack in household budgets. Even households at 101 percent to 150 percent of poverty spend only three-quarters of their resources on necessities. The pattern continues upward as income rises, such that even households at 201 percent to 250 percent of the poverty level who are at the 90th percentile of necessities/resources retain 10 percent of their budget. By the time incomes get to 400 percent of poverty, 90 percent of households spend one-fifth or more of their budgets on non-necessities.

The spending–resource ratios differ slightly depending on which definition of necessities is used. The last two columns of Exhibit 2 show the ratios under the second definition, the one with specific additional spending categories, instead of 10 percent for "miscellaneous." In these scenarios, individuals have even more room in their budgets to pay for health insurance, which is why for the analyses in this brief we rely on the first, more conservative definition.

In each income range, there are some households that simply cannot afford health care–related costs after paying for necessities (Exhibit 3). Of those families living at 101 percent to 150 percent of poverty, 7.5 percent cannot afford necessities alone; between 8.5 percent and 10.8 percent cannot afford necessities plus health-related expenses. Affordability generally increases as incomes increase, although affordability is particularly challenging for families at 201 percent to 300 percent of poverty with high out-of-pocket expenses (Exhibit 4). Because the actuarial value of available plans falls from 100 percent for those below the poverty level to between 70 percent and 73 percent for those in this bracket, about one-quarter of families in this income range with very high out-of-pocket costs cannot afford health care–related costs.

Although subsidies under the Affordable Care Act end at 400 percent of poverty, premiums and out-of-pocket costs are still highly affordable for most at or above that income range.

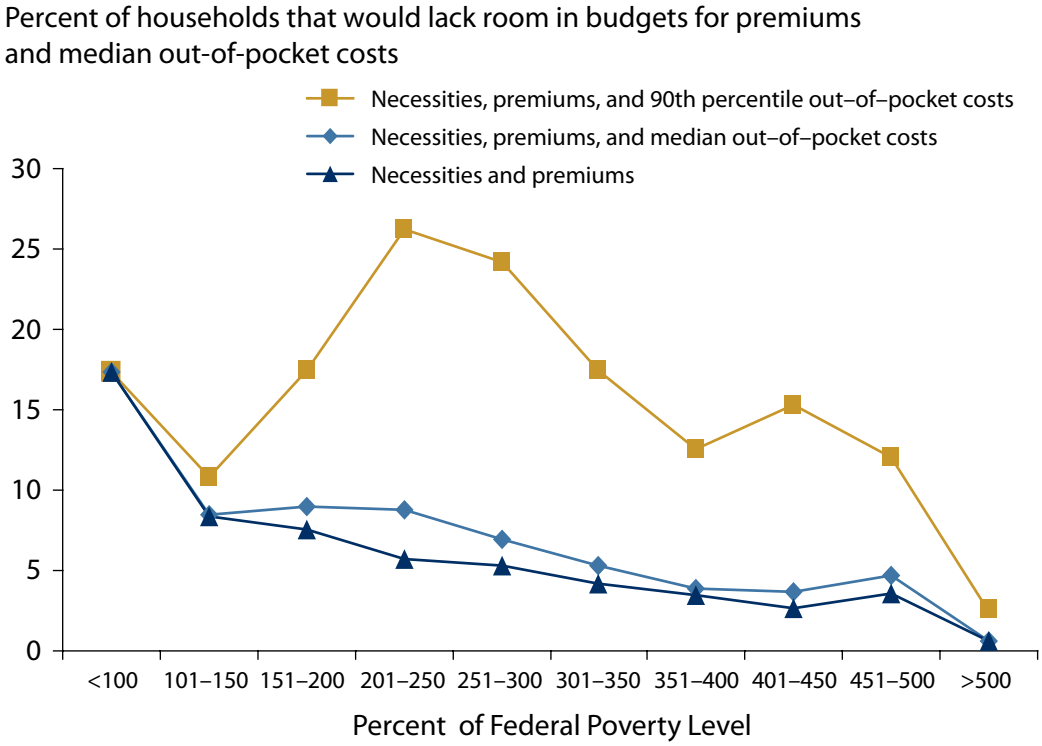
Subsidies end at 400 percent of poverty, but premiums and out-of-pocket costs are still highly affordable for most at or above that income range. There is still some lack of affordability for those with the highest out-of-pocket costs, however, until incomes get to 500 percent of poverty.

Exhibit 3. Percent of Households That Do Not Have Room in Budget for Health Care

Reported Income (% poverty level)	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost
<Poverty	17.3%	17.3%	17.3%	17.3%
101–150	7.5%	8.4%	8.5%	10.8%
151–200	3.7%	7.6%	9.0%	17.5%
201–250	3.0%	5.7%	8.8%	26.2%
251–300	1.1%	5.3%	6.9%	24.2%
301–350	0.7%	4.2%	5.3%	17.5%
351–400	1.2%	3.5%	3.9%	12.5%
401–450	0.5%	2.7%	3.7%	15.3%
451–500	0.4%	3.6%	4.7%	12.0%
>500	0.2%	0.6%	0.6%	2.5%

Note: Each cell shows the percentage of households that cannot afford the expenditure in the column header.

Exhibit 4. Percent of Households That Do Not Have Room in Budget for Health Care



The picture changes only slightly when we look at whether families can afford coverage that adheres to the specifications of the mandate, that is, where costs for bronze plan premiums and out-of-pocket expenses do not exceed 8 percent of income. Exhibit 5 shows that this has no effect on people below 400 percent of poverty, who can get silver coverage for 9.5 percent of income—roughly equivalent to obtaining bronze coverage for 8 percent of income. Above 400 percent of poverty, a larger share of families is now able to afford premiums (since some of those for whom premiums were previously unaffordable have been dropped from the analysis). The effects are fairly modest for those who have typical out-of-pocket costs. But the impacts

Exhibit 5. Percent of Households That Do Not Have Room in Budget for Health Care (8% exemption)

Reported Income (% poverty level)	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost
<Poverty	17.3%	17.3%	17.3%	17.3%
101–150	7.5%	8.4%	8.5%	10.8%
151–200	3.7%	7.6%	9.0%	17.5%
201–250	3.0%	5.7%	8.8%	26.2%
251–300	1.1%	5.3%	6.9%	24.2%
301–350	0.7%	4.2%	5.3%	17.5%
351–400	1.2%	3.5%	3.9%	12.5%
401–450	0.5%	1.3%	1.5%	8.4%
451–500	0.4%	1.9%	2.1%	8.0%
>500	0.2%	0.3%	0.4%	1.5%

Note: Each cell shows the percentage of households that cannot afford the expenditure in the column header.

are more strikingly favorable for those with high out-of-pocket costs; among only those individuals who are mandated to buy coverage, a much higher share can now afford coverage even if they have high out-of-pocket costs.

It is important to highlight the strange nature of this finding, however. The result suggests that we can improve affordability by exempting the sickest individuals from buying insurance. In fact, however, it is these very individuals who most need insurance. For this reason, we return for the rest of the analysis to the broader perspective that does not include the 8 percent affordability exemption.

Affordability for Single Individuals

Extending the analysis to consider different family structures reveals that single individuals, particularly those below the poverty level, struggle more than childless couples and families to afford health care–related costs (Exhibit 6). But this has nothing to do with the Affordable Care Act, since coverage is essentially free at that income level; rather, this is about the general lack of affordability of necessities for this group of singles.

The pattern of larger affordability problems for single households persists as income rises. At 101 percent to 300 percent of poverty, more than 10 percent of singles cannot afford coverage at the median level of expenditures, while fewer than 10 percent of couples and families have this problem (Exhibit 7). For all groups, once again, affordability is a larger concern for those with high out-of-pocket spending, particularly for singles (Exhibit 6). For example, among singles living at 251 percent to 300 percent of poverty, about one-third of those with high out-of-pocket spending cannot afford coverage.

Does It Matter Where You Live?

What about the impact of geography on affordability? Since there is substantial variation in premiums and the cost of necessities around the nation, there may be corresponding variation in affordability. To find out, we divided our sample into three groups of states with high, middle, and low cost of living.[2] In the highest-cost states, insurance is indeed less affordable than in the lowest-cost states (Exhibit 8). For example, 13 percent of those living at 101 percent to 150 percent of poverty in the highest-cost states cannot afford

[2] Data from Missouri Economic Research and Information Center (http://www.missourieconomy.org/indicators/cost_of_living/index.stm). Group 1: Alaska, Arizona, California, Connecticut, Delaware, District of Columbia, Hawaii, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Oregon, Rhode Island, Vermont, and Washington. Group 2: Colorado, Florida, Illinois, Louisiana, Minnesota, Montana, Nevada, New Mexico, North Carolina, North Dakota, Pennsylvania, South Carolina, South Dakota, Virginia, West Virginia, Wisconsin, and Wyoming. Group 3: Alabama, Arkansas, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Michigan, Missouri, Nebraska, Oklahoma, Ohio, Tennessee, Texas, and Utah.

Exhibit 6. Percent of Households That Do Not Have Room in Budget for Health Care, by Family Structure

	Singles				Couples				Families			
Reported Income (% poverty level)	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost
<Poverty	22.4%	22.4%	22.4%	22.4%	8.8%	8.8%	8.8%	8.8%	16.3%	16.3%	16.3%	16.3%
101–150	9.0%	10.2%	10.2%	12.4%	7.8%	7.8%	7.8%	10.3%	7.9%	8.1%	8.9%	10.4%
151–200	6.3%	10.0%	13.2%	21.6%	2.7%	8.8%	8.8%	22.3%	6.5%	7.7%	9.0%	14.9%
201–250	4.1%	7.6%	12.4%	31.7%	2.0%	2.6%	7.9%	26.5%	6.1%	8.1%	10.3%	24.7%
251–300	1.8%	9.6%	13.3%	32.5%	0%	3.8%	4.9%	23.9%	4.5%	5.6%	9.6%	21.7%
301–350	1.6%	6.5%	9.2%	25.4%	0.6%	4.2%	5.4%	21.6%	3.4%	4.0%	6.4%	13.4%
351–400	2.8%	6.7%	8.3%	21.7%	0%	0.6%	0.6%	10.7%	3.3%	3.5%	4.7%	9.8%
401–450	0.7%	5.2%	8.1%	21.5%	0%	2.9%	3.4%	24.1%	1.9%	2.5%	4.0%	10.3%
451–500	0%	4.7%	7.8%	17.2%	0%	3.6%	5.3%	17.8%	3.2%	3.4%	4.5%	7.7%
>500	0.3%	0.8%	0.8%	2.7%	0%	0.5%	0.5%	2.9%	0.5%	0.5%	0.7%	2.1%

Note: Each cell shows the percentage of households that cannot afford the expenditure in the column header.

Exhibit 7. Percent of Households with Median Out-of-Pocket Costs That Do Not Have Room in Budget for Health Care, by Family Structure

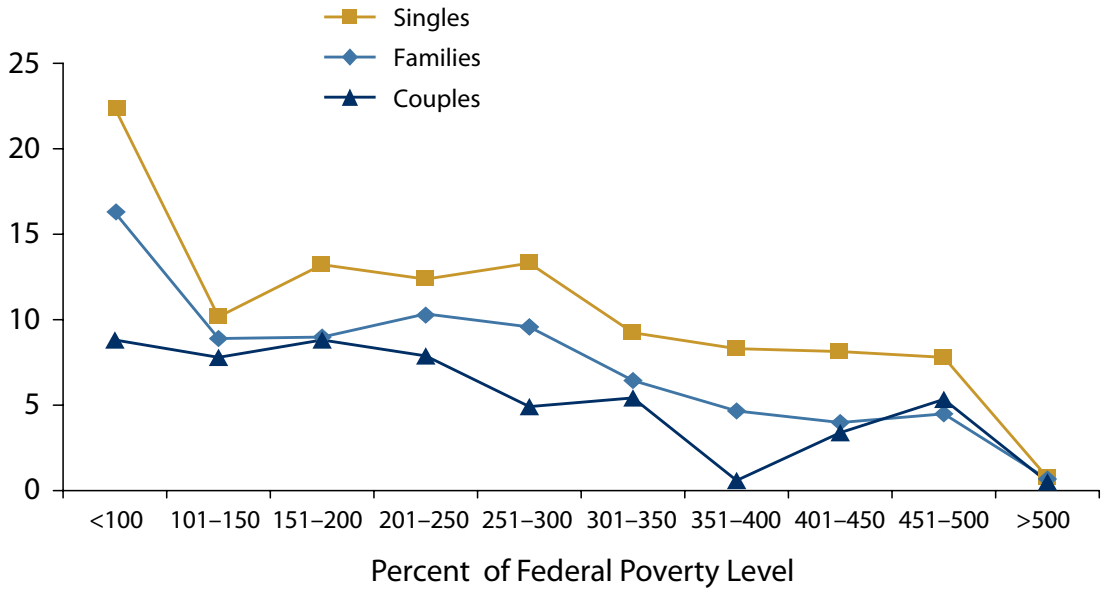


Exhibit 8. Percent of Households That Do Not Have Room in Budget for Health Care, by State Cost of Living

	State Group 1: High Cost of Living				State Group 2: Middle Cost of Living				State Group 3: Low Cost of Living			
Reported Income (% poverty level)	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost	Necessities	Necessities + Premium	Necessities + Premium + Median OOP Cost	Necessities + Premium + 90th Percentile OOP Cost
<Poverty	17.7%	17.7%	17.7%	17.7%	14.3%	14.3%	14.3%	14.3%	19.2%	19.2%	19.2%	19.2%
101–150	11.2%	12.6%	12.9%	15.7%	7.2%	8.0%	8.0%	9.7%	4.3%	4.7%	4.7%	7.0%
151–200	4.0%	8.8%	10.5%	21.8%	2.5%	6.2%	8.3%	17.0%	4.7%	7.6%	7.9%	12.6%
201–250	4.7%	7.7%	11.0%	31.4%	2.2%	5.1%	8.8%	26.1%	1.9%	4.1%	6.3%	20.5%
251–300	2.2%	6.3%	8.2%	27.0%	0%	5.1%	6.5%	24.9%	1.0%	4.4%	5.8%	20.4%
301–350	1.2%	5.6%	6.6%	20.0%	0.3%	3.7%	4.7%	17.1%	0.4%	3.1%	4.6%	14.9%
351–400	2.2%	5.4%	6.7%	14.9%	0.3%	1.7%	1.7%	10.0%	0.9%	3.0%	3.0%	12.3%
401–450	1.0%	4.0%	5.7%	17.7%	0%	1.8%	2.5%	13.9%	0.5%	2.0%	2.4%	13.7%
451–500	0.4%	4.8%	7.2%	14.7%	0.9%	2.7%	3.2%	11.7%	0%	3.0%	3.4%	8.9%
>500	0.3%	0.8%	0.8%	3.2%	0.2%	0.5%	0.5%	2.5%	0%	0.2%	0.2%	1.2%

Note: Each cell shows the percentage of households that cannot afford the expenditure in the column header.

premiums, while only 8 percent and 5 percent cannot afford premiums in the middle- and low-cost states, respectively.

As we have seen, out-of-pocket costs also have a significant impact on affordability throughout the nation. For example, among enrollees with median out-of-pocket spending, 11 percent of those at 201 percent to 250 percent of poverty in the high cost-of-living states cannot afford coverage, compared with 6.3 percent of those in that income range in the low cost-of-living states (Exhibit 9). For those sickest enrollees who are at the 90th percentile of out-of-pocket spending in that income range, more than 30 percent cannot afford coverage in the highest-cost states, compared with 21 percent who cannot afford coverage in the lowest-cost states (Exhibit 10). Across all three groups of states, however, the basic conclusion remains: with the exception of those at 201 percent to 400 percent of poverty with very high out-of-pocket costs, for virtually all income groups the vast majority of families find health insurance affordable.

Affordability Over Time

These data present a snapshot of affordability in 2014, when health care reform is fully implemented. But what about the evolution of affordability over time? Since medical costs rise more quickly than other costs, and since subsidized individuals are asked to contribute a growing share of their income over time to premiums, affordability problems may grow in the coming years. To address this, we repeat the third column of Exhibit 3, which shows the share of families that cannot afford necessities, premiums and median out-of-pocket costs, for every year through 2019. To do so, we inflate premiums and out-of-pocket costs at the rate of health care cost inflation (6% per year), while recognizing that incomes grow more slowly (averaging about 4.5% per year).

The results in Exhibit 11 show that, for most groups, there is only a very modest erosion of affordability over time. The largest reduction in affordability is for those at 251 percent to 300 percent of poverty, whose subsidies fall relative to their income; for that group, the share that cannot afford premiums and

Exhibit 9. Percent of Households with Median Out-of-Pocket Costs That Do Not Have Room in Budget for Health Care, by State Cost of Living

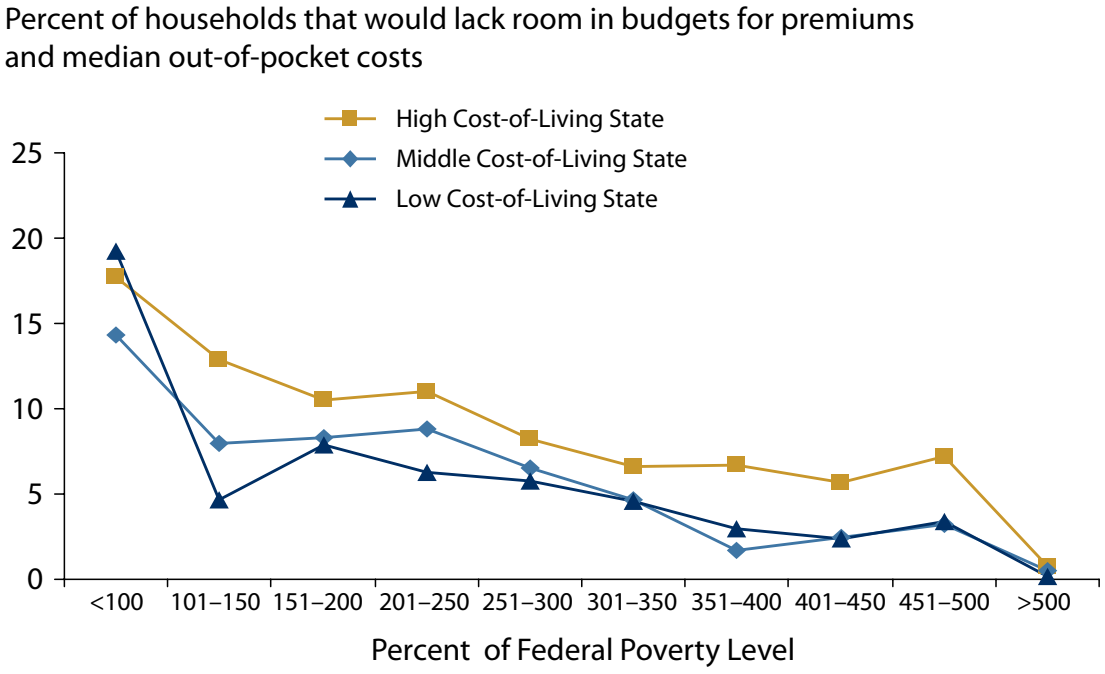


Exhibit 10. Percent of Households with High Out-of-Pocket Costs That Do Not Have Room in Budget for Health Care, by State Cost of Living

Percent of households that would lack room in budgets for premiums and 90th percentile out-of-pocket costs

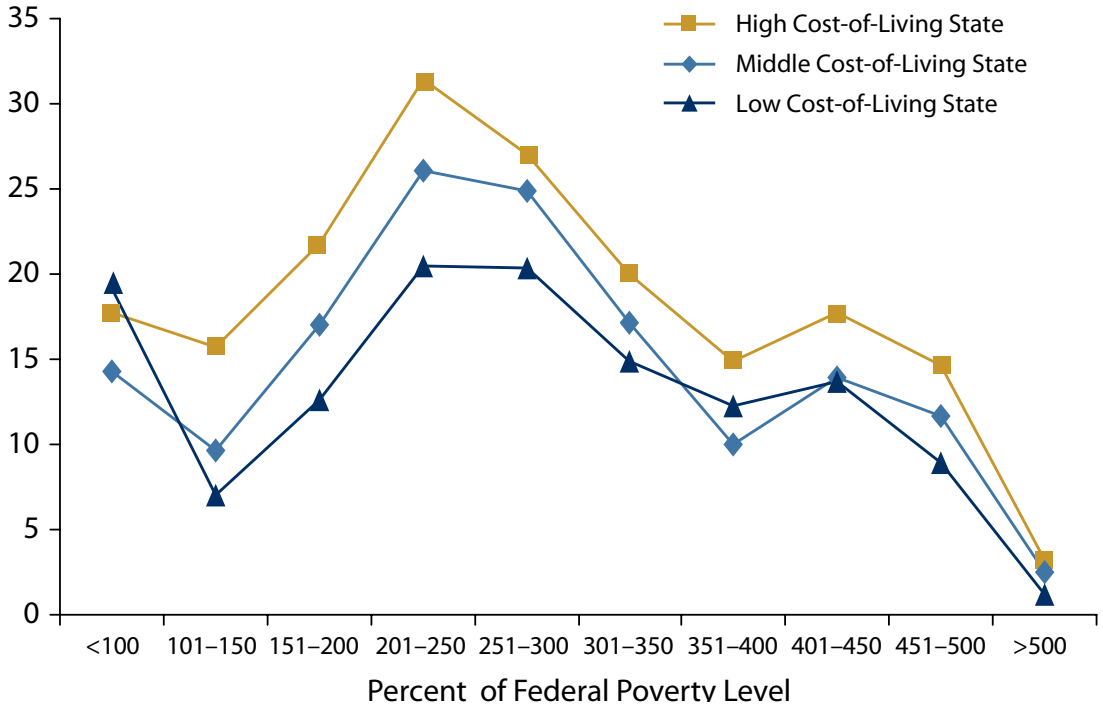


Exhibit 11. Percent of Households That Do Not Have Room in Budget for Health Care

Reported Income (% poverty level)	2014	2015	2016	2017	2018	2019
<Poverty	17.3%	17.3%	17.2%	17.2%	17.3%	17.4%
101–150	8.5%	8.5%	8.4%	8.5%	8.5%	8.5%
151–200	9.0%	9.0%	9.2%	9.2%	9.4%	9.5%
201–250	8.8%	8.9%	8.9%	9.2%	9.3%	9.3%
251–300	6.9%	7.0%	7.8%	8.0%	8.2%	8.4%
301–350	5.3%	5.6%	5.8%	5.9%	6.0%	6.4%
351–400	3.9%	4.1%	4.2%	4.3%	4.3%	4.5%
401–450	3.7%	3.8%	4.3%	5.6%	6.2%	7.0%
451–500	4.7%	5.0%	5.5%	5.8%	5.9%	6.7%
>500	0.6%	0.6%	0.7%	0.8%	0.9%	1.0%

Note: Each cell shows the percentage of households that cannot afford necessities, premiums, and median out-of-pocket costs.

out-of-pocket costs rises from 6.9 percent to 8.4 percent. For those at 301 percent to 350 percent of poverty, there is also an increase of more than 1 percent in the share of the population that has affordability problems. But overall the changes are not large.

IMPLICATIONS

The implications of the analysis are clear. The overwhelming majority of households have room in their budgets for necessities, health insurance premiums, and moderate levels of out-of-pocket costs. Fewer than 10 percent of families above the federal poverty level do not have room in their budgets for premiums and typical out-of-pocket costs, after paying for necessities.

Nevertheless, there are some groups for whom affordability remains a concern. Most important are those with high out-of-pocket spending—in particular those in the income range from two to three times the poverty level. For all those below five times the poverty level, more than 10 percent of families cannot afford both premiums and out-of-pocket costs if they are very sick. And about one-quarter of families living at two to three times the poverty level cannot afford these costs.

There are also isolated pockets of affordability problems even for those without the highest out-of-pocket costs. More than 10 percent of singles from one to three times the poverty level cannot pay for premiums and typical out-of-pocket costs without reducing spending on necessities; those number rises as high as one-third for singles who have high out-of-pocket costs. There are comparable affordability issues for those living in the highest-cost states with income below 250 percent of the poverty level.

These findings all point to one key conclusion: the major risk to affordability under the Affordable Care Act comes not from (after-subsidy) premium payments, but from exposure to high out-of-pocket costs. The bill's premium subsidies appear sufficient for the vast majority of households to allow them to afford their necessary consumption. But the out-of-pocket cost protections, in the form of the cost-sharing subsidies that the government provides to low-income groups or the out-of-pocket limits facing those above three times the poverty level, leave some groups more vulnerable.

Appendix. Methodological Issues

Defining Necessities

Our approach likely understates affordability of health insurance in two respects. First, it does not differentiate "necessary" from "unnecessary" expenditures within these categories. For example, it considers total food spending as a necessity, regardless of whether the consumption was done at home or a nice restaurant; if budgets were pressured by health insurance, individuals might be able to spend less on food without sacrificing nutrition.[3] Second, it implicitly assumes that health care is less important than these other categories; that is, that if individuals have to spend their resources on these other categories, then they should not have to spend resources on health care. It is unclear why health insurance should take a lower position on the priority scale than other necessities.

Expenditures vs. Self-Reported Income

As discussed in this brief, our concern with relying on reported income is that many low-income families report expenditures that add up to more than reported income. This question was analyzed carefully by Bruce Meyer of the University of Chicago and James Sullivan of Notre Dame University using two different sources of expenditure data to study single mothers.[4] For this sample at least, they find that there is little savings or borrowing, and focus on explanation "a"—misreporting of income (e.g., not reporting "under the table" income, or simple errors in income reporting)—as the most likely. This is consistent with a large sociological literature on unreported sources of income for low-income families.[5]

In this analysis, we therefore use expenditures, rather than income, as the measure of available resources. This measure of affordability accounts for the fact that income may be mis- or under-reported. One criticism of such an approach would be that it ignores the possibility that individuals are borrowing to finance spending that is above total income. For some individuals, this would be a rational response to varying income across time: for example, law students should have expenditures greater than income when in law school, with the understanding that they will easily pay off that debt with their later income. For other individuals, however, this may reflect an unexpected shock that can only be financed by borrowing. For such individuals, it might be inappropriate to say that their available resources are their expenditures, since those expenditures involve taking on debt that they will not easily be able to repay.

To address this concern, we use a more conservative approach to measuring total resources: the maximum of a) income or b) consumption minus the increase in uncollateralized debt (e.g., credit card debt) from the previous year, a measure we call "available resources." By subtracting any increased debt from consumption, we account for the fact that consumption may be higher than income because individuals are borrowing. But by also setting a lower boundary at income, we account for the fact that individuals may be saving and that should not be counted as making insurance unaffordable. This is a conservative approach to the extent that the debt is being used through year-to-year planning rather than to finance an unexpected shock.

Mathematics can readily illustrate these different approaches. The approach of assessing affordability relative to income amounts to asking whether:

1. *Income > Necessities + Premiums*
   As noted, the problem with this is that income is underreported, so that there will be artificially low affordability reported. The standard economics approach would be to instead assess affordability by asking whether:

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3 Indeed, recent research suggests that the elderly, when they retire, consume the same calories on a much lower budget due to food self-preparation. See M. Aguiar and E. Hurst, "Consumption vs. Expenditure," *Journal of Political Economy*, Oct. 2005 113(5):919–48.

4 B. Meyer and J. X. Sullivan, "Consumption, Income and Material Well-Being After Welfare Reform," NBER Working Paper #11976 (Cambridge, Mass.: National Bureau of Economic Research, Dec. 2006).

5 See, for example, K. Edin and L. Lein, *Making Ends Meet: How Single Mothers Survive Welfare and Low-Wage Work* (New York: Russell Sage Foundation, 1997).

2. *Expenditures > Necessities + Premiums*
   But this has the problem that some expenditures may be financed by taking on debt, and those expenditures might be considered "unaffordable" (although, as in the case of the law student, they clearly are not). To address this, we create an alternative measure:

3. *Expenditures – Increases in Debt > Necessities + Premiums*
   Rewriting this, our approach is equivalent to saying that:

4. *Expenditures > Necessities + Premiums + Increases in Debt*
   We are therefore allowing for increases in debt against the affordability of health insurance premiums. Some examples are constructive to illustrate this approach:
   - Jane has income of $20,000 but reported consumption of $25,000. She has no increases in her debt. She is most likely underreporting her income, and therefore the appropriate measure of available resources is $25,000.
   - Jim has income of $20,000, reported consumption of $25,000, but an increase in debt of $3,000. Jim spent more than his income, but to some extent that was financed by his borrowing. So his available resources are $22,000.
   - Lucy has income of $20,000 and reported consumption of $15,000. Her available resources are her income of $20,000.

In summary, individuals who have consumption greater than income are likely underreporting their available resources when they report their income. It is possible, however, that consumption exceeds income because of borrowing. By subtracting increases in unsecured debt from consumption, then comparing that measure to income, we conservatively adjust for such borrowing-financed consumption. Available resources is therefore the more appropriate measure for assessing affordability.

Data

As noted in this brief, we model out-of-pocket costs using the Medical Expenditure Panel Survey (MEPS). In particular, we create a sample of individuals in the MEPS who are insured for a full year and estimate how much they would spend out–of-pocket under alternative insurance plans. In order to do so, we asked the actuarial firm of Towers Watson to specify alternative health insurance plans that would meet the various actuarial levels and out-of-pocket limitations specified in Exhibit 1. For each level, we asked them to specify plans that provide comprehensive service coverage, cover preventive screenings for free (as is specified in the Affordable Care Act), and hit the actuarial value target by: 1) using a deductible only; 2) using a combination of deductible and coinsurance; and 3) using coinsurance only. That is, for each actuarial value, they provide us with the deductible or deductible/coinsurance or coinsurance that would match that actuarial value level.

We then applied this information to our MEPS sample. In particular, for each individual in this sample, we apply the cost-sharing that would apply to each of their medical services used during a year, and add that up to get an annual out-of-pocket cost. We then average this annual out-of-pocket cost by age and gender to get an expected out-of-pocket cost for those enrolled in that plan. We do that for each of the possible actuarial value and out-of-pocket limitation combinations, and then average the resulting out-of-pocket costs across the three plans.

The expenditure data for this analysis come from the Consumer Expenditure Survey. To ensure sufficient sample size, the surveys from 2005 to 2008, the latest available data, are combined; all data are in 2014 dollars for analysis purposes. One important expenditure that is not well represented in the survey is taxes paid. To compute taxes, we use individual information along with a tax calculator (available at www.nber.org/taxsim) to compute state and federal income taxes. Information on family earnings is used to compute payroll taxes.

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