MarketWatch

Setting A Standard Of Affordability For Health Insurance Coverage

Findings using national data could help Massachusetts determine what is "affordable" for its health insurance reforms.

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ABSTRACT: Recently, Massachusetts passed landmark legislation designed to expand health insurance coverage. This legislation includes a requirement that all adults enroll in a health insurance plan. This mandate takes effect only if an "affordable" plan is available. The definition of *affordability* for individuals and families of different incomes or circumstances is a critical decision in implementation and is relevant to any state or federal reform requiring individual premium or cost-sharing contributions, or both. This analysis was done to assist the policy design process in Massachusetts and delineates an empirically based approach to setting affordability standards. [*Health Affairs* 26, no. 4 (2007): w463–w473 (published online 4 June 2007; 10.1377/hlthaff.26.4.w463)]

In april 2006 the commonwealth of Massachusetts passed landmark legislation designed to expand health insurance coverage. This legislation includes expansions of the state's Medicaid program (MassHealth); a purchasing entity (the Commonwealth Health Care Connector) that will contract with private health insurance plans to provide both subsidized and unsubsidized insurance to individuals and small employers; a requirement that employers with more than ten employees make a fair and reasonable contribution toward employee health insurance or face an assessment; and, for the first time in the United States, a requirement that all adults purchase health insurance (with no premiums required of those with the lowest incomes). This individual mandate takes effect only if an "affordable" policy is available to an individual, however. The law does not define what is affordable for individuals or families of different incomes or circumstances, leaving that decision to the board of the Connector.

This analysis follows the framework of the Massachusetts reforms, because it was developed in an effort to provide the Connector board with information to assist in setting affordability standards. More broadly, setting affordability standards is relevant to any insurance reform that mandates participation and requires contributions toward premiums or cost sharing (copayments, coinsurance, and deductibles), or both. Even in the absence of mandates, this information can assist policymakers in the design of equitable individual and family contributions to coverage.

After briefly discussing the role of afford-

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ability standards and different conceptual approaches to determining affordability, we focus on one specific approach: developing benchmarks based on the range of the financial burdens actually borne by Americans covered by either employer-sponsored or nongroup health insurance.

The Role Of Affordability Standards

A standard for health insurance affordability plays two major roles in the implementation of the Massachusetts reforms. First, the law establishes a new program of subsidized health insurance, the Commonwealth Care Health Insurance Program (CommCare), for low- and moderate-income people, and it requires a new state authority, the Connector, to develop a sliding-scale subsidy schedule based on family income. Second, the law includes a mandate for adults to obtain coverage if "affordable" insurance is available, or face tax penalties. The Connector must set a percentage of income that will serve as the maximum amount individuals and families will be expected to pay toward the purchase of health insurance coverage, with amounts above that deemed unaffordable. The law explicitly states that the board of the Connector shall consider deductibles when determining affordability. Although the CommCare subsidy schedule is not explicitly linked to the affordability standard for the individual mandate, the two standards are interrelated and must work together to create an equitable and effective structure for expanding coverage across income groups.

The affordability standards for these programs will have major policy and practical consequences for the law's success and its ability to expand coverage. If a low standard for affordability is established—that is, expecting consumers to pay a low percentage of income toward insurance—the government's subsidy costs will be higher, or many people will have to be exempted from the mandate. On the other hand, a high standard could create sizable financial burdens for uninsured residents, raising equity issues. Many may opt to face the tax penalty—equal to half the cost of the lowest premium available—rather than to pay what they regard as too high a percentage of income. This would undermine the goal of expanded coverage.

Massachusetts is the first state to adopt an individual mandate for health coverage, and many are watching its implementation closely. The mandate makes the purchase of health coverage an individual responsibility for those who can afford it, within a framework that also expands Medicaid and provides government subsidies to help low- and moderate-income people comply. The individual mandate is a key component of the state's plan to achieve near-universal coverage. However, it is not yet clear whether or not the mandate will be accepted by the public at large. If the public regards the standards for affordability set by the Connector as overly stringent, public and legislative support for the mandate could erode, jeopardizing the goal of achieving near-universal coverage.

This analysis seeks to develop benchmarks that policymakers could use to determine the maximum amounts individuals and families should pay for insurance premiums and overall health expenses. They could be used under the new Massachusetts law or under other states' reforms as well. To ensure affordable access to necessary medical care, one must consider standards for both premiums and out-of-pocket expenses. If an insurance premium is low because the benefits are limited or require high cost sharing, or both, then the policy might not improve the affordability of care, which depends on an appropriate combination of premiums and out-of-pocket spending. This is especially a problem for those with chronic illness and other above-average health needs.

Approaches To Defining "Affordability"

"Affordable" health insurance is a subjective concept based on judgments about the appropriate share of income a person or family should be expected to pay for health insurance. Several approaches could be used to define *affordability*: benchmarks from other public programs; household budgeting as a determi-

nation of income available; and current spending by the privately insured. Standards from existing public programs are readily accessible, but their underlying rationales are generally unknown and are the result of political compromise more than objective analysis. Thus, we do not discuss them here.

■ **Household budget approach.** Household budgeting is another approach to defining affordability. Consumers at each income level spend their resources on housing, clothing, food, transportation, and other essentials. One could compare these expenses to income and assume that the remainder is available for health care. One example is the Family Economic Self-Sufficiency Standard.[1]

This approach is appealing because it can adjust for unique circumstances—for example, with respect to geographic variation in housing costs. It also acknowledges that the share of income available for health insurance is inversely related to income because there are minimum costs associated with housing, food, and other basic necessities. Conversely, this approach is highly prescriptive, particularly in categorizing spending as "essential." Another problem is that it leaves health care as a residual, even though health care needs often supersede other priorities: Individuals and families can and do make trade-offs within their household budgets. Finally, this approach provides no guidance about how much of any residual income should be spent on health.

■ **Actual household spending on health.** The approach to defining *affordability* explored in this paper focuses on people's actual spending on health care (health insurance premiums and out-of-pocket expenses), at various income levels. This approach has the strength of reflecting people's actual purchasing decisions, thereby revealing what they are both willing and able to spend, albeit in the context of a voluntary health insurance system. Others have also suggested using such a behavioral definition of *affordability,* one that takes into account the share of people in a given health care risk and income category that purchase insurance coverage of a minimum acceptable level.[2]

Study Data And Methods

Here we provide a brief overview of our methodology. An online appendix provides a more detailed description.[3]

■ **Data.** We used national data from three components of the Medical Expenditure Panel Survey (MEPS) for our analysis. The MEPS Household Component (MEPS HC) is a large, nationally representative sample of households that collects detailed information on insurance coverage, out-of-pocket spending for medical care, family structure, income, and employment status. It enables the identification of homogeneous health insurance units (HIUs) in which all people have the same type of private health insurance coverage for the full year. Limiting the analysis to these HIUs increases the precision of estimates of the premiums and out-of-pocket medical care spending associated with each type of coverage.[4]

The MEPS Insurance Component (MEPS-IC) surveys employers to obtain data on total premiums and employees' contributions to employer-sponsored insurance. We imputed premiums for nongroup coverage by calculating 70 percent of the premium for firms with fewer than ten workers in the person's region of residence. This approach was based on our analysis of a third MEPS database, the Person-Round-Plan (PRPL) file, which contains information on actual non- group out-of-pocket premiums. Unfortunately, the PRPL data are not available for all years. We computed the relative adjustment necessary to the MEPS-IC average premiums for the smallest employers that would make them consistent with the available PRPL data on premiums for nongroup coverage. This adjustment is consistent with the fact that nongroup insurance enrollees tend to purchase less comprehensive policies than are usually found in the employer-based market. In addition, the smallest employers face administrative loads that are not appreciably lower than those found in the nongroup market. The combination of these MEPS surveys provides the most reliable and detailed data available for estimating the range of household spending for medical care and insurance premiums.

We pooled data from the three most recent MEPS surveys (2001–2003). We inflated income, out-of-pocket medical spending, and premiums to 2005 values. We used data for the entire United States, to obtain sufficient samples to examine the distribution of spending within income groups.

We excluded families with incomes below the federal poverty level, since the Massachusetts law, like many other proposals, calls for fully subsidizing this group. We grouped other families into four categories of income relative to the federal poverty level (100–199 percent, 200–299 percent, 300–499 percent, and 500 percent or more), by type of health coverage (nongroup or employer), and by family type (single adults or families).

Because we were interested in the maximum amount that should be paid, our analysis focused on the median (fiftieth percentile), mean, and seventy-fifth percentile of the spending distribution. The median and mean are good measures of "typical" spending by the population, although the mean is affected by outliers while the median is not. The seventy-fifth percentile illustrates the spread of spending relative to income and probably reflects a level of spending that is not unusual for a large share of the population to incur at some point, as a result of an acute illness or injury. Setting a cap at the median or mean level of spending would ensure consistency in expected year-to-year spending that is likely to be affordable but probably would understate actual current spending by much of the population in occasional years. Setting a cap at the seventy-fifth percentile could be overly financially burdensome, particularly for those who bear this level of out-of-pocket spending consistently year after year.

One limitation of our analysis is that the data did not include details of the benefits and cost-sharing requirements associated with insurance coverage. So while the MEPS-IC and PRPL provide data on premiums and the MEPS HC provides data on type of coverage and out-of-pocket spending, we do not know how broad or narrow that coverage is for each purchaser. As noted earlier, ideal affordability standards will take both premium and out-of-pocket liability into account. Although we identified current levels of spending in both categories separately for analytic purposes, the combined standard should be the key focus for policy purposes. Otherwise, independent premium standards would have to be associated with minimum accepted standards for covered benefits and cost-sharing limitations.

■ **Analytical approach.** *Type of coverage: nongroup.* We analyzed spending for people with nongroup coverage and with employer coverage. Many of the uninsured people subject to an individual mandate would probably purchase nongroup coverage, either directly from insurers or through a new organized purchasing entity (like the Massachusetts Connector) because most uninsured people lack access to employer coverage.[5] In the Massachusetts structure, the subsidized CommCare plan will also be sold directly to individuals through the Connector. Thus, one possible approach would be to link the affordability standards to current spending on nongroup coverage as a percentage of income.

Nongroup policies tend to be more expensive in Massachusetts than in many other states because its insurance regulation includes guaranteed issue, modified community rating, and a standardized and comprehensive benefit package. In most other states, however, nongroup insurance premiums are lower as a percentage of income because only relatively healthy people are able to purchase coverage. This is borne out by the data presented in this analysis, which found that nongroup premiums were roughly 70 percent of the cost of employer coverage premiums in firms with fewer than ten workers. Thus, using national data indicates what relatively healthy people who purchase nongroup coverage spend as a percentage of income. Using this standard implies that the less healthy should not spend any more than the relatively healthy.

Type of coverage: employer-sponsored. For those with employer coverage, we analyzed the share of income spent on coverage in two ways: (1) Based on the employee share of premiums: This approach ties the affordability

standard to what most insured people (nearly 70 percent have employer coverage) are currently paying for coverage. (2) Based on the combined employee and employer premium: The rationale for this approach is that there is considerable evidence in the economics literature that individuals actually bear most or all of the cost of their employer's contribution by accepting lower wages in return for their employer's paying the bulk of their premiums.[6] This approach corrects the likely understatement of spending that arises if the affordability standard is based solely on the employee's share of employer coverage costs.

To develop our estimates for this approach, we calculated the worker incidence of employer contributions to health insurance (WIH) as $WIH = H(1-\tau-\tau_p)/(1+\tau_p)$, where H is the employer contribution, τ is the marginal personal income tax rate, and τ_p is the marginal payroll tax rate. This formula takes into account the fact that employer contributions to health insurance are not subject to taxation, unlike wages. When computing the share of income spent on health care, we added the employer premium payments to both the numerator and the denominator, increasing income as well as health care expenses.

■ **Premiums and total health care spending.** An affordability standard could be based on either premiums alone or total health care spending. Because the variation in premium and medical care expenditures as a percentage of income can be very large within each income level, our analysis considered spending on both premiums and out-of-pocket cost sharing. This extreme variation reflects a variety of factors: choosing to buy a policy with very limited or very comprehensive benefits; being in good health or in poor health; having a job where the employer pays all of the cost of insurance or none of the cost; experiencing transitory changes in income relative to existing insurance coverage; or having access to savings or financial resources outside the family to help pay insurance premiums and medical expenses.

The variation in out-of-pocket spending is much greater than that for premiums. At the high end of the spending distribution, affordability can become a serious issue. As discussed below, our analysis of out-of-pocket costs for medical care highlighted the importance of including caps on out-of-pocket costs within the discussion of affordability.

Study Results

Exhibits 1–3 present detailed results of the distribution of spending relative to income at different levels of income, by type of coverage. The data present the median, seventy-fifth percentile, and mean along the distribution. We also show the ninety-fifth percentile for out-of-pocket costs to illustrate the great variation in this measure resulting from the highly skewed distribution of medical expenses.

In creating CommCare, Massachusetts recognized that large numbers of people with incomes below 300 percent of poverty do not have coverage, which suggests that available premiums combined with out-of-pocket medical care expenses are too high for many in these income ranges. The data we present bear this out as well. Relatively small proportions of people at low income levels relative to poverty had full-year private insurance coverage, and many of those who did have such coverage appeared to spend very high shares of their incomes on premiums and out-of-pocket expenses. We suspect that the high spending shares at low income levels reflect exceptional circumstances, such as a very costly illness or unexpected income drop. If this is the case, then the spending experience of higher-income people is a more reasonable benchmark for setting affordability standards. Since health care spending relative to income will be skewed downward as a consequence of very high incomes, we highlight affordability measures based on spending shares for people with incomes of 300–500 percent of poverty. Equity considerations suggest that affordability standards should be lower for people below 300 percent, since spending for other necessities will constitute a bigger share of their spending than it does for a higher-income family. Therefore, we assumed that the benchmarks for health insurance affordability high-

EXHIBIT 1
Premium Payments As A Percentage Of Income, By Income, Coverage Type, And Medical-Cost-To-Income Ratio Percentile, 2001–03

	Percent of family income					
Cost-to-income percentile	Single nongroup coverage	Family[a] nongroup coverage	Single ESI	Family[a] ESI	Full cost of single ESI[b]	Full cost of family[a] ESI[b]
Median						
All (percent of poverty)	11.5	9.6	2.0	3.6	10.9	13.1
100–199%	20.9	21.8	5.2	10.4	25.5	34.4
200–299%	12.1	13.8	3.2	6.5	17.1	23.0
300–499%	7.9	8.3	2.1	4.2	11.3	15.2
500% or more	4.6	4.6	1.1	2.2	6.5	8.7
75th percentile						
All (percent of poverty)	19.0	15.4	3.1	5.4	15.9	18.7
100–199%	25.3	26.3	6.2	12.6	29.4	39.2
200–299%	13.6	15.1	3.7	7.6	18.9	25.6
300–499%	9.0	9.9	2.4	5.0	12.8	17.4
500% or more	5.3	5.8	1.4	2.9	7.7	10.5
Mean						
All (percent of poverty)	13.3	11.4	2.4	4.3	12.4	15.0
100–199%	21.7	22.9	5.5	10.9	26.6	35.2
200–299%	12.3	13.7	3.2	6.7	17.4	23.2
300–499%	8.0	8.5	2.1	4.4	11.5	15.5
500% or more	4.2	4.5	1.1	2.3	6.3	8.5

SOURCE: Analysis of 2001–2003 Medical Expenditure Panel Survey, Household Component (MEPS HC) data and MEPS Insurance Component (MEPS-IC) premium data.

NOTES: All costs are inflated to 2005 dollars. Health insurance coverage is defined as twelve months of the same coverage for all family unit members. Income is calculated separately for each family unit and set to 100 percent if costs are greater than or equal to health insurance unit income. ESI is employer-sponsored insurance.

[a] Includes families, couples, and adult-plus-one family units.

[b] Assuming employees pay full cost of the premium by accepting lower income. Calculated as (employee premium payment + worker incidence of employer premium payment)/(family income + worker incidence of employer premium payment). Set to 100 percent if costs (numerator) are greater than or equal to income (denominator).

lighted here would be most appropriately applied to those with incomes of 300 percent of poverty or higher. Moreover, those benchmarks would decrease on a sliding scale for people with lower incomes, presumably reaching zero at some income level (such as 100 percent or 150 percent of poverty). Inevitably, the precise shape of the affordability-income trade-off has an inherently arbitrary component. Political and social values will clearly play a major role in determining the particular design chosen.

■ **Premium payments as a percentage of income.** Exhibit 1 shows the value of current premium spending as a share of income at the median and seventy-fifth percentile and the mean of the spending distribution.

Nongroup coverage. There was much variation in median premium payments across income groups in 2001–03, ranging from under 5 percent for the group above 500 percent of poverty to 21 percent for people in the lowest income group. For those in the 300–499 percent group, the median and mean premiums were about 8 percent of income for single coverage and 8.5 percent for family coverage; the seventy-fifth percentile of premiums was 9–10 percent. Regardless of income, nongroup premium payments were at least three to four times higher as a percentage of income than for the employee-paid portion of employer coverage premiums.

Employee spending for employer coverage. Median and mean payments in 2001–03 by employees for employer coverage were roughly 2–4 percent of income across all income groups and

EXHIBIT 2
Out-Of-Pocket Medical Care Costs As A Percentage Of Income, By Income Group And Coverage, 2001–03

Income group/cost-to-income percentile	Percent of family income			
	Single nongroup coverage	Family[a] nongroup coverage	Single ESI	Family[a] ESI
All				
50th percentile	2.9	4.3	0.8	1.4
75th percentile	8.7	9.6	2.4	3.1
95th percentile	27.8	29.4	9.4	9.8
Mean	7.0	7.5	2.3	2.8
100–199% of poverty				
50th percentile	7.1	10.9	2.2	3.2
75th percentile	17.7	23.9	6.7	9.0
95th percentile	38.3	41.2	20.4	26.6
Mean	12.3	16.3	5.6	7.2
200–299% of poverty				
50th percentile	3.8	6.7	1.1	2.2
75th percentile	7.4	12.6	3.6	4.9
95th percentile	18.4	25.3	11.9	12.3
Mean	5.5	9.3	2.9	3.9
300–499% of poverty				
50th percentile	2.0	4.0	0.8	1.7
75th percentile	5.0	6.8	2.1	3.5
95th percentile	13.4	11.9	7.1	9.6
Mean	4.2	4.8	1.8	2.8
500% of poverty or more				
50th percentile	0.6	1.5	0.5	1.0
75th percentile	2.0	3.5	1.4	2.1
95th percentile	7.3	8.2	4.3	5.1
Mean	1.7	2.5	1.2	1.6

SOURCE: Analysis of 2001–2003 Medical Expenditure Panel Survey, Household Component (MEPS HC) data.
NOTES: All costs are inflated to 2005 dollars. Health insurance coverage is defined as twelve months of the same coverage for all family unit members. Income is calculated separately for each family unit and set to 100 percent if costs are greater than or equal to health insurance unit income. ESI is employer-sponsored insurance.
[a] Includes families, couples, and adult-plus-one family units.

for those with incomes of 300–499 percent of poverty. Considerable variation in premium payments as a percentage of income existed for people with employer coverage but at much lower percentages of income compared to those with nongroup coverage.

Total spending for employer coverage. The last two columns of Exhibit 1 show spending percentages assuming that employer premium payments are added to workers' spending as well as to their income. The median percentage of income spent on employer coverage across all income groups in 2001–03 was 10.9 percent for single coverage and 13.1 percent for family coverage (mean: 12.4 percent and 15.0 percent of income, respectively). The medians for those with incomes of 300–499 percent of poverty were 11.3 percent (single) and 15.2 percent (family); mean values in this income range were roughly the same.[7]

■ **Out-of-pocket medical care costs.** In addition to paying for insurance premiums, in-

EXHIBIT 3
Total Medical Costs As A Percentage Of Income, 2001–03

Cost-to-income percentile	Percent of family income					
	Single nongroup coverage	Family[a] nongroup coverage	Single ESI	Family[a] ESI	Full cost of single ESI[b]	Full cost of family[a] ESI[b]
50th percentile						
All (percent of poverty)	16.9	14.7	3.1	5.5	12.3	15.1
100–199%	29.4	35.0	7.9	14.7	28.6	38.5
200–299%	16.2	21.0	4.5	9.2	19.1	25.8
300–499%	10.4	11.6	2.9	6.1	12.6	17.4
500% or more	5.4	6.1	1.7	3.5	7.4	10.0
75th percentile						
All (percent of poverty)	27.0	25.0	5.3	8.5	18.2	21.8
100–199%	41.1	47.3	12.5	20.5	34.2	46.2
200–299%	20.0	26.5	6.8	12.2	21.4	29.4
300–499%	12.6	15.1	4.2	7.9	14.4	20.2
500% or more	6.5	8.6	2.6	4.7	8.7	12.3
Mean						
All (percent of poverty)	18.1	16.7	4.4	6.7	14.5	17.6
100–199%	29.3	32.6	9.9	16.2	31.1	41.1
200–299%	16.6	20.6	5.8	10.0	20.1	26.7
300–499%	11.5	12.5	3.7	6.9	13.2	18.2
500% or more	5.7	6.7	2.3	3.8	7.5	10.1

SOURCE: Analysis of 2001–2003 Medical Expenditure Panel Survey, Household Component (MEPS HC) data and MEPS Insurance Component (MEPS-IC) premium data.

NOTES: All costs are inflated to 2005 dollars. Health insurance coverage is defined as twelve months of the same coverage for all family unit members. Income is calculated separately for each family unit and set to 100 percent if costs are greater than or equal to health insurance unit income.

[a] Includes families, couples, and adult-plus-one family units.

[b] Assuming employees pay full cost of the premium by accepting lower income. Calculated as (out-of-pocket medical costs + employee premium payment + worker incidence of employer premium payment)/(family income + worker incidence of employer premium payment). Set to 100 percent if costs (numerator) are greater than or equal to income (denominator).

dividuals and families spent a considerable amount of money out of pocket for deductibles, copayments, coinsurance, and uncovered services in 2001–03 (Exhibit 2).

Nongroup coverage. Out-of-pocket medical costs as a share of income were particularly high for those with nongroup coverage and varied inversely with income. Median out-of-pocket spending was 2.9 percent and 4.3 percent of income for single and family coverage, respectively (mean: 7.0 percent and 7.5 percent). At the seventy-fifth percentile, spending shares increased to 8.7 percent (single) and 9.6 percent (family). Spending exceeded one-fourth of family income at the ninety-fifth percentile—the top of the spending distribution. At incomes of 300–499 percent of poverty, median out-of-pocket spending was 2 percent of income for singles and 4 percent for families; spending was still above 10 percent of income at the ninety-fifth percentile.

Employer coverage. For those with employer coverage, out-of-pocket costs were considerably lower, presumably because benefit packages were richer. The average across all income levels was 2.3 percent for individuals and 2.8 percent for families (median: 0.8 percent and 1.4 percent, respectively). At the ninety-fifth percentile, expenditures were 9.4 percent (single) and 9.8 percent (family). Median out-of-pocket spending was about 1–2 percent of income for those at 300–499 percent of poverty, with spending at the high end of the distribution rising to 7 percent for singles and approaching 10 percent for families.

■ **Total medical costs.** Exhibit 3 presents results for total medical costs (that is, premiums plus out-of-pocket costs) as a percentage

of income. The results reported in Exhibit 2 showed that out-of-pocket costs relative to income were fairly low on average, particularly for those with employer coverage or those with incomes above 300 percent of poverty. But when added to the premium cost, they can result in fairly high spending relative to income. Moreover, the large variation in out-of-pocket costs highlights the importance of providing additional financial protection for those with high medical needs or skimpy insurance benefits, or both.

Nongroup coverage. The median individuals and families with nongroup coverage across all incomes spent 16.9 percent and 14.7 percent of income, respectively, on health insurance and out-of-pocket costs. The median values for those with incomes of 300–499 percent of poverty were 10.4 percent (single) and 11.6 percent (family).

Employee spending for employer coverage. The median direct employee spending for individuals and families across all income groups was 3.1 percent and 5.5 percent of income, respectively (mean: 4.4 percent and 6.7 percent). For those with incomes of 300–499 percent of poverty, the median figures are 2.9 percent and 6.1 percent, respectively (mean: 3.7 percent and 6.9 percent).

Total spending for employer coverage. If it is assumed that workers ultimately bear the cost of the employer contribution, then spending levels increase considerably, exceeding those of people covered by nongroup policies. At the median, spending was 12.3 percent and 15.1 percent for individual and family coverage, respectively. For those with incomes of 300–499 percent of poverty, these figures were 12.6 percent and 17.4 percent, respectively (mean: 13.2 percent and 18.2 percent).

Summary And Policy Implications

We believe that basing the benchmark standard for affordability on the share of income now devoted to health spending by privately insured people is a sound approach because it reflects actual experience. We draw several conclusions from our analysis of current medical spending.

■ **Differences by income level.** Low-income people with private insurance spend much higher percentages of their incomes on health care than middle- or high-income populations do. The financial burden of full-year private insurance is more than most families below 300 percent of poverty are able or willing to bear. This evidence suggests that typical spending levels among this income group are unlikely to be considered affordable by most of that population. As a consequence, using the typical spending of a higher income group, such as those at 300–499 percent of poverty, might be preferable as a basis for setting a standard for lower-income people.

The exact approach for applying middle-income affordability standards to a lower-income population will inevitably reflect social and political judgments. However, many are likely to feel that most lower-income families will not be able to spend as high a percentage of income on health care as will those in the middle income group, because of minimum necessary subsistence levels of spending on other goods and services. As such, socially acceptable affordability standards are likely to require that standards based on middle-income health care spending be adjusted downward for those with incomes below 300 percent of poverty.

■ **Setting the affordability standard.** There are advantages and disadvantages to using different points in the spending distribution when setting an affordability standard. The mean and median measures are most reflective of typical current levels of spending on health care. The two differ because of the skewness inherent in the distribution of health care spending. That is, extreme spending levels affect the mean but not the median. The seventy-fifth percentile of spending relative to income probably reflects unusual circumstances. Although such a spending level might be financially feasible in a given year, it is probably not sustainable on a continuing basis, particularly when both premiums and out-of-pocket spending are taken into account.

■ **Difference by insurance type.** Spending patterns in the alternative reference popu-

lations (nongroup spending, employee-only coverage spending, and total employer coverage spending) lead to considerably different affordability standards. If a public program bases the standard of affordability on what all people who now have nongroup coverage throughout the United States spend on premium payments as a share of income, the program would establish a maximum payment in the neighborhood of 10 percent of income. If it were based on mean or median spending on nongroup premiums for those at 300–499 percent of poverty, the maximum payments would be in the 8 percent range. Some will argue, however, that the nongroup basis cannot be considered typical since only a small percentage of individuals in any income group currently purchase it.

Policymakers could instead base the affordability standard on the employee share of employer-sponsored insurance, and the amounts that people would be expected to pay would be much lower. At the median, employee contributions are 2.0 percent for single coverage and 3.6 percent for family coverage; at the mean, they are slightly higher. For those at 300–499 percent of poverty, the medians and means are slightly above 2.0 percent and 4.0 percent, respectively.

Although setting the maximum at the employee share has intuitive appeal since it reflects what most of the currently insured spend directly, doing so ignores the empirical economic research findings that employees eventually pay much or all of the premium cost by accepting reduced wages. Incorporating this adjustment produces much higher amounts: the medians are 10.9 percent for single coverage and 13.1 percent for family coverage for those at all income levels, with the means slightly higher. The median percentages of income for single and family premiums for those at 300–499 percent of poverty are 11.3 percent and 15.2 percent, respectively, with means slightly higher. However, these levels will seem high to those unaccustomed to considering employer payments as being ultimately charged back to workers themselves in the form of lower wages.

■ **Role of out-of-pocket liability.** Because of the highly skewed distribution of health care spending and the large potential variation in plans' actuarial values, affordability must take out-of-pocket liability into account in addition to premiums. Our analysis shows that total medical spending, including premiums and out-of-pocket expenses, can be very high as a percentage of income, particularly for those with incomes below 300 percent of poverty and for those with high medical needs. Thus, any effective standard for affordability must consider both out-of-pocket costs and premiums. This is critical for the CommCare products, which will be available only to those with incomes below 300 percent of poverty. But it is also an important consideration for the enforcement of an individual mandate, because cost-sharing requirements can be overly burdensome for middle-income people as well, depending upon the out-of-pocket exposure associated with insurance and the intensity of required medical care.

Postscript

On 12 April 2007, the board of the Commonwealth Health Insurance Connector Authority in Massachusetts voted unanimously to approve draft regulations with a schedule of affordable premiums for the minimum coverage adults would be expected to have. The proposed schedule is generally consistent with the data on premiums presented in this paper. For example, single consumers below 150 percent of poverty were exempt from premium payments. At 200 percent of poverty, individuals would have to pay up to 2.1 percent of income; at 300 percent of poverty, 4.1 percent; and at 500 percent of poverty, 7.1 percent. These choices fall in between standards based on the employee share of employer coverage premiums and nongroup premiums for those at 300–499 percent of poverty. In our analysis, both the median and mean premium spending relative to income for single coverage in this income group was 2.1 percent for the employee share of employer coverage and 8 percent for nongroup insurance.

Those below 300 percent of poverty who do

not have employer coverage available will have access to quite comprehensive coverage in the state's subsidized Commonwealth Care program. Those above 300 percent of poverty will be required to purchase private insurance without subsidies if an option is available to them either at or below the premium affordability threshold applicable to their income level. The minimum required coverage for an individual policy includes a maximum deductible of $2,000 and a $5,000 limit on out-of-pocket spending, excluding all drug cost sharing and all copayments below $100. For a family policy, a $4,000 maximum deductible and a $10,000 out-of-pocket limit apply, with the same exclusions. The affordability standard set by the Connector does not explicitly take potential out-of-pocket exposure into account. As a result, people with persistently high out-of-pocket costs will face much higher financial burdens as a percentage of income than what our data indicate are typically borne nationally by those at 300–499 percent of poverty.

The Massachusetts approach is to exempt from the mandate all those who cannot obtain the minimum level of coverage at an affordable level. The number exempted could be substantial, and because of the age rating of premiums, many are likely to be older adults. An alternative would have been for the government to have financed the difference between a benchmark plan in the Connector and the affordability standard, thereby making it possible to include all adults in the mandate.

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NOTES

1. See Crittenton Women's Union, "The Quest for Economic Independence in the Commonwealth: 2006 Self-Sufficiency Standard for Boston," http://www.liveworkthrive.org/docs/fess2006/2006%20FESS%20Boston.pdf (accessed 8 May 2007).
2. M.K. Bundorf and M.V. Pauly, "Is Health Insurance Affordable for the Uninsured?" *Journal of Health Economics* 25, no. 4 (2006): 650–673.
3. This appendix is available online at http://content.healthaffairs.org/cgi/content/full/26/4/w463/DC2.
4. Setting an affordability standard for annual coverage requires reliance on data for those purchasing coverage over the same time frame. In addition, part-year purchasers include those making many types of transitions, and their situations do not necessarily reflect equilibrium choices. If one presumes that those actually purchasing full-year coverage are somehow better off than those who do not, this would argue for an adjustment downward in the affordable spending levels calculated here.
5. L. Clemans-Cope, B. Garrett, and K. Hoffman, "Changes in Employees Health Insurance Coverage, 2001–2005," Issue Paper (Washington: Kaiser Commission on Medicaid and the Uninsured, October 2006).
6. See, for example, J. Gruber, "The Incidence of Mandated Maternity Benefits," *American Economic Review* 84, no. 3 (1994): 622–641; L.J. Blumberg, "Who Pays for Employer-Sponsored Health Insurance?" *Health Affairs* 18, no. 6 (1999): 58–61; K. Baicker and A. Chandra, "The Labor Market Effects of Rising Health Insurance Premiums," NBER Working Paper no. 11160 (Cambridge, Mass.: National Bureau for Economic Research, 2005); and C. Olson, "Do Workers Accept Lower Wages in Exchange for Health Benefits?" *Journal of Labor Economics* 20, no. 2, Part 2 (2002): S91–S114.
7. Below 300 percent of poverty, the percentage of income spent on premiums is much higher than for those with higher incomes. There is some question as to whether employers are able to fully shift the cost of premiums to employees at the lowest income levels, so these numbers might considerably overstate the amount that is shifted to lower-income workers.