TRENDS

Financial Burden Of Health Care, 2001–2004

The same affordability issues that low-income families experienced a decade ago have begun to affect middle-income families today.

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ABSTRACT: Analysis of data from the Medical Expenditure Panel Survey (MEPS) shows that rising out-of-pocket expenses and stagnant incomes increased health spending's financial burden for families in 2001–2004, especially for the privately insured. High financial burdens among those with nongroup coverage increased by more than one-third. Despite evidence of increased cost sharing in private insurance plans, our analysis does not show that privately insured people paid a higher share of their total health care bill in 2004 compared to 2001. Financial burdens have increased to the point at which private insurance is no longer able to provide financial protection for an increasing number of families. [*Health Affairs* 27, no. 1 (2008): 188–195; 10.1377/hlthaff.27.1.188]

RISING HEALTH CARE costs are one reason for a dramatic increase in Americans' dissatisfaction with the health care system in recent years.[1] In the first part of this decade, health care costs continued to increase at rates far above general inflation, and employers increasingly shifted these higher costs to workers in the form of higher out-of-pocket payments for premiums, deductibles, and copayments.[2] Adding to the pressure on families was slower economic growth during 2001–2004, which resulted in increases in poverty rates and the number of uninsured people.[3]

Understanding whether these trends are resulting in greater financial burdens on families is important, since high financial burdens can lead to greater medical debt, problems paying medical bills, and bankruptcy.[4] In addition, high financial burdens are often obstacles to medical care access, as many families (including privately insured families) with problems paying their medical bills delay or forgo needed medical care.[5] Although these concerns have been directed primarily at uninsured people, many families with private insurance—especially those with low incomes—are having difficulty paying medical bills.

Prior research based on data from the Medical Expenditure Panel Survey (MEPS) showed that out-of-pocket spending—as well as the financial burden of these expenses—increased for families between 1996 and 2003.[6] In this paper we extend that analysis by providing estimates of out-of-pocket spending for 2004 (the latest data available) and focus on the changes in out-of-pocket spending and families' financial burdens since 2001. We focus on 2001–2004 because it was a period when financial pressures on American families resulting from health care costs were likely in-

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creasing. For example, annual increases in health care costs averaged 8.3 percent during 2001–2004, while average family incomes increased only 1.6 percent, on average.[7] This was in sharp contrast to the period 1996–2000, when average annual increases in health care costs (5.9 percent) were only slightly higher than increases in income (4.6 percent).

Study Data And Methods

■ **Data source.** Our analysis is based on data from MEPS for 2001 and 2004. The MEPS household survey, sponsored by the Agency for Healthcare Research and Quality (AHRQ), collects detailed information on health care spending and use of services, insurance coverage, sources of payment, health status, employment, and other sociodemographic details from individuals and families. Household reports on use of services are supplemented with information on third-party payments and billing codes from medical care providers' billing records. Sample sizes are 28,295 for 2001 and 28,990 for 2004, for people under age sixty-five. Our results are weighted to be nationally representative of the U.S. civilian, noninstitutionalized population of that age group.

■ **Families' health care burden.** We define *health care burden* as the ratio of total family out-of-pocket spending for health care services and premiums over total family income. Both financial burden for health care and income are measured at the family level, since family members typically share financial resources and are likely to be affected by each other's medical costs. All of our results and population estimates are reported at the person level. Each person in our sample is assigned the family-level burden measure.

■ **Family income.** Family income is measured after taxes (disposable income), because this is a more accurate reflection of families' resources, especially for the working-age population.[8] Income and spending for 2001 are inflated to 2004 values using the Consumer Price Index (CPI) for urban areas.

■ **High-burden individuals.** People who live in families that spend more than 10 percent of family income on health care are defined as *individuals with high burdens.* This method, which has been used in several other studies, reduces bias resulting from reporting error in income and also provides an intuitive measure of the risk of incurring high financial burdens.[9]

■ **Differential spending thresholds.** We also consider a measure that uses a lower threshold for low-income people (that is, people whose out-of-pocket costs exceed 5 percent of income for low-income people and 10 percent for all others) because it is assumed that low-income people have much less capacity than their higher-income peers to absorb high out-of-pocket spending, and this is consistent with public program requirements in Medicaid and the State Children's Health Insurance Program (SCHIP).[10] However, using inconsistent thresholds across income groups would bias estimates of disparities in burden levels by income.[11]

■ **Insurance categories and premiums.** People without coverage all year are classified as uninsured. We assigned the rest to one of three mutually exclusive insurance categories based on the type of coverage they held for the longest period of time during the year (measured monthly). In the event of a tie, we assigned the person to the highest-ranking insurance status category in this order: private employment-related group, private nongroup, or public.

Premiums include those paid out of pocket for private policies reported in MEPS and simulated Medicare Part B premiums for anyone enrolled in Medicare and not eligible for Medicaid premium support. All premiums are prorated to account for the duration of coverage during the year.

Study Results

■ **Financial burden of health care.** The financial burden of health care increased for American families during the first part of this decade as a result of rising out-of-pocket spending for health care and stagnant family incomes. Between 2001 and 2004, the percentage of the nonelderly population living in families with high out-of-pocket health care bur-

dens rose from 15.9 percent to 17.7 percent (Exhibit 1). By 2004, 45.4 million people lived in families with high burdens—an increase of almost six million from 2001.[12]

Increases in out-of-pocket spending between 2001 and 2004 were driven by both increases in health insurance premium payments and spending on health care services. Even after general inflation is accounted for, total out-of-pocket spending on health care rose by $373 to $2,656 in 2004, an increase of about 16 percent over the three-year period. In contrast, average family incomes not only failed to keep pace with rising out-of-pocket spending during this period but were largely unchanged after general inflation was accounted for.

■ **Health insurance coverage and financial burden.** The increase in families' financial burdens was driven entirely by people with private (employer-sponsored) insurance: 17 percent (or twenty-nine million people) faced high burdens in 2004, an increase of 2.3 percentage points from 2001. Together, out-of-pocket spending for premiums and services rose $553 to $3,211, a 21 percent increase over the period. The increase in high financial burdens would have been even greater if not for a small rise in family incomes (4.6 percent) for privately insured people during this period.

Private, nongroup coverage. Although relatively

EXHIBIT 1
Components Of Family Out-Of-Pocket Burdens, By Insurance Status, Among The Nonelderly Population, 2001–2004

Insurance status[a]	Population (thousands)	After-tax family income ($)	Out-of-pocket spending on care ($)	Out-of-pocket premiums ($)[b]	Total out-of-pocket burden ($)[c]	Percent in families with high out-of-pocket burdens[d]
Total population						
2001	248,412	46,435	1,082	1,201	2,283	15.9
2004	256,485	47,107	1,201***	1,455***	2,656***	17.7***
Private employment-related						
2001	172,971	55,182	1,181	1,478	2,658	14.7
2004	170,628	57,711**	1,354***	1,857***	3,211***	17.0***
Private nongroup insurance						
2001	9,104	51,787	1,384	3,309	4,693	39.0
2004	9,261	49,207	1,972***	4,204***	6,176***	52.7***
Public insurance						
2001	33,332	19,121	709	228	937	18.0
2004	40,567	19,991	712	248	960	15.8
No coverage						
2001	33,005	26,700	858	155	1,011	13.9
2004	36,030	26,881	828	205	1,033	14.0

SOURCE: Authors' calculations using data from the Medical Expenditure Panel Survey (MEPS).

NOTES: All amounts (income and expenditures) are in 2004 U.S. dollars. Statistical significance denotes difference from 2001. Standard errors (adjusted to account for the complex design of MEPS) are available from the authors.

[a] Insurance status is based on monthly indicators and reflects coverage for the whole year. People with multiple coverage are assigned the coverage with the longest duration.

[b] Premiums include out-of-pocket premiums for private coverage and Medicare Part B premiums. Premiums for those with public insurance and no coverage reflect (1) private coverage held for part of the year or (2) private coverage for other family members, or both.

[c] Burden includes out-of-pocket spending on medical care and on premiums.

[d] *High burden* is defined as having combined out-of-pocket expenses for services and premiums greater than 10 percent of after-tax family income.

$^{**}p < 0.05$ $^{***}p < 0.01$

small in number, people covered by private policies purchased in the nongroup market were much more likely than those in any other insurance group to bear high financial burdens during 2001–2004. This was because people with private nongroup insurance must pay the entire premium, and benefits in such plans are often less generous than those in employer-sponsored plans. Moreover, the percentage of people with nongroup plans experiencing high out-of-pocket burdens rose dramatically, from 39 percent in 2001 to 52.7 percent in 2004.

The large increase in burdens for those with nongroup coverage may have reflected the fact that younger and healthier people dropped this coverage as costs increased. However, our results show no decrease in the numbers enrolled in nongroup coverage, and there was also no change during 2001–2004 in the average age of people covered by these plans (findings not shown). Therefore, increases in burden more likely reflected large increases in premiums and deductibles among people enrolled in nongroup plans, which do not have employers as a partial buffer to help absorb higher health care costs.

"The percentage of people with nongroup plans experiencing high out-of-pocket burdens rose dramatically, from 39 percent in 2001 to 52.7 percent in 2004."

Uninsured and public coverage. There was no change in financial burdens among the uninsured and those with public coverage. About one-sixth of the publicly insured (or 6.4 million people) faced high financial burdens in 2004. Although out-of-pocket spending by the publicly insured was much lower than by the privately insured ($712 on average), even modest expenses are financially burdensome to a population that is mostly poor and low income ("poor" is defined as less than 100 percent of the federal poverty level; "low income," 100–199 percent). For the uninsured, lower out-of-pocket spending and comparable burden levels relative to privately insured people reflected lower medical care access and use. Only about 55 percent of the uninsured used any health services in 2004, compared to 88.1 percent of those with employer-sponsored coverage (findings not shown).

■ **Financial burden and income.** The burdens were highest among poor and low-income people with private insurance, a subgroup of particular policy concern.[13] We found that 53.5 percent of poor and 37.4 percent of low-income people with private insurance faced high financial burdens in 2004, about two times as high as middle-income people faced and four times as high as high-income people faced (Exhibit 2). Moreover, financial burdens increased between 2001 and 2004 for low-income people, which indicates that private coverage was becoming less affordable for this group. At the same time, one out of five privately insured people with incomes of 200–399 percent of poverty (middle income) spent more than 10 percent of their income on health care, a rate that is twice as high as that for higher-income people.

Out-of-pocket spending for both premiums and services contributed to high financial burdens for poor and low-income people. For example, among the privately insured, 30.1 percent of poor and 21.9 percent of low-income people incurred high financial burdens from the premium alone in 2004 (Exhibit 3). It might be argued that families choose to pay the out-of-pocket premium and plan their budget to cover the regular and predictable payments that premiums typically involve. Yet 39.7 percent of poor and 10.4 percent of low-income people incurred high burdens solely from the less predictable out-of-pocket spending on services in 2004.

■ **Share of total health spending paid for out of pocket.** Increases in out-of-pocket spending for deductibles and copayments have generated concern about employers' "buy-down" of their employees' health benefits, compelling enrollees to pay a higher share of

EXHIBIT 2
Percentage Of Nonelderly Population In Families With High Out-Of-Pocket Burdens, By Income And Insurance Status, 2001–2004

Income[a]	Population (thousands)	All (%)	Private insurance (group and nongroup, %)	Public insurance (%)	No coverage (%)
Poor					
2001	29,972	30.3	53.8	21.4	27.0
2004	33,903	28.1	53.5	19.8	27.2
Low income					
2001	42,729	22.9	32.0	15.1	12.9
2004	44,008	23.8	37.4**	12.6	11.7
Middle income					
2001	77,439	17.6	19.1	15.4	9.4
2004	82,019	18.9	21.4	11.6	9.4
High income					
2001	98,273	7.2	7.2	–[b]	6.4
2004	96,555	10.2***	10.3***	–[b]	7.9

SOURCE: Authors' calculations using data from the Medical Expenditure Panel Survey (MEPS).

NOTES: *High burden* is defined as having combined out-of-pocket expenses for services and premiums greater than 10 percent of after-tax family income. Insurance status is based on monthly indicators and reflects coverage for the whole year. People with multiple coverage sources are assigned the coverage with the longest duration. Statistical significance denotes difference from 2001. Standard errors (adjusted to account for the complex design of MEPS) are available from the authors.

[a] Poor: family income below 100 percent of the federal poverty level. Low income: 100–199 percent of poverty. Middle income: 200–399 percent of poverty. High income: 400+ percent of poverty.

[b] Not applicable.

$^{**}p < 0.05$ $^{***}p < 0.01$

their total health care bill. However, we found that the share of total health care spending paid for out of pocket actually decreased slightly, from 34.8 percent in 2001 to 33.6 percent in 2004 (Exhibit 4).[14] People with nongroup coverage paid a much higher share of their total health care bill out of pocket (55.3 percent) than did those with employer-sponsored coverage (31.9 percent), although there was no statistically significant change in the share paid for out of pocket for either group between 2001 and 2004. People with public coverage paid the lowest share out of pocket (13.5 percent), while those without insurance paid the highest share (72.2 percent).

Discussion

The trend of increasing financial burdens among the privately insured has likely continued since 2004, although perhaps at a somewhat lower rate. Annual increases in health insurance premiums have slowed from a high of 13.9 percent in 2003 to 6.1 percent in 2007, but they are still higher than general inflation and growth in workers' wages.[15] Recent projections estimate that both overall private health insurance costs and out-of-pocket spending will continue to rise by about 6–7 percent annually through 2016.[16] Financial burdens for health care may therefore continue to grow as well, since growth in incomes is unlikely to keep pace with increases in the cost of care, depending on changes in benefit design as well as consumers' responses to any changes in benefits and coverage.

Our study shows that private health insurance, as currently structured, does not completely protect many poor and low-income individuals and families from the high cost of health care. This group is of particular policy concern because these trends indicate that many Americans are underinsured and going without needed medical care.[17] Also, increases in health care costs have greatly eroded private coverage of poor and low-income people over the past twenty years, which for children has

EXHIBIT 3
Percentage Of Nonelderly Population In Families With High Out-Of-Pocket Burdens, By Income And Insurance Status, 2004

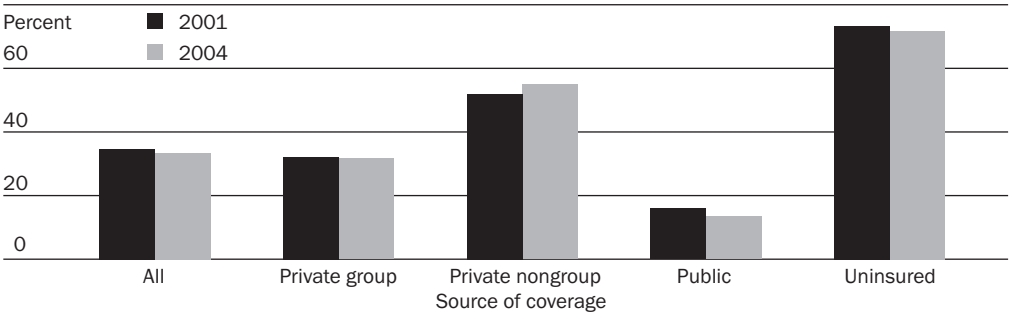
Income[a]	All (%)	Private insurance (group and nongroup, %)	Public insurance (%)	No coverage (%)
Premium burden[b]				
Poor	6.8	30.1	1.4	1.1
Low income	10.9	21.9	1.7	1.2
Middle income	8.6	10.5	2.7	1.0
High income	3.6	3.8	–[c]	0.2
Health service burden[d]				
Poor	24.3	39.7	18.2	26.4
Low income	10.2	10.4	10.0	10.1
Middle income	5.9	5.6	7.9	6.9
High income	2.9	2.6	6.9	7.1

SOURCE: Authors' calculations using data from the Medical Expenditure Panel Survey (MEPS).
NOTES: Insurance status is based on monthly indicators and reflects coverage for the whole the year. People with multiple coverage sources are assigned the coverage with the longest duration. Statistical significance denotes difference from 2001. Standard errors (adjusted to account for the complex design of MEPS) are available from the authors.
[a] Poor: family income below 100 percent of the federal poverty level. Low income: 100–199 percent of poverty. Middle income: 200–399 percent of poverty. High income: 400+ percent of poverty.
[b] *Premium burden* is defined as having out-of-pocket premiums for private insurance and Medicare Part B coverage greater than 10 percent of after-tax family income. Premiums for those with public insurance and no coverage reflect (1) private coverage held for part of the year or (2) private coverage for other family members, or both.
[c] Not applicable.
[d] *Health service burden* is defined as having out-of-pocket spending on health care services greater than 10 percent of after-tax family income.

been offset by expansions of Medicaid and State Children's Health Insurance Program (SCHIP) coverage to at least 200 percent of poverty in most states.[18]

In the debate about whether SCHIP should be expanded beyond the 200 percent poverty threshold, a key question is the extent to which middle-income families can still afford private coverage. Compared to poor and low-income people, the prevalence of high financial burdens during our study period was much lower for privately insured people in middle-

EXHIBIT 4
Share Of Total Out-Of-Pocket Spending Paid For Out Of Pocket Among The Nonelderly Population With An Out-Of-Pocket Expense, 2001 And 2004



SOURCE: Authors' calculations using data from the Medical Expenditure Panel Survey (MEPS).
NOTE: For all coverage and public coverage, difference between 2001 and 2004 is significant ($p < 0.05$).

income families. Still, one out of five privately insured people in middle-income families faced high financial burdens, and this number is likely to increase in future years as health care costs continue to outpace growth in family incomes. Thus, the same affordability issues that low-income families experienced a decade ago might affect middle-income families in the future.

Subsidizing out-of-pocket premiums for low- and moderate-income workers who have access to employer-sponsored coverage is an alternative way to increase the affordability of private coverage. Premium assistance programs are appealing because they offer the potential to cover a larger number of people with fewer public dollars; however, these efforts often ignore the financial burden associated with out-of-pocket spending for health care services. Limiting this spending might be as crucial as premium subsidies to the success of these programs.[19]

At the same time, other developments could lead to increased financial burdens. States have greater ability to impose cost-sharing requirements in their Medicaid programs as a result of the 2005 Deficit Reduction Act (DRA). Although there are still strict limits on the amount of cost sharing that beneficiaries can incur, our study shows that financial burdens among families with Medicaid enrollees are not insubstantial. Policymakers should consider the possibility that state and federal cost containment efforts could increase these burdens even more.

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NOTES

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7. Estimates of annual increases in health care costs were obtained from Centers for Medicare and Medicaid Services, "National Health Expenditure Data, Historical," 8 January 2007, http://www.cms.hhs.gov/NationalHealthExpendData/02_NationalHealthAccountsHistorical.asp (accessed 23 September 2007). Estimates of annual increases in income were obtained from U.S. Census Bureau, *2007 Statistical Abstract*, "Table 677: Money Income of Families—Median Income by Race and Hispanic Origin in Current and Constant (2004) Dollars: 1980 to 2004," http://www.census.gov/compendia/statab/tables/07s0677.xls (accessed 29 March 2007). Both estimates of average annual increases do not account for general inflation.
8. To construct after-tax income, we simulated fed-

eral and state income taxes as well as Social Security and Medicare taxes on earnings using the Web-based version of TAXSIM 5.0. (National Bureau of Economic Research, Internet TAXSIM Version 5.0, at http://www.nber.org/-taxsim). In addition, we imposed a $100 floor for after-tax family income to deal with underreporting and cases of legitimately low or negative incomes, which affects only 3.3 percent of observations.

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11. Estimates of financial burden using the 5 percent threshold for low-income people are available in an online appendix, at http://content.healthaffairs.org/cgi/content/full/27/1/188/DC1.
12. The 2004 estimate of 17.7 percent with high burdens is lower than the estimate for 2003 (19.2 percent) reported in an earlier study using MEPS: Banthin and Bernard, "Changes in Financial Burdens for Health Care." Although the change between 2003 and 2004 is statistically significant and represents a decrease in the percentage with burdens, it is likely the result of year-to-year fluctuations in the data rather than the start of a new trend. Regardless, the conclusions of this study do not change when comparing 2001 with 2003 or 2004, which shows burden levels increasing during a period of rapidly rising health care costs and stagnant incomes.
13. In Exhibits 2 and 3, employment-related and nongroup coverage is combined because sample sizes for nongroup coverage among poor, low-income, and middle-income people are too small for reliable estimates. Trends for group coverage by income tend to be similar to overall private insurance coverage.
14. We computed the average percentage paid out of pocket among people with an expense. Thus, the 20 percent paid by one person was averaged with the 40 percent paid by another, regardless of the size of the total payment.
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