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Issue Brief

Chronic Burdens: The Persistently High Out-of-Pocket Health Care Expenses Faced by Many Americans with Chronic Conditions

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ABSTRACT: Using data from the 2001–2005 Medical Expenditure Panel Survey, this study shows that nearly 40 percent of nonelderly adults with three or more chronic conditions had out-of-pocket expenses and premiums exceeding 5 percent of income for two consecutive years, compared with 20 percent of people who had a single chronic condition and 14 percent who had no chronic conditions. Prescription drug spending accounts for over half of the out-of-pocket spending by individuals who have multiple chronic conditions and who have had persistently high financial burdens that last two years or more. The prevalence of persons with persistently high financial burdens is likely to increase in the future, because of expected increases in prescription drug costs as well as chronic disease prevalence.

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OVERVIEW

High levels of out-of-pocket spending on medical care often contribute to financial difficulties for families, including bankruptcy. Such costs can also induce people to delay—or even forgo entirely—needed medical care.[1] As overall health care costs continue to rise at a rate that exceeds income growth by a wide margin, much of these costs are being passed on to families in the form of higher premiums, deductibles, copayments, or—in some cases—reduced benefits. As a result, the financial burden of out-of-pocket expenditures has increased commensurately.[2]

Persistently high out-of-pocket expenditures pose an even greater threat to families' financial well-being. Many families that are able to absorb high out-of-pocket expenses resulting from a one-time event, such as an accident, injury, or acute illness, may be unable to cope with high out-of-pocket expenses that continue over time. For individuals with chronic illnesses, high out-of-pocket expenses can be especially burdensome.[3,4] By definition, chronic illnesses are long-term conditions, and they often require frequent monitoring, ongoing treatment and use of medications, and hospitalization to deal with acute flare-ups of symptoms.

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Total expenditures for the care of chronic illness are high and persist over time.[5,6] Although no studies have looked specifically at chronic illness, research shows that people with poor health or major activity limitations—which are highly correlated with many chronic conditions—are much more likely to be in the top 10 percent of health spenders over two consecutive years compared with the general population.[7,8] In addition, those with chronic illness often pay more for health insurance, whether because of medical underwriting by insurance companies or selection into higher-risk and more-expensive group plans, or because these patients choose a more expensive policy with more extensive coverage of services.

The extent to which high financial burdens persist over time is largely unknown, as prior studies of out-of-pocket health care spending have focused on a single calendar year. This study examines the persistence of high financial burdens of medical care over a two-year period, focusing primarily on nonelderly adults with chronic conditions. Using data from the Medical Expenditure Panel Survey for 2001 to 2005, it finds that 39 percent of nonelderly adults with three or more chronic conditions had out-of-pocket expenses (for both insurance premiums and health services) that exceeded 5 percent of income for two consecutive years, nearly twice the rate for those with a single chronic condition (20%) and approaching three times the rate for people with no chronic conditions (14%). Prescription drug spending accounts for over half of all out-of-pocket spending among people who have multiple chronic conditions and have high financial burdens lasting for two years or more.

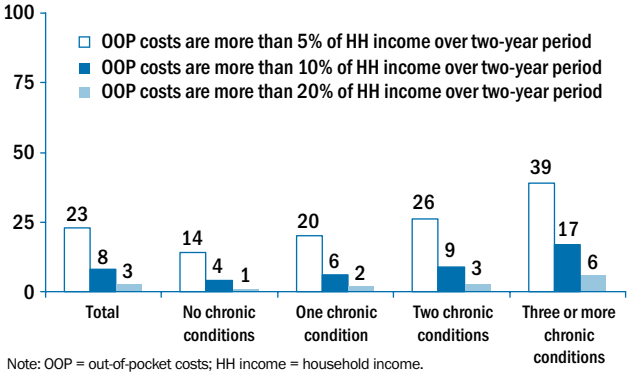
Findings

Out-of-pocket spending for premiums and health services over a two-year period is highest for adults with chronic conditions. On average, nonelderly adults spent about $4,800 out-of-pocket on health insurance premiums and health care services over a two-year period between 2001 and 2005. Out-of-pocket spending was considerably higher for adults with chronic conditions, especially those having three or more conditions ($6,800), compared with those with a single chronic condition ($4,600) and those with none whatsoever ($3,500). Adults with acute health conditions spent about $4,000 over a two-year period, while those with no chronic or acute conditions at all spent the least ($2,900).

As a share of income, nearly one-fourth (23%) of all nonelderly adults had combined out-of-pocket expenses for insurance premiums and health care services exceeding 5 percent of family income for two consecutive years (Figure 1, Table 1). About 8 percent spent more than 10 percent of income for two consecutive years, while 3 percent spent more than 20 percent of income for this length of time.

Figure 1. Adults with Multiple Chronic Conditions Spend More on Out-of-Pocket Medical Care Costs over a Two-Year Period

Percent of adults ages 18–64 with out-of-pocket costs greater than 5%, 10%, or 20% of income



Note: OOP = out-of-pocket costs; HH income = household income.
Out-of-pocket costs include insurance premiums and health care expenses.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

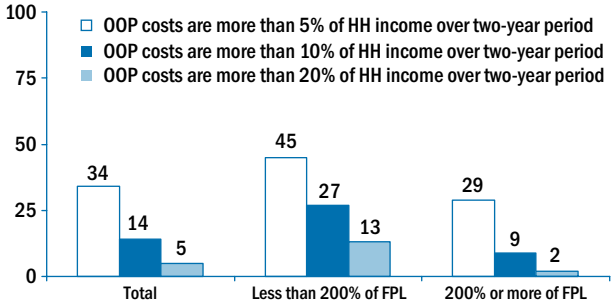
Adults with chronic conditions are much more likely to have high financial burdens for a single year as well as for two consecutive years, compared with adults who have acute conditions only and those who have no conditions. Adults with cerebrovascular disease and diabetes were the most likely to have high financial burdens: 56 percent of those with cerebrovascular disease and 46 percent with diabetes spent more than 5 percent of their income on out-of-pocket costs and premiums over a two-year period (Table 1).

Moreover, multiple chronic conditions dramatically increase the likelihood that someone will experience persistently high financial burdens. For example,

among adults with three or more chronic conditions, 39 percent had expenses and premiums totaling 5 percent or more of their income for two consecutive years, 17 percent had expenses totaling 10 percent or more of income, and 6 percent had expenses totaling 20 percent or more of income (Figure 1). Persistently high burdens are much lower among adults with only a single chronic condition, including 20 percent who spent 5 percent or more of their income for two consecutive years, 6 percent who spent 10 percent or more, and only 2 percent who spent 20 percent or more. By contrast, relatively few people with acute conditions only, or no medical conditions at all, spend more than 10 percent of income for two consecutive years.

Figure 2. Adults with Chronic Conditions and Low Incomes Are Most at Risk of Spending Large Shares of Their Income on Out-of-Pocket Costs

Percent of adults ages 18–64 with two or more chronic conditions, with out-of-pocket costs greater than 5%, 10%, or 20% of income



Note: OOP = out-of-pocket costs; HH income = household income; FPL = federal poverty level. Out-of-pocket costs include insurance premiums and health care expenses.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

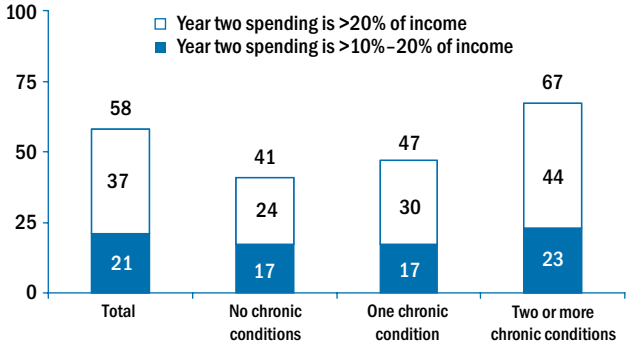
Adults with low incomes and chronic disease are at risk for persistently high financial burdens. Persistently high financial burdens are much more prevalent among low-income adults who have chronic conditions. Among low-income adults with two or more chronic conditions, 45 percent spent 5 percent or more of their incomes on out-of-pocket costs and premiums over a two-year period. Twenty-seven percent had persistently high financial burdens amounting to 10 percent or more of their income—three times the rate for higher-income persons. And 13 percent of low-income adults had a persistently high financial burden totaling 20 percent or more of their income—more than six times the rate for higher-income adults (Figure 2, Table 2). Even among higher-income people with multiple chronic conditions, relatively few (2%) spent more than 20 percent of income for two consecutive years.

Adults with high financial burdens in one year are likely to have high financial burdens the next year. People who experience high financial burdens in one year are much more likely to experience high financial burdens the next year, compared with those whose costs are low in one year. Among all nonelderly adults, nearly three of five (58%) of those who spent more than 20 percent of their income in one year (Year 1) also spent at least 10 percent of their income on health care in the next year (Year 2); 37 percent spent more than 20 percent of their income in Year 2 (Figure 3, Table 3). By contrast, less than 10 percent of those who spent 5 percent of income or less in Year 1 spent more than 10 percent in Year 2 (Table 3).

The probability that high financial burdens persist over a two-year period rises with the number of chronic conditions people have. So among adults who spent 20 percent or more of their income on health care costs in Year 1, 44 percent of adults with two or more chronic conditions also spent that much in Year 2, compared with 30 percent of persons who had one chronic condition and 24 percent who did not have a chronic condition (Figure 3).

Figure 3. Adults with High Out-of-Pocket Spending in One Year Are at Risk of High Costs the Next Year, Especially Those with Multiple Chronic Conditions

Second-year spending among adults who spent more than 20% of income in year one



Out-of-pocket costs include insurance premiums and health care expenses.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

Characteristics of people with persistently high financial burdens over two years. Adults who have multiple chronic conditions are disproportionately represented among those who have high financial burdens in two consecutive years. While adults with three or more chronic health conditions comprise 22 percent of the adult population, they account for almost half (47%) of adults who experienced persistently high financial burdens (spending more than 10 percent of their income) over two years (Table 4). In contrast, adults with three or more chronic health conditions make up 29 percent of people with high financial burden in a single year, and 18 percent of those who did not have high financial burden in either year. Individuals with persistently high financial burdens were also more likely to be older and female compared with those with high financial burden in only a single year.

Adults with incomes less than 200 percent of the federal poverty level (about $44,000 for a family of four) were also disproportionately represented among those with persistently high financial burdens, accounting for half (49%) of those with high out-of-pocket burdens in two consecutive years but representing a quarter (27%) of the adult population (Table 4). In contrast, adults who did not have high financial burdens in either year were far less likely to be poor or low-income.

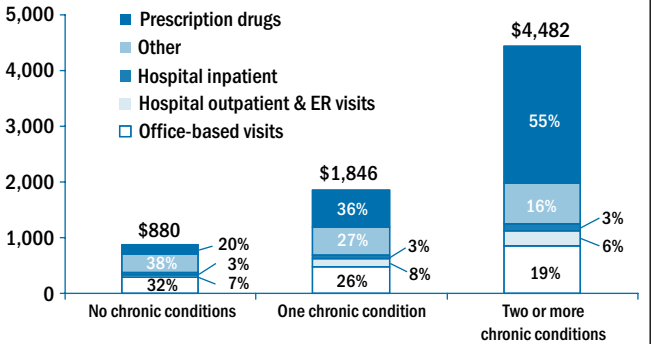
People with persistently high financial burdens were more likely to be insured continuously for the entire two-year period compared with people with high burdens in just one year and people with high financial burdens in neither year (Table 4). The percentage of uninsured individuals for the entire two-year period was similar between the two groups. Compared with adults who had persistently high financial burdens, those who did not have high burdens in either year were somewhat less likely to be continuously insured and more likely to be uninsured during the 24-month period.

It might be expected that the uninsured would be even more disproportionately represented among people with persistently high financial burdens, given that they are responsible for most of their health care costs (except for charity care and bad debt). However, because of the financial barriers to care they face, people without health insurance use less health care overall and therefore incur fewer costs.[9] By delaying or forgoing needed care, uninsured people lower their financial burden to the levels experienced by privately insured people. In addition, a high proportion of adults with persistently high financial burdens have multiple chronic conditions; since their health care needs, compared with healthier adults, are often both costly (even with insurance coverage) and much less discretionary, they are less able to delay or forgo health care in order to reduce their financial burden.

Persistently high financial burdens are driven by prescription drug spending. For nonelderly adults with chronic conditions, out-of-pocket expenditures for prescription drugs are the single largest contributor to persistently high financial burdens (Figure 4, Table 5). Moreover, prescription drug spending as a proportion of out-of-pocket spending, not including premiums, increases as the number of chronic conditions increase. Among adults who spent more than 10 percent of their incomes in both Year 1 and Year 2 on out-of-pocket costs, prescription drug spending accounted for about 20 percent of spending for those with no chronic conditions, 36 percent for those with a single chronic condition, and 55 percent for those with two or more conditions. Overall, prescription drug spending averaged

Figure 4. Among People with High Financial Burdens, Prescription Drug Expenses Compose the Largest Share of Out-of-Pocket Costs for Those with Chronic Conditions

Adults ages 18–64 with out-of-pocket costs greater than 10% of family income over a two-year period



Note: Other category includes dental care, home health, vision (eyeglasses), and other medical equipment. Out-of-pocket costs do not include insurance premiums.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

about $2,500 for people who had multiple chronic conditions and persistently high financial burdens.

Among people with a high financial burden in only a single year, prescription drug spending accounted for 21 percent for people with no chronic conditions, 36 percent for people with a single chronic condition, and 50 percent for people with two or more conditions (Table 5).

While the common perception is that costs associated with inpatient hospital stays, or with frequent use of hospital emergency rooms and other outpatient facilities, contribute most to "catastrophic" health care costs for families, spending on inpatient hospital stays and other hospital-based services account for a relatively small share of total out-of-pocket expenditures, even for people with multiple chronic conditions. Among nonelderly adults with two or more chronic conditions and a persistently high financial burden, hospital-based services on average accounted for only about 9 percent of total out-of-pocket spending, with hospital inpatient stays alone accounting for only 3 percent of spending (Figure 4).

These findings reflect the fact that third-party coverage for hospital use is more generous than for prescription drugs. Overall, 35 percent of all prescription drug expenditures by nonelderly adults in the United States are paid out-of-pocket, compared with 4 percent of hospital inpatient stays, 11 percent of emergency room expenditures, and 6 percent of hospital outpatient department visits.[10] Even among uninsured persons, only about 19 percent of hospital expenditures are paid out-of-pocket (versus 84 percent for prescription drug expenditures), reflecting the fact that much of the hospital care provided to uninsured persons is provided free or at reduced cost as part of hospitals' community benefit activities, or written off as bad debt. While free or lower-cost drugs are available through community health centers and other free clinics, or through assistance programs maintained by pharmaceutical companies, health centers and free clinics are not available throughout the United States, and pharmaceutical assistance programs are often not widely advertised or known and do not generally cover all drugs.

Discussion

It has been well established that an increasing number of families are experiencing high financial burdens from medical care expenses. Trends in U.S. health care spending suggest that this problem will worsen in the future. National health care expenditures are rising 6 percent per year and are projected to stay near that rate for the next decade.[11] While annual increases in prescription drug spending slowed in the earlier part of this decade—from about 12 percent in 2000 to 5.8 percent in 2005—increases were higher in 2006 following implementation of Medicare Part D and are expected to increase in the future.[12,13] On top of that, the growing prevalence of chronic disease—spurred in part by the aging U.S. population and the rising prevalence of obesity—are likely to increase the numbers of people with persistently high financial burdens, and thus increase the numbers of people who are likely to face financial barriers to health care access and medication adherence.[14,15]

Families that experience high financial burdens arising from unanticipated medical costs may experience temporary financial hardship or spend years paying off medical debt from such an event, with short- or long-term implications for their economic prospects or access to care. But persistently high financial burdens may damage a family's long-term economic prospects, as well as its members' ability to obtain medications and other services necessary for treating chronic conditions.

As Congress crafts health reform legislation, it should consider both temporary and persistent financial burdens stemming from medical problems. Proposals being discussed for a mixed private–public approach to health care reform would include a new national insurance exchange that offers a choice of private or public health plans, with prohibitions against underwriting on the basis of health status and income-based premium subsidies, which will protect against adverse selection for those with persistently high financial burdens.[16] Health plans offered through the exchange might be required to meet a minimum standard or a set of tiered-benefit standards, including no lifetime limits

or annual limits on coverage. Some proposals—such as those from the Senate Finance Committee—would allow four benefit options with different actuarial values, including a high-option plan that would pay for 93 percent of health care expenses.[17] Within these four options, benefit packages could vary as long as they are of equivalent actuarial value.

The high-option plan may be especially appealing for people with persistently high expenditures, while the lower-coverage options may suffice for people with few health expenditures or for those who experience major expenditures only occasionally. However, people with persistently high financial burdens are likely to have greater difficulty affording the higher premiums of high-option plans, as they are much more likely to have a lower income compared with other nonelderly adults. Thus, it will be crucial that the affordability of high-option plans for low-income individuals with chronic conditions be addressed through premium subsidies.

Ultimately, policymakers need to consider whether additional subsidies or cost protections are needed for people with chronic conditions who have very high health care needs and expenditures. The French health care system, for example, generally includes cost-sharing for most health services, including prescription drugs. However, there is no cost-sharing for poor patients or for patients with any of 30 conditions identified as chronic and medically expensive, including cancer, diabetes, and mental illness.[18] Such targeting is designed to achieve the opposite result of what occurs in the United States, where financial burdens increase along with the number and severity of illnesses, regardless of coverage.

Notes

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Table 1. Percent with High Financial Burden of Out-Of-Pocket Medical Care Expenses over a Two-Year Period

	Out-of-pocket spending >5% of family income		Out-of-pocket spending >10% of family income		Out-of-pocket spending >20% of family income	
	One year	Both years	One year	Both years	One year	Both years
All persons ages 18–64	26%	23%	17%	8%	9%	3%
Selected chronic conditions						
Heart disease	25	41	22	19	16	8
Cancer	26	35	20	16	12	5
Mental disorders	29	33	22	14	14	5
Diabetes	28	46	25	22	18	9
Hypertension	27	39	21	17	13	7
Cerebrovascular disease	24	56	33	32	28	13
Osteoarthritis	26	38	21	17	14	7
Back problems	26	32	20	14	12	4
Endocrine disorders	27	41	22	19	16	8
Kidney disease	28	39	23	17	13	8
COPD/Asthma	26	29	19	11	11	4
Disorder of upper GI	26	36	21	15	14	5
Person has no chronic conditions	24*	14*	14*	4*	6*	1*
Person has one chronic condition	27	20*	16*	6*	7*	2*
Person has two chronic conditions	27	26*	18*	9*	9*	3*
Person has three or more chronic conditions	27	39	22	17	15	6
No acute or chronic conditions	21*	13*	12*	4*	6*	1*
One or more acute, no chronic conditions	27	15*	15*	4*	7*	1*

Note: Out-of-pocket spending includes premiums and other medical out-of-pocket expenses.
* Difference with persons with three or more chronic conditions is statistically significant at .05 level.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

Table 2. Percent with High Financial Burdens over a Two-Year Period, by Family Income, Persons Ages 18–64

	Out-of-pocket spending >5% of family income		Out-of-pocket spending >10% of family income		Out-of-pocket spending >20% of family income	
	One year	Both years	One year	Both years	One year	Both years
Family income less than 200% of FPL						
Total	27%	29%	25%	15%	18%	7%
No chronic conditions	26	16	19	6	12	2
One chronic condition	30	26	26	12	16	5
Two or more chronic conditions	28	45	30	27	26	13
No acute or chronic conditions	21	14	16	5	10	1
One or more acute, no chronic conditions	31	17	22	7	14	3
Family income 200% of FPL or higher						
Total	25*	21*	14*	6*	6*	1*
No chronic conditions	23*	14	11*	3*	4*	1*
One chronic condition	26*	17*	13*	4*	4*	1*
Two or more chronic conditions	27	29*	17*	9*	8*	2*
No acute or chronic conditions	22	13	11*	3*	4*	1*
One or more acute, no chronic conditions	25*	14*	12*	3*	4*	1*

Note: Out-of-pocket spending includes premiums and other medical out-of-pocket expenses. FPL = federal poverty level.
* Difference with comparable estimate for persons less than 200% of poverty is statistically significant at .05 level.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

Table 3. Percent with High Financial Burden in Year Two, Given Out-of-Pocket (OOP) Spending Levels in Year One

	Percent with year two OOP spending >10%–20% of family income	Percent with year two OOP spending >20% of family income
All persons ages 18–64 with year one OOP spending:		
≤5% of income	4	3
>5%–10% of income	14	6
>10%–20% of income	25	15*
>20% of income	21	37*
Persons with no chronic conditions ages 18–64 with year one OOP spending:		
≤5% of income	3*	2
>5%–10% of income	12*	5*
>10%–20% of income	23*	10*
>20% of income	17*	24*
Persons with one chronic condition ages 18–64 with year one OOP spending:		
≤5% of income	4	2
>5%–10% of income	15	4*
>10%–20% of income	24*	12*
>20% of income	17*	30*
Persons with two or more chronic conditions ages 18–64 with year one OOP spending:		
≤5% of income	5	3
>5%–10% of income	15	8
>10%–20% of income	27	19
>20% of income	23	44
Persons with acute conditions only ages 18–64 with year one OOP spending:		
≤5% of income	3*	3
>5%–10% of income	11*	3*
>10%–20% of income	22*	8*
>20% of income	18*	23*

Note: Out-of-pocket spending includes premiums and other medical out-of-pocket expenses.
* Difference with two or more chronic conditions for same spending category is statistically significant at .05 level.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

Table 4. Characteristics of Persons Ages 18–64 with High Financial Burdens (>10% of income)

	Total	Persons with no high financial burden in either year	Persons with high financial burden in one year	Persons with high financial burden in both years
Total	100%	100%	100%	100%
Number of chronic conditions				
0	36*	39*	29*	17
1	26*	27*	25*	19
2	16	15	17	17
3 or more	22*	18*	29*	47
Age				
18–34	37*	39*	35*	22
35–44	25*	26*	23*	19
45–64	38*	35*	42*	59
Gender				
Male	49*	51*	44*	41
Female	51*	49*	56*	59
Family income				
<100% of poverty	11*	7*	19*	23
100%–199% of poverty	16*	14*	20*	26
200%–399% of poverty	32*	31*	35	36
400% of poverty and higher	42*	48*	26*	15
Health insurance coverage				
Insured 24 months	66*	66*	62*	70
Insured 12–23 months	14	14	18*	13
Insured 1–11 months	7	7	9*	7
Insured 0 months	12*	13*	11	10

* Difference with persons with high financial burden in both years is statistically significant at .05 level.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

Table 5. Total Personal Expenditures and Source of Out-of-Pocket Spending over a Two-Year Period, Persons Ages 18–64

		Out-of-pocket expenditures, excluding premiums					
	Total expenditures, including premiums ($)	Total ($)	Office-based visits (%)	Hospital outpatient & ER visits (%)	Hospital inpatient (%)	Prescription drugs (%)	Other (%)
No chronic conditions	$1,770	$411	30*	7	2	21*	40*
High burden neither year one nor year two	$1,562	329	30*	6	2*	21*	40*
Either year one or year two	$2,615	775	27*	8	3	21*	41*
Both year one and year two	$3,207	880	32*	7	3	20*	38*
One chronic condition	$3,609	861	27*	6	2	35*	29*
High burden neither year one nor year two	$3,239	672	28*	6	2	35*	30*
Either year one or year two	$4,590	1,419	24	9*	3	36*	28*
Both year one and year two	$5,858	1,846	26*	8*	3	36*	27*
Two or more chronic conditions	$10,418	1,999	23	5	2	49	21
High burden neither year one nor year two	$8,128	1,328	24	5	2	47	22
Either year one or year two	$12,241	2,555	22	7	3	50	19
Both year one and year two	$19,013	4,482	19	6	3	55	16

* Dtifference with comparable group for persons with two or more chronic conditions is statistically significant at .05 level.
High burden defined as out-of-pocket expenditures exceeding 10% of family income.
Source: Medical Expenditure Panel Survey, panel samples for 2001–2005.

Methodology

Data Source

Data for this study are drawn from the Medical Expenditure Panel Survey (MEPS) for 2001 to 2005. MEPS, which is sponsored by the Agency for Healthcare Research and Quality (AHRQ), provides national estimates of medical care use and expenditures for the U.S. noninstitutionalized population. MEPS is conducted annually and includes two-year panel samples that allow for estimates of medical care use and expenditures annually as well as for a two-year period. This study includes two-year panel samples for 2001–02, 2002–03, 2003–04, and 2004–05, the last of which is the latest sample available. Response rates for the panels range from 62 percent to 65 percent. The four panels are combined in order to increase the sample size and statistical precision of estimates for persons with chronic conditions.

The analysis includes nonelderly adults ages 18 to 64. Elderly adults age 65 and over are excluded because most are covered by Medicare and because the data for this study precedes implementation of the Medicare Part D prescription drug benefit, which would be expected to have a significant effect on out-of-pocket spending. The combined sample for this analysis includes 39,176 individuals. Members of the panel samples who were not present for the full two-year period are excluded from the analysis (less than 1 percent of the panel sample). These include people who died, were institutionalized, or otherwise became ineligible during the second year of the panel. All estimates are weighted to produce nationally representative estimates of the civilian noninstitutionalized population for the 2001–2005 period. Standard errors are adjusted to account for the complex sample design of the MEPS.

Out-of-Pocket Expenditures

MEPS obtains out-of-pocket expenditures for both health insurance premiums as well as for all health services received for each sampled person. Out-of-pocket premiums are obtained from survey respondents with private coverage as well as some public coverage. Medicare Part B premiums are simulated for all elderly persons with Medicare coverage based on their income level for that year. If Medicare beneficiaries are also enrolled in Medicaid, then it is assumed that Medicaid pays the Part B premium. All premium amounts are adjusted to reflect the number of months during the year they were enrolled in coverage.

Out-of-pocket expenditures for services are obtained from both survey respondents as well as a supplemental survey of their health care providers. For each service that the respondent received during the year, information was obtained on the total charges, as well as the various sources of payment, including out-of-pocket payments. Services include all outpatient medical provider visits (physician as well as non-physician), hospital-based services (inpatient, outpatient, and emergency departments), prescription drugs, dental care, and other miscellaneous services (e.g., lab services and medical equipment).

Defining High Financial Burden

High financial burden is defined based on the ratio of total family out-of-pocket spending for insurance premiums and services over family income. Consistent with other studies, financial burden is measured at the family level, since family members typically share financial resources and are likely to be affected by each other's medical costs.[19] Families are defined as individuals residing in the same household and related by blood, marriage, or adoption who are typically eligible for coverage under a private family policy. All results are reported at the person level by assigning the family-level burden measure to each person in the family.

The analysis compares estimates of high financial burden based on spending exceeding 5 percent of family income, 10 percent of income, and 20 percent of income. Those with persistently high financial burdens are defined as persons in families with high financial burdens in both years of the panel.

Additional detail on study methodology is available by e-mailing the author at pcunningham@hschange.org.

About the Authors

Peter J. Cunningham, Ph.D., is a senior fellow at the Center for Studying Health System Change (HSC) in Washington, D.C. He has been extensively involved in the design, planning, management, and analysis of the Community Tracking Study, a large, nationally representative and longitudinal study of the U.S. health care system funded by the Robert Wood Johnson Foundation. His main areas of interest include trends in public and private health care coverage, access to medical care for the uninsured, the effects of high medical bills and costs on access, physician charity care, and the viability of the health care safety net. He has published extensively in such journals as the *Journal of the American Medical Association, Health Affairs, Health Services Research, Inquiry, Medical Care,* and *Medical Care Research and Review.* Prior to joining HSC in 1995, Dr. Cunningham was a researcher at the Agency for Health Care Policy and Research (now the Agency for Healthcare Research and Quality). He received his Ph.D. in medical sociology and health services research from Purdue University in 1988. He can be e-mailed at pcunningham@hschange.org.

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