

# ASPE RESEARCH BRIEF

OFFICE OF THE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION  
OFFICE OF HEALTH POLICY - U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

## THE VALUE OF HEALTH INSURANCE: FEW OF THE UNINSURED HAVE ADEQUATE RESOURCES TO PAY POTENTIAL HOSPITAL BILLS

### Summary of Findings

- *On average, uninsured families can only afford to pay in full for about 12% of the admissions to hospital (hospitalizations) they might experience. Even uninsured families with incomes above 400% of the Federal Poverty Level (FPL) can afford to pay in full for only 37% of their hospitalizations.*
- *Hospitalizations for which the uninsured cannot pay in full account for 95% of the total amount hospitals bill the uninsured. Even among the uninsured with incomes above 400% FPL, hospitalizations for which the patient would not be able to pay in full account for 64% of the total amount hospitals bill the uninsured.*
- *Lacking health insurance poses a greater risk of financial catastrophe than lacking car insurance or homeowner's insurance. Although an individual is 50 percent more likely to have a car accident in a year than to be hospitalized, the average bill for a hospitalization is over two and a half times higher than the average loss for a car accident. And, while the bill for a single hospitalization is about the same as the loss from an average house fire, a person is ten times more likely to be hospitalized than to experience a house fire.*

*For the purposes of this Brief, the term **hospitalization** is defined as a patient's admittance to a hospital to receive care. The term **hospital bill** reflects the total hospital charges for care received. The term **cost** reflects the underlying cost of care received.*

### ABOUT THIS RESEARCH BRIEF

*One of the primary purposes of health insurance is to protect against the risk of incurring unaffordable medical bills.*

*When the uninsured cannot afford the care they receive, that cost must be absorbed by other payers. This brief, written by Andre Chappel, Ph.D., under the supervision of Richard Kronick and Sherry Glied, reports estimates of how likely it is that those without health insurance will be able to pay their hospital bills if they have to be admitted to hospital.*

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## Uncompensated Care

A critical function of health insurance is to provide people with protection against the financial costs of serious and expensive medical conditions. In our health care system, uninsured people can obtain emergency care at hospitals under the Federal Emergency Medical Treatment and Labor Act (EMTALA, 42 USC §1395dd), and they may receive other care depending on hospital and other provider policies. Without insurance coverage, however, the uninsured often cannot afford the cost of care they receive. In these cases, the uncompensated care costs must be absorbed by providers or shifted to other payers, including Federal, State, and local governments, and private insurers. Prior research examining the magnitude of uncompensated care costs estimates that the uninsured used in the range of \$56 to \$73 billion dollars of health care that they did not pay for in 2008, with about 2/3 of this amount attributed to hospital care.<sup>1,2</sup>

Most people – insured or otherwise – do not experience serious illnesses in any given year, although virtually everyone has this experience at some point in his or her life. Like other types of consumer insurance, such as home insurance or automobile insurance, health insurance protects against the possibility that a serious illness may have significant costs. Some people may choose to forego insurance in order to ‘self-insure’. However, existing research does not indicate how likely it is that uninsured families have sufficient financial assets to cover the costs of a hospital stay. This issue brief addresses that question by comparing the distribution of financial assets of uninsured families to the distribution of hospital bills incurred by uninsured patients. In doing so, the brief estimates the proportion of uninsured that have sufficient financial assets to pay their hospital bills. This analysis only includes the bills for inpatient hospitalization, and does not consider the many other costs that may be associated with an entire episode of care.

While hospitals may demand that the uninsured pay their entire bills (total hospital charges), they often collect only a fraction of these amounts. Hospitals may want to collect the full amount of their charges, but will often be satisfied if they can collect an amount equal to the cost of providing care, which is substantially less than the amount they charge.<sup>3</sup> Hence, an alternative way to measure the extent to which the uninsured can pay for a hospital stay is to examine whether the uninsured can pay enough to cover the estimated cost of care, rather than their actual hospital bills. This brief considers both hospital bills and underlying costs in parallel analyses to measure whether the uninsured can pay for their own hospital care.

## Uninsured People Generally Have Very Limited Financial Assets

Most uninsured people have virtually no savings [Table 1, column 2]. More than 30% of the uninsured report having zero financial assets and uninsured families at the 90<sup>th</sup> percentile of the

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<sup>1</sup> Families USA. Hidden Health Tax: Americans Pay a Premium. May 2009

<sup>2</sup> Hadley J, Holahan J, Coughlin T, Miller D. Covering the uninsured in 2008: Current costs, sources of payment, and incremental costs. *Health Affairs*. 2008;27(5):w399-w415.

<sup>3</sup> Melnick GA, Fonkych K. Hospital pricing and the uninsured: Do the uninsured pay higher prices? *Health Affairs*. 2008;27(2):w116-w122.

asset distribution report having total financial assets below \$13,000 [Table 1, column 2].<sup>4</sup> Among uninsured families with incomes below 200% FPL, over half have no savings whatsoever [Table 1, column 3]. Even among uninsured families with incomes above 400% of FPL, about half have financial assets below \$4,100 [Table 1, column 5].

**Table 1 – Median financial assets of uninsured families, 2006/2007**

<b>Asset Percentile</b>	<b>All Uninsured families</b>	<b>Uninsured families with incomes &lt; 200% of FPL (59% of all uninsured families)</b>	<b>Uninsured families with incomes 200-399% of FPL (30% of all uninsured families)</b>	<b>Uninsured families with incomes 400+% of FPL (11% of all uninsured families)</b>
10 <sup>th</sup>	\$0	\$0	\$0	\$0
30 <sup>th</sup>	\$0	\$0	\$0	\$720
50 <sup>th</sup>	\$20	\$0	\$300	\$4,100
70 <sup>th</sup>	\$1,000	\$200	\$2,000	\$35,600
90 <sup>th</sup>	\$12,880	\$3,000	\$16,000	\$153,700
<b>Overall</b>	<b>\$20</b>	<b>\$0</b>	<b>\$300</b>	<b>\$4,100</b>

\* Median assets have been rounded to the nearest \$10

**Source:** 2006/2007 Medical Expenditure Panel Survey, analysis performed by Jessica Banthin and Didem Bernard, Agency for Healthcare Research and Quality

<sup>4</sup> As described more fully in the methods section below, the data on assets are from analyses of the 2006-2007 Medical Expenditure Panel Survey (MEPS). The analyses were conducted by Jessica Banthin and Didem Bernard of the Agency for Healthcare Research and Quality. Their analyses of the 2006-2007 MEPS follow the methods they used in earlier work on the 2002-2003 MEPS, as described in Bernard DM, Banthin JS, Encinosa WE. Wealth, income, and the affordability of health insurance. *Health Affairs*. 2009;28(3):887-896.

As shown in Table 2, the uninsured have many fewer financial assets than do the insured. The median financial assets for the uninsured are \$20 compared to a median of more than \$14,450 in assets for the privately insured who are under the age of 65. This difference in median financial assets is, in part, due to the difference in income between the insured and uninsured. However, even after controlling for income, uninsured people have, on average, much lower financial assets than do those with coverage. For example, among the uninsured with incomes below 200% of FPL, median financial assets were \$0, compared to median financial assets of \$500 for the privately insured under age 65 at the same income level (Table 2). Similarly, among those with incomes above 400% of FPL, median financial assets for the uninsured were \$4,100, compared to \$50,000 for the privately insured under age 65 (Table 2).

**Table 2 – Median financial assets of insured and uninsured families, 2006/2007 \***

<b>Asset Percentile</b>	<b>Uninsured median assets</b>	<b>Insured** median assets</b>
Families with incomes <200% of FPL  (59% of all uninsured families)	\$0	\$500
Families with incomes 200-399% of FPL  (30% of all uninsured families)	\$300	\$5,000
Families with incomes 400+% of FPL  (11% of all uninsured families)	\$4,100	\$50,000
<b>All Families</b>	<b>\$20</b>	<b>\$14,450</b>

*\*Median assets have been rounded to the nearest \$10*

*\*\*Privately insured under age 65*

**Source:** 2006/2007 Medical Expenditure Panel Survey, analysis performed by Jessica Banthin and Didem Bernard, Agency for Healthcare Research and Quality

## The Cost of a Single Hospitalization is Very High

In 2008, U.S. hospitals reported over 2.1 million hospitalizations of the uninsured. For 58% of these hospitalizations – 1.2 million – the hospital bill was in excess of \$10,000 [Table 3, column 2,]. Bills under \$10,000 accounted for 9% of the total amount billed for hospital care provided to uninsured people; bills over \$100,000 accounted for 22% of total amount billed for hospital care provided to uninsured people [Table 3, column 3].

Turning to underlying costs, hospitalizations with costs greater than \$10,000 accounted for 56% of the cost of care provided to uninsured people in 2008; hospitalizations with costs of over \$100,000 accounted for 6% of the total cost of this care [Table 3, column 5].

**Table 3 – Fraction of hospital bills (charges) and costs for uninsured patients above specified dollar thresholds**

Hospitalization Charge/Cost Category	Cumulative Uninsured Hospitalizations By Charge Category (N=2,126,280)	Cumulative Uninsured Charges (in millions)	Cumulative Uninsured Hospitalizations By Cost Category (N =2,125,204)*	Cumulative Uninsured Costs (in millions)
< \$1,000	50,098 (2%)	\$25 (<1%)	928,609 (44%)	\$464 (4%)
< \$5,000	442,186 (21%)	\$1,141 (2%)	1,536,985 (72%)	\$692 (21%)
< \$10,000	886,493 (42%)	\$4,458 (9%)	1,875,882 (88%)	\$4,626 (44%)
< \$20,000	1,448,870 (68%)	\$12,894 (27%)	2,041,303 (96%)	\$7,107 (67%)
< \$25,000	1,581,169 (74%)	\$16,200 (34%)	2,062,161 (97%)	\$7,500 (72%)
< \$50,000	1,935,696 (91%)	\$28,103 (59%)	2,109,349 (>99%)	\$9,161 (86%)
< \$75,000	2,029,770 (95%)	\$33,982 (71%)	2,118,057 (>99%)	\$9,705 (91%)
< \$100,000	2,068,154 (97%)	\$37,341 (78%)	2,121,426 (>99%)	\$10,000 (94%)
< \$200,000	2,111,440 (99%)	\$43,354 (90%)	2,124,503 (>99%)	\$10,426 (98%)
\$200,000 +	2,126,280 (100%)	\$47,907 (100%)	2,125,202 (100%)	\$10,625 (100%)

\* Some hospitalizations are from hospitals missing cost/charge ratios.

**Source:** 2008 Healthcare Cost and Utilization Project Nationwide Inpatient Sample, AHRQ

## Most Uninsured People Are Not Able to Afford the Hospital Bills They May Incur

Comparing the data in Table 1 and Table 3 provides information on the fraction of potential hospital bills that uninsured families could afford to pay given their financial assets (Tables 4a, column 1).<sup>5</sup> Uninsured families can on average afford to pay the full bills for only about 12% of the hospitalizations they might experience, bills that account for just 5% of the total amount hospitals bill the uninsured (Table 4a). Even uninsured families at the 90<sup>th</sup> percentile of savings can only afford to pay the full bill for about half the hospitalizations they might experience; these bills account for just 14% of the total amount billed to the uninsured by hospitals.

**Table 4a – Proportion of potential hospital bills that could be paid in full given family financial assets**

Asset Percentile	Proportion of Bills that Could be Paid in Full (Proportion of Total Charges Associated with these Bills in Parentheses)			
	All	<200% FPL	200-399% FPL	400%+ FPL
10 <sup>th</sup>	0% (0%)	0% (0%)	0% (0%)	0% (0%)
30 <sup>th</sup>	0% (0%)	0% (0%)	0% (0%)	2% (<1%)
50 <sup>th</sup>	<1% (<1%)	0% (0%)	<1% (<1%)	17% (2%)
70 <sup>th</sup>	2% (<1%)	<1% (<1%)	8% (<1%)	84% (46%)
90 <sup>th</sup>	49% (14%)	13% (1%)	55% (18%)	>99% (87%)
<b>Overall</b>	<b>12%</b> <b>(5%)</b>	<b>4%</b> <b>(1%)</b>	<b>14%</b> <b>(5%)</b>	<b>37%</b> <b>(25%)</b>

**Source:** ASPE analysis of data from the 2006/2007 Medical Expenditure Panel Survey and 2008 Healthcare Cost and Utilization Project Nationwide Inpatient Sample

<sup>5</sup> The overall percent of the uninsured who are unable to pay their medical bills was estimated by calculating the percentage of the uninsured unable to afford each hospitalization charge/cost category (Table 2) based on their financial assets (Table 1).

Turning to costs, uninsured families can, on average, pay the full estimated costs for only 25% of the hospitalizations that they might experience, accounting for only 12% of total hospital costs for the uninsured (Table 4b).

**Table 4b – Proportion of potential hospital costs that could be paid in full given financial assets**

Asset Percentile	Proportion of Costs that Could Be Paid in Full (Proportion of Total Costs Associated with these Bills in Parentheses)			
	All	<200% FPL	200-399% FPL	400%+ FPL
10 <sup>th</sup>	0% (0%)	0% (0%)	0% (0%)	0% (0%)
30 <sup>th</sup>	0% (0%)	0% (0%)	0% (0%)	32% (3%)
50 <sup>th</sup>	<1% (<1%)	0% (0%)	0% (0%)	66% (16%)
70 <sup>th</sup>	44% (4%)	5% (<1%)	7% (1%)	98% (80%)
90 <sup>th</sup>	90% (49%)	59% (11%)	92% (55%)	>99% (97%)
<b>Total</b>	<b>25%</b> <b>(12%)</b>	<b>16%</b> <b>(3%)</b>	<b>35%</b> <b>(14%)</b>	<b>57%</b> <b>(36%)</b>

**Source:** ASPE analysis of data from the 2006/2007 Medical Expenditure Panel Survey and 2008 Healthcare Cost and Utilization Project Nationwide Inpatient Sample

## Even Most Higher Income Uninsured People Do Not Have Sufficient Assets to Pay for a Single Hospitalization

While the proportion of hospital bills that uninsured families can afford to pay rises with income, even most high-income uninsured patients cannot afford to pay for hospitalization. Uninsured families with incomes above 400% of FPL would, on average, have sufficient financial assets to pay in full (i.e. pay what they were billed) for only 37% of the hospitalizations they might experience, bills that account for just 25% of the total amount billed to the uninsured by hospitals (Table 4a). A small number of uninsured families – accounting for just 4.5% of all uninsured families (data not shown) – both have incomes above 400% FPL and possess financial assets at or above the 70<sup>th</sup> percentile of the group’s asset distribution. These families could pay for a larger proportion of their bills. However, even among those in the 70<sup>th</sup> percentile of the asset distribution with family incomes over 400% FPL, available financial assets would be insufficient to pay the full bills of 16% of hospitalizations, bills accounting for 54% of the total hospital bills incurred by the uninsured.

Turning to costs, higher-income uninsured families would be able to pay the full costs for 57% of the hospitalizations they might experience, accounting for 36% of total hospital costs for this group (Table 4b). The available financial assets of an uninsured family with income over 400% FPL in the 70<sup>th</sup> percentile of the asset distribution would be sufficient to pay the full costs of all but 2% of hospitalizations – but those hospitalizations would account for 20% of the total hospitalization costs incurred.

## Putting These Figures Into Perspective

In any year, most people do not need to be admitted to hospital – but those who do require hospital care face very high costs. Insurance is most economically valuable in the case of just such costly, but relatively rare and unexpected events. To put the figures above into context, the annual risk of a single hospitalization for an uninsured person is about 2/3 as great as the annual risk that a driver will be in an automobile crash (3% vs. 4.59%), and about 10 times as great as the annual risk of a residential fire (3% vs. 0.3%).<sup>6</sup> The average bill for a single hospitalization is about two and a half times the average economic loss (lost wages, medical care and other out of pocket expenditures) associated with an automobile crash (\$22,200 vs. \$8,552) and roughly equivalent to the average cost of property damage due to a residential fire (\$22,200 vs. \$20,679).<sup>7 8</sup> Lacking health insurance leaves people at greater risk of financial catastrophe than lacking car insurance or homeowner's insurance.

## Limitations of This Analysis

This analysis underestimates the costs associated with a single hospitalization because the analysis only includes the bills (or costs) for the hospital itself. The analysis does not include the costs of physician fees, ambulance fees, post-acute care expenses, or the possibility of multiple hospitalizations. Expenditures for hospital care represent only 56% of total medical expenditures for the uninsured with one or more hospitalizations (data not shown). Had additional items been included in the analysis, fewer of the uninsured would have been able to cover the full expenses associated with an entire episode of care.

The analysis also assumes that uninsured people would be willing and able to use all of their financial assets to pay medical bills, but that they would not have recourse to their non-financial assets (such as the value of their homes) to pay these bills. Uninsured people may not be able to use all their financial assets to pay hospital bills (especially as they may need these assets to pay living expenses following a hospitalization); on the other hand, they may be able to take out additional loans or sell their house or other non-financial assets to pay some of these costs.

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<sup>6</sup> Hospital Component of MEPSnet. [http://www.meps.ahrq.gov/mepsweb/data\\_stats/MEPSnetIC.jsp](http://www.meps.ahrq.gov/mepsweb/data_stats/MEPSnetIC.jsp). AHRQ

<sup>7</sup> 2008 Healthcare Cost and Utilization Project Nationwide Inpatient Sample, AHRQ

<sup>8</sup> <http://www.nfpa.org/assets/files/pdf/os.fireloss.pdf> and American Housing Survey for the United States: 2009, Series H150/09. U.S. Department of Transportation, National Highway Traffic Safety Administration; Federal Highway Administration <http://www-nrd.nhtsa.dot.gov/Pubs/811402EE.pdf>; auto insurance injury claims <http://www.ircweb.org/news/20080213.pdf>

## Methods

Data on uninsured hospitalization bills (charges) and cost were obtained from the 2008 HCUP Nationwide Inpatient Sample. Costs were estimated by applying average all-payer cost-to-charge ratios derived from the CMS Hospital Cost Reports. Information on family assets was obtained from the 2006/2007 Medical Expenditure Panel Survey, with analysis provided by Jessica Banthin and Bernard Didem of the Agency for Healthcare Research and Quality.

This analysis uses family financial assets (checking and savings accounts, money market funds, stocks, government and corporate bonds, mutual funds, certificates of deposit, and retirement accounts) as its measure of ability to pay an unexpected hospital bill. These are assets that can be used to pay for unexpected medical bills, since they can easily be liquidated.

Data on the proportion of bills that could be paid in full across the asset quintiles, listed in Tables 3a and 3b, were estimated by calculating the percentage of the uninsured able to pay their bills within each charge/cost category (based on median financial assets of the uninsured) and weighting the mean of this distribution by the percentage of hospitalizations within each charge/cost category. Within each asset quintile, the proportion of bills that could be paid in full was estimated by calculating the percentage of hospitalizations that were less than the quintile's median financial assets.

The following steps were used to estimate the proportion of total charges/costs associated with paid bills across asset quintiles, listed in the parentheses in Tables 3a and 3b. First, the average cost/charge for each category was assumed to be the midpoint of the category. These averages were then multiplied by the number of hospitalizations within each category to estimate total charges/costs for each category. The ratio of total charges/costs for each category to the total charges/costs across categories was then calculated and multiplied by the percentage of the uninsured that are able to afford the category of charges/costs. The sum of these products estimate the proportion of total charges/costs associated with paid bills. Within each asset quintile, the proportion of total charges/costs associated with paid bills was estimated by calculating the percentage of total charges/costs associated bills that were less than the quintile's median financial assets.

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