Medical Bankruptcy in the United States

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My co-authors' and my original report (based on 2001 data) that half of all bankruptcies in the US occurred in the aftermath of a serious medical problem was a startling finding that quickly made its way from academic paper to conventional wisdom. But in a highly-politicized area such as the health care debates, it should have been no surprise that the report would trigger vigorous disputes over the data. My co-authors and I repeated the original study for families filing bankruptcy in 2007. We modified the approach, both to respond to the critics and better to understand the respondents' circumstances. The result was the attached paper, which has also stimulated vigorous attacks. I plan to discuss the findings reported in the attached paper, but by adding more background data and by disaggregating the data regarding medical issues, I hope to put the data in this paper in more context and to explore the question of what should be categorized as a "medical bankruptcy." Because the new paper is in its early stages, and because it is derivative of the 2001 and 2007 papers, I think that reading the attached paper provides the best launching ground for the discussion, "What is a Medical Bankruptcy?"

Medical Bankruptcy in the United States, 2007: Results of a National Study

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ABSTRACT

BACKGROUND: Our 2001 study in 5 states found that medical problems contributed to at least 46.2% of all bankruptcies. Since then, health costs and the numbers of un- and underinsured have increased, and bankruptcy laws have tightened.

METHODS: We surveyed a random national sample of 2314 bankruptcy filers in 2007, abstracted their court records, and interviewed 1032 of them. We designated bankruptcies as "medical" based on debtors' stated reasons for filing, income loss due to illness, and the magnitude of their medical debts.

RESULTS: Using a conservative definition, 62.1% of all bankruptcies in 2007 were medical; 92% of these medical debtors had medical debts over $5000, or 10% of pretax family income. The rest met criteria for medical bankruptcy because they had lost significant income due to illness or mortgaged a home to pay medical bills. Most medical debtors were well educated, owned homes, and had middle-class occupations. Three quarters had health insurance. Using identical definitions in 2001 and 2007, the share of bankruptcies attributable to medical problems rose by 49.6%. In logistic regression analysis controlling for demographic factors, the odds that a bankruptcy had a medical cause was 2.38-fold higher in 2007 than in 2001.

CONCLUSIONS: Illness and medical bills contribute to a large and increasing share of US bankruptcies.

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As recently as 1981, only 8% of families filing for bankruptcy did so in the aftermath of a serious medical problem.[1] By contrast, our 2001 study in 5 states found that illness or medical bills contributed to about half of bankruptcies.[2]

Since then, the number of un- and underinsured Americans has grown;[3] health costs have increased; and Congress tightened the bankruptcy laws.[4]

Here we report the first-ever national random-sample survey of bankruptcy filers.

METHODS

We used 3 data sources: questionnaires mailed to debtors immediately after bankruptcy filing; court records; and telephone interviews with a sub-sample of debtors.

Sample Design

Between January 25 and April 11, 2007, we obtained from Automated Access to Court Electronic Records, a list of all 118,308 bankruptcy petitions filed in the US. We excluded filings in Guam and Puerto Rico, nonpersonal bankruptcies, and cases missing a name or address. Within 2 weeks of their filings, we mailed introductory letters to 5251 randomly selected debtors; 275 were returned as undeliverable. We then mailed self-administered questionnaires to the 4976 debtors with valid addresses; 2314 (46.5%) were completed and returned; 124 were returned incomplete (2.5%) and 83 (1.7%) declined to participate; 2455 (49.3% of those with valid addresses) did not respond.

We compared court records (described below) of respondents with a random sample of 99 nonrespondents. Nonre-

spondents resembled respondents in income, assets, debts, net worth, market value of homes, and history of prior bankruptcy.

Questionnaire

Introductory letters described the study and offered debtors the option of obtaining a Spanish-language version of the questionnaire. The questionnaire and $2 were mailed a few days later. Nonrespondents received replacement questionnaires, another $2, and were invited to respond via telephone or on-line. Subsequently, we offered nonrespondents $50 to complete the questionnaire.

The questionnaire asked about demographics, health insurance and gaps in coverage, occupation, employment, housing, and efforts to cope financially before filing. It also asked about specific reasons for filing for bankruptcy; the range of out-of-pocket medical expense (none, $1-$999, $1000-$5000, or >$5000); loss of work-related income; and borrowing to pay medical bills. Finally, it asked respondents if, for $50, they would be willing to complete a follow-up interview.

Court Records

We obtained the public bankruptcy court records of respondents and the sample of nonrespondents from the federal court's electronic filing system. Research assistants (mainly law students) abstracted each record.

The court records included the chapter of filing, income, assets, and debts outstanding at the time of filing. These records indicate the creditor to whom money is owed, but not why the debt was incurred.

Telephone Interviews

There were 2314 debtors who completed questionnaires, 2007 of whom were willing to be interviewed. By February 2008, research assistants had completed telephone interviews (in English or Spanish) with 1032 of them; 69 debtors no longer wished to be interviewed. We were unable to reach 906.

Interviewers collected additional detail about employment, finances, housing, borrowing to pay medical bills, and whether medical bills or income loss due to illness had contributed to their bankruptcy (questions we used to verify written questionnaire responses from the entire sample of 2314 debtors).

The 1032 telephone interviews identified 639 patients (debtors or dependents) whose health problems contributed to bankruptcy; details about medical expenses, health insurance, and diagnoses were obtained. Two physicians grouped diagnoses into 14 categories.

Telephone survey participants resembled other respondents on most financial and demographic characteristics. They were slightly older and better educated.

> ### CLINICAL SIGNIFICANCE
>
> - 62.1% of all bankruptcies have a medical cause.
> - Most medical debtors were well educated and middle class; three quarters had health insurance.
> - The share of bankruptcies attributable to medical problems rose by 50% between 2001 and 2007.

Data Analysis

We used data from the questionnaires and court records to analyze demographics, health insurance coverage at the time of filing, and gaps in coverage.

The questionnaires were the basis for our 2001-2007 time trend analysis. For this analysis, we replicated the most conservative definition employed in the 2001 study, which designated as "medically bankrupt" debtors citing illness or medical bills as a specific reason for bankruptcy; OR reporting uncovered medical bills >$1000 in the past 2 years; OR who lost at least 2 weeks of work-related income due to illness/injury; OR who mortgaged a home to pay medical bills. Debtors who gave no answers regarding reasons for their bankruptcy were excluded from analyses.

For all other analyses (ie, those not reporting time trends) we adopted a definition of medical bankruptcy that utilizes the more detailed 2007 data. We altered the 2001 criteria to include debtors who had been forced to quit work due to illness or injury. We also reconsidered the question of how large out-of-pocket medical expenses should be before those debts should be considered contributors to the family's bankruptcy. Although we needed to use the threshold of $1000 in out-of-pocket medical bills for consistency in the time trend analyses, we adopted a more conservative threshold—$5000 or 10% of household income—for all other analyses. Adopting these more conservative criteria reduced the estimate of the proportion of bankruptcies due to illness or medical bills by 7 percentage points.

To arrive at nationally representative estimates, we weighted the data to adjust for the slight underrepresentation of respondents who filed under Chapter 13 (bankruptcies with repayment plans). In calculating mean out-of-pocket medical expenses from our telephone interviews, we trimmed outliers at $100,000.

Chi-squared and 2-tailed t tests were used for univariate analyses. We used forward stepwise logistic regression analysis on the 2007 cohort to assess predictors of medical bankruptcy and predictors of home loss or foreclosure among homeowners. Finally, we performed logistic regression using the combined 2001 and 2007 cohorts to examine whether the odds of a bankruptcy being medical were higher in 2007 than in 2001, after controlling for demographics, income, and insurance status. SAS Version 9.1 (SAS Institute Inc., Cary, NC) was used for all analyses.

Table 1   Demographic Characteristics of 2314 Bankruptcy Filers and Comparison of Medical and Nonmedical Filers, 2007*

	All Bankruptcies	Medical Bankruptcies	Nonmedical Bankruptcies	P Value Medical vs Nonmedical Bankruptcies
Mean age	44.4 years	44.9 years	43.3 years	.01
Debtor or spouse/partner male	44.5%	44.9%	44.3%	NS
Married	43.9%	46.3%	40.1%	.02
Mean family size—debtors + dependents	2.71	2.79	2.63	.02
Attended college	61.9%	60.3%	65.8%	.02
Homeowner or lost home within 5 years	66.7%	66.4%	67.8%	NS
Current homeowner	52.3%	52.0%	53.2%	NS
Occupational prestige score >20	87.3%	86.1%	89.8%	.01
Mean (median) monthly household income at time of bankruptcy filing	$2676 ($2299)	$2586 ($2225)	$2851 ($2478)	.002
Debtor or spouse/partner currently employed	79.2%	75.5%	85.0%	.001
Debtor or spouse/partner active duty military or veteran	19.4%	20.1%	18.4%	NS
Market value of home (mean)	$147,776	$141,861	$159,145	.03
Mean net worth (assets—debts)	−$41,474	−$44,622	−$37,650	NS

*Bankruptcies meeting at least one of the following criteria: illness, injury or medical bills listed as specific reason for filing OR uncovered medical bills >$5000 or >10% of annual family income OR, lost ≥2 weeks of work-related income due to illness/injury, OR depleted home equity to pay medical bills.

Human subject committees at Harvard Law School and The Cambridge Health Alliance approved the project.

RESULTS

The demographic characteristics of our sample are shown in **Table 1**. Most debtors were middle aged, middle class (by occupational prestige),[5] and had gone to college. Their modest incomes reflect the financial setbacks common in the peri-bankruptcy period. Two thirds were homeowners.

Compared with other debtors, medical debtors had slightly lower incomes, educational attainment, and occupational prestige scores; more were married and fewer were employed (reflecting more disability). Medical debtors were older and had larger families. Although similar proportions were homeowners, medical debtors' homes had 11% lower market value. The average net worth was similar (and negative) for medical and nonmedical debtors (−$44,622 vs −$37,650, P >.05).

Medical Causes of Bankruptcy

Illness or medical bills contributed to 62.1% of all bankruptcies in 2007 (**Table 2**).

Unaffordable medical bills and income shortfalls due to illness were common; 57.1% of the entire sample (92% of the medically bankrupt) had high medical bills, proportions that did not vary by insurance status; 5.7% of homeowners had mortgaged their homes to pay medical bills; 40.3% of the entire sample had lost income due to illness; 95% of the lost-income debtors also had high medical bills.

Data from the detailed telephone survey yielded confirmatory results. When asked about problems that contributed very much or somewhat to their bankruptcy, 41.8% of interviewees specifically identified a health problem, 54.9%

cited medical or drug costs, and 37.8% blamed income loss due to illness. Overall, 68.8% cited at least one of these medical causes. An additional 6.8% had recently borrowed money to pay medical bills.

Insurance Status of Debtors and Dependents

Less than one quarter of debtors—whether medical or nonmedical—were uninsured when they filed for bankruptcy; an additional 7% had uninsured family members (**Table 3**). Medically bankrupted families, however, had more often experienced a lapse in coverage during the 2 years before filing (40.0% vs 34.1%, P = .005).

Table 2   Medical Causes of Bankruptcy, 2007*

	Percent of All Bankruptcies
Debtor said medical bills were reason for bankruptcy	29.0%
Medical bills >$5000 or >10% of annual family income	34.7%
Mortgaged home to pay medical bills	5.7%
Medical bill problems (any of above 3)	57.1%
Debtor or spouse lost ≥2 weeks of income due to illness or became completely disabled	38.2%
Debtor or spouse lost ≥2 weeks of income to care for ill family member	6.8%
Income loss due to illness (either of above 2)	40.3%
Debtor said medical problem of self or spouse was reason for bankruptcy	32.1%
Debtor said medical problem of other family member was reason for bankruptcy	10.8%
Any of above	62.1%

*Percentage based on recent homeowners rather than all debtors.

Table 3 Health Insurance Status of Debtor Households With and Without Medical Causes of Bankruptcy

	Medical Bankruptcy	Nonmedical Bankruptcy	P Value
Debtor or a dependent uninsured at time of bankruptcy filing	30.8%	30.7%	.93
Debtor or a dependent had a lapse in coverage during 2 years before bankruptcy filing	40.0%	34.1%	.005

In multivariate analysis, being uninsured at filing did not predict a medical cause of bankruptcy, while a gap in coverage did (odds ratio [OR] = 1.35, P = .002). Other predictors included: older age (OR = 1.016/year, P = .0001), married (OR = 1.59, P = .0001), female (OR = 1.34, P = .002), larger household (OR = 1.97/household member, P = .01), and lower income quartile (OR = 1.30, P = .0001).

Medical debtors' court records identified more debt owed directly to doctors and hospitals than did nonmedical debtors', a mean of $4988 vs $256, respectively ($P$ <.0001). Medical debtors with coverage gaps owed providers a mean of $8338, vs $2740 ($P$ <.0001) for medical debtors with continuous coverage. Nonmedical debtors had few medical debts, averaging under $300 regardless of insurance status. (Medical debts financed through credit cards or other borrowing, or owed to collection agencies are not included because they cannot be identified through court records.)

Patients Whose Illness Contributed to Bankruptcy

Telephone interviews identified 639 patients whose illness contributed to bankruptcy: the debtor or spouse in 77.9% of cases; a child in 14.6%; and a parent, sibling or other adult in 7.5%. At illness onset, 77.9% were insured: 60.3% had private insurance as their primary coverage; 10.2% had Medicare; 5.4% had Medicaid; and 2% had Veterans Affairs/military coverage. Few of the uninsured lacked coverage because of a preexisting condition (2.8%) or belief that coverage was unnecessary (0.3%); nearly all cited economic reasons.

By the time of bankruptcy, the proportion of patients with private coverage had fallen to 54.1%, while the percentage with Medicare and Medicaid had increased to 16.4% and 9.9%, respectively. The proportion whose employers contributed to coverage decreased from 43.2% to 36.6%.

Out-of-pocket medical costs averaged $17,943 for all medically bankrupt families: $26,971 for uninsured patients, $17,749 for those with private insurance at the outset, $14,633 for those with Medicaid, $12,021 for those with Medicare, and $6545 for those with Veterans Affairs/military coverage. For patients who initially had private coverage but lost it, the family's out-of-pocket expenses averaged $22,568.

Among common diagnoses, nonstroke neurologic illnesses such as multiple sclerosis were associated with the highest out-of-pocket expenditures (mean $34,167), followed by diabetes ($26,971), injuries ($25,096), stroke ($23,380), mental illnesses ($23,178), and heart disease ($21,955).

Hospital bills were the largest single out-of-pocket expense for 48.0% of patients, prescription drugs for 18.6%, doctors' bills for 15.1%, and premiums for 4.1%. The remainder cited expenses such as medical equipment and nursing homes. While hospital costs loomed largest for all diagnostic groups, for about one third of patients with pulmonary, cardiac, or psychiatric illnesses, prescription drugs were the largest expense.

Our telephone interviews indicated the severity of job problems caused by illness. In 37.9% of patients' families, someone had lost or quit a job because of the medical event; 24.4% had been fired, and 37.1% subsequently regained employment. In 19.9% of families suffering a job loss, the job loser was a caregiver.

Changes in Medical Bankruptcy, 2001 to 2007

In our 2007 study, 69.1% of the debtors met the legacy definition of medical bankruptcy employed in our 2001 study, a 22.9 percentage point absolute increase (49.6% relative increase) from 2001, when 46.2% met this definition (P <.0001). (Inflation, which might edge families over our $1000 medical debt threshold, did not account for this change. An analysis that used all criteria except the size of medical debts found a 48.7% relative increase. An analysis limited to the 5 states in our 2001 study yielded virtually identical findings.

In multivariate analysis, a medical cause of bankruptcy was more likely in 2007 than in 2001 (OR = 2.38, P <.0001) (**Table 4**).

DISCUSSION

In 2007, before the current economic downturn, an American family filed for bankruptcy in the aftermath of illness every 90 seconds; three quarters of them were insured.

Since 2001, the proportion of all bankruptcies attributable to medical problems has increased by 50%. Nearly two thirds of all bankruptcies are now linked to illness.

How did medical problems propel so many middle-class, insured Americans toward bankruptcy? For 92% of the medically bankrupt, high medical bills directly contributed to their bankruptcy. Many families with continuous coverage found themselves under-insured, responsible for thousands of dollars in out-of-pocket costs. Others had private coverage but lost it when they became too sick to work. Nationally, a quarter of firms cancel coverage immediately when an employee suffers a disabling illness; another quar-

Table 4 Multivariate Predictors of Medical Causes of Bankruptcy, 2001 and 2007 Combined

	Odds Ratio	95% Confidence Interval	P Value
Age	1.02	1.01–1.02	.0001
Married	1.32	1.13–1.55	.0006
Own home now or in past 5 years	1.10	0.93–1.30	NS
All family members insured at time of filing	1.23	1.03–1.46	.02
Gap in health insurance coverage for any family member within past 2 years	1.64	1.38–1.94	.0001
Income quartile	.99	.82–1.07	NS
Attended college	1.02	.87–1.18	NS
Year of bankruptcy filing, 2007 vs 2001	2.38	2.05–2.77	.0001

ter do so within a year.[6] Income loss due to illness also was common, but nearly always coupled with high medical bills.

The present study and our 2001 analysis provide the only data on large cohorts of bankruptcy filers derived from in-depth surveys. As with any survey, we depend on respondents' candor. However, we also had independent checks—from court records filed under penalty of perjury—on many responses. Because questionnaires and court records were available for our entire sample, we used them for most calculations. The lowest plausible estimate of the medical bankruptcy rate from these sources is 44.4%—the proportion who directly said that either illness or medical bills were a reason for bankruptcy. But many others gave reasons such as "aggressive collection efforts" or "lost income due to illness" and had large medical debts. Indeed, detailed telephone interview data available for 1032 debtors revealed an even higher rate of medical bankruptcy than our 62.1% estimate—at least 68.8% of all filers.

Our current methods address concerns expressed about our previous survey. We assembled a random, national sample and asked far more detailed questions. In addition, we adopted more stringent criteria for medical bankruptcy. Adopting an even more stringent threshold for medical debts (eg, eliminating those with medical debts below 10% of family income) would reduce our estimate by <1%.

Teasing causation from cross-sectional data is challenging. Multiple factors push families into bankruptcy. Yet, our data clearly establish that illness and medical bills play an important role in a large and growing proportion of bankruptcies.

Changes in the Law
Between our 2001 and 2007 surveys, Congress enacted the Bankruptcy Abuse Prevention and Consumer Protection Act (BAPCPA), which instituted an income screen and procedural barriers that made filing more difficult and expensive.

The number of filings spiked in mid-2005 in anticipation of the new law, then plummeted. Since then, filings have increased each quarter. They are likely to exceed one million households in 2008, representing about 2.7 million people.

BAPCPA's effects appear nonselective. Current filers differ from past ones mainly in having struggled longer with their debts.[7] New restrictions fall equally on medical and nonmedical bankruptcies, with no preferences for medical debts or sick debtors. It is implausible to ascribe the growing predominance of medical causes of bankruptcy to BAPCPA.

Conversely, there is ample evidence that the financial burden of illness is increasing. The number of under-insured increased from 15.6 million in 2003 to 25.2 million in 2007.[3] Of low- and middle-income households with credit card balances, 29% use credit card borrowing to pay off medical expenses over time.[8] Collection agencies contacted 37.2 million Americans about medical bills in 2003.[9] Between 2005 and 2007, the proportion of nonelderly adults reporting medical debts or problems paying medical bills rose from 34% to 41%.[10]

Adding to Other Studies
We have reviewed elsewhere the older studies on medical bankruptcy.[2,11] Most rely exclusively on court records where many medical debts are invisible, disguised as credit card debt or mortgages. In our cohort, most medical debtors had charged unaffordable medical care to credit cards.

Similarly, debts turned over to collection agencies by doctors or hospitals may be unrecognizable on court records. Moreover, income loss due to illness cannot be identified. In short, even though such studies find substantial rates of medical bankruptcy,[12,13] estimates based solely on court records understate medical bankruptcies.[9]

Population-based studies also are problematic because many debtors are unwilling to admit to filing. Thus, a study based on the Panel Survey of Income Dynamics could identify only 74 bankruptcies (0.4% of respondents), half the actual filing rate among the national population from which the sample was drawn.[13]

A few studies employed novel methods to analyze medical bankruptcy. One found a high bankruptcy filing rate in a cohort of patients with serious neurologic injuries.[14] A survey of cancer patients documented a 3% bankruptcy rate; 7% had taken a second mortgage to pay for treatments.[15] A questionnaire-based study found medical contributors to 61% of Utah bankruptcies; 58% of families seeking help at bankruptcy clinics in upstate New York reported outstanding medical debts.[16]

Medical impoverishment, although common in poor nations,[17,18] is almost unheard of in wealthy countries other than the US.[19] Most provide a stronger safety net of disability income support. All have some form of national health insurance.

The US health care financing system is broken, and not only for the poor and uninsured. Middle-class families fre-

quently collapse under the strain of a health care system that treats physical wounds, but often inflicts fiscal ones.

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