

# Personal Bankruptcy After Traumatic Brain or Spinal Cord Injury: The Role of Medical Debt

Annemarie Relyea-Chew, JD, MS, William Hollingworth, PhD, Leighton Chan, MD, MPH, Bryan A. Comstock, MSc, Karen A. Overstreet, JD, Jeffrey G. Jarvik, MD, MPH

**ABSTRACT.** Relyea-Chew A, Hollingworth W, Chan L, Comstock BA, Overstreet KA, Jarvik JG. Personal bankruptcy after traumatic brain or spinal cord injury: the role of medical debt. *Arch Phys Med Rehabil* 2009;90:413-9.

**Objective:** To estimate the prevalence of medical debt among traumatic brain injury (TBI) and spinal cord injury (SCI) patients who discharged their debts through bankruptcy.

**Design:** A cross-sectional comparison of bankruptcy filings of injured versus randomly selected bankruptcy petitioners.

**Setting:** Patients hospitalized with SCI or TBI (1996–2002) and personal bankruptcy petitioners (2001–2004) in western Washington State.

**Participants:** Subjects (N=186) who filed for bankruptcy, comprised of 93 patients with previous SCI or TBI and 93 randomly selected bankruptcy petitioners.

**Interventions:** Not applicable.

**Main Outcome Measures:** Medical and nonmedical debt, assets, income, expenses, and employment recorded in the bankruptcy petition.

**Results:** Five percent of randomly selected petitioners and 26% of petitioners with TBI or SCI had substantial medical debt (debt that accounted for more than 20% of all unsecured debts). SCI and TBI petitioners had fewer assets and were more likely to be receiving government income assistance at the time of bankruptcy than controls. SCI and TBI patients with a higher blood alcohol content at injury were more likely to have substantial medical debts (odds ratio=2.70; 95% confidence interval, 1.04–7.00).

**Conclusions:** Medical debt plays an important role in some bankruptcies after TBI or SCI. We discuss policy options for reducing financial distress after serious injury.

**Key Words:** Brain injuries; Health care costs; Insurance, health; Rehabilitation; Spinal cord injuries.

© 2009 by the American Congress of Rehabilitation Medicine

**T**RAUMATIC BRAIN INJURY and SCIs often lead to high out-of-pocket costs and loss of income for patients and their families. These costs may deter patients from seeking rehabilitative care and, in the extreme, lead to bankruptcy.<sup>1</sup>

In 2004, there were more than 1.5 million personal bankruptcy filings, equivalent to 1 in 70 American households.<sup>2</sup> This number has risen by 400% since the 1960s.<sup>3</sup> Immediately after the tightening of bankruptcy laws in 2005, the number of personal bankruptcies decreased by more than 50%. However, the most recent data suggest that an increase in bankruptcies resumed in 2007.<sup>2</sup> Credit deregulation, job volatility, homeownership costs, medical care costs, family breakup, and less social stigma associated with bankruptcy are potential factors contributing to the rise of bankruptcy.

The prevalence of medically related bankruptcy is particularly controversial and has important policy implications. Previous research has produced mixed findings. Fay et al<sup>4</sup> found no association between self-reported health problems and bankruptcy, whereas Domowitz and Sartain<sup>5</sup> report that medical debt was one of the strongest predictors of household bankruptcy. In a previous review<sup>6</sup> of the bankruptcy filings of more than 6000 patients with TBI and SCI, we found a 33% increase in bankruptcy incidence during the first 5 years postinjury. In other work,<sup>7</sup> surveys of bankruptcy filers indicate that a substantial proportion (28%) attributes their financial plight to ill health or injury. However, individuals may overemphasize the role of ill health because it is a relatively socially acceptable reason for debt accumulation.

Before drawing conclusions from these studies, it is important to disentangle the potential pathways that lead from ill health to bankruptcy. Figure 1 provides a conceptual framework; pathways include direct medical costs (eg, medical bills not covered by insurance), indirect costs (eg, lost income not covered by disability or social security insurance), and other nonmedical costs (eg third-party injury or property-damage claims).

The primary objective of this study was to estimate the prevalence of bankruptcy with substantial medical debt comparing bankruptcy petitioners with TBI and SCI with a cohort of randomly selected bankruptcy petitioners. We aimed to provide information on the debate on the relative importance of direct medical costs, indirect costs, and nonmedical costs in the pathway between injury and bankruptcy.

## List of Abbreviations

GCS	Glasgow Coma Score
IQR	interquartile range
ISS	Injury Severity Score
SCI	spinal cord injury
SNF	skilled nursing facility
SSN	social security number
TBI	traumatic brain injury

From the Departments of Radiology (Relyea-Chew, Jarvik), Medicine (Comstock), Health Services (Jarvik), and Neurological Surgery (Jarvik), Center for Cost and Outcomes Research (Comstock, Jarvik), Harborview Injury Prevention & Research Center (Relyea-Chew), University of Washington, Seattle, WA; Department of Social Medicine, University of Bristol, Bristol, UK (Hollingworth); Department of Rehabilitation Medicine, Clinical Center, National Institutes of Health, Bethesda, MD (Chan); and U.S. Bankruptcy Court, Western District of Washington, Seattle, WA (Overstreet).

Supported by the Royalty Research Fund of the University of Washington and the intramural research program of the National Institutes of Health.

No commercial party having a direct financial interest in the results of the research supporting this article has or will confer a benefit on the authors or on any organization with which the authors are associated.

Correspondence to William Hollingworth, PhD, Dept of Social Medicine, University of Bristol, Canynge Hall, Bristol, BS8 2PR, UK, e-mail: [william.hollingworth@bristol.ac.uk](mailto:william.hollingworth@bristol.ac.uk). Reprints are not available from the author.

0003-9993/09/9003-00266\$36.00/0

doi:10.1016/j.apmr.2008.07.031

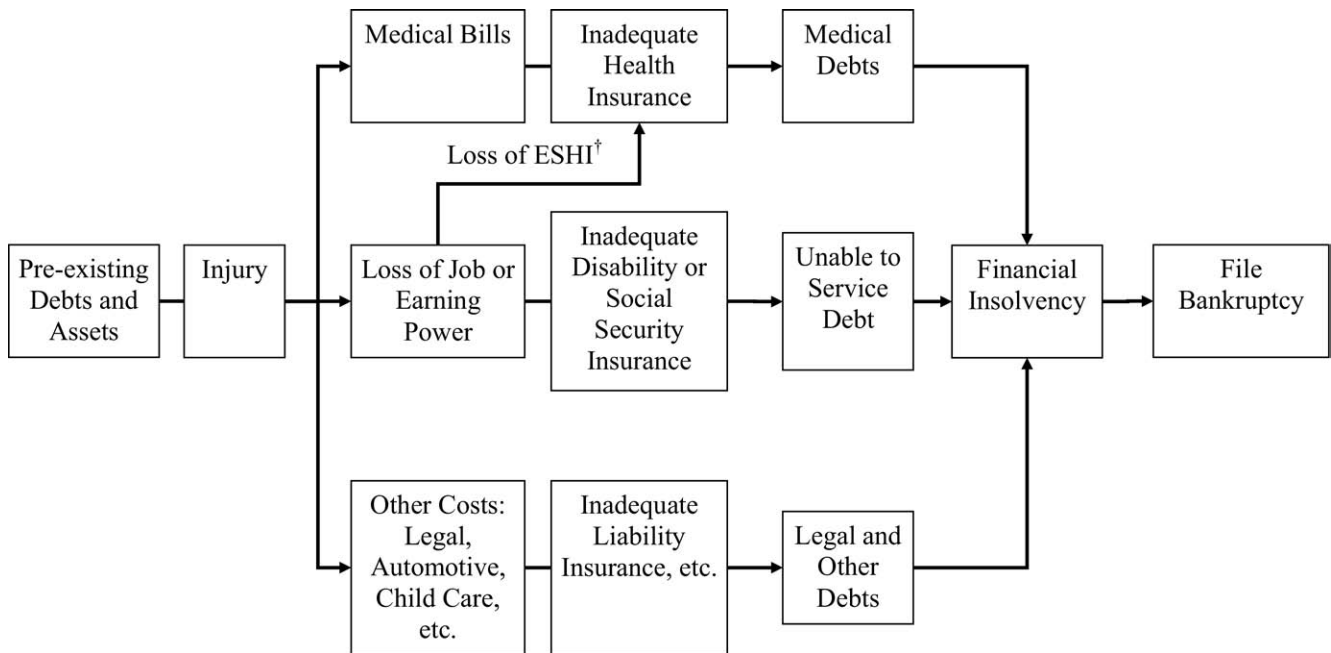


Fig 1. Potential pathways between injury and personal bankruptcy. †Employer-sponsored health insurance.

## METHODS

SCI and TBI patients were selected from the Seattle, WA, Harborview Medical Center trauma registry as described previously.<sup>6</sup> In brief, subjects were eligible if they were hospitalized between June 1, 1996, and December 31, 2002, with a primary or ancillary *International Classification of Diseases–9th Revision–Clinical Modification* diagnosis code indicating new nonpenetrating TBI or SCI; they were 20 years or older when injured; they resided in western Washington State; and they had a valid SSN recorded in the trauma registry. Trauma registry data were then linked to the Western District of Washington bankruptcy court database by using SSN and patient first and last name. We identified a cohort of injured patients who filed for bankruptcy within 5 years after hospitalization between June 1, 2001, and December 31, 2004. We excluded incomplete bankruptcy petitions. We excluded bankruptcies filed after 2004 because the bankruptcy law changed in late 2005. The choice of a 5-year posthospitalization cutoff is based on our previous work<sup>6</sup> showing that bankruptcy incidence peaks in the second year postinjury and returns toward preinjury levels by 5 years postinjury. We included bankruptcies filed under either U.S. Code Chapter 7 (Liquidation) or Chapter 13 (Adjustment of Debts of an Individual With Regular Income). In Chapter 7 cases, any nonexempt assets are sold and proceeds are distributed among creditors. In Chapter 13 cases, debtors commit to repayment of all secured and priority debts and to a full or partial repayment of unsecured debts.

For comparison, we randomly selected an equal number of petitioners from a list of all individuals filing for bankruptcy in the same district during the same time period. We crosschecked the randomly selected petitioners to confirm that none of them had been hospitalized with TBI or SCI at our institution during the study period.

For patients with SCI and TBI, the trauma registry included data on demographics, ISS, GCS,<sup>8</sup> blood alcohol level, length of stay, hospital charges, functional independence at discharge from acute care, acute care discharge disposition (eg, home,

SNF, rehabilitation unit), and health care insurer. The ISS is an anatomic scoring system for measuring the severity of the initial trauma, ranging from 1 (lowest) to 75 (un survivable).<sup>9,10</sup> In line with previous research,<sup>11</sup> we categorized ISS as mild/moderate (<15) or severe/critical (≥15). Functional independence was recorded at the time of discharge by using the modified FIM.<sup>12</sup> The modified FIM measures independence on a 4-point scale for 3 dimensions (feeding, locomotion, and expression). Overall scores range from 3 (full assistance required with feeding, locomotion, and expression) to 12 (fully independent).

We abstracted data from the bankruptcy petition on the value of real estate and other personal assets, secured debts (eg, a mortgage), unsecured priority debts (eg, taxes or alimony), unsecured nonpriority debts (eg, credit card), and unsecured debts owed to medical or dental service providers. We also recorded the number of dependents, employment duration, current income, current total monthly expenses, and monthly medical and dental expenses reported in the bankruptcy petition.

Creditors' names and a brief description of the source of the debt are recorded in the bankruptcy petition for each unsecured debt. Because medical service providers often use debt-collection agencies, the creditors' names can be ambiguous. Therefore, we classified medical debt as any item in which the creditor name or the described source of debt indicated hospital, ambulatory, dental, nursing facility, or home health care services. Two authors (ARC, WH) unaware of injury status abstracted data from the bankruptcy petitions.

We calculated the ratio of medical debts to all unsecured debts. In a bankruptcy petition in which 100% of unsecured debt is medical debt, it is likely that the bankruptcy would not have occurred in the absence of medical bills. However, there is no consensus on a threshold proportion above which a bankruptcy could be deemed medical debt related. In the health expenditure literature, the definition of "catastrophic health expenditure" has varied between 5% and 20% of total house-

Download English Version:

<https://daneshyari.com/en/article/3449877>

Download Persian Version:

<https://daneshyari.com/article/3449877>

[Daneshyari.com](https://daneshyari.com)