Workers' Compensation Policy Review

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FEATURED TOPICS

Summary of the Contents

Underwriting results for the workers' compensation insurance industry improved for the second year in a row, as discussed by Elizabeth Yates and John Burton. Indeed, as shown in Figure A, the overall operating ratio, which is the most comprehensive measure of underwriting experience because it considers investment income, was 97.8 in 2003, indicating that the industry was marginally profitable. While this is a significant improvement for the industry, the level of profitability of the late 1990s has not been achieved.

Back pain is both common and costly. But do policymakers and practitioners in the workers' compensation field use the proper conceptual framework to deal with disabling back pain? William Johnson argues there are serious problems because often we treat back pain as an accidental injury rather than an episodic, recurrent condition. One consequence is that often the evaluations of the effectiveness of different approaches to treating back pain are biased because they rely on first return to work as a measure of success, thus ignoring the relapses that many workers experience.

States differ in the statutory design and the implementation of the benefits provided by their workers' compensation programs. The article by Blum and Burton provides three types of data for six years for most states: the frequency of claims for four types of cash benefits and for medical benefits; the average benefits per claim for these types of benefits; and the benefits per 100,000 workers for the four types of cash benefits and for medical benefits. One striking result is the decline in total frequency of cases paying cash and/or medical benefits between 1995 and 2000.

Figure A
Overall Operating Ratio as a Percent of Premiums, 1976-2003
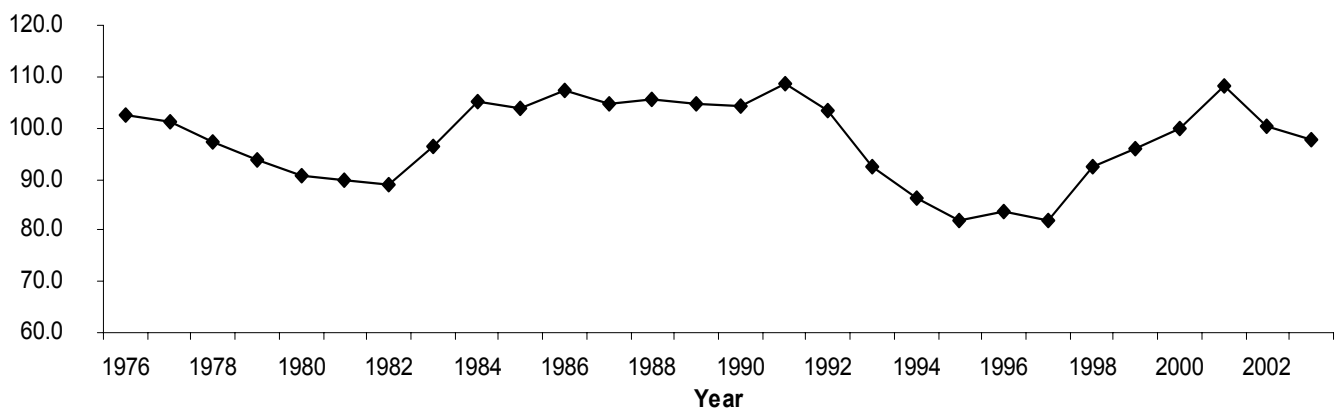
Note: The Overall Operating Ratio is the total of all underwriting expenses and income from investments as a percentage of premiums.

Research and Public Policy for the Workers' Disability System

Workers' Compensation Insurance Industry Returns to Profitability in 2003

by Elizabeth Yates and John F. Burton, Jr.

The underwriting results for the workers' compensation insurance industry improved in 2003, according to results recently released by A.M. Best. The overall operating ratio, which is the most comprehensive measure of underwriting experience for insurance carriers, dropped from 100.4 in 2002 to 97.8 in 2003, as shown in Figure A and Table 1 (column (8)).

The overall operating ratio is calculated as (1) the total of all carrier expenditures (2) minus investment income (3) as a percentage of premiums.[1] When the overall operating ratio is greater than 100, carriers lose money even when investment income is considered. Conversely, an operating ratio of less than 100 indicates that the industry is profitable when investment income is included. The underwriting results mean the workers' compensation insurance industry improved from marginally unprofitable in 2002 to marginally profitable in 2003.

Underwriting Results Vary Over Time

The overall operating ratio for the workers' compensation industry for 1976 to 2003 is shown in Figure A and Table 1, and the cyclical nature of profitability in the industry is evident. Two years of losses in 1976-1977 were followed by six years of profits through 1983. For example, the operating ratio was below 90 in 1981 and 1982, indicating that carriers had profits that exceeded $10 for every $100 of premiums in those years.
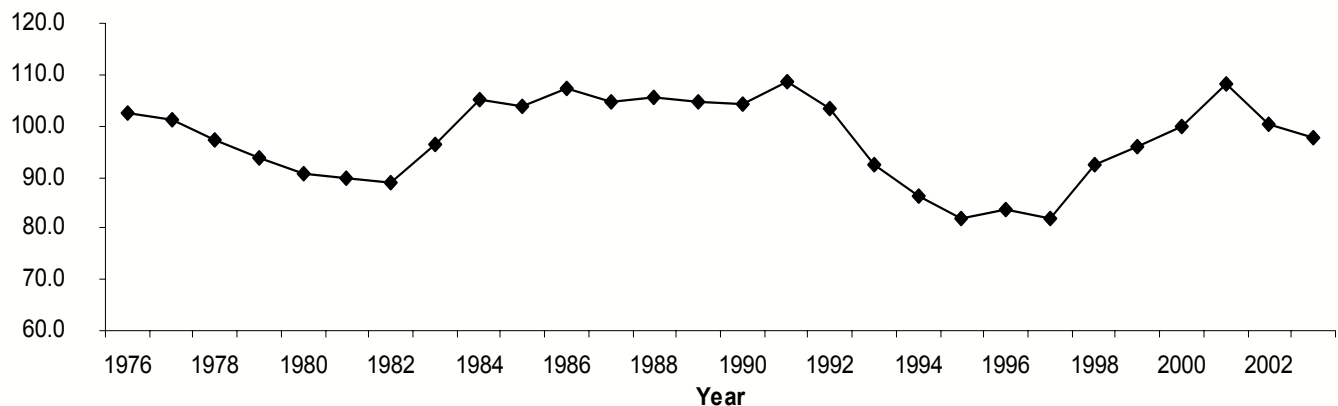
The workers' compensation insurance industry was then unprofitable in every year from 1984 to 1992. During this nine-year stretch of unfavorable results, carriers' losses ranged from $3.40 to $8.70 for every $100 of workers' compensation premiums. One result of this unfavorable experience is that the workers' compensation industry took the lead in "reform" efforts that reduced benefits and tightened eligibility standards in many states.[2] Also, because insurance

regulators refused to allow insurance rates to increase as rapidly as losses in many jurisdictions, which resulted in underwriting losses in these states, workers' compensation carriers pursued and achieved deregulation of the workers' compensation insurance markets in most states.[3]

The results of deregulation and the various other reforms of workers' compensation in the early to mid-1990s are evident in the underwriting results for 1993 to 2000, when the overall operating ratio was less than 100 in every year. This was the longest string of profitable years for the workers' compensation insurance industry in the last half-century (and probably in the history of workers' compensation). The best years were 1995 to 1997, when on average carriers had profits of more than $17.00 per $100 of premium.

The underwriting experience of workers' compensation carriers deteriorated for several years after 1997. Indeed, between 1997 and 2001, the overall operating ratio jumped 26

Figure A
Overall Operating Ratio as a Percent of Premiums, 1976-2003

Note: The Overall Operating Ratio is the total of all underwriting expenses and income from investments as a percentage of premiums.

Table 1 Workers' Compensation Insurance Underwriting Experience, 1973-2003

Year	Losses Incurred* (1)	Loss Adjustment Expenses* (2)	Losses and Adjustment Expenses Incurred* (3)	Underwriting Expenses Incurred** (4)	Dividends to Policyholders* (5)	Combined Ratio After Dividends (6)	Net inv. Gain/Loss and Other Income* (7)	Overall Operating Ratio (8)
1973	68.5	8.5	77.0	19.8				
1974	71.6	8.7	80.3	19.6				
1975	74.0	8.2	82.2	18.9	6.3	107.4		
1976	78.2	8.4	86.6	17.6	5.4	109.6	6.9	102.6
1977	78.0	8.9	86.9	16.7	5.1	108.6	7.4	101.2
1978	74.4	8.7	83.0	16.4	5.6	105.0	7.8	97.2
1979	70.4	9.2	79.6	16.8	6.5	103.0	9.2	93.7
1980	67.6	8.4	76.1	17.4	8.0	101.4	10.8	90.7
1981	66.1	9.0	75.1	19.0	8.7	102.8	13.0	89.8
1982	64.3	9.1	73.4	20.6	9.9	103.9	15.0	88.9
1983	70.6	9.2	79.9	22.0	10.6	112.5	16.2	96.3
1984	81.0	9.8	90.8	21.2	9.9	121.9	16.7	105.2
1985	81.0	9.5	90.5	19.0	9.3	118.8	15.0	103.8
1986	85.4	10.2	95.5	18.0	7.6	121.1	13.7	107.4
1987	82.2	10.9	93.1	18.0	6.4	117.6	12.8	104.8
1988	83.4	10.8	94.2	17.8	6.4	118.4	12.7	105.7
1989	83.3	11.4	94.7	17.4	6.1	118.2	13.4	104.8
1990	83.8	10.7	94.6	17.6	5.1	117.4	13.0	104.4
1991	87.8	11.5	99.3	18.5	4.9	122.6	14.0	108.7
1992	83.9	13.2	97.1	19.8	4.6	121.5	18.1	103.4
1993	71.6	12.4	84.0	20.4	4.7	109.1	16.7	92.4
1994	60.5	13.1	73.6	21.0	7.0	101.6	15.1	86.4
1995	57.0	12.8	69.8	22.7	6.9	99.5	17.7	81.8
1996	57.5	14.9	72.1	24.9	5.4	102.4	18.6	83.8
1997	57.8	14.2	72.1	25.6	6.0	103.7	21.9	81.8
1998	62.0	16.2	78.2	26.3	6.6	111.2	18.6	92.6
1999	68.1	16.2	84.3	27.5	6.7	118.5	22.4	96.1
2000	73.6	16.0	89.6	25.8	5.4	120.8	21.0	99.8
2001	78.9	13.6	92.4	25.0	3.5	120.9	12.8	108.1
2002	73.9	13.1	87.0	22.5	2.6	112.2	11.7	100.4
2003	71.6	14.0	85.6	20.8	1.4	107.8	10.1	97.8

Source:
Best's Aggregate & Averages Property/Casualty, 2004 and prior Editions, © A.M. Best Company - used with permission. Data for years 1994 - 2003 updated to reflect values from 2004 Edition.

Notes:
Losses Incurred (also termed the pure loss ratio) (1) plus Loss Adjustment Expenses (2) equals Losses and Adjustment Expenses Incurred (3). Losses and Adjustment Expenses Incurred (3) plus Total Underwriting Expenses Incurred (4) plus Dividends to Policy Holders (5) equals Combined Ratio after Dividends (6). Combined Ratio after Dividends (6) minus Net Investment Gain/Loss and Other Income (7) equals Overall Operating Ratio (8). As of 1992, the methodology for allocating investment income changed slightly; as a result, 1992-2001 numbers in the last two columns are not directly comparable to those for earlier years.

* Percentage of net premiums earned   ** Percentage of net premiums written

Figure B
Losses Incurred and Losses and Adjustment Expenses Incurred
as Percent of Premiums, 1976-2003
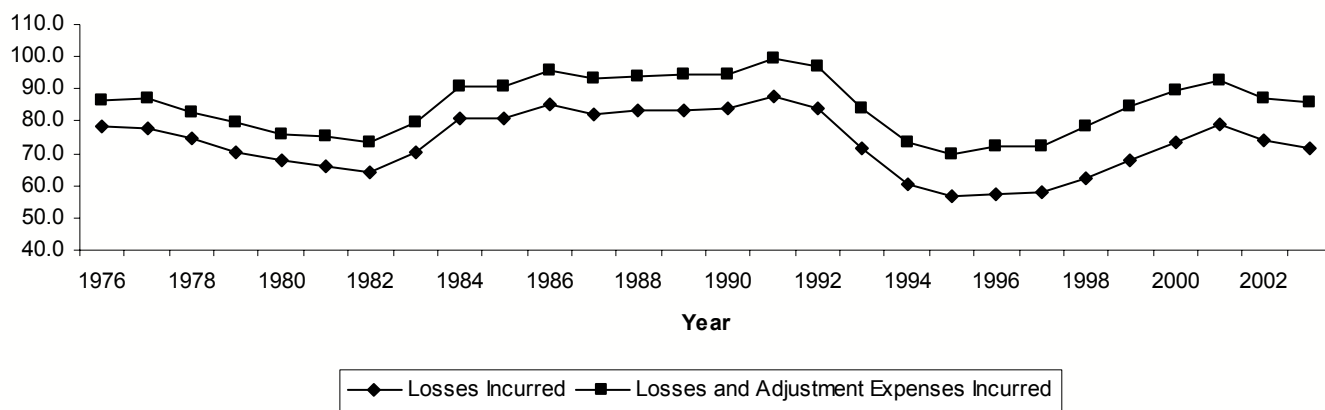
points, which is the most rapid rate of deterioration during the period covered by the data in Figure A (namely 1976 to 2003). Moreover, the overall operating ratio of 108.1 in 2001 indicates the underwriting losses in that year were worse than in any other year for which data are available. The reduction in the overall operating ratio from 108.1 in 2001 to 100.4 in 2002 brought the industry to essentially a break-even point in that year. A further decline in that ratio in 2003 to 97.8 returned the industry to a profitable position for the first time since 2000.

A full explanation of the deterioration in the underwriting experience between 1997 and 2001 is beyond the scope of this article.[4] However, there is one fundamental difference between the adverse experience of the late 1980s and early 1990s and the deteriorating profitability between 1997 and 2001. In the earlier period, benefits paid to workers were increasing rapidly, while this was not true from 1997 to 2001. In 1984, benefits paid to workers were 1.21 percent of payroll and continued to climb until 1992, when they peaked at 1.68 percent of payroll. Then benefits as a percent of payroll decreased every year through 2000, when they

were 1.06 percent of payroll, before increasing slightly to 1.08 percent of payroll in 2001.[5]

The rapid improvement in underwriting experience between 2001 (when the overall operating ratio was 108.1) and 2003 (when the ratio was 97.8) is also beyond the scope of this article. The data provide further evidence of the lack of correspondence between underwriting results and benefits paid, which increased from 1.08 percent of payroll in 2001 to 1.16 percent of payroll in 2002 (Williams, Reno, and Burton 2004, Table 13).

Figure C
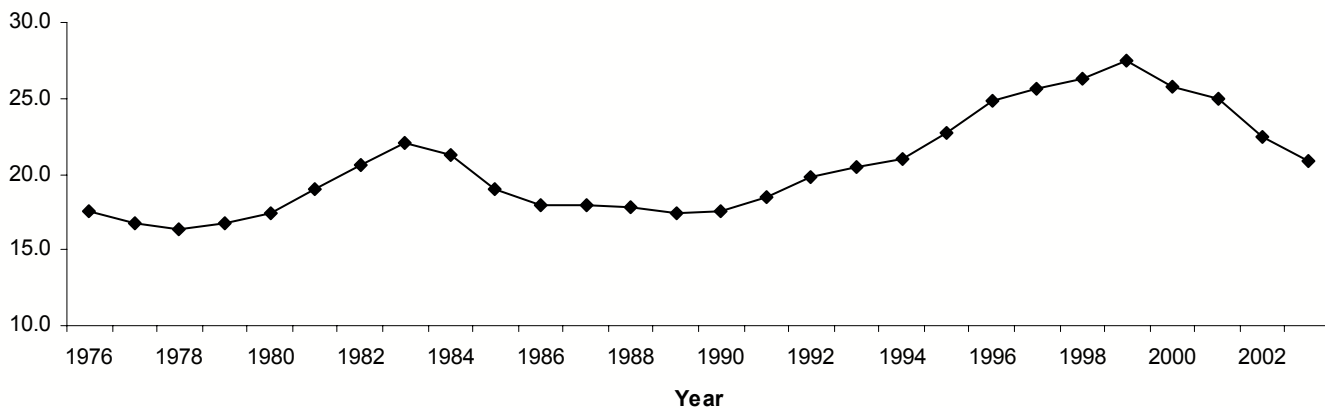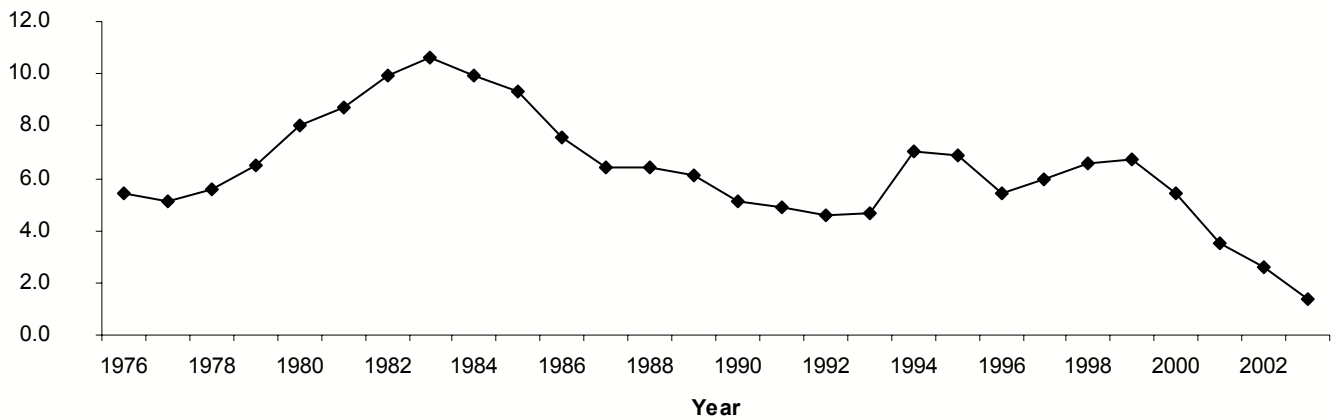**Underwriting Expenses Incurred as a Percent of Premiums, 1976-2003**

Figure D
Dividends to Policyholders as Percent of Premiums, 1976-2003

Components of the Overall Operating Ratio

The loss ratio is incurred losses as a percentage of premiums.[6] When premiums drop more rapidly than losses (or when premiums increase less rapidly than losses), the loss ratio will increase. As shown in Figure B and Table 1 (column 1), the loss ratio increased rapidly from 57.8 percent in 1997 to 78.9 percent in 2001, and then dropped to 71.6 percent in 2003.

The total of incurred losses and incurred loss adjustment expenses is also shown in Figure B and in Table 1 (column 3). The difference between the two lines in Figure B is incurred loss adjustment expenses, which are also shown in Table 1 (column 2). Loss adjustment expenses include the cost of processing claims. From 1973 to 1985, loss adjustment expenses were always less than 10 percent of premium, but they have been at least 13 percent in every year but two since 1992. Loss adjustment expenses were 16 percent or higher in 1998 to 2000, before declining to 13.6 percent in 2001 and 13.1 percent in 2002. Loss adjustment expenses then crept back up to 14 percent in 2003. The higher loss adjustment expenses since the early 1990s compared to earlier years reflect in part the more intensive ef-forts to manage health care costs for disabled workers.

Underwriting expenses incurred as a percent of premiums are shown in Figure C and Table 1 (column 4). These expenses, which include com-missions and broker fees, have also generally increased over time. Be-tween 1973 and 1992, underwriting expenses were greater than 20 per-cent of premium only thrice; since 1993, underwriting expenses have been 20 percent or greater in every year. However, after averaging 27 percent of premium in 1998 to 2001, underwriting expenses dropped to 22.5 percent of premium in 2002 and

Figure E
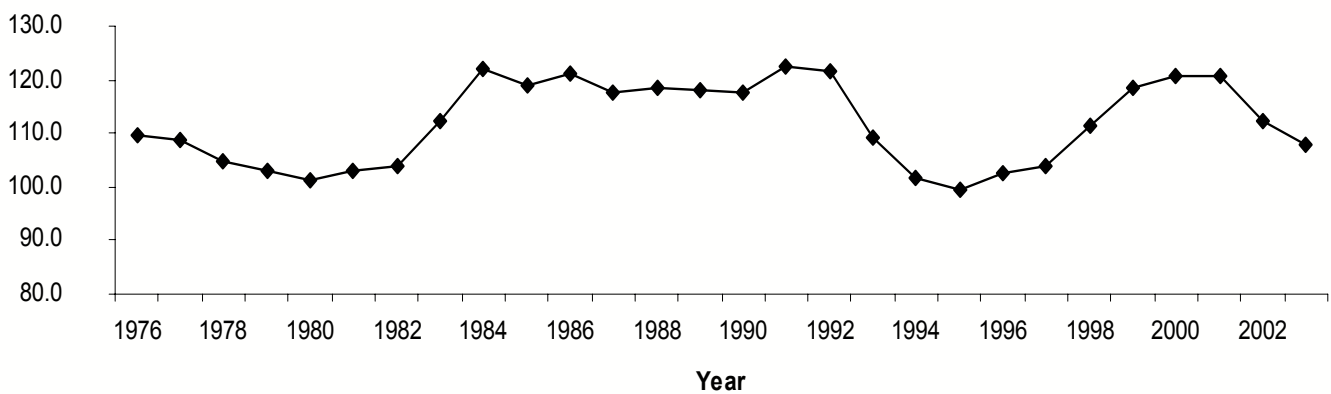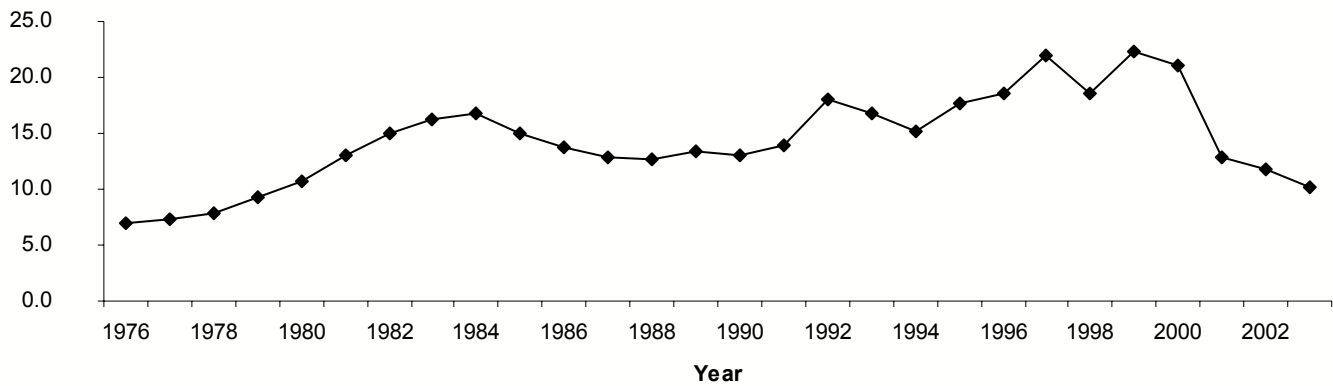**Combined Ratio After Dividends as Percent of Premiums, 1976-2003**

Figure F
Net Investment Gain/Loss and Other Income
as Percent of Premiums, 1976-2003

further to 20.8 percent of premium in 2003.

Dividends as a percent of premiums are presented in Figure D and Table 1 (column 5). Prior to deregulation of the workers' compensation insurance markets in recent decades, carriers were limited in their ability to compete by lowering insurance rates at the beginning of the policy period. However, both mutual and stock companies could compete by offering policies that paid dividends to policyholders after the policy period. In the early 1980s, dividends ranged from 8.0 to 10.6 percent of premiums. Since 1990, dividends have

never exceeded 7.0 percent of premiums, and dividends averaged less than four percent of premiums in 2000 to 2003, reaching their lowest point in 2003 for the 29 years of available data at a mere 1.4 percent of premiums.

The combined ratio after dividends is presented in Figure E and Table 1 (column 6). The combined ratio is the sum of the loss ratio (column 1), loss adjustment expenses (column 2), underwriting expenses (column 3), and dividends (column 4). When the combined ratio exceeds 100 percent, insurers lose money on their underwriting experience because premiums are not adequate to

cover losses and expenses. As shown in Figure E, the combined ratio exceeded 100 percent in every year between 1975 and 1994, and was greater than 110 percent in every year from 1983 to 1992. The combined ratio then dropped sharply after 1992 until reaching a low of 99.5 in 1995. The combined ratio deteriorated (increased) in every year between 1995 and 2001, reaching 120.9 percent in 2001 and averaging nearly 118 percent in 1998 to 2001. Restated, for every $100 of premium received by workers' compensation carriers in 1998 to 2001, there was an average of almost $118 of losses, loss adjustment expenses, underwriting expenses, and

Figure G
Overall Operating Ratio as Percent of Premiums,
Workers' Compensation and Commercial Lines, 1985-2003
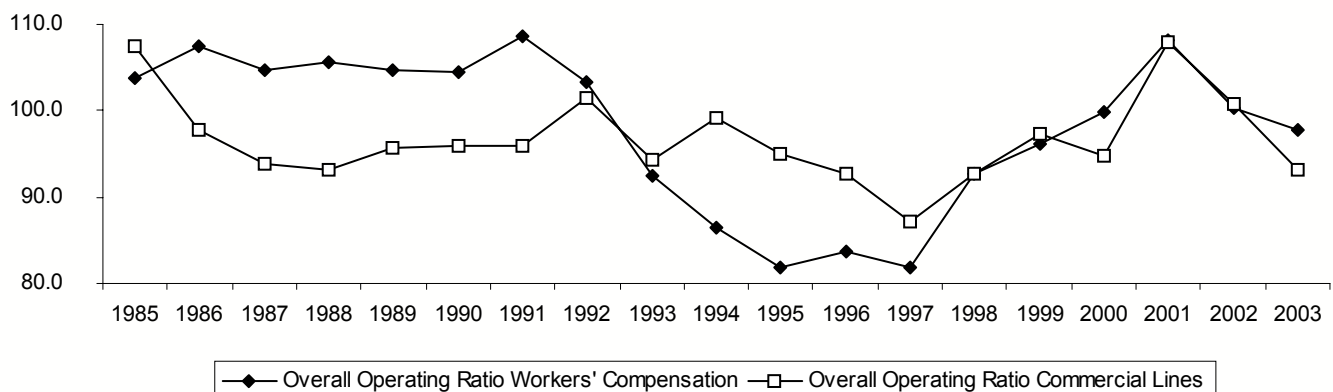
dividends. The combined ratio then dropped sharply to 112.2 in 2002 and again to 107.8 in 2003, the best result since 1998.

The combined ratio after dividends provides an incomplete report on the underwriting experience in the workers' compensation insurance market, however, because no account is taken on investment gains (or losses) and other income received by workers' compensation carriers. Net investment gains (or losses) and other income as a percent of premium ("net investment income") are shown in Figure F and Table 1 (column 7). From 1981 to 2001, net investment income was at least 12 percent of premium in every year. Net investment income dropped below 12 percent in 2002 to 11.7 percent, and of great concern to workers' compensation carriers is that in 2003, net investment income dropped to the lowest rate since 1979 at 10.1 percent. The rapid decline of net investment income to 12.8 in 2001, to 11.7 percent in 2002, and then to 10.1 percent in 2003 represents a drop from an average of 22 percent in 1999 and 2000 and reflects the low interest rates and dismal stock market performance in recent years.

Comparison to Other Insurance Lines

The overall operating ratio of workers' compensation is compared to all commercial lines of insurance for 1985 to 2003 in Figure G and Table 2. The comparison reinforces the impression of the volatility of the underwriting results in the workers' compensation insurance industry. The workers' compensation industry had smaller losses (a lower operating ratio) than other commercial lines in 1985; workers' compensation had losses (overall operating ratios were in excess of 100) while other commercial lines were profitable (overall operating ratios were less than 100) from 1986 until 1991; workers' compensation had greater losses than other commercial lines in 1992; work-

Table 2
Underwriting Experience,
Workers' Compensation and Commercial Lines
1991-2003

Year	Overall Operating Ratio-Workers' Compensation	Overall Operating Ratio-Commercial Lines
1976	102.6	
1977	101.2	
1978	97.2	
1979	93.7	
1980	90.7	
1981	89.8	
1982	88.9	
1983	96.3	
1984	105.2	
1985	103.8	107.5
1986	107.4	97.7
1987	104.8	93.9
1988	105.7	93.2
1989	104.8	95.7
1990	104.4	95.9
1991	108.7	96.0
1992	103.4	101.5
1993	92.4	94.2
1994	86.4	99.2
1995	81.8	95.0
1996	83.8	92.7
1997	81.8	87.2
1998	92.6	92.8
1999	96.1	97.2
2000	99.8	94.7
2001	108.1	108.0
2002	100.4	100.8
2003	97.8	93.2

Source:
  Best's Aggregate & Averages Property/Casualty, 2004 and prior Editions, © A.M. Best Company - used with permission. Data for years 1994 - 2003 updated to reflect values from 2004 Edition.

Notes:
  The Overall Operating Ratio is the total of all underwriting expenses and income from investments as a percentage of premiums.
  "Commercial Lines" includes all insurance lines except passenger auto and homeowner multiples peril insurance.

ers' compensation was more profitable (a lower overall operating ratio) than other lines from 1993 to 1999; workers' compensation was profitable but less so than other lines in 2000; workers' compensation had losses that slightly exceeded those in other commercial lines in 2001; and workers' compensation had losses that were slightly lower than the losses in other commercial lines in 2002. Both workers' compensation and other commercial lines of insurance returned to a profitable overall operating ratio in 2003, but workers' compensation was less profitable than the other lines.

Analysis

The deterioration in the underwriting results in workers' compensation insurance between 1997 and 2001 was reversed in 2002, although the industry was still unprofitable. The efforts to improve underwriting results were rewarded in 2003, when the workers' compensation insurance industry achieved profitability for the first time since 2000. Losses decreased in 2003, and while loss adjustment expenses were up, the sum of losses and adjustment expenses were at their lowest level since 1999.

...the workers' compensation insurance industry is relatively unprofitable compared to other lines of insurance, but at least workers' compensation carriers can take comfort in the overall trend of profitability.

Underwriting expenses relative to premiums and dividends were also down in 2003. One obvious negative development for the workers' compensation insurance industry in 2003 was the continued decline in net investment gains, which reached their lowest level since 1979. The combined effects of these developments resulted in the 2.2 percent profit experienced by workers' compensation insurers in 2003. This level of profitability may still mean that the workers' compensation insurance industry is relatively unprofitable compared to other lines of insurance, but at least workers' compensation carriers can take comfort in the overall trend of profitability. The improved underwriting results should also reduce the underlying pressures on carriers to increase insurance rates and to support regressive legislative changes.

ENDNOTES

1. More complete definitions of the overall operating ratio are provided subsequently in the text and the notes to Table 1.

2. The reform efforts are examined in Spieler and Burton (1998).

3. The deregulation of the workers' compensation insurance market is examined in Thomason, Schmidle, and Burton (2001a: 39-43).

4. One possible explanation of the adverse underwriting results in the last five years is that the high profitability of the industry in the mid- and late- 1990s attracted more capital to the workers' compensation industry, which in turn led to increasing competition. As a result of deregulation, the competition was less constrained than in the period of administered pricing, which facilitated vigorous price competition in recent years. Thomason, Schmidle, and Burton (2001b: 5) report that the most comprehensive form of deregulation – lost cost systems that do not require prior approval by regulators of rates promulgated by carriers – is, on average, associated with about an 11 percent reduction in the employers' costs of workers' compensation insurance.

5. The 1984 result for benefits paid to workers as a percent of payroll is from Thomason, Schmidle, and Burton (2001a: Table A.1). The 1992, 2000, and 2001 results are from Williams, Reno, and Burton (2004: Table 13).

6. Incurred losses include paid losses plus reserves for future losses for injuries or diseases that have already occurred. An extended discussion of insurance terminology is included in Thomason, Schmidle, and Burton (2001a, Appendix B).

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Back Pain: Acute Injury or Chronic Disease?

by William G. Johnson

Introduction

Back pain is one of the most prevalent and most costly health conditions in the United States. Eight out of ten adults experience one or more episodes of disabling back pain in their lifetimes, and the annual costs of back pain are estimated to be as high as $50 billion to $100 billion (United States Department of Health and Human Services and Centers for Disease Control and Prevention 2000).

Workers' compensation laws treat occupational back pain as an accidental injury despite a large body of clinical and socioeconomic research which shows that, for many workers, back pain is an episodic, recurrent condition (Burton 1988; Johnson, Baldwin et al. 1998). The failure to recognize the episodic nature of back pain leads to (a) an overoptimistic expectation that most workers with back pain will recover quickly and permanently; (b) evaluations of the cost effectiveness of different approaches to health care for back pain that are biased because of reliance on first return to work as a final outcome; (c) confusion about the effectiveness of disability management strategies; and, (d) measuring the costs of back pain by program (e.g., workers' compensation, short-term disability) rather than worker-specific accounting that cumulates costs across programs.

About the Author

William G. (Bill) Johnson is Professor of Economics in the School of Health Management and Policy and the Department of Economics in the W.P. Carey School of Business, Arizona State University, where he also directs the Health and Disability Research Group, which consists of seven staff members and faculty associates from five universities in the United States and Canada. Bill is a graduate of Temple University and of the Wharton School of the University of Pennsylvania, and holds a Ph.D. in economics from Rutgers University.

He is a member of the National Academy of Social Insurance, an Associate Scientist of the Institute on Work and Health (Toronto), a Fellow of the Employment Benefit Research Institute, a Fellow of the Collegium Ramazzini (Bologna, Italy) and a member of the North American Spine Society. He serves on the associate editorial board of *The Spine Journal.* He is a panel member of the National Academy of Science study of hearing impairments and a panel member on the World Health Organization study of neck pain.

He is the author or co-author of several articles and books on topics related to workers' compensation. He is currently the principal investigator or co-investigator of several projects, including the Arizona State University Healthy Back Study; the Arizona Health Query community health data systems project; and a study predicting health care expenditures as the boomers age (SSA/DRI). Past research projects include a three state study of network care for occupational injuries (WCRI); the first studies of workers' compensation health care costs in the United States (the Zenith Projects and the Minnesota study); the Harvard Medical Practice Study (the largest study ever conducted on medical malpractice); the Ontario study of permanent disability (12,000 workers interviewed in Ontario Canada); the Mount Sinai studies of asbestos related illness and death; the multi state study of workers compensation claimants in the United States (the National Commission on State Workmen's Compensation Laws); and the first empirical study of labor market discrimination against persons with disabilities and the author or co-author of nearly every subsequent empirical study of the problem.
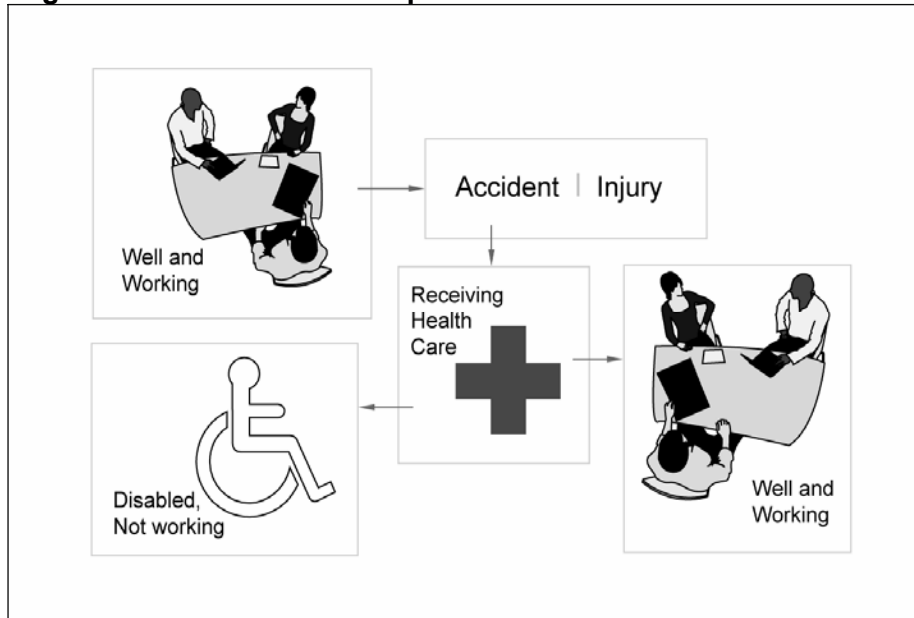
Bill is also a long-time friend and an occasional collaborator on research projects. I am particularly pleased that he has written an article on the important topic of back pain.

John Burton

Figure 1: The Workers' Compensation Model

This article uses information from research studies to show that occupational back pain is more similar to a chronic disease than to an acute injury. Much of the information that is presented here is not new, but the concept that back pain is an episodic, recurrent condition similar to a chronic disease has not, in my opinion, replaced the traditional model of back pain as an acute injury in the day-to-day management of occupational back pain. An understanding of the recurrent nature of back pain could help those who manage the risk and outcomes of back pain to reduce costs and improve outcomes by directing their efforts towards more realistic objectives.

The "common sense" logic of the workers' compensation model of injuries is one of the reasons for its enduring popularity (Figure 1). The model assumes that a worker performs the duties of his or her job until an injury is caused by an accident. A work absence ensues whose duration is assumed to depend on the severity of the injury, the effectiveness of care and rehabilitative services, the strength of economic disincentives, and the effectiveness of the employer's approach to disability man-

agement. The model assumes that a return to work brings the episode to an end, with the worker recovered. Those who do not return to work are considered disabled.

State workers' compensation laws were introduced in most jurisdictions in the United States in the first two decades of the 1900s. The laws excluded most occupational illnesses and focused on injuries associated with specific, traumatic workplace accidents. The beliefs of contemporary managers and the structure of workers' compensation laws reflect the long-standing model of injuries that is the foundation of the workers' compensation approach.

The acute injury model was representative of most occupational injuries in the 1900s (e.g., amputations, burns, fractures and lacerations), which were easily linked to workplace accidents. The nature of work has changed, however, and conditions (e.g., back pain, cumulative trauma, migraine headaches) have increased in importance. The new "industrial injuries" are as likely to occur off the job as at work and to affect non-workers as well as workers. In many cases, the conditions have recurrent

effects, making them more like chronic illnesses than accidental injuries.

The model, and the beliefs it engenders towards back pain, includes at least two important errors. The first is that the cause of back pain is damage to the spine. The second error is that a return to work, following onset, marks the end of the effects of back pain unless a new episode of back pain is triggered by a subsequent accident. I next consider each of these errors, focusing on differences between the old model of injuries and research findings.

Because physiology is the province of clinicians and not of economists, I address the link between back pain and spinal damage by reference to expert findings. (I am an elected member of the North American Spine Society but, fortunately, membership does not include the privilege of doing back surgeries.) I focus my attention on the nature and implications of the relationship between returns to work and recovery.

Back Pain, Proximate Causes and Physiological Damages

An injury, such as a fractured bone, can be detected by imaging or inspection, its severity measured, and the link to an accident clearly identified. With very few exceptions, none of these characteristics of injuries applies to the majority of cases of back pain. Some cases of back pain are associated with findings of abnormalities in spinal disks or in the spinal cord itself, but the leading clinical experts on back pain have concluded that the existence of back pain is not well correlated with any discernible physical damage to the spine. Consider the following statements from expert physician/researchers, as noted by Gina Kolata in *The New York Times* on February 9, 2004:

"A variety of studies have suggested that in 85 percent of cases it is impossible to say why a

person's back hurts" (Dr. Richard Deyo, Professor of Medicine and Health Services, University of Washington and one of the best known experts on back pain in the world).

"Sometimes... a herniated or ruptured disk causes the pain... But usually... it may be more coincidence than cause and effect when an M.R.I. finds an abnormal disk in someone with back pain" (Dr. Michael N. Brant-Zawadzki) (see also Wiesel, Feffer et al. 1984).

"Other studies indicated that the development of abnormal disks is usually inherited. But there were no links to occupation, sports injuries or weak muscles. Since no one knows the cause of most back pain, imaging is not much help" (Dr. Nortin Hadler, Professor of Medicine, University of North Carolina).

Despite the expert opinions to the contrary, many lay persons and some clinicians characterize back pain as the result of clinically identifiable damage such as a herniated or ruptured spinal disk. Managers operating under this assumption are likely to suspect workers of malingering if imaging does not reveal any physiological anomalies, such as a herniated or ruptured disk. The suspicion can lead to additional testing and to the development of an adversarial relationship between the manager and the worker.

The practice guidelines developed by the federal government after an extensive critical review of the clinical literature also reflect the uncertainty surrounding the causes of back pain. The guidelines and the conclusions of experts are that imaging is not an effective tool for the identification of the existence of back pain (Bigos and United States Agency for Health Care Policy and Research 1994). Nevertheless, data from workers' compensation claims indicate

that imaging is a very prevalent practice in the treatment of occupational back pain. The continued prevalence of imaging is one aspect of the resistance of many health care providers to the use of practice guidelines, despite their acceptance by the health care professional societies and the leading experts in the specialties that treat back pain.

The guidelines and expert clinical opinions also suggest that surgery for back pain is indicated for but a very small portion of occupational back pain cases (Bigos and United States Agency for Health Care Policy and Research 1994). The relatively high prevalence of surgery among workers' compensation back cases is a source of concern to insurers and others, but an adequate discussion of the topic is beyond the scope of this article.

The uncertainty concerning the existence or severity of back pain clearly distinguishes back pain from most occupational injuries. The problem of managing back pain claims in the context of the workers' compensation injury model is worsened by the near impossibility of linking the onset of back pain to an accident or observable event in the workplace. Although the onset of back pain can often be associated with an event, the events are typically not accidents. The inability to identify an observable cause of back pain is reflected in the concern that workers who experience back pain on a weekend may report the pain on a Monday as a work-related event in order to obtain workers' compensation health care coverage and disability benefits not available for off the job injuries. The importance of the "Monday morning effect" is subject to debate, but few parties to the debate reject the possibility that the uncertainty surrounding the diagnosis or measurement of back pain would permit delayed reporting of back pain.

Returns to Work and Recovery

An important paradigm shift is taking place regarding the time course of back pain. Most research on the prognosis of back pain has been based on the assumption that patients follow a non-reversible course from an acute phase to either a permanent chronic condition or a chronic phase followed by recovery (Frank, Kerr et al. 1996). New evidence challenges the model by demonstrating that back pain is an episodic, recurrent problem for many individuals, including many of those who have been assumed to be recovered because they returned to work (Butler, Johnson et al. 1995; Baldwin, Johnson et al. 1996; Hestbaek, Leboeuf-Yde et al. 2003; Hestbaek, Leboeuf-Yde et al. 2003; Maul, Laubli et al. 2003). These results highlight the need to recognize that the effects of back pain extend beyond a first return to work. The results from several research studies provide useful insights into the long-term effects of back pain on work. The research spans a period of more than 30 years. The Interdepartmental Task Force (IDTF) studies provide some of the first evidence on the topic.

The IDTF Studies: 1970s. The first multi-state study of workers' compensation combined administrative data with interviews of a cohort of workers with permanent partial disability (PPD) whose injuries occurred in 1970 (Johnson, Cullinan et al. 1979). Interviews were conducted in 1975. The workers were a representative sample from the states of California, Florida, New York, Washington and Wisconsin. Most workers returned to work by the end of 1971, but in 1975 nearly one-fifth of the workers had been out of work for more than a year for reasons that they attributed to their 1970 injuries.

Among 1,690 workers who were less than 65 years of age at interview (1975), 192 (11%) had not worked since the onset of their condition (Figure 2). The remaining workers (N=1,498; 89%) returned to work at

Figure 2: IDTF Study (CA, FL, NY, WA, WI)
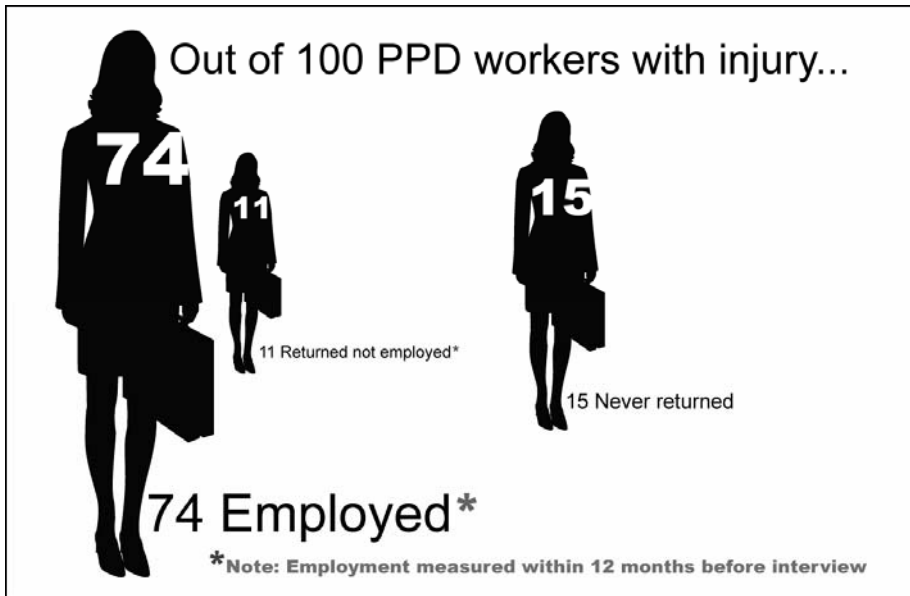
Source: Johnson, Cullinan and Curington 1979

some time. The returns to work were not, however, synonymous with recovery. Two hundred fifty of the 1,498 workers who went back to a job were out of work at the date of the interview because of the effects of the injuries that occurred in 1970. The 250 workers represent approximately 15% of the original cohort of injured workers. The survey, which was the first of its kind, did not include questions concerning episodes of work and disability related work absences that could have occurred in each of the years between 1970-71 and 1975.

A second IDTF study interviewed Wisconsin workers with permanent partial impairments resulting from injuries in 1968 (Ginnold 1979). The results show that 90% of the workers (N=228) had returned to work at some time following the time of injury. One hundred sixty workers had returned to work with their time-of-injury employer. Approximately 40% of those who returned to their time-of-injury employer, "including 54 percent of the back cases, had to leave work again, sometimes 5 or more times, due to a recurrence of the injury" (Ginnold 1979:90). The author

speculates that the high rate of recurrence might be related to the fact that a majority of the workers with back disorders who returned to work went back to their old jobs in occupations where light work accommodations were relatively scarce and the jobs were physically demanding.

I do not address the question of physical demands and job accommodations in this article but it seems reasonable to expect that employers who view back pain as an acute injury are likely to assume that a worker who is released to return to work by a physician has successfully recovered from the effects of back pain. Should the perception shift to one of back pain as an episodic, recurrent condition, employers might be more willing to provide work accommodations to reduce the probability of recurrence.

The IDTF research studies were designed to study the adequacy of workers' compensation benefits rather than the patterns of cost-effective employment. They did not collect detailed information on the episodes of employment and work disability whose existence was re-

vealed in the interviews. Data on health care were also omitted.

The Ontario Survey of Workers with Permanent Impairments: 1990s. More than ten years passed before the subject of multiple episodes of work absences from back pain was addressed again. The data were obtained from the largest interview study of injured workers to be conducted, namely the *Ontario Survey of Workers with Permanent Impairments*. The data include interviews merged with administrative data on more than 10,000 workers (Johnson, Baldwin et al. 1998). The overall results of the study are presented in Figure 3.

Had the results been confined to single episodes of work absences, the conclusion would have been that 73% of the Ontario workers with back pain recovered from their injuries because they returned to work. In fact, 66% *of those who returned to work* had one or more subsequent work absences caused by the effects of their original injuries. Forty seven percent of the workers who initially returned to work were not employed in 1990 because of the effects of their injuries. The results show that only slightly more than one-half of workers with back pain who returned to work after onset maintained stable employment. Compared to Ontario workers with other conditions, the workers with back pain were less likely to return to work (73% vs. 79%) and, among those who returned to work, back pain claimants were less likely to maintain stable employment.

The differences are striking when one considers that the sample is restricted to workers with permanent conditions and that the non-back pain injuries include the most severe types of injuries (Johnson, Baldwin et al. 1998). Nor are the differences in return to work rates attributable to worker characteristics such as age, gender, and education or union membership. The profiles of workers with back pain are, on average, essentially identical to those of workers with

other conditions. One important difference was that workers with back pain who returned to work and then left were significantly more likely than workers with other conditions to report that they left the job because they were unable to perform the work (68% vs. 58%) (Johnson, Baldwin et al. 1998).

One of the important implications of the findings regarding patterns of unstable employment associated with back pain is that evaluations of the effectiveness of disability management activities will be inaccurate if the 'return to work equals recovery' model is adopted.

The potential errors in evaluations of health care that adopt the single episode model of back pain could not be estimated from the Ontario data because detailed data on health care were not available for the Ontario workers (Butler, Johnson et al. 1995; Baldwin, Johnson et al. 1996). The only study to collect all the data needed to link health care to post-onset employment, controlling for non-health related influences, is the Arizona State University (ASU) Healthy Back Study.

The Arizona State University Healthy Back Study: 1999-2002. The ASU Healthy Back Study is a prospective study that captures information as it occurs rather than relying on workers' recollections as in the IDTF and Ontario surveys. The ASU Healthy Back Study dataset includes more than 9,000 incident, work-related cases of back pain occurring between 1999 and 2002 among a cohort of approximately 200,000 workers. Unlike the IDTF and Ontario surveys, the data include medical only, temporary disability, and permanent disability workers' compensation claims. The workers were employed by five firms operating in 37 states. The participating firms are America West Airlines, American Medical Recovery, Maricopa County (public sector), Marriott International, Inc., and Earthgrains Corpora-

Figure 3: Ontario Survey of Workers with Permanent Impairments
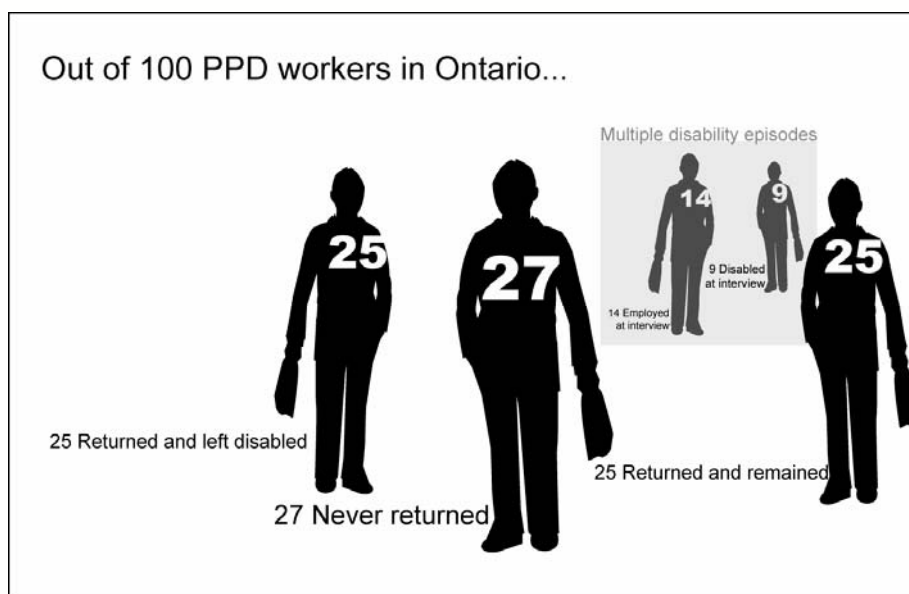
Source: Johnson, Baldwin and Butler 1998

tion (now part of Sara Lee Baking Division).

Workers' compensation claims data and detailed medical billing data on all workers with back pain are being used for an analysis of the costs and outcomes of back pain. The claims and medical billing data were supplemented by an interview survey of approximately 2,000 of the workers with back pain to capture information, such as satisfaction with care, satisfaction with work, and the reasons for a variety of other responses to back pain. Interviews were conducted at onset, 30 days, six months and one year after onset.

A multivariate analysis of the determinants of the different work patterns is in process (Cote, Baldwin et al. 2004). The analysis includes controls for selection effects and differences among workers in self reported severity and a variety of other characteristics. The information presented here simply confirms the existence of episodic, recurrent effects of back pain in a recent population of workers with back pain.

The preliminary analysis of post-onset employment is based on the ASU Health Back Study survey data. The survey data describe four mutually exclusive patterns of post-injury work experience. Workers in Pattern #1 have not taken time off work after their back injury. Workers in Pattern #2 experienced a spell of work absence ending in a return to work with no subsequent injury-related work absence. Workers in Pattern #3 took time off work, returned to work, but then had one or more subsequent spells of injury-related work absence. Workers in Pattern #4 did not return to work between onset and interview.

At 30-60 days after onset, approximately 40% of the workers reported that they had not missed any work days (Figure 4). Presumably these workers would have been considered recovered at the time at which their medical care for this episode ended. The large proportion of cases in this category reflects the fact that the ASU Healthy Back Study differs from the ITDF and Ontario surveys in not being restricted to relatively severe claims (e.g., PPD claims). An additional 25% of the workers experienced work absences but re-

Figure 4: Patterns of Work Absence (1999 – 2002)

30-60 Days Post-Onset

1 Year Post-Onset
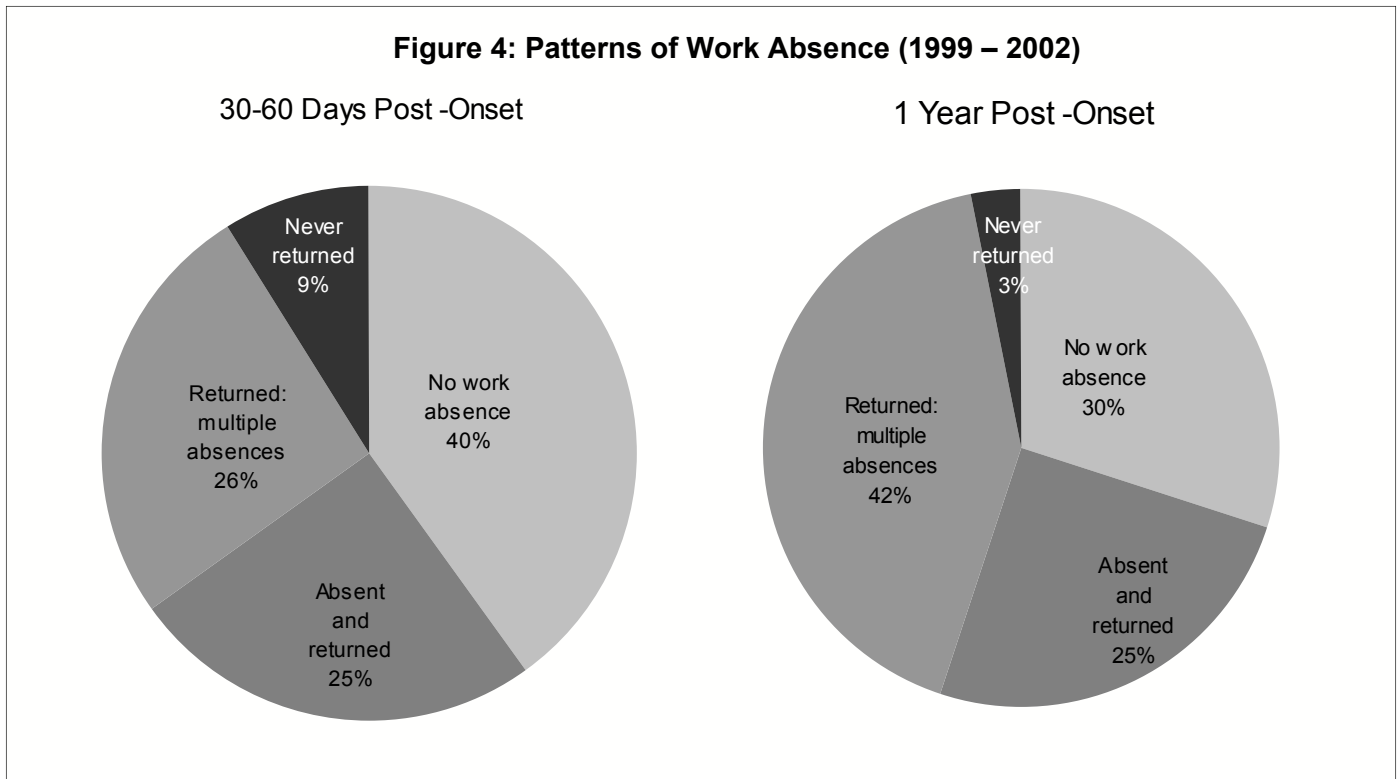
turned to work and had no subsequent absences during the 30-60 days after onset. A third group, representing 26% of the workers, returned to work after onset but experienced subsequent absences related to their back pain during the 30-60 day period. Only 9% of the workers had yet to return to work at any time during the follow-up period.

In total, at 30-60 days from onset, 91% of the workers with back pain had returned to work or had never been absent from work. Subsequent interviews reveal, however, an increasing proportion of workers with absences related to their back pain, including some of those with no work absences at 30-60 days after onset.

At the one year follow-up interviews (Figure 4), the proportion of workers with no work absences drops to 30%. Workers with multiple episodes of employment interrupted by work absences increased from 26% (30-60 days) to 42% of the cohort. The results demonstrate the chronic and episodic nature of back pain, and the error of using first return to work

as a marker of the end of work disability.

One interesting aspect of the post-onset patterns of employment that is not yet fully analyzed is that many of the workers with no work absences returned to work with shortened hours, flexible schedules, and other job accommodations that would reduce on-the-job productivity without having the workers miss a full day of work. This aspect of the results is under investigation by the ASU Healthy Back Study research team.

The studies of work absences related to back pain are distributed over nearly 30 years. The largest study represents the experiences of workers in Ontario, Canada while the others are for states within the United States. The ASU Healthy Back Study includes claims at all levels of severity but the other studies are limited to PPD claims. Despite the many differences among the studies, they deliver a consistent message with regard to occupational back claims, namely that the effects of back pain

are episodic and recurrent and are not well represented by a set of concepts based on accidental injuries. The two earlier studies also reveal that a significant number of workers with non-back related conditions also experience recurrent post-onset periods of work disability related to the conditions for which they originally file a workers' compensation claim.

Recurrent Back Pain in Clinical Studies. The experience of workers' compensation patients with back pain may be affected by the absence of co-pays and deductibles for health care and the disincentive effects of the workers' compensation disability benefit payments resulting from the reduction or termination of benefits if the worker returns to employment. It is useful, therefore, to consider some evidence on the chronicity and recurrence of back pain among patients covered by group health plans since the patients typically share the costs of their care and group health plans do not pay disability benefits.

A recent review of clinical prognostic studies of back pain shows

that 73% of patients with acute low back pain had one or more reoccurrences within 12 months in two studies with a 12-month follow-up (Pengel, Herbert et al. 2003). One study reported a cumulative risk of recurrence of 84% after three years (Pengel, Herbert et al. 2003). The studies that were reviewed vary greatly in design and methods of analysis, making specific comparisons very difficult.

One study that was not included in the review is, however, an excellent example of recurrence and chronicity among patients in a group health setting. It is a prospective study of the effects of practice style on the outcomes of back pain and was conducted on patients of the Group Health Cooperative of Puget Sound who were treated by primary care physicians (Von Korff, Barlow et al. 1994). Patients were interviewed at three to six weeks after an initial visit. Follow-up interviews were conducted at one and two years after an initial visit. Patients were between 18 and 75 years of age. Initial interviews were conducted with 1,071 patients and complete sets of interviews were obtained for 911 members of the original cohort.

The results revealed that most of the patients experienced recurrent back pain during the two year follow-up period. Forty-four percent of the patients with recurrent back pain experienced chronic pain, defined as 90 days or more of back pain in a six month period, at the one or two year follow-up interviews. Twenty-nine percent of patients with recent onset back pain had persistent pain at either the one or two year follow-up interview. The authors conclude that patient outcomes can be improved if physicians inform patients about the long-term nature of back pain and the advantages of self-care skills for dealing with recurrent or chronic problems.

The results from the clinical studies are not directly comparable to the research on workers' compensation patients, but the similarities are at least sufficient to suggest that recurrence and chronicity of back pain among workers' compensation patients are not simply an artifact of the disincentives of disability benefit payments.

Implications. The information that has been discussed clearly indicates that for many workers, back pain is not an acute injury in the traditional sense. A better understanding of the true character of back pain can serve both payers and workers by reducing costs and improving outcomes. Specifically, a more accurate concept of the nature of back pain and its effects can encourage employers to use worker-specific methods of accounting for health related costs. Evaluations of the effectiveness and cost effectiveness of different approaches to the treatment of back pain will be biased if the studies rely on the acute injury model of back pain. Better information on the time path, costs, and outcomes of back pain can then be combined with the knowledge on the effectiveness of different approaches to care to develop more effective disability management strategies.

The knowledge of the true nature of back pain carries with it the responsibility to stop perpetuating past practices and to advocate instead for methods of collecting information on back pain and other conditions on a worker-specific basis rather than a program-specific basis. The widespread existence of back pain and the absence of clear links between the onset of back pain and accidents suggest a need for employers to end the traditional separation between accounting for the costs of occupational injuries and accounting for the costs of programs such as formal sick leave, short-term disability and health insurance. The program-specific approach implies that the events generating the costs of the different pro-

grams and, therefore, strategies to reduce costs for a program are independent of the events assigned to the other programs. Now I consider some evidence from companies that have adopted an approach to accounting based on workers rather than by programs.

Worker-Specific Accounting

The manner in which firms classify the costs of health care and disability benefits mirrors the manner in which firms conceptualize the events that create the costs. Accounting systems frequently divide their health related costs by program rather than collecting the health related costs for each employee. Much of the accounting information could be, but is not, shared among program managers. In my experience, it is fairly common, for example, for risk managers who are responsible for workers' compensation to neither share information nor coordinate their activities with human resource managers who administer sick leave and health insurance plans for the same employees.

Program-specific accounting obscures some important characteristics of employee health and of health care costs. Consider a worker with a workers' compensation back pain claim who returns to work after an absence. Should back pain reoccur without an identifiable event, a worker in a firm with benefits that include health insurance and formal sick leave or short-term disability might find it simpler to treat the episode as non-work related. Under the accounting systems typical to most firms, the second episode will never be linked to the first episode because costs are collected on a program-specific basis rather than a worker-specific basis.

A slightly different example is one in which a worker receives care, paid by an employment-related health insurance plan, for a variety of health care conditions which may amplify the effect of an occupational injury or

accelerate the onset of back pain. A recent study of workers with arthritis and other joint disorders finds, for example, that workers with arthritis had significantly higher costs, all else equal, for health care, work absences, short- and long-term disability programs, and workers' compensation (Muchmore, Lynch et al. 2003). It would be interesting to know how many times imaging or other diagnostic tests had been repeated each time a worker applied for benefits or care from a different employment-related plan. The elimination of duplicate medical testing would obviously reduce costs and the sharing of medical information across providers or plans would improve medical decision-making. It would also be interesting to compare the disability management strategies used for workers' compensation claims for these workers and the strategies applied to the same workers for formal sick leave, short-term disability, or other programs.

In the situations cited, evaluations of the cost effectiveness of the health care providers will be biased by the omission of information. Assuming that disability management strategies and wellness programs are usually evaluated on a program-by-program basis, the evaluations will also be biased by the failure to track individuals across programs (Johnson 1999).

Systems for tracking health care costs by employee across corporate departments or compensation plans are in use (Gardner, Gardner et al. 1998). Firms that use these systems find that a relatively small number of their employees are responsible for the majority of the firm's health-related costs (Kelley and Mark 1995; Johnson 1999). One recent estimate, from four large corporations, is that 80% of expenditures summed across workers' compensation, health care and short-term disability are attributable to only five percent of the firms' employees (Gardner, Gardner et al. 1998). Approximately one percent of

the firm's employees remain in the high cost group for two or more years.

The application of worker-specific accounting could, at a minimum, more accurately capture the costs of episodic recurrent back pain in terms of both work absences and losses of on-the-job productivity. Choices among methods of health care and among the elements of disability management strategies could use the information to better target interventions toward the best opportunities for improvement and cost reduction.

Cost Effectiveness of Health Care

Evaluations of different methods of health care need to consider the sum of the disability costs and the health care costs for some time past the first return to work. The duration of follow-up needed to gather the information is difficult to define, a priori, but it is clear from the research that many of the workers who return to a job after onset of back pain experience work absences related to their back pain within a relatively short time period after their return.

The traditional, injury-based model of back pain mandates a finding that the most cost-effective methods of care are those that, relative to others, produce the greatest reduction in work loss days from onset to first return to work, per dollar spent on health care. (I assume that the research adequately controls for the many characteristics other than health care that influence returns to work.) Reducing work absences is a desirable objective but findings based on first returns to work may not indicate the best way in which to achieve that objective. The types of care that minimize initial durations of work absences might, for example, increase the risk of subsequent work absences relative to approaches to care that required longer work absences for recovery.

Another consideration is that the most costly claims (whether all episodes are charged to workers' compensation or to other employment-related health plans) will be those with multiple episodes. The omission of cases with the potential for the greatest amounts of savings will obviously bias employers' decisions concerning approaches to health care and disability management interventions (Johnson 1999).

As the ASU Healthy Back Study results indicate, even workers whose claims were closed as medical only claims can experience work absences related to their back pain within a few months of the initial closure. It will be cold comfort to an employer if the health care provider that is most cost-effective, relative to temporary disability days, returns workers to a job too quickly, resulting in subsequent cost to the employer or insurer and subsequent work absences for the workers. Many of the Ontario workers who returned to work and then left reported, for example, that they left the first post-onset job because they were physically unable to perform the duties of the job.

An exclusive focus on temporary disability days is appropriate for cases for which the old injury model is representative. The recent information on the nature of back pain suggests that the model is not appropriate for back pain. Much of what we have learned in the past concerning the determinants of work absences among workers with back pain needs to be revised because it is based on temporary disability days in the context of the traditional workers' compensation model.

I recognize the difficulty of obtaining information, from claims data, on workers after a return to work. However, tolerance of the research community because of the limitations of claims data is not useful if research results are misleading because they address the wrong targets. A recent exchange concerning different ap-

proaches to health care in Texas is a good example of the persistence of the traditional model (Rosner 2004; Victor 2004). There, two adversaries debate the cost of different approaches to health care for back pain measured as health care costs *per day of temporary disability benefits*. Rosner criticizes the assumptions and methods of Workers Compensation Research Institute studies on the cost effectiveness of physician directed vs. chiropractic care. Victor defends the studies and presents some information from studies not reviewed by Rosner. Although Rosner suggests a need to consider returns to work and possible reductions in on the job productivity, neither his critique nor Victor's defense addresses the possibility that a return to work or a closure of a claim may not mark the end of the effects of occupational back pain. The information I have presented should make it clear that, whatever the relative merits of their positions, the evaluation of the cost effectiveness of health care based on temporary disability days is incorrect.

Conclusions

Clinical experts understand back pain as a recurrent phenomenon whose origins are often uncertain and, in most cases, best treated conservatively. Those who manage claims or disability management programs are much more likely to view back pain as an acute injury identifiable by imaging and other diagnostic tools. Back pain cases could be better managed if the managers had a better understanding of the true nature of the problem.

The information on the episodic nature of back pain should convince managers to define the outcomes of care and disability management in terms of extended periods following onset and not measure the results of health care or disability management in terms of time to first return to work. The results of the ASU Healthy Back Study and from a number of prognostic studies suggest that many

of the employees with back pain will experience absences after a first return to work during the 12 months from onset and that a year may be a reasonable period for observations of the employees. The workers who have recurring effects during the 12 months are clearly on a different path than the majority and it is the path of greatest cost to employers and to workers.

My suggestions for eliminating some of the gaps in information on back pain can be summarized as follows:

1. Managers should be educated concerning the inherent uncertainty in the identification and treatment of back pain by providing them with access to clinical practice guidelines and the information available from expert clinicians.

2. The use of initial returns to work as a proxy for recovery from an episode of back pain should be replaced by monitoring of patients for a period of one year where possible.

3. The practice of evaluating the cost effectiveness or effectiveness of health care or disability management by reference to only temporary disability days should be abandoned.

4. The direct and indirect costs of back pain should be measured by worker-specific accounting rather than by program-specific accounting since the costs of back pain for an individual worker may be spread across programs such as workers' compensation, formal sick leave, and group health insurance.

These suggestions are but a few of the implications that flow from a re-orientation of managers away from the injury model approach to back pain. State workers' compensation laws may require *pro forma* adherence to that model, but the effectiveness of disability management policies can be greatly enhanced if the policies address the realities of back pain rather

than the familiar, but largely irrelevant, constructs of the past. Although the question is not addressed here, some of the issues related to back pain also apply to some other conditions covered by workers' compensation.

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Workers' Compensation Benefits: Frequencies and Amounts 1995-2000

By Florence Blum and John F. Burton, Jr.

This article is the latest in a series of articles on workers' compensation benefits we have written.[1] In Blum and Burton (2002) we provided three types of data not previously published. The first was state data on frequency of claims per 100,000 workers for four types of cash benefits and for medical benefits; the second was state data on average benefits per claim for the four types of cash benefits and for medical benefits; the third was state data on cash benefits per 100,000 workers for four types of cash benefits. In Blum and Burton (2002) we presented these three types of data for 1995 to 1998 (Tables 1A-15A). In Blum and Burton (2003) we updated Tables 1A-15A to 1999 and published four years of data (1996-1999). In the current article, we update the data to 2000 but present the data in a different format. Table 1 includes 2000 state data on frequency of claims per 100,000 workers for four types of cash benefits. Table 2 includes 2000 state data on average benefits per claim for the four types of cash benefits. Table 3 includes 2000 state data on cash benefits per 100,000 workers for four types of cash benefits. Finally, Table 4 includes 2000 state data on medical benefits for all three types of data. For data prior to 2000, Blum and Burton (2002) provides data for 1995 to 1998, and Blum and Burton (2003) presents data for 1996 to 1999. The complete set of data (1995-2000) are also available for subscribers from our website at www.workerscomp-resources.com

Since data from Tables 1-4 of this article and the data from the earlier articles are difficult to assimilate, we include a second set of tables (1B-15B) which takes data from all six years, 1995 to 2000, and categorizes each state's result into five classifications relative to the national average.

Most of our data are derived from the various issues of the *Annual Statistical Bulletin* (*ASB*) published by the National Council on Compensation Insurance (NCCI), supplemented by additional information we obtained from the NCCI and from several states. We have allocated the *ASB* data from policy year periods to calendar years and have to the extent feasible filled in gaps in the *ASB* data. The data are incurred benefits, which means they represent the estimates of the eventual costs of claims filed during the policy years. The data published by the NCCI in the *ASB* are derived from reports filed by private insurance carriers and some competitive state funds. As a result, the data in our articles exclude the experience of most exclusive state funds,[2] some competitive state funds, and all self-insuring employers.

Frequency of Claims

Temporary Total Disability Benefits. Temporary total disability (TTD) benefits are paid to a worker who is completely unable to work but whose injury is of a temporary nature. Workers only qualify for these benefits if they are unable to work for a period longer than the waiting period. The waiting periods vary among states, and range from three days to seven days. Thus, a worker who is unable to work for five days would qualify for TTD benefits in Connecticut (which has a three-day waiting period) but not in New York (which has a seven-day waiting period).

The differences in waiting periods help explain the differences in the frequency of temporary total disability benefits shown in Table 1 (tables begin on page 28). Thus, in 2000 Connecticut had 1,092 TTD cases per 100,000 workers, while New York had 819 TTD cases per 100,000 workers. There are other factors, such as the prevalence of high-risk industries and the legal standards used to determine whether an injury qualifies for workers' compensation benefits, which also affect the frequency of TTD cases. Wisconsin, which like Connecticut has a three-day waiting period, had 1,570 TTD cases per 100,000 workers in 2000, considerably more than the 1,092 cases per 100,000 workers in Connecticut.

The information in Table 1, Column 1 is presented in a format that facilitates interstate comparisons for 2000. The data for Temporary Total Frequency are presented in columns (1) to (3): column (1) provides the frequency (or number) of TTD cases per 100,000 workers for the 47 jurisdictions with data available for 2000, plus the national average of 942 TTD cases per 100,000 workers for 47 jurisdictions (excluding the Longshore and Harbor Workers [USL&HW] program); column (2) shows each state's frequency as a percentage of the national average for TTD claims; and column (3) provides the ranking of the jurisdictions in terms of the frequency of TTD cases. The range is from 3,655 TTD cases per 100,000 workers in the USL&HW program to 346 TTD cases per 100,000 workers in the District of Columbia.

The information in Table 1, Column 1 and the previously published data on the frequencies of TTD claims for 47 jurisdictions for six years is valuable, including the evidence of a decline in the national average from 1,208 TTD claims per 100,000 work-

ers in 1995 to 942 TTD claims per 100,000 workers in 2000. However, since the amount of information in these tables is difficult to assimilate, we have categorized the state frequencies into the categories shown in Table 1B for 1995 to 2000. A state receives a "++" for a particular year if its frequency of TTD benefits is well above the U.S. average. Likewise, a state receives a "+" for a particular year if its cash benefits are above average; a "- -" if its cash benefits are well below average, a "-" if its benefits are below average; a "0" if its benefits are average; and a "N/A" if data are not available for that particular year. (The ranges for the various categories are shown in the notes to the tables.)

The entries in Table 1B indicate that some states consistently have more TTD cases than the national average. Four jurisdictions (Alaska, Hawaii, Wisconsin, and the USL&HW) had TTD frequencies that were well above average in all six years in the table, and seven states (Delaware, Idaho, and Massachusetts, New Hampshire, Oregon, Rhode Island, and Vermont) had TTD frequencies that were above average or well above average for all six years. In contrast, the District of Columbia had TTD frequencies that were well below average for the six years, and four states (Kansas, North Carolina, Texas, and Virginia) had TTD frequencies that were below average for all six years. There were 17 states with TTD frequencies near the national averages in all six years with data. There were several states where over time the frequency relative to the national average changed between adjacent categories: examples are Idaho (where the TTD frequencies ranged from above to well above the national average); Connecticut (where the TTD frequencies dropped from above average to average); and Oklahoma and Pennsylvania (where TTD frequencies increased from average to above average over the six years). Only in Alabama was there a substantial change (spanning more than two categories in the table) in

the state's TTD frequencies relative to the national average: from above average in 1995 to well above average in 1996 and then dropped to average from 1997 through 2000. Thus, most jurisdictions had relatively stable TTD frequencies relative to the national average.

Permanent Partial Disability Benefits. Permanent partial disability (PPD) benefits are paid to a worker who has permanent consequences of his or her work-related injury or disease but the consequences are not totally disabling. The benefits normally are paid after a worker has reached the date of maximum medical recovery and is no longer eligible for temporary disability benefits.

Factors such as the prevalence of high-risk industries and the legal standards used to determine whether an injury qualifies for PPD benefits affect the frequency of PPD cases in various jurisdictions. These and other factors are reflected in the substantial interjurisdictional variations in the prevalence of PPD claims shown in Table 1, Column 4. In 2000, the range was from 1,358 PPD claims per 100,000 workers in the USL&HW program to 125 per 100,000 workers in Michigan.

Table 1, Column 4 and the previously published data provides considerable useful information, including a slight decrease in the national average of PPD claims per 100,000 workers from 524 in 1995 to 521 in 2000. However, examination of differences among states is facilitated by the information in Table 2B, which categorizes states in terms of their frequency of PPD claims relative to the national average for PPD claims in that year. Two jurisdictions (California, and the USL&HW program) had PPD frequencies that were well above the national average in all six years between 1995 and 2000. In addition, three states (Alaska, Missouri, and Oklahoma) had PPD frequencies that were above the national

average or well above the national average in all years. In contrast, four jurisdictions (the District of Columbia, Michigan, Pennsylvania, and Virginia) had PPD frequencies that were well below the national average for all six years, and thirteen states (Alabama, Arizona, Delaware, Georgia, Indiana, Kentucky, Louisiana, Maine, Mississippi, New Hampshire, New Mexico, South Dakota, and Utah) had PPD frequencies below the national average or well below the national average in all years with data. There were only eight states that had PPD frequencies that were near the national average in all six years. Most states were relatively stable in their PPD frequencies compared to the national averages over this period. There were exceptions, however. Idaho began with a PPD frequency that was near the national average in 1995, dropped to below average in 1996 and 1997, dropped to well below the national average in 1998 and returned to below average in 1999 and 2000. In contrast, New Jersey began well above the national average in 1995, then dropped to above average in 1996, and declined to average from 1997 through 2000.

Permanent Total Disability Benefits. Permanent total disability (PTD) benefits are paid to a worker who has permanent consequences of his or her work-related injury or disease and the consequences are totally disabling. Factors such as the prevalence of high-risk industries and the legal standards used to determine whether an injury qualifies for PTD benefits affect the frequency of these cases in various jurisdictions. There are also relatively few PTD cases, which can result in substantial year-to-year variations in a state. These and other factors are reflected in the substantial interjurisdictional and intertemporal variations in the prevalence of PTD claims shown in Table 1, Column 7. In 2000, the range was from 34 PTD claims per 100,000 workers in Florida to zero PTD claim per 100,000 workers in the District of Columbia and Vermont.[3]

Table 1, Column 7 and the previously published data provide considerable useful information, including the stability in the national average of 6 to 9 PTD claims per 100,000 workers between 1995 and 2000. However, examination of differences among states is facilitated by the information in Table 3B, which categorizes states in terms of their frequency of PTD claims relative to the national average for PTD claims in that year. Florida was the only program that had PTD frequencies that were well above the national average in all six years between 1995 and 2000. In contrast, there were 14 jurisdictions with PTD frequencies that were well below the national average in all six years with data.[4] There were also six states (Arkansas, Connecticut, Idaho, Kansas, Virginia, and Wisconsin) that had PTD frequencies below or well below the national average in all six years. Only one state (North Carolina) had PTD frequencies that were near the national average in all six years. The volatility of PTD frequencies is well illustrated by the experience in nine jurisdictions (Georgia, Louisiana, Mississippi, Montana, New Hampshire, Pennsylvania, South Carolina, South Dakota, and the USL&HW program), where the PTD frequencies ranged from well above to well below the national averages over the six years.

Death Benefits. Death benefits are paid to the survivor or survivors of a worker who was killed on the job. Factors such as the prevalence of high-risk industries and the legal standards used to determine whether an injury qualifies for death benefits affect the frequency of these cases in various jurisdictions. As with PTD cases, there are also relatively few death cases, which can result in substantial year-to-year variations in a state. These and other factors are reflected in the substantial interjurisdictional and intertemporal variations in the prevalence of death claims shown in Table 1, Column 10. In 2000, the range was from 17 death claims per 100,000 workers in the

USL&HW program to 1 death claims per 100,000 workers in Delaware.

Table 1, Column 10 and the previously published data provides considerable useful information, including the stability in the national average of 4 or 5 death claims per 100,000 workers between 1995 and 2000. However, examination of differences among states is facilitated by the information in Table 4B, which categorizes states in terms of their frequency of death claims relative to the national average for death claims in that year. Two programs (Idaho, and the USL&HW program) had fatal frequencies that were well above the national average in all six years between 1995 and 2000. In addition, five states (Alaska, Mississippi, Montana, New Mexico, and Oklahoma) had death rates that were above or well above the national averages in all years with data. In contrast, three jurisdictions (the District of Columbia, New Jersey and Wisconsin) had fatal frequencies that were below or well below the national average in all six years. Only three states (California, Florida, and Michigan) had death rates near the national average in all six years. There was considerable variability among years in some states in their death claims compared to the national average: the extremes were Hawaii and Maine, which were well above the national average in one year and well below in another year.

Total Cases. In addition to the four types of cases with cash benefits, there are workers' compensation cases that pay medical benefits but no cash benefits. These medical-only cases typically involve relatively minor injuries that require medical treatment but that do not result in enough lost days for the worker to meet the waiting period for TTD benefits. These medical-only cases are relatively common. In 2000, for example, when the national averages of cases per 100,000 workers were 942 TTD, 521 PPD, 9 PTD, and 4 fatal cases (for a total of 1,476 cases per

100,000 workers paying cash benefits), there were an additional 4,435[5] medical only cases per 100,000 workers.

The sum of the cases paying cash benefits and cases paying medical benefits only in 2000 was 5,911 cases per 100,000 workers, as shown in Table 4, Column 1. Factors such as the prevalence of high-risk industries and the legal standards used to determine whether an injury qualifies for workers' compensation benefits affect the frequency of compensable cases in various jurisdictions. These and other factors are reflected in the substantial interjurisdictional variations in the prevalence of total claims shown in Table 4, Column 1. In 2000, the range was from 17,600 total claims per 100,000 workers in the USL&HW program to 1,388 total claims per 100,000 workers in the District of Columbia.

Table 4, Column 1 and previously published data provide considerable useful information, including the decrease in the national average from 7,115 total claims per 100,000 workers in 1995 to 5,911 per 100,000 workers in 2000. However, examination of differences among states is facilitated by the information in Table 5B, which categorizes states in terms of their frequency of total claims relative to the national average for total claims in each year. Only the USL&HW program had total frequencies that were well above the national average in all years between 1995 and 2000, but six other jurisdictions (Alaska, Idaho, Indiana, Montana, Nevada, and Wisconsin) had total frequencies that were above average or well above average in all six years with data. In contrast, only the District of Columbia was well below average in all years, and only Maryland, New Jersey, and New York were below average in all six years in terms of their total claims compared to the national average. There were 27 states that had total claim rates near the national average in all six years. The limited volatility at this level of aggregation is

reinforced by the few number of states that varied between categories over the six years. There were two states (Idaho and Montana) that were above average or well above average in all six years; seven states (Kentucky, Maine, Michigan, Pennsylvania, Rhode Island, South Dakota, and Utah) that were near average or above average in all years; and two states (Texas and Virginia) that were near average or below average in all six years. No state had a change in total frequencies of cash benefit cases large enough to change in relationship to the national averages by more than one of the categories used in Table 5B.

Average Benefits per Claim

Temporary Total Disability Cash Benefits. The temporary total disability (TTD) cash benefits paid to a worker are affected *inter alia* by the worker's average weekly wage prior to the injury, by the nominal replacement rate (typically TTD benefits are 66 2/3 percent of preinjury earnings), by the weekly maximum and minimum TTD benefits prescribed by statute, and by the duration of the TTD benefits. As previously noted, the waiting periods for TTD benefits vary among states, and range from three days to seven days. Thus, workers who are unable to work for four to seven days would receive TTD benefits in Connecticut (which has a three-day waiting period) but would not receive TTD benefits in New York (which has a seven-day waiting period). Since there typically are a large number of workers with four to seven days of lost time, they would reduce the average for all cases receiving TTD benefits in Connecticut but would not reduce the average for all cases receiving TTD benefits in New York.

The differences in waiting periods help explain the differences in the average of temporary total disability cash benefits shown in Table 2, Column 1. Thus, in 2000 the average

benefit for workers who obtained TTD benefits in Connecticut was $3,750 while in New York the average TTD benefit was $4,637. There are other factors, such as the statutory provision used to determine TTD benefits, which also affect the averages of TTD benefits. Wisconsin, which like Connecticut has a 3-day waiting period, paid $2,773 in the average TTD case in 2000, considerably less than the $3,750 average for TTD benefits in Connecticut.

The information in Table 2, Column 1 is presented in a format that facilitates interstate comparisons. The range of average TTD benefits in 2000 was $8,924 per case in Massachusetts to $2,351 per case in Arizona.

The information in Table 2, Column 1 and the previously published data on the averages for TTD claims for 47 jurisdictions for six years is interesting, including the evidence of an increase in the national average from $3,016 per TTD claim in 1995 to $5,147 per TTD claim in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state average benefits per claim into the categories shown in Table 6B.

The entries in Table 6B indicate that some states consistently have TTD benefits that are higher than the national average. No jurisdiction was consistently well above (that is more that 50 percent above) the national average. However, four jurisdictions (Florida, Massachusetts, Michigan, and Texas) had TTD average benefits that were either well above or above average (at least 25 percent above) in all six years in the table. There was no state with TTD benefits that were well below the national average in all six years, but nine jurisdictions (Arizona, California, the District of Columbia, Iowa, Minnesota, New Hampshire, Oregon, Utah, and Wisconsin) were well below or below average in all the years with data. There were 14 states that were near the national average in all years in the

table. The entries in Table 6B indicate that states were relatively stable in the relationship between average TTD benefits in a state and the national average: only Idaho, Pennsylvania, and South Carolina shifted more than one category over the six years (near the national average in TTD benefits in one year and well above average in at least one other year).

Permanent Partial Disability Cash Benefits. The permanent partial disability (PPD) cash benefits paid to a worker are affected *inter alia* by the worker's average weekly wage prior to the injury, by the nominal replacement rate (typically PPD benefits are 66 2/3 percent of preinjury earnings), by the weekly maximum and minimum PPD benefits prescribed by statute, and by the duration of the PPD benefits. The states vary in their approaches to determining the duration (and sometimes the weekly benefit amount). Some PPD benefits are related to the seriousness of the worker's injury (the impairment approach); some PPD benefits are related to the extent of loss of earning capacity; some PPD benefits are related to the actual loss of earnings; often states use more than one of these approaches depending on the nature of the injury or other factors.

The resulting differences in weekly PPD benefits and durations among states explain the considerable variations among states in the average cash benefits for PPD claims shown in Table 2, Column 4. The range of average PPD benefits in 2000 was from $113,546 per case in Michigan to $16,735 per case in Missouri.

The information in Table 2, Column 4 and previously published data on the averages for PPD claims for 47 jurisdictions for six years is valuable, including the evidence of an increase in the national average from $31,074 per PPD claim in 1995 to $40,332 per PPD claim in 2000. However, the amount of information in these tables is virtually impossible to assimilate,

and so we have categorized the state average benefits per claim into the categories shown in Table 7B.

The entries in Table 7B indicate that some states consistently have PPD benefits that are higher than the national average. Five jurisdictions (Louisiana, Michigan, New York, Pennsylvania, and the USL&HW program) were well above (that is more that 50 percent above) the national average in the six years from 1995 to 2000. In addition, two jurisdictions (Maine and Rhode Island) were above average or well above average in all years with data. In contrast, three states (Indiana, Kansas, and Missouri) were well below average in all six years, and 13 states (Arkansas, Illinois, Iowa, Montana, Nebraska, New Jersey, New Mexico, Oklahoma, Oregon, South Carolina, Texas, Utah, and Wisconsin) were below average or well below average in all six years. There were 14 states that were near the national average for PPD benefits in all years with data. There was considerable variability across years in three jurisdictions: New Hampshire and Virginia, which varied between average and well above average, and South Dakota, which varied between average and well below average.

Permanent Total Disability Cash Benefits. The permanent total disability (PTD) cash benefits paid to a worker are affected *inter alia* by the worker's average weekly wage prior to the injury, by the nominal replacement rate (typically PTD benefits are 66 2/3 percent of preinjury earnings), by the weekly maximum and minimum PPD benefits prescribed by statute, and by the duration of the PPD benefits. Some states limit the duration and/or total amount of PTD benefits paid to workers who are totally disabled.

The resulting differences in weekly PTD benefits and durations among states explain the considerable variations among states in the average cash benefits for PTD claims shown

in Table 2, Column 7. The range of average PTD benefits in 2000 was from $764,547 per case in Delaware to $19,468 per case in South Dakota. Because PTD cases are so uncommon, unusual results in a few cases may significantly affect a state's average.[6]

The information in Table 2, Column 7 and previously published data on the averages for PTD claims for 47 jurisdictions for six years is valuable, including the evidence of an increase in the national average from $210,480 per PTD claim in 1995 to $215,088 per PTD claim in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state average benefits per claim into the categories shown in Table 8B.

The entries in Table 8B indicate that some states consistently have PTD benefits that are higher than the national average. Nevada is consistently well above the national average of PTD benefits for the five years with data for that state. In addition, two jurisdictions (Massachusetts and Pennsylvania) were above average or well above the national average in the six years from 1995 to 2000. In contrast, Arkansas was well below average for PTD benefits in all six years, and three states (Indiana, Maine, and Texas) were below average or well below average for all years. Only two states (California and Oregon) had PTD benefits that were near the national average in all years. The entries in Table 8B show considerable volatility among states in their PTD benefits relative to the national averages. Indeed, ten states (Hawaii, Idaho, Montana, New Hampshire, New Jersey, New Mexico, Rhode Island, South Dakota, Utah, and Vermont) had PTD benefits that were well above the national average in at least one year and PTD benefits that were well below the national average in at least one year.

Death Cash Benefits. The death cash benefits paid to a survivor are affected *inter alia* by the worker's aver-

age weekly wage prior to the fatality, by the nominal replacement rate (the percent of earnings prior to death varies in some states depending on the number of dependents), by the weekly maximum and minimum death benefits prescribed by statute, and by the duration of the death benefits. Some states limit the duration and/or total amount of death benefits paid to a surviving spouse, and all states normally limit the duration of death benefits for children.

The resulting differences in weekly death benefits and durations among states explain the considerable variations among states in the average cash benefits for death claims shown in Table 2, Column 10. The range of average death benefits in 2000 was from $686,514 per case in Connecticut to $59,879 per case in Arkansas. Because death cases are so uncommon, unusual results in a few cases may significantly affect a state's average.[7]

The information in Table 2, Column 10 and previously published data on the average of cash benefits for death claims for 47 jurisdictions for six years is instructive, including the evidence of an increase in the national average from $155,015 per death claim in 1995 to $187,605 per death claim in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state average benefits per claim into the categories shown in Table 9B.

The entries in Table 9B indicate that some states consistently have death benefits that are higher than the national average. Only one state (Nevada) had well above the national average for death benefits for all five years with data. In addition, two jurisdictions (Alaska and Oregon) had death benefits that were above average or well above the national average in 1995 to 2000. In contrast, three states (Arkansas, Florida, and Mississippi) had death benefits that were consistently well below the na-

tional average, and six states (Alabama, California, Idaho, South Carolina, Tennessee, and Virginia) had death benefits that were below average or well below average in all six years. There was considerable variability among years in some states in their death benefits compared to the national average: the extremes were Delaware, New Hampshire, Rhode Island and South Dakota, which were well above the national average in one year and well below in another year.

Medical Benefits. Medical benefits are paid both in cases in which the worker receives cash benefits and in medical-only cases, in which the worker has medical expenses because of the work-related injury or disease but the worker does not qualify for cash benefits. The averages for medical benefits in a jurisdiction will be affected *inter alia* by the general cost of medical care in the state, the use of managed care in the workers' compensation program, the use of medical fee schedules, and (arguably) the decision about whether the worker or the employer controls the choice of the treating physician.

These factors help explain the considerable variations among states in the averages for medical benefits in total cases (medical-only plus cases with cash benefits) shown in Table 4, Column 4.[8] The range of average medical benefits in 2000 was from $9,705 per case in California to $1,558 per case in Rhode Island.

The information in Table 4, Column 4 and previously published data on the averages of medical benefits for all claims for 47 jurisdictions for six years is valuable, including the evidence of the increase in the national average from $2,767 per case in 1995 to $4,895 per claim in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state average medical benefits per claim into the categories shown in Table 10B.

The entries in Table 10B indicate that some states consistently have medical benefits that are higher than the national average. Only Texas was well above the national averages for medical benefits for all six years. One state (Alaska) was above or well above the national average of medical benefits for all years. No state was consistently well below the national average for medical benefits, but six states (Arkansas, Indiana, Iowa, Massachusetts, Michigan, and Wisconsin) were below average or well below average for medical benefits in all six years. Most states were relatively stable in terms of their medical benefits compared to the national average: ten states were near average in all six years. The most volatile jurisdictions were Alabama, California, Delaware, the District of Columbia, Florida, Louisiana, Montana, Oregon and the USL&HW program (which varied between average and well above average) and Rhode Island and Utah (which varied between average and well below average.)

Benefits Paid per 100,000 Workers by Type of Case

Table 1 provides data on the frequency of claims per 100,000 workers for four types of cases with cash benefits plus the frequency of all cases paying cash or medical benefits. Table 2 provides data on the average cash benefits per case for the four types of cases with cash benefits plus the average medical benefits per case in all compensable cases. Table 3 shows the benefits paid per 100,000 workers for these four categories of cases. The benefits paid per 100,000 workers are the product of the frequency (Table 1) times the average benefit per claim (Tables 2).

Temporary Total Disability Cash Benefits. Table 3, Column 1 provides the cash benefits per 100,000 workers for cases receiving temporary total disability benefits for the 47 jurisdictions in our study for the year 2000. The derivation of the data in

Table 3, Column 1 can be illustrated by focusing on the Alabama entry for 2000. There were 911 temporary total disability cases per 100,000 workers in Alabama in 2000 (as shown in Table 1, Column 1); the average of the cash benefits for temporary total disability cases in Alabama in 2000 was $4,477 (as shown in Table 2, Column 1); the product of 911 cases times $4,477 per case is $4,078,547 of temporary total disability benefits per 100,000 workers in Alabama in 2000 (as shown in Table 3, Column 1). The information in Table 3, Column 1 is presented in a format that facilitates interstate comparisons. The range of TTD cash benefits per 100,000 workers in 2000 was $18,070,320 in the USL&HW program to $1,280,546 in the District of Columbia.

The information in Table 3, Column 1 and previously published data on the TTD cash benefits per 100,000 workers for 47 jurisdictions for six years is valuable, including the evidence of an increase in the national average from $3,563,498 in 1995 to $4,738,518 in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state TTD benefits per 100,000 workers into the categories shown in Table 11B.

The entries in Table 11B indicate that some states consistently pay more TTD cash benefits per 100,000 workers than the national average. Four jurisdictions (Massachusetts, Michigan, Pennsylvania, and the USL&HW program) were consistently well above (that is more that 50 percent above) the national average. In four other states (Alaska, Florida, Idaho, and Maine) the TTD cash benefits per 100,000 workers were above the national average (at least 25 percent about the national average) or well above the national average in all six years. In contrast, TTD cash benefits per 100,000 workers were well below the national average for all six years for the District of Columbia, and below average or well below average in four states

(Arizona, Minnesota, Utah, and Virginia) for 1995 to 2000. In 15 states, the TTD cash benefits per 100,000 workers were near the national average in every year with data. The only states where the state's averages relative to the national average changed by more than one category over the six years were Delaware, Hawaii, Rhode Island, and Vermont, where the state's benefits were near the national average in one year and well above the national average in at least one other year, and California where the state's benefits were well below the national average in one year and near the national average in at least one other year.

Permanent Partial Disability Cash Benefits. Table 3, Column 4 provides the cash benefits per 100,000 workers for cases receiving permanent partial disability benefits for the 47 jurisdictions in our study for the year 2000. The range of PPD cash benefits per 100,000 workers in 2000 was from $115,148,894 in the USL&HW program to $4,182,660 in Utah.

The information in Table 3, Column 4 and previously published data on the PPD cash benefits per 100,000 workers for 47 jurisdictions for six years is valuable, including the evidence of an increase in the national average from $14,338,590 in 1995 to $19,396,047 in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state PPD benefits per 100,000 workers into the categories shown in Table 12B.

The entries in Table 12B indicate that some states consistently paid more PPD cash benefits per 100,000 workers than the national average. Three jurisdictions (California, New York, and the USL&HW program) were well above (that is more that 50 percent above) the national average for all six years, and Alaska was above or well above the national average for all years. In sharp contrast, five jurisdictions (Arkansas, the District of Columbia, Indiana, New Mexico, and Utah) paid PPD benefits per 100,000 workers that were well below the national average for all six years. An additional ten states (Alabama, Idaho, Kansas, Kentucky, Mississippi, Nebraska, South Dakota, Texas, Virginia, and Wisconsin) paid PPD benefits per 100,000 workers that consistently were below or well below the national average. There were six states that paid near the national average in all six years. Three states (Nevada, Oklahoma, and Rhode Island) had relatively volatile PPD benefits per 100,000 workers, ranging from near the national average in at least one year to well above the national average in at least one other year. In contrast, Arizona had average PPD benefits in 1995, dropped to below average from 1996 to 1998, and then dropped to well below average in 1999 and 2000.

Permanent Total Disability Cash Benefits. Table 3, Column 7 provides the cash benefits per 100,000 workers for cases receiving permanent total disability benefits for the 47 jurisdictions in our study for the year 2000. The range of PTD cash benefits per 100,000 workers in 2000 was from $7,468,372 in the USL&HW program to $0 in Vermont.

The information in Table 3, Column 7 and previously published data on the PTD cash benefits per 100,000 workers for 47 jurisdictions for six years is valuable, including the evidence of an increase in the national average from $1,295,722 in 1995 to $1,651,266 in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state PTD benefits per 100,000 workers into the categories shown in Table 13B.

The entries in Table 13B indicate that some states consistently paid more PTD cash benefits per 100,000 workers than the national average. Three jurisdictions (Colorado, Florida, and Pennsylvania) were well above (that is more that 50 percent above) the national average from 1995 to 2000. In contrast to these states with well above average PTD cash benefits, seven jurisdictions (Arkansas, the District of Columbia, Indiana, Iowa, Kansas, Maine, and Michigan) paid well below the national average in PTD cash benefits per 100,000 workers. In addition, ten states (Kentucky, Massachusetts, Minnesota, Mississippi, New Mexico, Oklahoma, Oregon, Tennessee, Texas and Vermont) paid PTD cash benefits per 100,000 workers that were below or well below the national average in 1995 to 2000. There was no state that paid PTD cash benefits near the national average in all six years. The most volatile jurisdictions were Connecticut, Delaware, Louisiana, Montana, Nevada, New Jersey, South Dakota, and the USL&HW program, which paid PTD benefits per 100,000 workers that were well above the national average in at least one year and well below the national average in another year.

Death Cash Benefits. Table 3, Column 10 provides the cash benefits per 100,000 workers for cases receiving death benefits for the 47 jurisdictions in our study for the year 2000. The range of death cash benefits per 100,000 workers in 2000 was from $5,584,755 in the USL&HW program to $282,843 in Indiana.

The information in Table 3, Column 10 and previously published data on the death cash benefits per 100,000 workers for 47 jurisdictions for six years is provocative, including the evidence of a slight increase in the national average from $803,231 in 1995 to $808,443 in 2000. However, the amount of information in these tables is difficult to assimilate, and so we have categorized the state cash benefits for death cases per 100,000 workers into the categories shown in Table 14B.

The entries in Table 14B indicate that some jurisdictions consistently pay more death cash benefits per

100,000 workers than the national average. Six jurisdictions (Alaska, Missouri, Nevada, Oklahoma, Oregon, and the USL&HW program) were consistently well above (that is more that 50 percent above) the national average for all years with data. In contrast, Delaware, paid death cash benefits per 100,000 workers that were well below the national average from 1995 to 2000, and seven states (Arkansas, California, Florida, Indiana, Tennessee, Virginia, and Wisconsin) paid death benefits per 100,000 workers that were below or well below average in all six years. The most variable states in terms of death benefits per 100,000 workers were Connecticut, Hawaii, New Hampshire, Rhode Island, and South Dakota, where the state benefits were well above the national average in one year and well below the national average in another year.

Medical Benefits. Table 4, Column 7 provides the cash benefits per 100,000 workers for cases receiving medical benefits in medical-only cases or in cases with cash benefits for the 47 jurisdictions in our study for the year 2000. The range of medical benefits per 100,000 workers in 2000 was from $134,587,200 in the USL&HW program to $6,309,848 in the District of Columbia.

The information in Table 4, Column 7 and previously published data on the medical benefits per 100,000 workers for 47 jurisdictions for six years is instructive, including the evidence of an increase in the national average from $19,177,813 in 1995 to $28,800,303 in 2000. However, the amount of information in these tables 15A is difficult to assimilate, and so we have categorized the state medical benefits per 100,000 workers into the categories shown in Table 15B.

The entries in Table 15B indicate that some states consistently pay more medical benefits per 100,000 workers than the national average. Two jurisdictions (Alaska and the USL&HW program) were consis-

tently well above (that is more that 50 percent above) the national average from 1995 to 2000. In contrast, the District of Columbia had medical benefits per 100,000 workers that were well below the national average in all six years. In three other jurisdictions (Indiana, Massachusetts, and New Jersey) medical benefits per 100,000 workers were below or well below the national average from 1995 to 2000. There were 13 states with medical benefits that were near the national average in all six years. The states were relatively stable in terms of the relationship between their medical benefits per 100,000 workers and the national averages for various years. The most volatile states were Alabama, California, Delaware, Florida, Montana, and Oregon, where medical benefits relative to the national average varied between average and well above average in the six years reported, and Rhode Island, where medical benefits relative to the national average varied between well below average and average.

Conclusions

The 2000 data in Tables 1 to 4 and Tables 1B-15B plus similar data for 1995 to 1999 in Tables 1A-15A in Blum and Burton (2002) and Blum and Burton (2003) indicate that states differ widely in the frequency, average benefits, and benefits per 100,000 workers for four different types of cash benefits and for medical benefits. One particularly striking result is the decline in the total frequency (cases paying cash benefits and/or medical benefits) from 7,115 cases per 100,000 workers in 1995 to 5,911 cases per 100,000 workers in 2000.

ENDNOTES

1. The most recent article is Burton and Blum (2003).

2. Some of the tables in our article in Blum and Burton (2003) include data on West Virginia, which has an exclusive state fund.

3. Exhibit XII of NCCI (2003) shows 0 permanent total cases per 100,000 workers for Vermont for policy period 07/99-06/00 and Exhibit XII of NCCI (2004) shows 0 permanent total cases per 100,000 workers for Vermont which explains the 0 entry for Vermont in Column (7) of Table 1. However, Exhibit XI of NCCI (2003) and NCCI (2004) shows average cash benefits of Vermont permanent total cases of $171,283 and $122,780, which when averaged explain the Vermont permanent total entry of $147,032 in Column (7) of Table 2. Using our procedure of multiplying the frequencies in Table 1 times the average cash benefits per claim in Table 2 to calculate cash benefits per 100,000 workers explains the 0 entry for Vermont in Column (7) of Table 3.

A similar set of data for frequencies and average cash benefits per claim explains the entries for the District of Columbia in Column (7) of Tables 1, 2, and 3.

4. These include Hawaii and Minnesota, which had no PTD cases in one or more years. The N/A for Nevada is because data for that state only began in 1996.

5. The National Average for all cases (those paying cash benefits plus those paying medical benefits only) was 5, 911 (Table 4, Column 1). Subtracting 1,476, which is the number of cases paying cash benefits (Sum of Table 1, Columns 1, 4, 7, and 10) from the 5,911 of all cases means there were 4,435 medical only cases per 100,000 workers.

6. As can be seen in Blum and Burton (2003), Table 8A, the average benefits in PTD cases in Delaware in 1999 were substantially higher than the averages in 1996 through 1998.

7. As can be seen in Blum and Burton (2003), Table 9A, the average benefits in death cases in Rhode Island increased substantially each year from 1996 through 1999.

8. The NCCI publishes average medical benefits for medical only cases, for cases with cash benefits, and for all cases. In states with a short waiting period, the medical only cases involve relatively minor injuries and therefore the average medical benefits for the medical only cases as well as the averages for the cases with cash benefits are artificially low compared to states with longer waiting periods. Using the average medical benefits for all cases removes this artificial impediment to interstate comparability.

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Table 1 - Frequencies Per 100,000 Workers in 2000

State	Temporary Total Frequency (1)	State as Percent of U.S. Average (2)	Rank Among 47 Jurisdictions (3)	Permanent Partial Frequency (4)	State as Percent of U.S. Average (5)	Rank Among 47 Jurisdictions (6)	Permanent Total Frequency (7)	State as Percent of U.S. Average (8)	Rank Among 47 Jurisdictions (9)	Fatal Frequency (10)	State as Percent of U.S. Average (11)	Rank Among 47 Jurisdictions (12)
Alabama	911	96.7	27	302	58.0	34	10	110.5	8	6	135.6	14
Alaska	2,061	218.8	2	736	141.3	4	9	99.5	10	9	203.3	3
Arizona	711	75.5	38	265	50.9	41	4	44.2	22	3	67.8	34
Arkansas	761	80.8	36	409	78.5	23	6	66.3	16	6	135.6	14
California	1,172	124.4	17	1,271	244.0	2	14	154.7	5	4	90.4	27
Colorado	763	81.0	35	513	98.5	11	8	88.4	13	3	67.8	34
Connecticut	1,092	115.9	20	513	98.5	11	2	22.1	33	4	90.4	27
Delaware	1,314	139.5	11	307	58.9	33	2	22.1	33	1	22.6	47
Dis. of Columbia	346	36.7	47	133	25.5	46	0	0.0	46	3	67.8	34
Florida	1,024	108.7	22	379	72.7	25	34	375.8	1	3	113.0	19
Georgia	556	59.0	44	298	57.2	35	5	55.3	19	5	113.0	19
Hawaii	1,977	209.9	4	484	92.9	19	1	11.1	43	7	158.2	11
Idaho	1,401	148.7	7	291	55.9	38	5	55.3	19	8	180.8	6
Illinois	773	82.1	34	663	127.3	6	8	88.4	13	4	90.4	27
Indiana	818	86.8	31	277	53.2	40	3	33.2	28	3	67.8	34
Iowa	1,123	119.2	18	531	101.9	10	2	22.1	33	4	90.4	27
Kansas	665	70.6	42	620	119.0	7	6	66.3	16	5	113.0	19
Kentucky	1,021	108.4	24	289	55.5	39	3	33.2	28	8	180.8	6
Louisiana	806	85.6	32	294	56.4	37	14	154.7	5	7	158.2	11
Maine	1,361	144.5	9	176	33.8	45	5	55.3	19	6	135.6	14
Maryland	800	84.9	33	342	65.6	28	2	22.1	33	7	158.2	11
Massachusetts	1,286	136.5	12	332	63.7	30	2	22.1	33	2	45.2	45
Michigan	1,195	126.8	16	125	24.0	47	4	44.2	22	4	90.4	27
Minnesota	1,103	117.1	19	380	72.9	24	3	33.2	28	5	113.0	19
Mississippi	1,023	108.6	23	337	64.7	29	4	44.2	22	9	203.3	3
Missouri	878	93.2	29	946	181.6	3	7	77.4	15	5	113.0	19
Montana	1,211	128.5	14	602	115.5	8	29	320.5	2	8	180.8	6
Nebraska	682	72.4	40	460	88.3	20	2	22.1	33	9	203.3	3
Nevada	945	100.3	26	506	97.1	17	9	99.5	10	4	90.4	27
New Hampshire	1,388	147.3	8	296	56.8	36	1	11.1	43	2	45.2	45
New Jersey	685	72.7	39	512	98.3	13	6	66.3	16	3	67.8	34
New Mexico	885	93.9	28	318	61.0	32	2	22.1	33	8	180.8	6
New York	819	86.9	30	510	97.9	15	17	187.9	3	3	67.8	34
North Carolina	551	58.5	45	361	69.3	26	10	110.5	8	4	90.4	27
Oklahoma	1,233	130.9	13	690	132.4	5	2	22.1	33	8	180.8	6
Oregon	1,411	149.8	6	552	106.0	9	3	33.2	28	6	135.6	14
Pennsylvania	1,208	128.2	15	201	38.6	42	4	44.2	22	3	67.8	34
Rhode Island	1,986	210.8	3	353	67.8	27	2	22.1	33	3	67.8	34
South Carolina	682	72.4	40	510	97.9	15	11	121.6	7	5	113.0	19
South Dakota	1,029	109.2	21	321	61.6	31	1	11.1	43	10	225.9	2
Tennessee	738	78.3	37	458	87.9	21	4	44.2	22	6	135.6	14
Texas	661	70.2	43	512	98.3	13	9	99.5	10	5	113.0	19
USL&HW	3,655	388.0	1	1,358	260.7	1	17	187.9	3	17	384.1	1
Utah	954	101.3	25	180	34.5	44	3	33.2	28	5	113.0	19
Vermont	1,339	142.1	10	504	96.7	18	0	0.0	46	3	67.8	34
Virginia	538	57.1	46	200	38.4	43	4	44.2	22	3	67.8	34
Wisconsin	1,570	166.7	5	442	84.8	22	2	22.1	33	3	67.8	34
National Avg.	942			521			9			4		

Note: National Average based on 46 jurisdictions (excluding USL&HW).

Table 2 - Average Cash Benefits Per Case in 2000 (in dollars)

State	Temp. Total Average Benefits (1)	State as Percent of U.S. Average (2)	Rank Among 47 Jurisdictions (3)	Perm. Partial Average Benefits (4)	State as Percent of U.S. Average (5)	Rank Among 47 Jurisdictions (6)	Perm. Total Average Benefits (7)	State as Percent of U.S. Average (8)	Rank Among 47 Jurisdictions (9)	Fatal Average Benefits (10)	State as Percent of U.S. Average (11)	Rank Among 47 Jurisdictions (12)
Alabama	4,477	87.0	28	32,233	79.9	25	146,842	68.3	32	116,381	62.0	40
Alaska	3,848	74.8	34	47,280	117.2	10	130,640	60.7	35	325,532	173.5	10
Arizona	2,351	45.7	47	32,091	79.6	26	196,646	91.4	24	197,262	105.1	23
Arkansas	3,148	61.2	41	17,772	44.1	45	98,651	45.9	39	59,879	31.9	47
California	3,738	72.6	36	42,624	105.7	13	213,202	99.1	20	118,899	63.4	38
Colorado	4,941	96.0	18	31,970	79.3	27	366,244	170.3	7	216,360	115.3	18
Connecticut	3,750	72.9	35	38,557	95.6	19	562,496	261.5	3	686,514	365.9	1
Delaware	4,897	95.1	20	49,280	122.2	8	764,547	355.5	1	379,488	202.3	4
Dis. of Columbia	3,701	71.9	37	43,641	108.2	12	318,366	148.0	9	145,746	77.7	32
Florida	6,598	128.2	5	29,072	72.1	29	142,224	66.1	34	68,679	36.6	46
Georgia	6,140	119.3	8	41,801	103.6	14	204,641	95.1	21	134,838	71.9	36
Hawaii	4,576	88.9	26	35,468	87.9	21	115,771	53.8	37	121,164	64.6	37
Idaho	5,664	110.0	12	26,304	65.2	33	43,814	20.4	46	69,667	37.1	45
Illinois	6,217	120.8	7	26,418	65.5	32	151,464	70.4	30	165,936	88.4	28
Indiana	4,016	78.0	33	16,835	41.7	46	71,690	33.3	43	94,281	50.3	42
Iowa	3,603	70.0	38	24,583	61.0	35	217,642	101.2	18	338,453	180.4	8
Kansas	4,507	87.6	27	17,926	44.4	44	77,688	36.1	41	140,551	74.9	35
Kentucky	4,317	83.9	29	39,193	97.2	18	279,490	129.9	12	232,828	124.1	15
Louisiana	4,762	92.5	23	68,401	169.6	4	178,499	83.0	26	169,602	90.4	27
Maine	6,039	117.3	10	66,937	166.0	5	67,407	31.3	44	151,740	80.9	31
Maryland	5,261	102.2	14	35,135	87.1	22	347,222	161.4	8	169,631	90.4	26
Massachusetts	8,924	173.4	1	36,135	89.6	20	491,775	228.6	4	463,158	246.9	2
Michigan	6,606	128.3	4	113,546	281.5	1	154,061	71.6	29	208,365	111.1	20
Minnesota	2,375	46.1	46	40,839	101.3	15	220,155	102.4	17	192,193	102.4	24
Mississippi	4,313	83.8	30	31,955	79.2	28	262,383	122.0	14	72,582	38.7	44
Missouri	5,138	99.8	15	16,735	41.5	47	202,776	94.3	23	344,987	183.9	7
Montana	4,692	91.2	24	21,809	54.1	40	72,314	33.6	42	141,700	75.5	34
Nebraska	4,795	93.2	22	23,777	59.0	36	286,061	133.0	11	355,594	189.5	6
Nevada	4,037	78.4	32	32,685	81.0	24	400,267	186.1	6	443,961	236.6	3
New Hampshire	3,050	59.3	43	48,135	119.3	9	290,510	135.1	10	313,826	167.3	12
New Jersey	5,617	109.1	13	25,416	63.0	34	62,699	29.2	45	222,293	118.5	17
New Mexico	4,944	96.1	16	28,887	71.6	31	167,892	78.1	28	170,614	90.9	25
New York	4,637	90.1	25	64,396	159.7	6	171,189	79.6	27	158,156	84.3	30
North Carolina	6,052	117.6	9	44,213	109.6	11	146,457	68.1	33	159,296	84.9	29
Oklahoma	4,833	93.9	21	23,771	58.9	37	193,952	90.2	25	200,017	106.6	22
Oregon	2,644	51.4	45	20,978	52.0	41	266,967	124.1	13	279,392	148.9	14
Pennsylvania	5,957	115.7	11	84,880	210.5	2	634,456	295.0	2	215,451	114.8	19
Rhode Island	3,577	69.5	39	56,815	140.9	7	81,281	37.8	40	362,031	193.0	5
South Carolina	7,477	145.3	2	28,946	71.8	30	213,869	99.4	19	118,428	63.1	39
South Dakota	3,334	64.8	40	19,774	49.0	42	19,468	9.1	47	308,775	164.6	13
Tennessee	6,489	126.1	6	34,749	86.2	23	202,812	94.3	22	80,865	43.1	43
Texas	7,213	140.1	3	19,180	47.6	43	101,441	47.2	38	229,265	122.2	16
USL&HW	4,944	96.1	16	84,793	210.2	3	439,316	204.2	5	328,515	175.1	9
Utah	3,098	60.2	42	23,237	57.6	39	245,220	114.0	15	325,106	173.3	11
Vermont	4,923	95.6	19	39,247	97.3	17	147,032	68.4	31	202,097	107.7	21
Virginia	4,103	79.7	31	39,594	98.2	16	129,682	60.3	36	105,921	56.5	41
Wisconsin	2,773	53.9	44	23,709	58.8	38	229,055	106.5	16	144,181	76.9	33
National Avg.	5,147			40,332			215,088			187,605		

Note: National Average based on 46 jurisdictions (excluding USL&HW).

Table 3 - Cash Benefits Per 100,000 Workers in 2000

State	Temp. Total Per 100,000 Workers (1)	State as Percent of U.S. Average (2)	Rank Among 47 Jurisdictions (3)	Perm. Partial Per 100,000 Workers (4)	State as Percent of U.S. Average (5)	Rank Among 47 Jurisdictions (6)	Perm. Total Per 100,000 Workers (7)	State as Percent of U.S. Average (8)	Rank Among 47 Jurisdictions (9)	Fatal Cash Per 100,000 Workers (10)	State as Percent of U.S. Average (11)	Rank Among 47 Jurisdictions (12)
Alabama	4,078,547	86.1	28	9,734,366	50.2	38	1,468,420	88.9	12	698,286	86.4	25
Alaska	7,930,728	167.4	6	34,798,080	179.4	3	1,175,760	71.2	16	2,929,788	362.4	4
Arizona	1,671,561	35.3	46	8,504,115	43.8	40	786,584	47.6	25	591,786	73.2	36
Arkansas	2,395,628	50.6	44	7,268,748	37.5	43	591,906	35.8	30	359,274	44.4	44
California	4,380,936	92.5	22	54,175,104	279.3	2	2,984,828	180.8	4	475,596	58.8	39
Colorado	3,769,983	79.6	34	16,400,610	84.6	14	2,929,952	177.4	5	649,080	80.3	30
Connecticut	4,095,000	86.4	27	19,779,741	102.0	8	1,124,992	68.1	17	2,746,056	339.7	5
Delaware	6,434,658	135.8	12	15,128,960	78.0	19	1,529,094	92.6	11	379,488	46.9	43
Dis. of Columbia	1,280,546	27.0	47	5,804,253	29.9	45	0	0.0	46	437,238	54.1	41
Florida	6,756,352	142.6	10	11,018,288	56.8	33	4,835,616	292.8	2	343,395	42.5	45
Georgia	3,413,840	72.0	37	12,456,698	64.2	26	1,023,205	62.0	19	674,190	83.4	26
Hawaii	9,046,752	190.9	3	17,166,512	88.5	10	115,771	7.0	44	848,148	104.9	22
Idaho	7,935,264	167.5	5	7,654,464	39.5	42	219,070	13.3	41	557,336	68.9	37
Illinois	4,805,741	101.4	16	17,515,134	90.3	9	1,211,712	73.4	15	663,744	82.1	28
Indiana	3,285,088	69.3	39	4,663,295	24.0	46	215,070	13.0	42	282,843	35.0	47
Iowa	4,046,169	85.4	29	13,053,573	67.3	24	435,284	26.4	35	1,353,812	167.5	13
Kansas	2,997,155	63.3	41	11,114,120	57.3	32	466,128	28.2	33	702,755	86.9	24
Kentucky	4,407,657	93.0	21	11,326,777	58.4	31	838,470	50.8	22	1,862,624	230.4	6
Louisiana	3,838,172	81.0	31	20,109,894	103.7	5	2,498,986	151.3	8	1,187,214	146.9	15
Maine	8,219,079	173.5	4	11,780,912	60.7	29	337,035	20.4	38	910,440	112.6	21
Maryland	4,208,800	88.8	26	12,016,170	62.0	27	694,444	42.1	27	1,187,417	146.9	14
Massachusetts	11,476,264	242.2	2	11,996,820	61.9	28	983,550	59.6	20	926,316	114.6	20
Michigan	7,894,170	166.6	7	14,193,250	73.2	22	616,244	37.3	29	833,460	103.1	23
Minnesota	2,619,625	55.3	43	15,518,820	80.0	18	660,465	40.0	28	960,965	118.9	19
Mississippi	4,412,199	93.1	20	10,768,835	55.5	35	1,049,532	63.6	18	653,238	80.8	29
Missouri	4,511,164	95.2	19	15,831,310	81.6	17	1,419,432	86.0	14	1,724,935	213.4	8
Montana	5,682,012	119.9	14	13,129,018	67.7	23	2,097,106	127.0	10	1,133,600	140.2	17
Nebraska	3,270,190	69.0	40	10,937,420	56.4	34	572,122	34.6	31	3,200,346	395.9	2
Nevada	3,814,965	80.5	32	16,538,610	85.3	12	3,602,403	218.2	3	1,775,844	219.7	7
New Hampshire	4,233,400	89.3	25	14,247,960	73.5	21	290,510	17.6	40	627,652	77.6	33
New Jersey	3,847,645	81.2	30	13,012,992	67.1	25	376,194	22.8	37	666,879	82.5	27
New Mexico	4,375,440	92.3	23	9,186,066	47.4	39	335,784	20.3	39	1,364,912	168.8	12
New York	3,797,703	80.1	33	32,841,960	169.3	4	2,910,213	176.2	6	474,468	58.7	40
North Carolina	3,334,652	70.4	38	15,960,893	82.3	15	1,464,570	88.7	13	637,184	78.8	32
Oklahoma	5,959,089	125.8	13	16,401,990	84.6	13	387,904	23.5	36	1,600,136	197.9	11
Oregon	3,730,684	78.7	35	11,579,856	59.7	30	800,901	48.5	24	1,676,352	207.4	9
Pennsylvania	7,196,056	151.9	8	17,060,880	88.0	11	2,537,824	153.7	7	646,353	80.0	31
Rhode Island	7,103,922	149.9	9	20,055,695	103.4	6	162,562	9.8	43	1,086,093	134.3	18
South Carolina	5,099,314	107.6	15	14,762,460	76.1	20	2,352,559	142.5	9	592,140	73.2	35
South Dakota	3,430,686	72.4	36	6,347,454	32.7	44	19,468	1.2	45	3,087,750	381.9	3
Tennessee	4,788,882	101.1	17	15,915,042	82.1	16	811,248	49.1	23	485,190	60.0	38
Texas	4,767,793	100.6	18	9,820,160	50.6	37	912,969	55.3	21	1,146,325	141.8	16
USL&HW	18,070,320	381.3	1	115,148,894	593.7	1	7,468,372	452.3	1	5,584,755	690.8	1
Utah	2,955,492	62.4	42	4,182,660	21.6	47	735,660	44.6	26	1,625,530	201.1	10
Vermont	6,591,897	139.1	11	19,780,488	102.0	7	0	0.0	46	606,291	75.0	34
Virginia	2,207,414	46.6	45	7,918,800	40.8	41	518,728	31.4	32	317,763	39.3	46
Wisconsin	4,353,610	91.9	24	10,479,378	54.0	36	458,110	27.7	34	432,543	53.5	42
National Avg.	4,738,518			19,396,047			1,651,266			808,443		

Note: National Average based on 46 jurisdictions (excluding USL&HW).

Table 4 - Medical Benefits in 2000

State	Total Frequency (1)	State as Percent of U.S. Average (2)	Rank Among 47 Jurisdictions (3)	Avg. Medical Benefits Per Case ($) (4)	State as Percent of U.S. Average (5)	Rank Among 47 Jurisdictions (6)	Medical Benefits Per 100,000 Workers ($) (7)	State as Percent of U.S. Average (8)	Rank Among 47 Jurisdictions (9)
Alabama	5,999	101.5	31	5,549	113.4	7	33,288,451	115.6	8
Alaska	8,770	148.4	4	6,788	138.7	4	59,530,760	206.7	3
Arizona	6,393	108.1	26	4,103	83.8	15	26,230,479	91.1	17
Arkansas	6,934	117.3	19	2,616	53.4	43	18,139,344	63.0	36
California	6,917	117.0	21	9,705	198.2	1	67,129,485	233.1	2
Colorado	7,317	123.8	11	3,243	66.2	34	23,729,031	82.4	22
Connecticut	5,575	94.3	34	3,928	80.2	18	21,898,600	76.0	27
Delaware	5,763	97.5	33	5,288	108.0	8	30,474,744	105.8	11
Dis. of Columbia	1,388	23.5	47	4,546	92.9	11	6,309,848	21.9	47
Florida	6,349	107.4	27	5,665	115.7	6	35,967,085	124.9	5
Georgia	4,852	82.1	39	3,524	72.0	30	17,098,448	59.4	38
Hawaii	5,324	90.1	36	3,655	74.7	25	19,459,220	67.6	33
Idaho	8,723	147.6	5	2,791	57.0	40	24,345,893	84.5	21
Illinois	4,991	84.4	38	3,841	78.5	19	19,170,431	66.6	34
Indiana	7,825	132.4	8	2,170	44.3	46	16,980,250	59.0	39
Iowa	6,937	117.4	18	2,818	57.6	37	19,548,466	67.9	32
Kansas	6,835	115.6	23	3,050	62.3	36	20,846,750	72.4	31
Kentucky	7,107	120.2	15	5,175	105.7	9	36,778,725	127.7	4
Louisiana	4,828	81.7	40	5,908	120.7	5	28,523,824	99.0	13
Maine	8,661	146.5	6	2,814	57.5	38	24,372,054	84.6	20
Maryland	3,946	66.8	45	3,650	74.6	26	14,402,900	50.0	44
Massachusetts	5,495	93.0	35	2,211	45.2	45	12,149,445	42.2	45
Michigan	6,957	117.7	16	2,645	54.0	42	18,401,265	63.9	35
Minnesota	6,957	117.7	16	3,507	71.6	32	24,398,199	84.7	19
Mississippi	6,197	104.8	30	3,808	77.8	20	23,598,176	81.9	23
Missouri	6,211	105.1	29	3,586	73.3	28	22,272,646	77.3	25
Montana	9,089	153.8	2	3,723	76.1	23	33,838,347	117.5	7
Nebraska	6,699	113.3	24	3,350	68.4	33	22,441,650	77.9	24
Nevada	7,454	126.1	10	2,803	57.3	39	20,893,562	72.5	30
New Hampshire	6,918	117.0	20	4,215	86.1	14	29,159,370	101.2	12
New Jersey	3,953	66.9	44	3,778	77.2	21	14,934,434	51.9	43
New Mexico	5,994	101.4	32	3,625	74.0	27	21,728,250	75.4	28
New York	3,741	63.3	46	4,379	89.5	12	16,381,839	56.9	41
North Carolina	4,753	80.4	41	3,207	65.5	35	15,242,871	52.9	42
Oklahoma	6,627	112.1	25	3,700	75.6	24	24,519,900	85.1	18
Oregon	6,878	116.4	22	4,564	93.2	10	31,391,192	109.0	9
Pennsylvania	7,589	128.4	9	3,578	73.1	29	27,153,442	94.3	15
Rhode Island	7,159	121.1	13	1,558	31.8	47	11,153,722	38.7	46
South Carolina	5,132	86.8	37	4,094	83.6	16	21,010,408	73.0	29
South Dakota	8,331	140.9	7	2,660	54.3	41	22,160,460	76.9	26
Tennessee	6,289	106.4	28	4,318	88.2	13	27,155,902	94.3	14
Texas	4,238	71.7	42	8,385	171.3	2	35,535,630	123.4	6
USL&HW	17,600	297.7	1	7,647	156.2	3	134,587,200	467.3	1
Utah	7,265	122.9	12	2,385	48.7	44	17,327,025	60.2	37
Vermont	7,135	120.7	14	3,740	76.4	22	26,684,900	92.7	16
Virginia	4,223	71.4	43	3,998	81.7	17	16,883,554	58.6	40
Wisconsin	8,778	148.5	3	3,515	71.8	31	30,854,670	107.1	10
National Avg.	5,911			4,895			28,800,303		

Note: National Average based on 46 jurisdictions (excluding USL&HW).

Table 1B
Temporary Total Frequency Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	+	++	0	0	0	0
Alaska	++	++	++	++	++	++
Arizona	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0
California	0	0	0	0	+	0
Colorado	0	0	0	-	0	0
Connecticut	+	+	+	+	0	0
Delaware	+	+	+	+	+	+
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	0	0	0	0	0	0
Georgia	0	-	-	-	-	-
Hawaii	++	++	++	++	++	++
Idaho	+	+	+	++	++	+
Illinois	0	0	0	0	0	0
Indiana	0	0	0	0	0	0
Iowa	0	0	0	0	0	0
Kansas	-	-	-	-	-	-
Kentucky	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0
Maine	0	0	0	+	+	+
Maryland	0	0	0	0	0	0
Massachusetts	+	+	+	+	+	+
Michigan	+	+	0	0	+	+
Minnesota	0	0	0	0	0	0
Mississippi	0	0	0	+	0	0
Missouri	0	0	0	0	0	0
Montana	0	0	0	0	0	+
Nebraska	-	-	-	0	-	-
Nevada	N/A	0	0	0	0	0
New Hampshire	++	++	++	++	+	+
New Jersey	-	-	-	0	-	-
New Mexico	0	0	0	0	0	0
New York	0	0	0	0	0	0
North Carolina	-	-	-	-	-	-
Oklahoma	0	0	+	+	+	+
Oregon	++	+	++	+	+	+
Pennsylvania	0	0	0	+	+	+
Rhode Island	+	++	++	++	++	++
South Carolina	-	0	0	0	-	-
South Dakota	0	0	0	0	0	0
Tennessee	0	0	0	0	0	0
Texas	-	-	-	-	-	-
USL&HW	++	++	++	++	++	++
Utah	0	0	0	0	0	0
Vermont	+	+	+	+	+	+
Virginia	-	-	-	-	-	-
Wisconsin	++	++	++	++	++	++

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 1, Column 2
1995-1999 data: Table 1A - Blum and Burton (2002 and 2003)

Table 2B
Permanent Partial Frequency Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	-	- -	- -	-	-	-
Alaska	+	+	+	+	+	+
Arizona	-	-	-	-	-	-
Arkansas	-	-	-	-	-	0
California	++	++	++	++	++	++
Colorado	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0
Delaware	-	-	-	-	-	-
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	-	-	0	0	0	-
Georgia	-	-	-	-	-	-
Hawaii	+	0	+	0	0	0
Idaho	0	-	-	- -	-	-
Illinois	0	0	0	+	+	+
Indiana	-	- -	-	-	-	-
Iowa	0	0	0	0	0	0
Kansas	0	0	0	0	0	0
Kentucky	-	-	- -	- -	- -	-
Louisiana	- -	- -	- -	-	-	-
Maine	- -	- -	-	-	- -	- -
Maryland	0	0	0	0	-	-
Massachusetts	-	-	-	0	-	-
Michigan	- -	- -	- -	- -	- -	- -
Minnesota	-	-	0	-	-	-
Mississippi	-	- -	-	-	-	+
Missouri	++	+	++	++	++	++
Montana	++	++	+	++	0	0
Nebraska	0	0	0	0	0	0
Nevada	N/A	++	++	+	0	0
New Hampshire	-	-	-	-	-	-
New Jersey	++	+	0	0	0	0
New Mexico	-	-	-	-	-	-
New York	+	0	0	0	0	0
North Carolina	-	-	-	0	-	-
Oklahoma	++	++	++	++	+	+
Oregon	+	+	+	++	+	0
Pennsylvania	- -	- -	- -	- -	- -	- -
Rhode Island	-	-	-	0	-	-
South Carolina	+	0	0	0	0	0
South Dakota	-	-	-	-	-	-
Tennessee	0	0	0	0	0	0
Texas	0	0	0	0	0	0
USL&HW	++	++	++	++	++	++
Utah	- -	- -	-	-	- -	- -
Vermont	0	0	0	0	0	0
Virginia	- -	- -	- -	- -	- -	- -
Wisconsin	0	-	-	0	0	0

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 1, Column 5
1995-1999 data: Table 2A - Blum and Burton (2002 and 2003)

Table 3B
Permanent Total Frequency Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	++	++	++	0	0	0
Alaska	0	- -	0	-	+	0
Arizona	- -	- -	- -	- -	- -	- -
Arkansas	-	-	- -	- -	-	-
California	0	0	+	+	+	++
Colorado	++	++	++	++	+	0
Connecticut	- -	-	- -	- -	- -	- -
Delaware	- -	- -	- -	- -	- -	- -
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	++	++	++	++	++	++
Georgia	++	+	-	- -	- -	-
Hawaii	- -	N/A	- -	N/A	- -	- -
Idaho	- -	- -	- -	- -	- -	-
Illinois	0	0	-	-	0	0
Indiana	- -	- -	- -	- -	- -	- -
Iowa	- -	- -	- -	- -	- -	- -
Kansas	- -	- -	- -	- -	-	-
Kentucky	- -	- -	- -	- -	- -	- -
Louisiana	-	- -	0	0	0	++
Maine	0	- -	- -	- -	- -	-
Maryland	- -	- -	- -	- -	- -	- -
Massachusetts	- -	- -	- -	- -	- -	- -
Michigan	- -	- -	- -	- -	- -	- -
Minnesota	N/A	- -	- -	- -	- -	- -
Mississippi	++	0	-	- -	-	- -
Missouri	- -	- -	-	-	0	-
Montana	+	0	++	++	- -	++
Nebraska	- -	- -	- -	- -	0	- -
Nevada	N/A	- -	- -	- -	0	0
New Hampshire	- -	- -	++	-	- -	- -
New Jersey	0	+	0	- -	- -	-
New Mexico	- -	- -	- -	- -	- -	- -
New York	0	0	+	+	0	++
North Carolina	0	0	0	0	0	0
Oklahoma	- -	- -	- -	- -	- -	- -
Oregon	0	- -	-	- -	- -	- -
Pennsylvania	++	+	+	+	-	- -
Rhode Island	- -	- -	0	- -	- -	- -
South Carolina	-	0	- -	0	++	+
South Dakota	++	++	- -	-	-	- -
Tennessee	-	-	0	0	-	- -
Texas	0	0	0	0	++	0
USL&HW	++	- -	0	++	++	++
Utah	0	- -	-	- -	- -	- -
Vermont	- -	- -	- -	- -	- -	N/A
Virginia	- -	- -	- -	- -	-	- -
Wisconsin	- -	-	- -	- -	- -	- -

Note:
++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 1, Column 8
1995-1999 data: Table 3A - Blum and Burton (2002 and 2003)

Table 4B
Fatal Frequency Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	++	0	++	0	+	+
Alaska	+	++	++	++	++	++
Arizona	-	-	-	-	0	-
Arkansas	0	0	+	0	+	+
California	0	0	0	0	0	0
Colorado	-	0	0	-	0	0
Connecticut	- -	- -	-	0	-	0
Delaware	- -	- -	- -	- -	0	- -
Dis. of Columbia	- -	- -	- -	-	- -	-
Florida	0	0	0	0	0	0
Georgia	+	0	0	-	0	0
Hawaii	-	-	- -	- -	++	++
Idaho	++	++	++	++	++	++
Illinois	0	0	++	+	0	0
Indiana	-	0	0	-	0	-
Iowa	-	0	0	0	0	0
Kansas	0	+	++	++	0	0
Kentucky	-	0	0	0	+	++
Louisiana	0	+	++	++	++	++
Maine	- -	-	0	++	++	+
Maryland	0	+	0	0	0	++
Massachusetts	-	-	0	-	- -	- -
Michigan	0	0	0	0	0	0
Minnesota	-	0	0	-	-	0
Mississippi	++	+	++	++	++	++
Missouri	+	0	0	+	+	0
Montana	+	+	++	++	++	++
Nebraska	0	++	0	+	0	++
Nevada	N/A	++	+	++	0	0
New Hampshire	-	-	0	0	- -	- -
New Jersey	-	-	-	-	- -	-
New Mexico	+	++	+	+	+	++
New York	0	0	0	0	0	-
North Carolina	+	0	0	0	0	0
Oklahoma	++	++	++	++	+	++
Oregon	+	+	0	0	0	+
Pennsylvania	-	0	-	-	-	-
Rhode Island	-	0	-	+	0	-
South Carolina	0	++	0	0	+	0
South Dakota	0	+	0	+	+	++
Tennessee	+	0	0	0	0	+
Texas	+	0	0	+	+	0
USL&HW	++	++	++	++	++	++
Utah	-	0	0	+	-	0
Vermont	-	0	0	+	-	-
Virginia	0	0	0	-	0	-
Wisconsin	-	-	-	- -	-	-

Note:
++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 1, Column 11
1995-1999 data: Table 4A - Blum and Burton (2002 and 2003)

Table 5B
Total Frequency Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	0	0	0	0	0	0
Alaska	+	+	+	+	+	+
Arizona	0	0	0	0	0	0
Arkansas	0	0	0	0	0	0
California	0	0	0	0	0	0
Colorado	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0
Delaware	0	0	0	0	0	0
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	0	0	0	0	0	0
Georgia	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0
Idaho	+	+	+	++	++	+
Illinois	0	0	0	0	0	0
Indiana	+	+	+	+	+	+
Iowa	0	0	0	0	0	0
Kansas	0	0	0	0	0	0
Kentucky	+	+	+	+	0	0
Louisiana	0	0	0	0	0	0
Maine	0	0	+	+	+	+
Maryland	-	-	-	-	-	-
Massachusetts	0	0	0	0	0	0
Michigan	+	+	0	0	0	0
Minnesota	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0
Missouri	0	0	0	0	0	0
Montana	++	+	+	++	+	++
Nebraska	0	0	0	0	0	0
Nevada	N/A	++	++	++	+	+
New Hampshire	0	0	0	0	0	0
New Jersey	-	-	-	-	-	-
New Mexico	0	0	0	0	0	0
New York	-	-	-	-	-	-
North Carolina	0	0	0	0	0	0
Oklahoma	0	0	0	0	0	0
Oregon	0	0	0	0	0	0
Pennsylvania	0	0	+	+	0	+
Rhode Island	0	0	0	+	0	0
South Carolina	0	0	0	0	0	0
South Dakota	+	+	+	+	0	+
Tennessee	0	0	0	0	0	0
Texas	-	-	0	0	0	-
USL&HW	++	++	++	++	++	++
Utah	+	+	0	+	0	0
Vermont	0	0	0	0	0	0
Virginia	0	-	0	0	-	-
Wisconsin	+	+	+	+	+	+

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 4, Column 2
1995-1999 data: Table 5A - Blum and Burton (2002 and 2003)

Table 6B
Temporary Total Average Cash Benefits Per Case
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	-	-	0	0	0	0
Alaska	0	0	-	-	-	-
Arizona	-	-	-	-	- -	- -
Arkansas	-	0	0	-	-	-
California	- -	- -	- -	- -	-	-
Colorado	0	0	0	0	0	0
Connecticut	0	0	0	0	0	-
Delaware	0	0	0	0	0	0
Dis. of Columbia	-	-	-	-	-	-
Florida	+	+	+	+	+	+
Georgia	0	0	0	0	0	0
Hawaii	-	-	-	-	0	0
Idaho	0	0	0	++	0	0
Illinois	+	+	0	0	0	0
Indiana	-	-	-	0	0	0
Iowa	-	-	-	-	-	-
Kansas	0	0	+	+	0	0
Kentucky	0	0	0	0	-	0
Louisiana	0	0	0	0	0	0
Maine	+	+	+	0	0	0
Maryland	0	0	0	0	0	0
Massachusetts	++	+	+	+	++	++
Michigan	+	+	+	+	+	+
Minnesota	-	-	-	- -	- -	- -
Mississippi	0	0	0	0	0	0
Missouri	0	0	0	0	0	0
Montana	0	0	0	0	0	0
Nebraska	0	0	0	0	0	0
Nevada	N/A	-	-	0	0	0
New Hampshire	-	-	-	-	-	-
New Jersey	0	0	0	+	0	0
New Mexico	0	0	0	0	0	0
New York	0	0	0	0	0	0
North Carolina	0	0	0	+	+	0
Oklahoma	0	0	0	0	0	0
Oregon	-	-	-	- -	- -	-
Pennsylvania	++	+	+	+	0	0
Rhode Island	0	0	0	-	-	-
South Carolina	0	+	+	+	++	+
South Dakota	0	-	-	0	-	-
Tennessee	0	0	0	0	+	+
Texas	+	+	+	+	+	+
USL&HW	0	0	0	+	0	0
Utah	-	-	- -	-	-	-
Vermont	0	0	0	0	0	0
Virginia	0	0	0	0	0	0
Wisconsin	-	-	-	-	-	-

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 2, Column 2
1995-1999 data: Table 6A - Blum and Burton (2002 and 2003)

Table 7B
Permanent Partial Average Cash Benefits Per Case
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	0	0	+	0	0	0
Alaska	0	0	0	0	0	0
Arizona	0	0	0	0	0	0
Arkansas	-	-	- -	- -	- -	- -
California	0	0	0	0	0	0
Colorado	0	0	0	0	0	0
Connecticut	-	-	0	0	0	0
Delaware	+	+	+	+	0	0
Dis. of Columbia	+	++	+	+	+	0
Florida	0	0	0	0	0	-
Georgia	0	0	0	0	0	0
Hawaii	0	0	0	0	0	0
Idaho	-	-	-	0	-	-
Illinois	-	-	-	-	-	-
Indiana	- -	- -	- -	- -	- -	- -
Iowa	-	-	-	-	-	-
Kansas	- -	- -	- -	- -	- -	- -
Kentucky	0	-	0	-	0	0
Louisiana	++	++	++	++	++	++
Maine	++	++	++	++	+	++
Maryland	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0
Michigan	++	++	++	++	++	++
Minnesota	0	0	0	0	0	0
Mississippi	0	0	0	0	0	0
Missouri	- -	- -	- -	- -	- -	- -
Montana	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-
Nevada	N/A	0	0	0	0	0
New Hampshire	++	0	+	0	0	0
New Jersey	-	-	-	-	-	-
New Mexico	-	- -	-	-	-	-
New York	++	++	++	++	++	++
North Carolina	0	0	0	0	0	0
Oklahoma	-	-	-	-	-	-
Oregon	- -	- -	- -	- -	-	-
Pennsylvania	++	++	++	++	++	++
Rhode Island	++	+	++	+	++	+
South Carolina	-	-	-	-	-	-
South Dakota	0	-	- -	- -	-	- -
Tennessee	0	0	0	0	0	0
Texas	-	-	-	-	-	- -
USL&HW	++	++	++	++	++	++
Utah	- -	- -	- -	-	-	-
Vermont	0	0	0	0	0	0
Virginia	+	++	+	0	0	0
Wisconsin	-	-	-	-	-	-

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 2, Column 5
1995-1999 data: Table 7A - Blum and Burton (2002 and 2003)

Table 8B
Permanent Total Average Cash Benefits Per Case
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	-	- -	- -	0	-	-
Alaska	+	++	++	++	0	-
Arizona	0	-	0	0	+	0
Arkansas	- -	- -	- -	- -	- -	- -
California	0	0	0	0	0	0
Colorado	++	++	++	0	++	++
Connecticut	++	++	++	0	++	++
Delaware	++	++	+	0	++	++
Dis. of Columbia	-	0	-	-	+	+
Florida	0	0	0	-	-	-
Georgia	-	-	-	0	0	0
Hawaii	-	0	++	++	- -	-
Idaho	++	++	++	0	- -	- -
Illinois	-	-	-	-	0	-
Indiana	-	-	-	-	- -	- -
Iowa	0	- -	0	0	0	0
Kansas	0	- -	- -	- -	- -	- -
Kentucky	0	+	-	0	0	+
Louisiana	0	-	0	0	0	0
Maine	-	- -	- -	- -	- -	- -
Maryland	-	0	+	++	++	++
Massachusetts	++	+	++	++	++	++
Michigan	-	0	-	-	-	-
Minnesota	++	++	0	++	++	0
Mississippi	- -	- -	- -	-	0	0
Missouri	0	+	0	0	-	0
Montana	- -	++	+	- -	++	- -
Nebraska	0	0	0	+	-	+
Nevada	N/A	++	++	++	++	++
New Hampshire	++	0	- -	-	++	+
New Jersey	-	-	++	0	- -	- -
New Mexico	++	- -	-	0	-	0
New York	0	0	0	+	-	0
North Carolina	0	0	+	0	0	-
Oklahoma	- -	0	0	0	0	0
Oregon	0	0	0	0	0	0
Pennsylvania	++	++	++	+	++	++
Rhode Island	++	0	- -	++	+	- -
South Carolina	-	-	-	-	-	0
South Dakota	++	+	-	0	- -	- -
Tennessee	-	0	-	- -	0	0
Texas	- -	-	-	- -	- -	- -
USL&HW	+	0	-	-	++	++
Utah	++	+	0	- -	++	0
Vermont	- -	++	0	+	0	-
Virginia	++	++	+	+	0	-
Wisconsin	-	+	++	++	+	0

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 2, Column 8
1995-1999 data: Table 8A - Blum and Burton (2002 and 2003)

Table 9B
Fatal Average Cash Benefits Per Case
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	- -	-	- -	-	-	-
Alaska	+	++	+	++	++	++
Arizona	0	0	0	0	0	0
Arkansas	- -	- -	- -	- -	- -	- -
California	-	-	-	-	-	-
Colorado	0	++	++	0	0	0
Connecticut	0	0	++	++	++	++
Delaware	0	0	++	++	- -	++
Dis. of Columbia	++	++	++	++	+	0
Florida	- -	- -	- -	- -	- -	- -
Georgia	-	-	0	-	-	-
Hawaii	0	+	+	- -	0	-
Idaho	-	-	-	-	- -	- -
Illinois	0	0	-	-	-	0
Indiana	0	-	-	0	-	-
Iowa	++	++	0	0	0	++
Kansas	-	0	- -	0	-	-
Kentucky	0	++	++	++	0	0
Louisiana	-	0	0	0	0	0
Maine	0	-	- -	-	-	0
Maryland	0	0	0	- -	-	0
Massachusetts	+	0	0	++	++	++
Michigan	0	0	0	0	0	0
Minnesota	++	++	++	++	++	0
Mississippi	- -	- -	- -	- -	- -	- -
Missouri	0	+	+	+	+	++
Montana	-	0	0	-	+	0
Nebraska	0	-	++	+	++	++
Nevada	N/A	++	++	++	++	++
New Hampshire	- -	0	+	-	- -	++
New Jersey	0	0	-	0	0	0
New Mexico	0	-	-	+	0	0
New York	++	+	+	0	0	0
North Carolina	-	-	-	0	-	0
Oklahoma	0	0	0	0	+	0
Oregon	++	++	++	++	++	+
Pennsylvania	++	++	+	+	+	0
Rhode Island	++	- -	+	++	++	++
South Carolina	-	- -	-	-	-	-
South Dakota	++	0	- -	-	0	++
Tennessee	-	-	- -	- -	- -	- -
Texas	++	+	+	0	0	0
USL&HW	+	0	++	++	0	++
Utah	0	+	++	0	+	++
Vermont	0	+	-	++	++	0
Virginia	-	-	-	- -	- -	-
Wisconsin	- -	-	-	-	-	0

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 2, Column 11
1995-1999 data: Table 9A - Blum and Burton (2002 and 2003)

Table 10B
Total Medical Average Cash Benefits Per Case
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	0	+	++	+	+	0
Alaska	+	+	+	+	+	+
Arizona	0	0	0	0	0	0
Arkansas	-	-	-	-	-	-
California	0	0	0	+	+	++
Colorado	0	0	0	0	0	-
Connecticut	0	0	0	-	0	0
Delaware	++	++	+	+	+	0
Dis. of Columbia	+	++	+	+	0	0
Florida	++	++	++	++	++	0
Georgia	0	0	0	0	0	-
Hawaii	0	0	0	0	0	0
Idaho	-	-	0	-	-	-
Illinois	0	0	0	0	0	0
Indiana	- -	-	- -	- -	-	- -
Iowa	-	-	-	-	-	-
Kansas	0	-	0	0	-	-
Kentucky	0	0	0	0	0	0
Louisiana	+	+	+	+	++	0
Maine	-	0	0	-	-	-
Maryland	0	0	0	0	0	-
Massachusetts	-	-	-	-	-	- -
Michigan	-	-	-	-	-	-
Minnesota	-	-	-	-	0	-
Mississippi	0	0	0	-	0	0
Missouri	0	0	0	0	0	-
Montana	0	0	0	0	++	0
Nebraska	-	0	0	0	0	-
Nevada	N/A	0	0	0	0	-
New Hampshire	0	0	0	0	0	0
New Jersey	0	0	0	0	0	0
New Mexico	0	0	0	0	0	-
New York	0	0	0	0	0	0
North Carolina	0	0	0	0	-	-
Oklahoma	0	0	0	0	0	0
Oregon	0	++	+	0	0	0
Pennsylvania	0	0	0	0	0	-
Rhode Island	0	-	- -	-	-	- -
South Carolina	-	-	-	0	0	0
South Dakota	0	-	-	-	-	-
Tennessee	0	0	0	0	0	0
Texas	++	++	++	++	++	++
USL&HW	+	0	++	++	+	++
Utah	0	-	-	-	-	- -
Vermont	0	0	0	0	0	0
Virginia	0	0	0	0	0	0
Wisconsin	-	-	-	-	-	-

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 4, Column 5
1995-1999 data: Table 10A - Blum and Burton (2002 and 2003)

Table 11B Temporary Total Cash Benefits Per 100,000 Workers Relative to National Average					
	1995	**1996**	**1997**	**1998**	**1999**	**2000**

	1995	1996	1997	1998	1999	2000
Alabama	0	0	0	0	0	0
Alaska	++	+	+	+	+	++
Arizona	-	- -	- -	- -	- -	- -
Arkansas	0	-	-	-	-	-
California	-	- -	-	-	-	0
Colorado	0	0	0	-	-	0
Connecticut	0	0	0	0	0	0
Delaware	++	++	0	+	+	+
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	+	+	+	+	+	+
Georgia	0	0	0	-	-	-
Hawaii	+	+	0	+	+	++
Idaho	+	++	++	++	++	++
Illinois	+	+	0	0	0	0
Indiana	-	-	0	0	-	-
Iowa	0	0	0	0	0	0
Kansas	-	0	0	0	-	-
Kentucky	0	0	0	0	0	0
Louisiana	0	0	0	0	0	0
Maine	+	+	++	++	++	++
Maryland	0	0	0	0	0	0
Massachusetts	++	++	++	++	++	++
Michigan	++	++	++	++	++	++
Minnesota	-	-	-	-	-	-
Mississippi	0	0	0	0	0	0
Missouri	0	0	0	0	0	0
Montana	0	0	+	0	0	0
Nebraska	-	-	-	0	-	-
Nevada	N/A	0	0	0	0	0
New Hampshire	0	0	0	0	0	0
New Jersey	0	-	0	0	0	0
New Mexico	0	0	0	0	0	0
New York	0	0	0	0	0	0
North Carolina	-	-	-	0	0	-
Oklahoma	0	0	0	+	+	+
Oregon	0	0	0	-	-	0
Pennsylvania	++	++	++	++	++	++
Rhode Island	0	+	++	+	+	+
South Carolina	0	0	0	+	0	0
South Dakota	0	0	-	0	-	-
Tennessee	0	0	0	0	0	0
Texas	0	0	0	0	0	0
USL&HW	++	++	++	++	++	++
Utah	-	-	-	-	-	-
Vermont	0	++	++	++	++	+
Virginia	-	-	-	-	-	- -
Wisconsin	0	0	0	0	0	0

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 3, Column 2
1995-1999 data: Table 11A - Blum and Burton (2002 and 2003)

Table 12B Permanent Partial Cash Benefits Per 100,000 Workers Relative to National Average					

	1995	1996	1997	1998	1999	2000
Alabama	- -	-	-	-	-	-
Alaska	+	+	+	+	++	++
Arizona	0	-	-	-	- -	- -
Arkansas	- -	- -	- -	- -	- -	- -
California	++	++	++	++	++	++
Colorado	0	0	0	0	0	0
Connecticut	0	0	0	0	0	0
Delaware	0	0	0	-	0	0
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	0	-	-	0	-	-
Georgia	0	-	-	-	-	-
Hawaii	+	0	+	0	0	0
Idaho	-	-	-	- -	- -	- -
Illinois	0	0	0	0	0	0
Indiana	- -	- -	- -	- -	- -	- -
Iowa	-	-	-	0	-	-
Kansas	-	- -	- -	-	-	-
Kentucky	-	- -	- -	- -	- -	-
Louisiana	0	0	0	0	0	0
Maine	0	0	0	0	-	-
Maryland	0	-	0	0	-	-
Massachusetts	0	0	0	0	-	-
Michigan	0	-	-	-	-	-
Minnesota	0	0	0	-	0	0
Mississippi	- -	-	-	-	-	-
Missouri	0	-	-	0	0	0
Montana	++	+	0	0	0	-
Nebraska	-	-	-	-	-	-
Nevada	N/A	++	++	++	0	0
New Hampshire	0	0	0	0	-	-
New Jersey	0	0	-	-	-	-
New Mexico	- -	- -	- -	- -	- -	- -
New York	++	++	++	++	++	++
North Carolina	-	-	0	0	0	0
Oklahoma	++	+	+	0	0	0
Oregon	0	-	-	0	0	-
Pennsylvania	+	0	0	0	0	0
Rhode Island	0	0	++	++	++	0
South Carolina	-	-	-	-	0	0
South Dakota	-	-	- -	- -	-	- -
Tennessee	0	0	0	0	0	0
Texas	-	-	-	-	-	-
USL&HW	++	++	++	++	++	++
Utah	- -	- -	- -	- -	- -	- -
Vermont	0	0	0	0	0	0
Virginia	-	-	-	-	- -	- -
Wisconsin	-	- -	- -	-	-	-

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 3, Column 5
1995-1999 data: Table 12A - Blum and Burton (2002 and 2003)

Table 13B
Permanent Total Cash Benefits Per 100,000 Workers
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	++	++	0	-	-	0
Alaska	++	++	++	+	++	-
Arizona	- -	- -	- -	- -	0	- -
Arkansas	- -	- -	- -	- -	- -	- -
California	+	0	+	+	++	++
Colorado	++	++	++	++	++	++
Connecticut	0	++	0	- -	0	-
Delaware	0	0	-	- -	++	0
Dis. of Columbia	- -	- -	- -	- -	- -	N/A
Florida	++	++	++	++	++	++
Georgia	0	0	- -	- -	-	-
Hawaii	- -	N/A	0	N/A	- -	- -
Idaho	-	0	0	- -	- -	- -
Illinois	0	-	-	- -	0	-
Indiana	- -	- -	- -	- -	- -	- -
Iowa	- -	- -	- -	- -	- -	- -
Kansas	- -	- -	- -	- -	- -	- -
Kentucky	-	- -	- -	- -	- -	-
Louisiana	-	- -	0	0	+	++
Maine	- -	- -	- -	- -	- -	- -
Maryland	- -	- -	- -	0	0	- -
Massachusetts	- -	- -	- -	- -	- -	-
Michigan	- -	- -	- -	- -	- -	- -
Minnesota	N/A	- -	- -	-	-	- -
Mississippi	-	- -	- -	- -	-	-
Missouri	- -	-	-	0	0	0
Montana	-	++	++	- -	0	+
Nebraska	-	- -	- -	0	-	- -
Nevada	N/A	- -	- -	-	++	++
New Hampshire	0	- -	-	-	- -	- -
New Jersey	-	0	++	-	- -	- -
New Mexico	-	- -	- -	- -	- -	- -
New York	0	0	+	++	0	++
North Carolina	0	0	0	+	0	0
Oklahoma	- -	-	-	-	- -	- -
Oregon	-	-	-	- -	- -	- -
Pennsylvania	++	++	++	++	++	++
Rhode Island	0	- -	-	-	- -	- -
South Carolina	- -	-	- -	-	0	+
South Dakota	++	++	- -	0	- -	- -
Tennessee	- -	-	-	- -	-	- -
Texas	- -	- -	-	-	-	-
USL&HW	++	- -	0	++	++	++
Utah	+	-	-	- -	-	- -
Vermont	- -	-	- -	- -	- -	N/A
Virginia	0	0	0	-	-	- -
Wisconsin	- -	0	-	- -	- -	- -

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 3, Column 8
1995-1999 data: Table 13A - Blum and Burton (2002 and 2003)

Table 14B
Fatal Cash Benefits Per 100,000 Workers
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	0	-	0	-	0	0
Alaska	++	++	++	++	++	++
Arizona	0	-	-	-	0	-
Arkansas	- -	- -	- -	- -	-	- -
California	-	-	-	-	-	-
Colorado	0	0	++	0	+	0
Connecticut	- -	- -	++	++	++	++
Delaware	- -	- -	- -	- -	- -	- -
Dis. of Columbia	++	-	0	++	-	-
Florida	- -	- -	- -	- -	-	- -
Georgia	0	0	0	- -	-	0
Hawaii	0	-	-	- -	++	0
Idaho	++	++	++	0	-	-
Illinois	0	-	0	-	0	0
Indiana	-	-	-	- -	- -	- -
Iowa	0	+	0	0	0	++
Kansas	0	0	-	+	-	0
Kentucky	0	++	++	+	+	++
Louisiana	-	0	++	++	++	+
Maine	- -	- -	- -	+	+	0
Maryland	0	+	0	- -	-	+
Massachusetts	0	-	0	0	-	0
Michigan	0	0	0	0	0	0
Minnesota	0	++	++	0	+	0
Mississippi	-	- -	- -	- -	-	0
Missouri	++	++	++	++	++	++
Montana	0	+	++	+	++	+
Nebraska	0	+	++	++	++	++
Nevada	N/A	++	++	++	++	++
New Hampshire	- -	-	++	-	- -	0
New Jersey	-	-	- -	-	- -	0
New Mexico	+	0	0	++	+	++
New York	++	+	0	+	0	-
North Carolina	-	- -	0	0	-	0
Oklahoma	++	++	++	++	++	++
Oregon	++	++	++	++	++	++
Pennsylvania	0	0	0	0	0	0
Rhode Island	++	- -	0	++	++	+
South Carolina	-	-	-	-	0	-
South Dakota	++	+	- -	-	+	++
Tennessee	-	- -	- -	- -	-	-
Texas	++	++	++	+	+	+
USL&HW	++	++	++	++	++	++
Utah	0	++	++	++	0	++
Vermont	0	++	0	++	++	0
Virginia	-	- -	-	- -	- -	- -
Wisconsin	- -	- -	- -	- -	- -	-

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 3, Column 11
1995-1999 data: Table 14A - Blum and Burton (2002 and 2003)

Table 15B
Total Medical Benefits Per 100,000 Workers
Relative to National Average

	1995	1996	1997	1998	1999	2000
Alabama	+	++	++	+	+	0
Alaska	++	++	++	++	++	++
Arizona	0	0	0	0	0	0
Arkansas	0	-	-	-	-	-
California	0	0	0	+	++	++
Colorado	+	+	0	0	0	0
Connecticut	0	0	0	0	0	0
Delaware	++	++	+	+	0	0
Dis. of Columbia	- -	- -	- -	- -	- -	- -
Florida	++	++	++	++	++	0
Georgia	0	0	-	-	-	-
Hawaii	0	0	0	0	0	-
Idaho	0	0	0	0	0	0
Illinois	0	0	0	0	0	-
Indiana	-	-	-	-	-	-
Iowa	-	-	0	0	0	-
Kansas	0	-	0	0	0	-
Kentucky	+	0	0	0	0	+
Louisiana	0	0	0	0	0	0
Maine	-	0	0	0	0	0
Maryland	-	-	-	0	-	-
Massachusetts	-	-	-	-	- -	- -
Michigan	0	0	0	0	-	-
Minnesota	0	0	-	0	0	0
Mississippi	0	0	0	0	0	0
Missouri	0	0	0	0	0	0
Montana	++	+	+	+	++	0
Nebraska	0	0	0	0	0	0
Nevada	N/A	+	0	+	0	-
New Hampshire	+	0	+	0	+	0
New Jersey	-	-	-	-	-	-
New Mexico	0	0	0	0	0	0
New York	-	-	0	0	-	-
North Carolina	0	-	-	-	-	-
Oklahoma	0	0	0	0	0	0
Oregon	+	++	++	0	+	0
Pennsylvania	0	0	0	0	0	0
Rhode Island	0	-	-	-	-	- -
South Carolina	-	-	-	0	-	-
South Dakota	0	0	-	0	-	0
Tennessee	0	0	0	0	0	0
Texas	+	0	+	0	+	0
USL&HW	++	++	++	++	++	++
Utah	0	0	0	-	-	-
Vermont	0	0	0	0	0	0
Virginia	0	0	0	0	-	-
Wisconsin	0	0	0	0	0	0

Note:

++	150.1% or more of National Average	Well Above Average
+	125.1 - 150.0% of National Average	Above Average
0	75.0 - 125.0% of National Average	Average
-	50.0 - 74.9% of National Average	Below Average
- -	49.9% or less of National Average	Well Below Average
N/A	Data Not Available	

Source: 2000 data: Table 4, Column 8
1995-1999 data: Table 15A - Blum and Burton (2002 and 2003)

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